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University Communications is raising the national reputation of UConn.

Our news and editorial team serves to spread the news of UConn's greatness outward, leveraging partnerships with local outlets and making big pitches to national media to attain coverage of UConn. Our spokespeople and editorial associates are the go-to sources of institutional information for journalists, answering their questions when news breaks and connecting reporters with faculty experts for features and in-depth stories.

University Communications Social Media.

Since 2004, social media has become more integrated into everyone's daily lives. It has changed the way people get news, how people interact with each other, and provides a way to share user-generated content. There are currently approximately 4.5 billion social media users, and that number is projected to increase to almost 6 billion by 2027.

As video content continues to evolve and take precedence in the algorithms, the social media team has retained its focus on a strong approach to video content on all relevant platforms — which included launching the flagship TikTok account. Given that the University's two largest student audiences are on TikTok and Instagram, which both prioritize vertical video, the social media team has collaborated closely with the multimedia team to determine ways to incorporate vertical video as strategically as possible. The social team also grew by a member, a Digital Media Producer, who has been tasked with developing content — both photo and video — specifically for social media.

Total Followers: **541,388**

* Our growth rate was 8.3 overall *

Total engagement: **1,173,388**

Engagements include likes, comments, reactions, link clicks, and shares on posts for Facebook, Twitter, Instagram, and LinkedIn, and TikTok.

Total impressions: **35,355,646**

An impression is when a post is visible in a social feed. This is how many times people saw UConn's content across Facebook, Twitter, Instagram, and LinkedIn. Note that Instagram does not measure impressions on Reels, and we posted 68 Reels in 2022 – which was due to a change in Instagram's video strategy and a large increase from past years.

Total video views across all five platforms: **1,466,086**

Total Facebook followers: **108,676**

Total Twitter followers: **107,708**

Total Instagram followers: **100,064**

Total TikTok followers: **4,107**

Total LinkedIn connections: **218,763**

Total YouTube subscribers: **12,053**

School of Business

HOW SOME BIG CONNECTICUT COMPANIES ARE TRYING TO DIVERSIFY THEIR WORKFORCE

By Paul Schott

During Black History Month, companies across Connecticut have touted their support of the African American community. But as many of the firms acknowledge, fulfilling those declarations requires year-round work.

Since the start of the COVID-19 pandemic, a number of major firms have recognized they need to do more to tackle racial injustices and inequalities and make their organizations more diverse and inclusive.

Initiatives such as a new fellowship program at hedge fund giant Bridgewater Associates underscores the seriousness of those efforts, while colleges like the University of Connecticut said they are also working to diversify the pipeline of future professionals.

“In order to build that rich and deep understanding of the economies and markets, you’ve got to look at it from a wide variety of opinions and perspectives,” Alan Bowser, Bridgewater’s chief diversity officer, said in an interview.

“You need diversity of thought. Diversity is literally critical to the success of Bridgewater in our business mission.”

Taking Action

Westport-based Bridgewater, the world’s largest hedge fund, has recruited about 40 students for the inaugural class of its new Rising Fellows program. Black students account for the largest under-represented group in the cohort, while Bridgewater also sought applications from other students of color, women and students who are members of the LGBTQ+ community.

All of them are first-year college students.

The program comprises sessions held remotely on weekday evenings that started Feb. 14 and run until March 4. It aims to provide students an introduction to financial services, help them build skills to understand investing and the global economy, and allow them to apply their lessons through projects guided by Bridgewater’s investment professionals.

Subsequent opportunities for fellows will include invitations to Bridgewater events and speakers series. Fellows will also be eligible to participate in their sophomore year in the firm’s immersion program.

“This program is not a standalone within the suite of things Bridgewater does to build a talent pipeline, particularly a diverse talent pipeline,” Bowser said. “It’s really designed to complement and work with the other things that we do.”

A number of other companies said they also see programs focused on college students as crucial to their diversity, equity and inclusion objectives.

“Our approach is multifaceted and includes developing relationships with student affinity groups, showcasing the advantages of a career at Xerox to students of color, investing in students from underrepresented segments through our partnership with (nonprofit) A Better Chance, partnering with a number of historically Black colleges and universities and leveraging our extensive alumni network within our current employee population,” Justin Capella, a spokesperson for Norwalk-based information-technology provider Xerox, No. 415 on the 2021 Fortune 500 list, said in an email.

“In a highly competitive talent environment, it is essential to engage and cultivate relationships with minority students to build the next generation of leaders at the company.”

Corporate DEI programs have gained more attention since nationwide protests in 2020 in response to the killings of African Americans such as George Floyd, Breonna Taylor and Ahmaud Arbery.

“A lot of companies are stepping up on the DEI front,” Bob Day, associate dean for undergraduate programs, operations and information management in the University of Connecticut’s School of Business, said in an interview.

“In the summer of 2020, a lot of people had a wake-up call on diversity. But it was kind of happening before then, too. Companies were asking us about access to talent in the diversity space and asking, ‘Students from underrepresented groups, how do we get them recruited?’”

Among other recently launched undertakings, Stamford-based Synchrony, No. 187 on the Fortune list and the country’s largest provider of private-label and store-brand credit cards, last May announced a \$50 million initiative to support higher education, workforce training and financial literacy for its workforce and underserved communities.

“Our focus on equity, diversity, inclusion and citizenship (EDIC) has expanded exponentially to become business as usual across Synchrony,” Michael Matthews, Synchrony’s chief diversity and corporate responsibility officer, said in an email.

“It’s part of our culture, and it’s how we operate. We elevated EDIC to one of our key strategic imperatives, with board-level accountability. We enter 2022 even more committed to pursuing equality, diversity and inclusion.”

More Work To Be Done

Despite the increasing focus on DEI initiatives, many companies still have workforces that are more racially and ethnically homogeneous than the country as a whole.

Nationwide, about 60 percent of the population were white alone and not Hispanic or Latino, 19 percent were Hispanic or Latino, 13 percent were Black or African American alone, 6 percent were Asian alone, 3 percent were two or more races and 1 percent were American Indian or Alaska native alone, according to 2021 U.S. Census Bureau data.

In Bridgewater’s current workforce, 27 percent identify as members of minority groups — including 3.5 percent who are Black or African American employees, 7 percent who are Hispanic or Latinx, 15 percent who are Asian and 1.5 percent who are members of other minority groups, according to the firm’s data.

“We didn’t get to the demographic profile of this industry overnight, and we’re not going to change it overnight,” Bowser said. “You have to build programs

that are sustainable and that will build talent pools and impact hiring over the long term. And that’s why we think programs like Rising Fellows are so important.”

Xerox reported that among its new hires in 2020 in the U.S., about 65 percent were white, 15 percent were Black, 11 percent were Hispanic or Latino and 6 percent were Asian.

Among Synchrony’s U.S.-based employees, 43 percent are non-white — including 20 percent who are Black, 12 percent who are Hispanic and 8 percent who are Asian, according to company data.

“Now more than ever, I believe both candidates and employees want to work for organizations that fully embrace equity, diversity and inclusion,” Matthews said. “Commitments are no longer enough. Businesses that take action to drive cultural and systemic change throughout their entire organizations will have a competitive advantage in attracting and retaining talent.”

At UConn, students who identify as members of minority groups comprise 38 percent of the student population at the university’s flagship campus in Storrs, according to university data.

Officials in the university’s School of Business said they are committed to not only recruiting more students from racial and ethnic minority groups and other underrepresented groups, but also making sure those students feel included after they enroll.

“With every minority student who has registered and is coming into the School of Business, I call them personally and welcome them,” Alfy Roby, interim director of the School of Business’ Office of Diversity Initiatives, said in an interview.

“The charge is not only to connect them, but also retain them through the connectivity of the activities and initiatives that we put together. I want people to say, ‘I like the business school.’” ●

WHAT'S NEXT FOR THE REAL ESTATE MARKET?

By Ginny Monk

When the pandemic began, questions about the virus and public health prevailed. As time went on, people asked, "Where were you when the world shut down?"

For people who entered the real estate market in the latter part of 2020 and last year, the question became: "Where did you want to be?"

Last year several forces collided, resulting in a real estate market that smashed through previous records. Houses sold in mere days, prices skyrocketed and inventory sank to historic lows. "Where the demand is coming from is the importance of being happy in the home that you're living in," says Richard Ferrari, president and chief executive officer of Douglas Elliman's New York and Northeast division. "It moved up a lot of the calendar for a lot of Americans who now don't want to wait another three to five years for a change in life."

Demand accelerated as people sought more space amid continued work-from-home arrangements, and city dwellers from New York and Boston migrated here or sought second homes. Average prices for single-family homes increased nearly 13 percent, year-over-year, to \$315,000.

Demand is likely to remain high in the next few months, as supply has dropped even further, real estate agents say. At the start of 2022, statewide inventory sat at less than a two-month supply, more than four months less than the typical market.

"The pandemic has changed the world going forward, in my opinion," says Paul Breunich, president and chief executive officer of William Pitt and Julia B. Fee Sotheby's International Realty. "I don't think it's a moment in time, I think it's a shift."

Here, we ask Connecticut real estate professionals key questions on the minds of buyers and sellers as a new spring home-buying season dawns.

How High Can Prices Go?

Of course, prices are directly impacted by demand, which real estate experts say isn't letting up anytime soon. But they aren't rising as quickly as they had been, and Connecticut agents say they expect prices to level off or continue rising marginally this year.

From 2020 to 2021, median prices for single-family homes rose by nearly 13 percent — from \$307,000 to \$345,000. In 2019, they were at \$268,000, according to data from SmartMLS Inc.

"Nobody has a crystal ball, but eventually prices will plateau," Ferrari says. "They're only going to go up so much with the demand that's here."

Some of that is likely to be due to rising interest rates, says Candace Adams, president and chief executive officer of Berkshire Hathaway HomeServices for New England, New York and the Hudson Valley. Interest rates, which have been at historic lows, are likely to rise a few times this year, which could slightly dampen demand.

But for the first few months of 2022, there probably won't be much of a change in prices, says Jeffrey Cohen, a professor of finance at the University of Connecticut's Center for Real Estate and Urban Economic Studies. "You might see some fluctuations, but I don't see any dramatic increases or any dramatic decreases at least through the first half of this year," Cohen says.

What Was That About Interest Rates?

The Federal Reserve has said it plans to raise interest rates this year, which means mortgage rates will be higher, UConn's Cohen says. The Federal Reserve sets interest rates for commercial banks' borrowing, and increases to those rates trickle down to the consumer.

Cohen says interest rates will be the most important market indicator to watch in 2022. "Even though, in the short term, a small increase in rates may not have a tremendous effect due to the backlog in demand, I think in six to 12 months that could start to be a factor depending on how high rates go," he says. Small increases aren't likely to have a big effect, and interest rates typically have minimal effect on the luxury market. Even with the increases, rates are still low compared to historical rates, experts say.

Adams says that a possible drop in demand when rates rise is one of the reasons she's telling homeowners this is a good time to sell. Still, that might take some time to play out. "They keep talking about interest rates going up, and they've ticked up a little bit but not enough to curb demand yet," says Tammy Felenstein, president of the Connecticut Association of Realtors.

Will Inventory Pick Up Enough To Meet Demand?

That's unclear, although in a typical year, more houses go on the market in the spring and fall, agents say. "We're anticipating a robust sellers' market in 2022. I don't see that inventory will drop another 40 percent, but we are still seeing it as a sellers' market at least for the first two or three quarters of 2022," Ferrari says.

Agents say inventory will be the most important thing to watch in 2022. The Multiple Listing Service's year-end report for 2021 showed the months supply of inventory down nearly 38 percent from 2020, to 1½ months statewide. Months supply describes the amount of time it would take to sell all the homes on the market, given current market conditions. Historically, moderate price appreciation comes with about six months' supply, according to the National Association of Realtors.

"It is the biggest elephant in the room," Felenstein says. "It's a historic level of sustained, depleted inventory, more than we've ever seen. And it's not just Connecticut, it's nationally as well."

It's been an issue for months as eager buyers have purchased homes quickly, agents say. The problem is exacerbated by a self-perpetuating cycle of sorts, agents say. People who might want to sell are hesitant because they are worried they won't be able to find a place to go. "If there was inventory coming on, it was just being scooped up very quickly," says Ryan Raveis, co-president of William Raveis Inc.

To alleviate the issue, William Raveis has instituted a program in which the company purchases a home, makes upgrades and sells the property, giving the seller the money they need to buy their new home. The seller pays a fee and keeps any further profit from the sale, according to information on the Raveis Purchase program website.

Other companies are putting out information to homeowners about the market's heightened prices in

hopes of encouraging them to sell or adding addendums to sales contracts that allows the seller time to find a new place, agents say.

How About New homes being built to help with inventory?

Construction has slowed for much of the pandemic, in part because of labor shortages and supply-chain problems that have made it difficult to obtain certain materials.

The longer development takes, the more it tends to cost, Raveis says. And many of the new home developments, particularly in Fairfield County, have been luxury units. "The private contractors have chosen to put up homes at a higher price tag, so we are seeing new construction," he says.

Condominium living is also growing in popularity, in part due to limited availability of houses. A handful of new condominium developments launched in 2021, and most units sold quickly, developers say.

Multi-family housing is often particularly difficult to construct in Connecticut because of what advocates say are restrictive zoning laws. Accessory dwelling units, or smaller homes located in the same lot as a standalone house, were also legalized last year. It's up to municipalities to approve them, and advocates hope increasing the inventory will drive down the cost of housing in a state that is short thousands of units of affordable housing.

The National Low Income Housing Coalition estimates that Connecticut is short 86,717 rental homes for people with low incomes. "We have seen a lot of rental buildings going up in cities," Felenstein says. "They're renting just as fast as they build them. And they're not cheap."

The tight rental market is also impacting the housing market. "There is low inventory across the rental market as well, and that's part of why there's hesitancy for people to sell a house," Cohen says. "In the past, people might have thought, 'Gee, I'll rent for a while to figure out what I'm going to do.'"

Will New Yorkers And Other Out-Of-Staters Continue To Stream Into Connecticut?

Much of the demand in Connecticut's housing market was driven by migration from New York City or Boston, real estate agents say.

Although the state saw a small net increase in population from July 2020 to July 2021, that rise may have been overblown, says Thomas Cooke, a demographic consultant in Connecticut. "Obviously what was happening is a lot of people have second homes, a lot of people have family in Connecticut, and so they left New York because it was horrible there, it was apocalyptic," Cooke says. "And so people fled to family, friends, second homes." Many of those people have returned to the city, he adds.

From 2020 to 2021, Connecticut saw in-migration of about 9,700 people. Just over 5,000 were domestic moves, according to data from the U.S. Census Bureau. But that data doesn't reflect the effect of second-home purchases, which represent a noteworthy segment of the market, agents say. "You don't have to have a big influx out from New York in order to flood our housing markets," Breunich says.

Agents say they're still seeing buyers from New York City, as well as many who moved into the state during the pandemic to rent, now looking to buy.

What's The Latest On Remote Work's Impact?

Continued work-from-home options have allowed people to live where they want and encouraged moves from New York City to Connecticut, agents say. As long as remote work continues, those who have moved to Connecticut will be able to stay without a frequent commute. "Remote working, that's a game changer," Breunich says. "That isn't going to stop."

A move to Connecticut often means more space for New Yorkers, and the commute is doable for those who have to work in the city just a day or two a week, he adds. "Most Americans now, they want a nice home, and a nice home is different for everyone," Ferrari says. "But there is movement going on to find that home that fits you and your family. An important aspect of someone being happy is finding a home that you want to live in."

Cooke, however, says that although recent trends show more movement toward suburbs, remote work options typically make people less likely to move, especially once they've chosen a home that fits them. Most prefer to stay in neighborhoods that are familiar, near family or near their support group. That's especially true during times of turmoil, he adds.

"We're having this long-term and short-term transition to remote work, and people don't have to move as often," Cooke says. "So if you lose your job, and you have a partner and a family and you're connected to your neighborhood, you can stay where you are and adjust to not have to cut ties with all those things that are important to you."

What Are Buyers Looking For These Days?

People are always interested in walkability, particularly those moving from New York, agents say. But since the pandemic, there has been more movement toward the increased space that rural locations offer.

In Greenwich, for example, homes in the bucolic backcountry north of the Merritt Parkway have become more popular. In years past, the multimillion-dollar estates were difficult to sell, says Jenny Allen, an agent with Compass. "People do appreciate a little bit more space, but there's always a demand for in-town living such as Old Greenwich," says Allen, referring to the coastal section bordering Stamford marked by a closer neighborhood feel and shopping options.

And with fewer days to commute to the city, people are more open to being farther from the train station. "Before in places like Westport and Darien, towns that have a little longer commute, people wanted to be as close to the trains as they could be," says Leslie Clarke, a William Raveis agent. "Now, people are commuting two days, three days, or zero days, they're moving west of the Merritt."

Amenities such as pools have also grown in popularity; the wait for a pool placement is two to three years in most parts of the state, agents say.

More people are also seeking additional living space for their parents or adult children to visit comfortably for longer periods of time. Additional bedrooms for office or workout space are also desirable, Clarke says.

Modern architectural styles have also grown in popularity in Connecticut, she says. "We're seeing a broader sense of style and architecture that is attracting buyers, where before I think it always felt like they were looking for that farmhouse Colonial with an open floor plan," Clarke adds. ●

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CHRIS ROCK'S JOKE ABOUT ACTRESS JADA PINKETT SMITH CREATES CRISIS FOR ACADEMY AWARDS

By Edward Segal

In what could be called the slap that was heard and seen around the world, last night comedian Chris Rock took a figurative shot at actress Jada Pinkett Smith when he made a joke about her appearance during the Academy Awards. Pinkett Smith, who is the wife of actor Will Smith, has alopecia, an autoimmune disorder she has been publicly dealing with. The disease causes hair loss by attacking hair follicles.

In response to Rock's joke, Smith walked on stage and appeared to slap Rock across the face. Words that could not be aired on network television were exchanged between the two men, forcing ABC to delete the audio for about 15 seconds.

The incident, which overshadowed news coverage about the award winners, immediately created a crisis for the Academy of Motion Picture Arts and Sciences.

The Academy said in a tweet after the incident last night that "The Academy does not condone violence of any form."

Today, the Academy issued this statement: "The academy condemns the actions of Mr. Smith at last night's show. We have officially started a formal review around the incident and will explore further action and

consequences in accordance with our bylaws, standards of conduct and California law."

Smith's Apology

CNN reported that Smith, "offered his apologies to the Academy and others" when he accepted the award for his role as Richard Williams, the father of Venus and Serena Williams, in the film King Richard.

Rock Not Pressing Charges

According to CBS News, "The Los Angeles Police Department says Chris Rock has declined to press charges against Smith...."

'Chris Rock Was The Bully'

Barry Schwartz is the president of Schwartz Public Relations Associates. He said, "My view is that Chris Rock was the bully last night and Will Smith's action was an emotional reaction to that bullying. Yes, it was bad judgment to use physical force, and a verbal 'slap in the face'" would have been preferred.

"But I simply can't condone someone (Rock) using the bully pulpit (literally and figuratively) to assault a woman suffering from an autoimmune disorder, without any response," he observed.

Workplace Bullying?

Attorney Leiza Dolghih of the Dolghih Law Group thought "...Rock's ill-phrased joke would hardly rise to the level of bullying in a workplace. Typically, isolated comments, when not involving protected classes, such as someone's religion, gender, race, sex, or disability, are not legally actionable.

"A company can provide sensitivity training to an employee accused of bullying or discipline them if there is a complaint by another employee that they said something that's offensive, but it's not grounds for terminating an employee," Dolghih noted.

Anger Was 'Understandable'

Brandy Aven is an associate professor of organizational theory at Carnegie Mellon University's Tepper School of Business. She said Smith's anger, "is understandable, and he is fully entitled to it. However, it is the

expression of it that was not appropriate, and I believe he would agree.

“He escalated to violence when there were several other alternative responses that might have been more impactful. For instance, if he had emerged on the stage and demanded an apology that would have been far more appropriate to help Chris Rock and the audience understand how hurtful comments about appearance can be, especially if it is a known medical issue,” she explained.

Rock’s ‘Poor Judgement’

TEDx speaker McKenna Reitz said that “We do not know what people are going through or where they are on their journey. I lost all my hair within three weeks due to alopecia in November 2015 and have since lost every hair on my body.

“I do not believe this was a form of bullying, but the poor judgment of the usage of a joke about a beautiful woman who has been transparent about her journey of hair loss has empowered so many including myself. If someone would have called me GI Jane yesterday, I would have taken it as the biggest compliment of my life as what she stands for, however, when I was still battling my emotions and acceptance of alopecia, I would have been completely destroyed by the comment.

“I am all about making light of situations especially since I will never have a bad hair day, but that was not the time or place,” she concluded.

Enforcing A Code Of Conduct

Kia Roberts, the founder and principal of Triangle Investigations, said “In 2017, in the wake of the Harvey Weinstein allegations, the [Academy] did create a code of conduct for its members. Pressure is mounting for the Oscars to somehow discipline Smith for his behavior—we will see how they decide to navigate this difficult situation.”

She pointed out, “Whatever policy response the [Academy] decide[s] upon will certainly be viewed as an example of what is to come if...attendees engage in misconduct in the future.

“The [Academy] must think through what the incentive structure is for them to conduct some type of

disciplinary action towards Smith, one of Hollywood's highest-paid and admired actors,” Roberts said.

Preventing Another Act Of Violence

Kat Aronofsky is an account manager and crisis communications expert at Matter Communications, a PR and digital marketing agency. She recommended that “As a next step, the Academy needs to outline how it is going to prevent another act of violence—be it through a zero-tolerance policy for show disturbances, alcohol restrictions or more—and why violence of this nature can and will not be tolerated. It should also consider further action against Smith.

“Others, such as Weinstein, have had their awards revoked and faced removal in accordance with the Academy's Standards of Conduct. There is no reason such action not be considered in this instance. Failure to do so only reinforces the message that assault under these conditions is permissible,” she commented.

“In a year where ratings were top of mind for the Oscars, it could also project the notion The Academy is abandoning its social responsibility—and an opportunity to set an example against senseless violence—for publicity, good or bad,” Aronofsky said.

If Smith Had Been An Employee

Dolghih of the Dolghih Law Group said that “...Smith’s act of violence, had he been an employee, should have resulted in an immediate termination of employment. Violence in the workplace should never be accepted or tolerated by an employer.”

“If an employee cannot control their impulses with co-workers, they may not be able to do so with customers. And, if an employee is known to have a propensity for violence by their employer, any act of aggression by that employee while at work could make the employer liable as well,” she advised.

Employees Should Know What To Do

Lakesha Cole, founder and president of she PR, said that “the employer's role is to ensure employees remain safe, productive and respectful of the rights and differences of coworkers.

“It’s important that your employees know company protocol on what to do when they are the target or witness of bullying in the workplace. But it’s equally important that those in leadership roles are trained on how to protect and respond to an employee when bullying concerns are raised,” she said.

‘An Important Problem For Any Organization’

Robert C. Bird is a professor of business law at the University of Connecticut’s School of Business. He said, “Workplace bullying is an important problem for any organization, and leaders must be proactive in addressing problems that could lead to bullying at work.

“Bullying can happen in the form of sexual harassment or race discrimination, for example, and be the fuel for a costly lawsuit against the company that brings unwelcome publicity,” he predicted.

Emails Are Not Enough

“An email declaring that bullying is inappropriate is not enough. Firms must continually monitor their workplace climate for potential problems that could devolve into a bullying situation. Building a culture of integrity today helps prevent a toxic workplace environment tomorrow,” Bird concluded.

No Laughing Matter

This is one crisis that might have been prevented had policies and protocols been in place concerning the actions, humor and statements of award presenters and members of the audience.

Given that the annual event is seen by tens of millions of people around the world, careful attention should have been paid in advance to what is said and done—before it is too late.

Perhaps steps will be taken to do just that for future ceremonies. ●

2 SCRAPPY AIRLINE STARTUPS ARE SPARKING A UNLIKELY WAR BETWEEN NEW HAVEN AND HARTFORD AIRPORTS

By Ted Reed

Startups Breeze Airways and Avelo Airlines are competitors, shaped by small fleets and point-to-point schedules. That competition is now sparking a battle in the relatively sleepy aviation state of Connecticut, where two airports just 56 miles apart, Hartford and New Haven, are being pitted against one another over expansion demands from the two carriers.

Connecticut’s population is about 3.6 million. It has long supported Hartford’s Bradley International, which has 42 non-stop destinations that include Los Angeles and San Francisco. Bradley had about 7 million 2019 passengers and is New England’s second-largest airport after Boston Logan. Historically, New Haven’s Tweed, which is managed by a private entity, has been little used, repeatedly tried and abandoned by major carriers, hampered by a short, 5,600- runway and by neighborhood opposition to expansion.

Kevin Dillon, CEO of the Connecticut Airport Authority, which oversees Bradley, said, “If you start talking about an airline market the size of Connecticut, you need to be careful not to end up with two sick puppies, because you’re trying to spread it too thin.”

Breeze began serving Bradley on May 27, 2021, its first day of operation. Founder David Neeleman, a onetime New Canaan resident, said he considered Tweed but picked Bradley. “We felt Hartford was better,” he said. “Hartford is a big city. There are more people there.”

Neeleman said the two carriers don’t compete, planned expansion at Hartford indicates Breeze’s success, and Avelo expansion does not concern him. Neither airline’s frequencies are high. “It’s just a few days of flying (each week),” he said. For Breeze, the commitment to

Connecticut represents 10 of 70 total routes. Breeze has five bases and serves 28 cities.

Flying 126-seat Airbus A220s and Embraer E-Jets with up to 118 seats, Breeze serves Charleston, S.C.; Columbus, Norfolk and Pittsburgh from Bradley. In June, Breeze intends to add six destinations: Nashville, Akron; Savannah, Richmond, Jacksonville, and Sarasota — all with less than daily service, although Charleston goes to daily on May 1.

Flying 147-seat Boeing 737-700s, Avelo began serving Tweed in November. It serves six Florida destinations. Frequencies range from daily Orlando to thrice weekly Sarasota. In May, Avelo intends to add seven more routes, including Baltimore-Washington, Charleston, and Nashville.

Each of Avelo's served and announced destinations is already served from Hartford, by one or more of these five carriers: Frontier JetBlue, Southwest, and Spirit, as well as Breeze.

Tweed, on the other hand, has an unusual management structure. Longtime operator, Avports LLC is owned by a subsidiary of Goldman Sachs. Avports wants to finance a \$70 million expansion under a 43-year airport lease agreement with the airport authority, The New Haven Register has reported.

In September, New Haven city officials approved the deal, which would include a runway extension to 6,635 feet.

Travis Christ, Avelo's head of marketing, said route selection is not based on competition with airlines or airports. Rather, "You fly where people want to go," he said. "They want to go to the same places. We don't think that's any surprise.

"Florida was an obvious first choice, and through the pandemic Florida got even better," Christ said. "It was already the number-one destination from the Northeast. Many people moved there, a lot of people have second homes and there was so much coming and going.

"For us, it was about New Haven and that kind of catchment area never having had convenient service, which is a function of the runway length," he said. "Only a few types of aircraft can make use of that runway, and if you wanted to get low fares, the challenge has been even more difficult."

Hub carriers have tried repeatedly to make Tweed work. As recently as 1996, United flew 737s to Chicago, while Continental, United and US Airways flew turboprops to Newark, Washington Dulles, and Philadelphia respectively, according to the New Haven Register. In its last effort to serve Tweed, American resumed New Haven-Philadelphia in January 2021, then cancelled in September 2021.

Avelo's solution to the short runway problem is to use 147-seat 737-700s. The airplane is small enough that departure weight is not an issue, but big enough to avoid small plane/high seat-cost economics. At its Burbank base, Avelo flies 189-seat 737-800s.

Christ said New Haven's catchment area has some overlap with Hartford, but "The catchment areas are not identical." For parts of Southwestern Connecticut, getting to Hartford is tougher than getting to LaGuardia or White Plains, he said. Additionally, Bradley serves Western Massachusetts as well as Connecticut.

With more airplanes on the way, Avelo plans additional expansion at Tweed, but Christ declined to specify routes.

Dillon of the CAA said, "When you have unconstrained development of air service (at Tweed) it's going to necessarily compete with Bradley. The airports are an hour from each other."

New Haven officials "are talking about an agreement that would turn over operations of the airport to Avports, (which has) a profit motive," Dillon said. "We anticipate that because of their investment for runway expansion, Avports would look to extract significant levels of revenue out of the airport.

"If Avelo continues to be the lone carrier at Tweed, if it continues on in the current business model, that's a sustainable level of competition," Dillon said. But vast expansion "spells a lot of trouble for Bradley and the Connecticut region," he said, because airports require a critical mass of passengers to attract major carriers.

Jeffrey Cohen, a finance professor at the University of Connecticut, said that historically competition between the two Connecticut airports has been limited because Tweed has had few flights. "I think Avelo will draw some passengers (to Tweed) who had been going to Bradley," he said. "It gives more options in terms of timing and in the choice of airlines.

Cohen noted that he recently flew Avelo from New Haven to Fort Lauderdale. Tweed is “an interesting airport,” he said. A drive from Hartford uses two interstate highways, but then “You drive through a residential neighborhood, very well kept up with nice, well-manicured yards, and then all of a sudden there’s the airport.

“It’s not what you would expect to have a neighborhood around an airport,” he said. “There are barriers to development that need to be addressed.” ●

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ON APRIL 15, 2022

ANALYST: CT REAL ESTATE MARKET COULD REACH ‘UNSUSTAINABLE’ LEVEL. HOW IS IT AFFECTING RENTERS AND BUYERS?

By Jordan Fenster

A series of factors is pushing the Connecticut real estate market so high that it’s excluding many renters and buyers, according to one analyst.

“If you don’t take control of that by possibly raising interest rates, then you’re going to see this possibly unsustainable rise,” said Jeffrey Cohen, the Kinnard Scholar in real estate and a professor of finance at the University of Connecticut School of Business.

The repercussions of that uncontrolled rise in rental and sale prices could be as serious as increased homelessness.

“The question is, what’s that going to do to people who are trying to buy, and if fewer people are going to be able to buy, they’re going to have to either live somewhere or they’re going to be homeless,” he said. “There’s got to be something that gives.”

One factor is record-high demand. Candace Adams, CEO of Berkshire Hathaway Home Services, said recently in a statement that “showings per listing and offers per listing remain at record highs,” and “most homes sold in Connecticut are selling considerably above the list price.”

“More single-family homes were sold in the first quarter of 2022 compared to 2020, 2019, 2018 and 2017,” she wrote.

“There’s a backlog of people who wanted to get into the housing markets in Connecticut, and they haven’t been able to just because there hasn’t been enough volume of supply for people to be able to purchase,” Cohen explained. “So, there’s a backlog of demand.”

That lack of available inventory is also pushing rents higher.

“Rents have been rising, partly because people who wanted to get into the housing market, there’s not an opportunity,” Cohen said. “So they’re staying in apartments longer, they’re not able to move to single-family houses as fast as they otherwise might. And so that puts a lot of pressure on the demand for rentals.”

Another factor is what Cohen called “institutional investors.” Large companies, some of them based overseas, buy huge swaths of available housing in a given area, pushing prices higher and making it harder for individual families to compete.

“Institutional investors are, in some ways, forcing a lot of other people to rent who might otherwise be buyers because it takes away from the supply in the market,” Cohen said. “That means there’s a lot less available for people who want to buy, which can push up the price for an owner-occupied house.”

The pandemic has also been a factor, particularly in Connecticut, where families have felt they can move to get out of cities like New York or Boston as work went remote, Cohen said.

Overall inflation is having an effect, too.

“There’s just a general level of price increase and everything in the economy right now,” Cohen said. “When the cost of fuel goes up, the heating cost goes up. If you’re in an apartment, the landlord’s gonna have to pass that on to the tenants.”

It could, Cohen said, lead to a nationwide housing crisis.

“If you view it as important in society for people to have a place to live, and if there's not an easy way to make sure that everybody has an affordable place to live, that could lead to a crisis,” he said, and it may already have begun.

Cohen lives in West Hartford and, anecdotally, he's seen more examples of financial struggle.

“You see people standing on street corners with signs saying ‘Help.’ I've lived in Connecticut over 22 years. I've never seen that in West Hartford before,” he said. “To me, that's a sign that people need help, obviously.”

The last housing crisis was in 2007 and 2008. Prices were driven up to an unsustainable level though that resulted in what Cohen referred to as a market correction, while others have called it a crash.

“That could be what we're going to see some time in the future. Exactly when, we don't know,” he said.

“Rising interest rates could trigger that if it gets to a certain point.”

Cohen does not expect that to happen within the next six months.

“At least in the short term, I don't see that happening,” he said.

“I think there still is such a backlog of demand of people who want to get into housing markets in Connecticut,” he said. “I mean, people who are working in New York City have been moving to as far away as Maine, to find places that are affordably priced.”

The continued rise in housing costs and lack of inventory particularly affects the middle class, who might not qualify for affordable housing but who now cannot afford to live in Connecticut.

Cohen said that could have a deleterious effect on the job market, affecting “The ability of people to accept employment opportunities, which has been making it hard for some employers to fill jobs.”

In the past, the Connecticut real estate market did not go as high as that in New York and Boston, and other places around the country. That left property owners

with less equity, but it also insulated them from the worst of the crash.

“When there's a big correction in other parts of the country that have gone way up, Connecticut has seen a small correction as well, but nowhere near as large as the other cities because they haven't appreciated as much,” Cohen said. “It's about time in some ways that the homeowners in Connecticut have started to build a little bit more equity.” ●

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MAY 21, 2022

CRYPTOCURRENCY ATMS ARE ALL OVER CT, BUT DO PEOPLE USE THEM?

By Mike Mavredakis

There are hundreds of cryptocurrency ATMs in the state, but how does the technology work and do people actually use the machines?

The ATMs, which are mostly located in gas stations and convenience stores, allow a user to buy bitcoin, or sometimes other cryptocurrencies, for cash or via debit card.

CoinFlip Co-Founder and Chairman Daniel Polotsky said a transaction starts with the user entering their personal information — what information is required depends on the amount they are purchasing — then scanning a QR code linked to their digital wallet, inserting payment and confirming the purchase. CoinFlip then sends the cryptocurrency to the user's digital wallet from its digital wallet.

“Technically what's happening is that it's going from one bitcoin wallet to the next,” Polotsky said. “Like it's actually sent. We know where to send it based on the QR code which is attached to their wallet address.”

He said the company, which has machines located throughout the country, had \$50 million in transaction fee revenue in 2020 and almost \$100 million in 2021.

“So people are using the machines,” Polotsky said. “And I think it’s a great way to get crypto instantaneously while also being able to get 24/7 customer service. Call us anytime and we’ll be able to walk you through the transaction.”

One convenience store owner, Ali Alnahlawi of Gene’s Super Stop in Trumbull, raved about the machines. He said he has a Byte Federal machine and they typically pay between \$300 to \$600 a month in rent. He said about six to eight people per month use the machine and at one point he had a customer put \$20,000 in the machine in one sitting.

“They pay you for the location and the spot and you don’t have to worry about nothing else,” Alnahlawi said. “They come in, they empty the machine. All you have to do is just provide the spot and an internet connection and they send you a check every month in the mail.”

Nader Ali, owner of Village Mart in Stratford, has had a different experience with the company. He said he was paid around \$800 for it two years ago but has not been paid for it since. He said it’s taking up space in his store, so he’s going to take it out.. He said he was not sure how many people use it.

Odai Dayoub, son of the owner of Snaxx Plus in Stratford, said one person has used the ATM located in its store. The store has had it since last summer, he said, and the only transaction it’s had was over the winter.

David Noble, director of the Peter J. Werth Institute for Entrepreneurship and Innovation at the University of Connecticut, said that crypto-ATMs are mainly used by those who need to send money out of the country.

“The actual answer is most likely that there’s an immigrant population in the U.S. using it to transfer money, at somewhat of a discount, back to repatriate money into other places,” Noble said.

Polotsky said that there are people who use the machines to send money home. He said they have a “versatile customer base” including those who want fast access into the “latest NFT mints,” those who do not trust the “traditional banking system” and those who may not be able to afford overdraft fees.

“I’m sure bitcoin ATMs carry high fees, but for those unbanked or locked out internationally this is a way to continue to transact,” Stratford Finance Director Dawn Savo said in an email to Hearst Connecticut Media.

Noble said it’s possible that they could be used for money laundering, but unlikely because of the fees charged by the ATMs and the volatility associated with cryptocurrencies. Also, many ATMs have a daily deposit limit and using cryptocurrency for “nefarious purposes” only becomes useful “in the very large numbers” that the ATMs would not allow a user to get to.

He said if the ATMs charge low enough transaction fees, they can sometimes be cheaper and faster for sending money abroad than going through an international financial service like Western Union.

Once a user has the currency in their wallet, sending it abroad “can be as easy as sending an email,” according to Coinbase, a combination cryptocurrency education and digital wallet company. All a user needs is the wallet address for the person they are sending money to and the transfer can be done within minutes, albeit with a fee typically called a “gas fee,” they said.

Noble said some crypto-ATMs that charge fees over 10 percent are likely price-gauging their users.

“I would say you’re under 10 percent, that’s a pretty legitimate enterprise,” Noble said. “If you’re over 20 percent, you’re just simply taking advantage of some population that needs access to that and has no ability to get it somewhere else.”

Not all of the companies that have ATMs in town disclose their fees online, but CoinFlip says its fees range from 6.9 percent to 12.9 percent and LibertyX’s machines charge 8 percent on transactions.

The state does not require crypto-ATMs to be licensed under certain conditions — if it is not connected to a financial institution or the machine is limited to deposit or withdrawal of funds, according to the state Department of Banking website. ●

AFTER ROE, CONCERN OVER MENSTRUAL TRACKING APPS AND DATA PRIVACY ABOUND: 'IT IS ABSOLUTELY A RISK'

By Julia Bergman

Almost as soon as the Supreme Court ruling came down overturning *Roe v. Wade*, people who use menstrual tracking applications were urged to delete them.

The calls were swift, and started months ago, even before the opinion came down, when a draft of the court's decision was first leaked. Through these apps, users share some of their most sensitive personal data including the date of their last period - information that could be used to connect someone to an abortion.

About two dozen states are expected to ban or impose strict restrictions on abortions. Several states are seeking to go further than that by penalizing abortion providers and even someone who gets an abortion. A proposal in Louisiana, for example, would've allowed a person who had an abortion to be charged with homicide.

Fears about the criminalization of abortion in a post-Roe world have spurred renewed focus on data privacy and how much information people share online including on apps which detail when users have missed a period or are most fertile.

"The concern here is that given that these apps are collecting that type of information, the government could subpoena the records that the app has collected and use that information to prosecute women who may have received an abortion in a state where that procedure is no longer legal," said John Preli, an instructor in-residence at the University of Connecticut School of Business.

If you combine the data collected on these apps with other digital trails such as location data from a user's device, their internet search history or information

shared on social media, patterns emerge about a person's behavior.

"It's not necessarily just strictly the data that's on the app but combining the data that has been collected on the app with other data that has been collected by the device," said Preli, a former IBM executive who spent several years focused on data privacy for the company when it took over the Weather Channel.

It remains to be seen how and whether government officials will use this information to penalize someone who is seeking or gets an abortion, but the risk is there.

A 2020 academic paper published in the University of Baltimore Law Review researched the digital evidence used in prosecutions of pregnant people accused of feticide or endangering their fetuses.

"Is this a risk? It is absolutely a risk." Preli said.

The Health Insurance Portability and Accountability Act, better known as HIPPA, which protects people's personal health information, does not cover information collected on most digital apps. And unless they want to mount their own legal challenges - a highly unlikely scenario - internet and social media companies are likely to turn over information if subpoenaed.

Data privacy experts say these risks are inherent in a digital world in which many people have become accustomed to sharing personal details about themselves online. But the latest concerns also underscore why it's important for people to understand how that information is being collected and stored.

Period tracking apps, and digital health trackers in general, store traces of people's health history, background and activities related to their body. Website visits can also be tracked — both by search engines such as Google and on a person's device such as a smartphone or computer. Some websites also might have trackers embedded in them which can store information about people's visit, the date they visited the site and what information they perused.

"Knowing there is a risk is at least part of a solution to the privacy problem," said Vahid Behzadan, an assistant professor in computer and data sciences at the University of New Haven. "Knowing that you leave these traces everywhere can essentially inform of you of the risks involved in your actions."

Users could choose to delete certain apps entirely or disable location sharing data, for example, which makes it harder, though not impossible, for them to be tracked because they're "leaving fewer pieces of breadcrumbs," Behzadan said.

But ultimately, it's up to individuals to decide how much of their life they want to be online. "While maintaining our mindfulness and awareness of the risks, we need to weigh the pros and cons and decide for ourselves how much privacy conscious, how much security conscious we want to have in regards to this particular matter," Behzadan said. ●

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WHAT WOULD HAPPEN TO CONNECTICUT HOME PRICES IF A RECESSION HIT?

By Alexander Soule

The Trumbull home met the definition of a quickie flip in 2008, when it sold for \$40,000 more than the \$330,000 that the owner paid just nine months before. Under the 2022 definition of a lightning sale, it is now under contract to change hands again for \$439,000 after just days on the market — but down by \$36,000 from what the owner had initially sought.

As home sellers guess at what buyers will pay amid higher interest rates tacking on more to the cost of a mortgage, looming even larger on the horizon is the impact of any economic recession.

That could put on hold any purchase plans for any leery of losing a job, raise or bonus. It is a particularly risky prospect for those buying a home for the first time who do not have an existing home they can sell to help underwrite the new purchase. Last year, just over a third of residential purchases were by first-time home buyers.

The Connecticut and U.S. economies showed continued resilience in June, but nearly half of economists polled by Bloomberg this month predicted a national recession in the coming 12 months, up from 30 percent of those polled in June.

"Every recession has its own unique characteristics," said John Clapp, a real estate expert and University of Connecticut professor emeritus at the UConn School of Business.

"The 1981 recession, with the higher rising interest rates at that time, ... did have an impact on the housing market. It wasn't the recession so much as the interest rates that brought housing into a substantial decline."

While home sales and prices cratered during the Great Recession of 2009, that downturn was driven by the bubble housing market popping after brokers cobbled together sketchy "jumbo" mortgages with adjustable rates allowing people to buy larger homes — and banks eager to package those loans into securities for resale at a quick profit.

As interest rates rose just as the job market started to crumble, large numbers of borrowers could no longer make payments, many of them losing their homes through foreclosure seizures.

If the economy, interest rates and overall inflation have sellers and buyers at a fresh crossroads, there is one major difference in the market of 2022 compared to 2008 — household finances are in far better shape, after two years of federal stimulus that has injected plenty of liquidity people have spent to fuel a booming job market.

And banks have vetted borrower credit far more diligently since the Great Recession — according to a Federal Reserve Bank of New York index, credit scores have been significantly higher on average for newly originated mortgages since 2009, including in last year's boom real estate market.

"Consumers are in good shape," said JPMorgan Chase CEO Jamie Dimon, speaking in mid-July on a conference call.

“They’re spending 10 percent more than last year — almost 30 percent-plus more than pre-COVID.

Businesses, you talk to them, they’re in good shape, they are doing fine. We’ve never seen business credit be better, ever — like in our lifetimes.”

‘Still Way Ahead Of 2019’

That has carried over into the real estate market of 2022, though sellers are increasingly bending on their asking prices after two years of bidding battles for properties the two preceding years.

The S&P CoreLogic Case-Shiller U.S. National Home Price Index dropped slightly in April to a 20.4 percent gain over the prior year, but remained near a historic high as a continuing echo effect of the COVID-19 pandemic. Connecticut home values have ballooned since March 2000 as New York City families have shopped for alternatives, prompting opportunistic sellers to purchase new digs in turn, often within the orbit of their former homes for family ties or work.

Of just over 4,000 Connecticut properties to hit the Realtor.com website in the first three weeks of July, about 5 percent of owners had already reduced their asking prices after just a few weeks. That compared to 11 percent of all homes currently listed for sale in Connecticut that have been repriced, regardless of how long they have been on the market.

For the group listed in July, discounts ranged from \$455,000 off a six-bedroom spread in Greenwich’s Cos Cob neighborhood now priced at just under \$3.5 million; to \$5,000 off a six-bedroom country house in Lebanon, shaving the price to just below \$465,000.

The majority of sellers continue to stick to their original asking prices, however, and the Connecticut market remains hot by historic standards more than two years after the start of the COVID-19 pandemic. That convinced more people to ditch city life for elbow room in leafy neighborhoods, freed for the time being from commutes during the remote-working era.

“In this part of the country I think we’re coming up against a serious supply-and-demand issue, for a lot of reasons,” said Candace Adams, CEO of Berkshire

Hathaway HomeServices New England Properties based in Wallingford. “I don’t think we’re going to see a lot of price reduction — some, a little bit, but not a lot.”

Through June this year, the price of median property sold in Connecticut — the midway point of all transactions — was just above \$335,000, for an as-yet-to-be-built ranch in Hebron’s Loveland Farms development, 20 miles southeast of Hartford. According to Berkshire Hathaway’s mid-year report on the Connecticut housing market, that was about \$17,000 more than several houses fetched in the front half of 2021 at the state median, for a 5 percent increase.

Transaction prices were already leveling heading into the summer months, as the Federal Reserve set interest rates higher making some buyers think twice about taking on a mortgage, and as the pool of new listings shrank compared to a year ago. Bankrate’s online mortgage calculator suggests a full percentage point gain in interest rates tacks an extra \$65,000 in interest payments onto a \$300,000 mortgage at a fixed rate for 30 years assuming a good credit profile — or \$180 a month on average.

In a published by the Urban Institute, researchers analyzed the most recent period when the United States absorbed at least a 1.5 percent increase in interest rates in the span of less than 12 months, between 1994 and 1995. Home prices still were headed up, but on a lower trajectory of 2.6 percent from 3.2 percent previously.

Paul Breunich, CEO of William Pitt Sotheby’s International Realty in Stamford, said interest rates typically do not sway luxury home buys significantly in Connecticut, given the ability of affluent earners to absorb the higher rates given the windfalls they get from other investments like bonds.

“The upper end is still moving — it’s still way ahead of 2019,” said Paul Breunich, CEO of William Pitt Sotheby’s International Realty. “That’s Manhattan and New York money, in my opinion, moving in.”

Foreclosure Impact?

Whether upper end or making ends meet, buyers are hoping for a break after two years of runaway prices on everything from starter homes to waterfront properties.

The last national slump in home prices lasted five years according to the U.S. Census Bureau and HUD, from the bubble peak at the start of 2007 through the close of 2011, coinciding with the Great Recession run-up and aftermath.

Earlier this month, a JPMorgan Chase research note pointed out that nominal U.S. house prices are now 40 percent above the trough to which they had sank in 2012 — and strikingly, 4 percent above the previous peak in 2006.

One new source of bargain-basement properties — those in foreclosure that lenders are looking to unload — has yet to influence the Connecticut market in any meaningful way. Under a law passed after the Great Recession, banks must pursue an extended period of mediation with homeowners in an attempt to work out mortgage payment terms that allow families to stay in their homes.

And homeowners in arrears on their mortgages got a major bailout at the outset of the COVID-19 pandemic, after Connecticut banks agreed to a moratorium on initiating new foreclosures that lasted more than a year. According to Attom Data Solutions, as of March Connecticut had one of the five longest intervals for banks to complete a foreclosure, at four-and-a-half years.

“We do see some foreclosure activity starting again — it’s going to be in the lower end,” Adams said. “Foreclosures were on the sidelines for two years, and I think banks are catching up with their backlog.” ●

MOST PEOPLE HIDE MINOR CONSUMPTION FROM PARTNER, AND THAT'S A GOOD THING, RESEARCH FINDS

Professor Gavan Fitzsimons studies the psychology of consumers.

By Fuqua School Of Business

In a recently published study, Duke Fuqua School of Business Professor Gavan Fitzsimons and two former Fuqua Ph.D. students found that people often hide from their partners minor purchases they have made. And this behavior can actually be good for their relationship.

“Guilt from secret consumption leads to greater relationship investment,” suggests the paper “Secret Consumer Behaviors in Close Relationships,” published in the *Journal of Consumer Psychology*.

The idea for this study, Fitzsimons says, came about when one of his co-authors and former students, Professor Danielle Brick of the University of Connecticut, shared how she had encountered a colleague who left work early to go mess up her house. The woman didn’t want her husband to know she had paid for a cleaning service, so she created this ruse to cover her tracks.

After initially laughing about the incident, Fitzsimons, Brick and Professor Kelley Gullo Wight of Indiana University began wondering how common is it for people to not tell significant others about their everyday consumption behavior, and what are the ramifications for this. Well, if the action is both “common and mundane” — such as eating a candy bar on the way home from work or hiding a package delivered to the house — then about 9 in 10 people admit to engaging in such secret behavior, according to the study, which is based on five separate experiments. The reasons for this range from someone not wanting to tempt their dieting partner to avoiding a dust-up,

says Fitzsimons, the Edward S. & Rose K. Donnell Professor of Marketing and Psychology.

The result, according to the paper: "... experiencing guilt from keeping a consumer behavior a secret—even one as mundane as secretly eating pizza—will lead individuals to want to do something positive for the relationship." That "greater relationship investment" might include washing the dinner dishes or just being more attentive to your partner, acts that the partner would both notice and appreciate.

The authors note that previous research has shown the same dynamic does not hold true for more serious acts of secrecy, such as an extramarital affair.

The paper includes a list of small transgressions that people admitted to the researchers, such as:

- "When I am apart from him I secretly indulge in smoking 1-2 cigarettes."
- "I may have had extra money left over from groceries which could have been used to the next week. But instead I bought something for myself and sneaked (sic) it in the house without my husband knowing."
- "I am a season ticket holder for the [sports team] ...my wife and I decided not to renew... I decided to keep one of the season tickets... I didn't tell my wife..."

Future studies may want to look at the reasons why people engage in such behavior, the paper adds. "For example, consumers with a high need for independence may be more likely to engage in SCB (secret consumer behaviors), since it could give a sense of autonomy within an otherwise interconnected relationship. Another possibility is that attachment styles within a given relationship ... affect the propensity to engage in SCB within that relationship. Those with a secure attachment to their relationship may ironically be more likely to keep SCBs as they may feel more confident that it would not threaten the relationship."

Future research also could explore "whether there are differences in relational outcomes depending upon the method for keeping the secret (e.g., lying may make the same SCB seem more severe than if it were kept via omission)."

Fitzsimons, an oenophile, admits to sneaking cases of wine into his cellar without his wife's knowledge, hiding

his purchases by quickly disposing of all packing materials. One time he picked up 18 cases of wine and was nearly done hiding his stash when his wife and daughter returned home.

When his wife got out of the car and saw the last several cases sitting in the driveway, she chided him for buying so much wine. Fitzsimons says if his wife reads this article, he hopes she will forgive him. In 2008, when it sold for \$40,000. ●

**College of Agriculture,
Health And Natural
Resources**

WHY DOES MY BODY FEEL TIGHT WHEN I WAKE UP?

And what can I do to feel better?

By Tess Ayano

If you regularly wake up with stiff muscles, creaky joints or the general feeling that your body simply isn't as limber as it was when you went to bed, the first thing to know is that you are not alone. Waking up with a tight body is "almost a universal human experience," said Maryclaire Capetta, a physical therapist and assistant professor in the department of kinesiology at the University of Connecticut. And, she added, it's quite common for it to happen every day.

But while feeling stiff in the morning is normal and typically dissipates quickly, it's also uncomfortable while it lasts. The good news, experts say, is that there are a few tricks you can use — when you feel stiff, and even before the feeling arises — to help you get relief, faster.

Why You Feel Stiff

Most of the time, that tight feeling when you wake up is a result of overnight changes to the lubrication in two different features of the body: the joints and the fascia.

The fascia is a complex group of connective tissues that surround and support the muscles, soft tissues, organs and bones. Think of fascia as a fibrous web that wraps around and through muscle tissue to give it structure and stability. It forms multiple layers, with a gel-like lubricant in between that allows the layers to slide and glide smoothly, and which helps you to feel loose and limber, said Dr. Antonio Stecco, a fascia researcher and professor of rehabilitation medicine at New York University.

In certain situations — like when your body temperature drops, when you've been still for an extended time, or when lactic acid builds up in the muscles and fascia during intense exercise — the lubricant becomes thicker and more viscous and the

layers of fascia can't glide as easily, leading to feelings of stiffness.

When you sleep, many of those thickening situations occur: you're usually still for a long time (say, eight hours) and your body temperature tends to drop.

Your joints may also contribute to feeling stiff in the morning. In healthy joints, a thick fluid lubricates the space between the ends of your bones, which are capped with cartilage, to help them move freely and comfortably. Whenever you're still for a long period of time (like when you're sleeping), the cartilage sucks up the lubricant like a sponge, Dr. Capetta said, making your joints feel creaky.

How To Feel Better

The good news is that the remedy for stiffness in the morning — whether it's caused by your fascia or your joints — is the same: movement.

While you're still in bed and lying on your back, start by doing a full-body stretch, like a cat or dog does when they first wake up, by extending your legs and arms wide and in opposite directions. Then, try pointing and flexing your toes, or stretching just your arms and torso, mimicking the cliché "just woke up" stretch. To bring fluid back into your joints, try gently bending and unbending your knees and elbows, rolling your wrists and ankles or gently nodding your head from side to side.

If you still feel stiff once you've gotten out of bed, try marching in place, continuing to bend and re-bend any joints that feel stiff, Dr. Capetta said. If your back and the sides of your body feel tight, you could try a gentle stretch, like a loose forward hang toward your toes with slightly bent knees, or side bends and cat-cow yoga poses. Studies suggest that a regular yoga practice can be effective in reducing discomfort associated with joint and muscle stiffness and chronic back pain. Do whatever feels good. If you have a dog, taking it out first thing in the morning might get your body's juices flowing and help you feel nimble more quickly. If it's cold in the morning, try a hot shower.

While it's healthy and normal to feel a little tight after a night of stillness, you might feel even more tight if your baseline flexibility is already limited. You can lessen this by staying limber and maintaining an active lifestyle in general. If you don't already stretch regularly, adding

even 15 minutes of stretching to your day may help you feel less stiff upon waking, Dr. Stecco said. If you sit in front of a computer for work, try moving around and changing positions throughout the day.

If you're waking up frequently with a stiff neck and shoulders, you may want to re-evaluate the position you sleep in most often. If you're a side sleeper, for example, your pillow should support your head so that your neck is in the same line as your spine. If you consistently wake up with a stiff lower back, you may also want to consider whether your mattress is the culprit. There isn't one universal mattress type that will cure all tightness, but experts recommend different firmness levels depending on your needs.

If your joint stiffness lasts for longer than an hour after you've gotten out of bed and persists for weeks or even months, you should consult with a health care provider, Dr. Capetta said. Joint stiffness that lasts for an hour or longer could be an early indicator of arthritis. You should also see a doctor if you stretch regularly but still feel chronic tightness throughout the day.

Most of the time, morning tightness will naturally recede as you go about your morning. "But everyone has a different threshold for what is bothersome," Dr. Capetta said. If it troubles you, some movement and stretching first thing in the morning may be enough "to reduce the time or to reduce the impact of this particular experience," she said — whether it's a universal one or not. ●

BACTERIAL BATTLE: HOW PROTECTIVE CULTURES CAN PROTECT US FROM FOOD-BORNE PATHOGENS IN CHEESE

By Dennis D'Amico

This is one of the first studies helping give cheese producers more tools to keep their products safe

Cheese is a simple product. It usually only consists of milk, enzymes, salt, and bacteria that give the cheese its form and flavor.

But this simplicity, free of preservatives found in other foods, leaves it vulnerable to hosting pathogens.

"It's a huge risk because if there are pathogenic bacteria in raw milk and you make cheese from that milk, they can propagate and that can cause illness," says Dennis D'Amico, associate professor of dairy foods in the University of Connecticut College of Agriculture, Health and Natural Resources.

Federal regulations dictate that cheese producers cannot use the kinds of additives found in foods like deli meats to counteract this danger. One thing they can use, however, is bacterial cultures.

In the cheese production process, cheese makers use starter bacterial cultures to turn milk into cheese. In a recent study published in LWT, D'Amico found other bacterial cultures, known as protective cultures, can fight pathogens and prevent them from causing illness by hampering their ability to infect someone at several key points.

In previous studies, D'Amico screened protective cultures to determine which could potentially be effective against common pathogens like Listeria, E. coli, or Salmonella. His lab also screened to tell if these protective cultures would interfere with the starter cultures.

This research is among the first peer-reviewed studies to provide cheese producers with definitive evidence about how these cultures work.

Through this work, D'Amico identified three commercially available protective cultures with the highest chance of being effective against *Listeria monocytogenes*, the foodborne pathogen responsible for listeriosis.

Listeriosis can have life-threatening effects for those in high-risk groups, such as immunocompromised individuals and pregnant women. The pathogen has a 20-30% mortality rate, making it a significant public health concern.

Choosing from commercially available strains was an important consideration as, otherwise, cheese makers would have a difficult, if not impossible, time adopting D'Amico's findings into their process.

D'Amico used one culture of *Lactococcus lactis* (LLN), and two different cultures of *Lactiplantibacillus plantarum* (LP and LPP).

D'Amico conducted a previous study showing that using a high concentration of protective cultures can effectively kill pathogens. In this study, D'Amico used significantly higher concentrations of the pathogens than a person would normally consume to allow the pathogen to survive long enough to study the infection process.

Bacteria change the way they behave when they're in the presence of other, similar bacteria and can produce antimicrobial metabolites. When a pathogenic bacterium detects the presence of these cultures and their metabolites it enters a kind of "fight or flight" mode. The pathogen turns its focus to expressing genes important to surviving the competitor and turns off many of the nonessential functions that allow it to cause illness.

"Evolutionarily, those are their competitors," D'Amico says. "Typically [a protective culture's] effect is limited to a certain group of pathogens."

In order to get sick from eating something contaminated with *Listeria*, the pathogen needs to survive the inhospitable environment of the gastrointestinal tract. Then, it needs to attach to colon cells. Finally, it needs to enter those cells and cross the

epithelial cell lining. Disrupting any of these steps will help prevent illness even if the pathogen doesn't die.

D'Amico found protective cultures were effective at stopping *Listeria* at key points in the infection process. Both of the *Lactiplantibacillus plantarum* cultures disrupted *Listeria*'s ability to survive the gastrointestinal tract.

There was not a significant impact on the pathogen's ability to adhere to cells. However, LLN and LPP significantly reduced the pathogen's ability to invade colon cells and all three cultures disrupted transepithelial translocation, where the pathogen crosses the epithelial barrier by moving between the cells.

In a Food Research International publication, D'Amico establishes other potential benefits to adding these cultures.

In theory, if someone regularly eats a product with these protective cultures, they would become part of their gut microbiome and provide probiotic protection against *Listeria* infection if they encountered it in another food product.

Now, D'Amico is working to help producers determine how to make sure the protective cultures perform effectively in practice.

"Producers are trying their best to make safe products," D'Amico says. "But their hands are kind of tied without solutions like this." ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE GREAT LAKES ECHO SITE ON MAY 24, 2022

CLIMATE CHANGE INCREASES MILK PRODUCTION

By Shelby Frink

Researchers found that increasing temperatures from climate change may slightly increase milk production, despite the heat stress on cows.

Dairy cows produce less milk when they get too hot, said Rigoberto Lopez, the corresponding author of the study and a professor of Agricultural and Resource Economics at the University of Connecticut. However, hot temperatures stimulate the growth of plants that cows eat to produce milk.

The loss of milk production through heat stress is offset by the increase in feed production, according to the study published in March in the journal *Agricultural and Resource Economics Review*.

This is because the more cows eat, the more milk they can produce, Lopez said.

It's the first U.S. study to analyze that tradeoff, he said. Another study in Spain came to the same conclusion.

Researchers focused on extreme temperatures, Lopez said. "We wanted to see the effects of climate change on cows."

Another benefit of a warming climate is that feed production increased over a 10-year span because the growing season lengthened over time, said Chris Laughton, a co-author of the study and an agricultural economist at Farm Credit East, a Connecticut financial services network.

Increased Feed Production Also Has Economic Implications.

Feed is the bulk of the cost of dairy production, Lopez said. Whatever happens to feed will affect the profitability of farms.

Feed is a dairy farm's biggest expense, especially between the increase in fertilizer costs and the cost of the land to grow it, said Eric Westendorp, a dairy farmer at MOO-ville Creamery in Nashville, Michigan.

The benefits from increased feed production are modest, Laughton said.

According to the study, for every 1% increase in 90-degree days, there is a 0.0024% increase in milk production when the cows eat the additional feed.

By 2080, the number of days over 90 degrees will increase 10-fold for northern areas closer to lakes, Lopez said. This includes Michigan and northern New York.

Westendorp hasn't seen an impact yet, but noted there is a 5-to-7-pound decrease in milk produced by each cow in July and August due to heat stress.

It's difficult to see the true effects of climate change because farm efficiency increases with new technology and changing practices, Laughton said. One of the best ways for farmers to mitigate the effects of climate change is to focus on cow comfort during hot days.

MOO-ville Creamery is a medium-sized dairy farm with 500 cows, but only about 215 are active milk producers while the rest are either pregnant or calves, Westendorp said. The farm combats heat stress with fans and shade cloths in barns and by laying down sand for the cows.

Cutline: MOO-ville Creamery in Nashville, Michigan, puts shades on the sides of the barns to keep the sun off of their dairy cows. Image: Shelby Frink

The farm hopes to implement a robotic soaking system within the next couple of summers, Westendorp said. It will use motion sensors to detect the cows' location before spraying them down with water to cool them off.

Increasing efficiency can also help mitigate the economic effects of climate change, Lopez said. Larger farms are usually the most efficient.

Four robotic milkers increase MOO-ville's efficiency by decreasing labor costs and improving milk production, Westendorp said.

They increase daily milk production by 3-to-5-pounds per cow, according to the University of Minnesota.

Only 55 of the 1,206 dairy farms in Michigan used robotic milkers in 2020, the Michigan Department of Agriculture and Rural Development reported.

Dairy farmers do not have a reason to be overly concerned about climate change in terms of heat, Laughton said. The bigger concern is that climate change means that farmers are getting rainfall in a more concentrated manner.

That means they should look at irrigation and drainage technology because they're going to go through cycles of having too much water and not enough, "sometimes even in the same season," Laughton said. This will negatively impact feed production.

This study did not focus on the effects of changing precipitation patterns on dairy farms, Laughton said. That would be difficult to quantify because there are many variables. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE SUCCESSFUL FARMING ON MAY 25, 2022

BUILD A SMOKEHOUSE: STEP-BY-STEP INSTRUCTIONS WITH PHOTOS

By Agricultural.com Staff

This smokehouse holds more meat and is less expensive than store-bought smokers. It was designed by Cameron Faustman of the University of Connecticut Department of Animal Science, and Alton Blodgett of the Connecticut State Department of Agriculture, and only costs a few hundred dollars to build.*

Step 1: Cut the sides of the smokehouse

Faustman and Blodgett recommend tongue-in-groove pine because it is easy to work with and cost effective. Where needed, the tongue on the outside edge of walls can be removed with a utility knife. Do NOT use pressure-treated lumber, since smoke that comes in contact it will contact your food.

Fit and clamp together 5 boards, with the edge groove facing front and the tongue (removed) facing the back. Measure the front height to be 6', and the back 5'9". Snap a chalk line between measurements to make an angled top line. Cut with a circular saw. Repeat in mirror image for the other side.

Step 2: Frame the top and bottom of the side pieces

Using a table saw, rip 2"x8"x8' boards to create 1 1/2" x 1 1/2" framing pieces. Cut one to 25 3/4" in length and fasten along the inside bottom edge using galvanized deck screws. Cut another framing piece to fit the sloping top, with angles cut to make the front and back facing pieces flush. Repeat in mirror image for the other side.

Step 3: Frame the back of the side pieces

Fasten an additional 1 1/2" x 1 1/2" framing piece along the back edge of each side panel, between the top and bottom framing pieces. This is where the back wall will be attached. Repeat in mirror image on the other side. Now you should have two identical side pieces that are a mirror image of each other.

Step 4: Construct the back and fit to sides

Construct the back wall panel just as you did the side panels, but with all 5 boards cut to 5'9" in length. Fasten 2x4 framing lumber to the top and bottom of the inside back wall. Stand the sides and back together on a flat surface. The back should fit within the framing pieces of the side walls.

Step 5: Square it up

Measure to make sure the front portion of the smokehouse is square. Fasten 2"x4" cross braces to the front of the two side panels. Notch brace ends to accommodate the ends of the top and bottom framing pieces of the side panels.

Step 6: Finish the front

Rip 1"x6" pieces of pine board to be 3 1/8" wide for dressing the 2"x4" cross braces on the top and bottom. Position these pieces flush with the top and bottom brace edges, leaving about 1/2" of the top and bottom cross braces exposed, to serve as a door stop.

Step 7: Install shelf supports

Cut 8 shelf supports from the 1 1/2" x 1 1/2" board to length, and fasten four to the inside walls of each side panel, at the exact same heights. Check to be sure they are level. Here, the top of the first support was placed 18" above the floor, and the remaining supports were located with their top edges 14" above the support below.

Step 8: Build your door

Construct the smokehouse door from the remaining 5 pieces of pine, and cut to length so the door will fit snugly between the top and bottom pine pieces on the front. Fasten the door together using 1" thick boards in a "Z" formation, leaving room along the edges for the door to close completely. Fasten the door to the smokehouse using two 4" strap hinges.

Step 9: Add the roof and shelves

You can use a variety of materials for the smokehouse roof. Here, a piece of sheet steel was fastened to the top edges with screws, leaving a gap about the thickness of a popsicle stick between the sides and roof for venting. Do not use galvanized metal. For these shelves, the builders used expanded steel reinforced with angle pieces around the perimeter. Be sure to clean steel pieces before placing food on them.

Step 10: Consider the Draft

In order for your smokehouse to work properly, air must be able to draft in from the bottom and exit the top. Controlling this determines the heat build-up and degree of smoke in the house. Faustman and Blodgett placed their smokehouse on a small stone foundation that provided space for air to draft in the bottom. They drilled a couple of 2" diameter holes near the top of each side and just under the roof.

If the base of your smokehouse is tight to the foundation or sits on a gravel pad, drill two 2"-diameter holes near the base of each side. To further control draft, you can install galvanized steel electric junction box covers to cover the holes and act as dampers, adjusting accordingly. Screen ventilation holes in the inside to keep pests from entering the smokehouse. If desired, drill small holes into the sides to accommodate stem thermometers.

Step 11: Fuel your smokehouse

Faustman and Blodgett purchased a single-burner liquid propane system. This type of heat source, they believe, makes it easier to regulate temperature than external stove-like systems. The propane tank is set outside the house, with the burner inside. They placed an old cast-iron pan on the burner, and filled it with hardwood chips and sawdust to produce smoke. They recommend apple, hickory, or alder wood.

Pro Smoking Tips

Faustman and Blodgett offer these smoke-cooking tips:

- Start at 120 degrees F. and slowly increase the temperature over several hours. Keep the internal temperature of the smokehouse at or under 180 degrees F.
- If you are smoke-drying meat to create jerky or dried salmon, use a slower, more gradual heating method.

- The door can be opened slightly, if needed, to control the temperature.
- Remember the wooden smokehouse will burn if ignited, so supervise your smokehouse while in use.
- The wooden door may warp a bit during use, "burping" open and allowing heat and smoke to escape. If needed, use a hasp located halfway down the door's length to secure the door.
- Meats with a bit of fat smoke-cook better than lean cuts. Marinate meats before cooking, or inject meat cuts with diluted brine using a large needle.
- Treat cooking surfaces with a vegetable oil spray before placing meat on them. Do not spray near an open flame.
- Keep an eye on wood chips or sawdust throughout the smoking process, and replenish as needed.

Faustman and Blodgett say their favorite meat to smoke is trout and salmon. For 12 pounds of fillets, they prepare a brine consisting of 1 liter of inexpensive vodka, 12 oz. lemon juice, 4 lbs. brown sugar, and 5 cups of salt. Spread over the flesh side of the fillets. If layering in a pan, place flesh sides together. Place brined fillets in the refrigerator for 1 1/2 to 2 days. Briefly wash the fillets in cold water to remove surface salt and sugar, and smoke for 5 or more hours (depending on desired level of smokiness). Start with the smokehouse at 120 degrees F., and work up slowly to 180 degrees F. to finish the process. ●

THE 6 BEST FLOWERS TO LINE YOUR BORDER GARDEN

These blooms will add texture, color, and scale to the perimeters of your outdoor oasis.

By Nashia Baker

Planting flower borders can be a challenge, especially when you have to determine which varieties work best in this area of your garden.

With so many options to choose from, you might start to wonder if having a border garden is necessary altogether, or whether you should simply fill in the space with plants and shrubs you already have.

There are several benefits to filling this space strategically, though, starting with color and scale, says Pamm Cooper, an extension educator at the University of Connecticut Home and Garden Education Center.

They structure the space, "especially if they are the foreground for a fence, stone wall, or building in the background—or a softener for a hardscape such as a driveway or sidewalk," she says.

Flower borders can also add to the health and beauty of your garden. "They can be whimsical, filled with a diverse palette of textures," says Teri Speight, a master gardener, writer, podcaster, blogger, and the author of *Black Flora: Profiles of Inspiring Black Flower Farmers and Florists* (\$23.99, amazon.com).

A flower border can also "create a buffet for wildlife," such as hummingbirds, butterflies, and pollinators, she adds. To find out the best flowers to border your garden, we tapped several experts to get their picks.

Amsonia Hubrichtii

"In my opinion, a border should include something unexpected, such as *Amsonia Hubrichtii*," Speight says. "This perennial starts out with a subtle blue bloom that sits atop slender stems."

The gardening expert explains that the foliage rises out of the ground and reaches full bloom come spring. "In autumn, *Amsonia* quietly glows as the foliage turns a golden yellow," adds Speight.

Zones: 5 to 8

Weigela

Cooper says this shrub can provide interest all growing season long—plus, it comes in various sizes for multiple placement possibilities in a border. "Some have variegated foliage for further interest and their tubular flowers may be abundant all season or re-bloom, depending upon the cultivar selected," she says. Another perk? Hummingbirds and pollinators are strongly attracted to these flowers.

Zones: 4 to 8

Lantana

Add a flower to your border garden, like the lantana, that will last year round. "These are basically trouble-free annuals featuring citrus-scented foliage, a variety of flower colors (many of which change as flowers mature), and blooms that last until frost. They are also food sources for hummingbirds, butterflies, and pollinators," notes Cooper. "Annuals like salvias and lantana can be used in borders and varieties can be changed from year to year for a different look."

Zones: 7 to 10

Nepeta

For an edging option that also gives back to nature, Speight loves nepeta, or catmint. "It softens the border's edge, is drought resistant, and the purple-and-blue blooms are simply amazing," she says. "This plant invites hummingbirds and butterflies, creating an amazing and entertaining show in the garden." Plus, the pollinator plant provides an eye-catching, disease-resistant, and long-lasting accent to any border. Cutting the foliage back after the perennial blooms typically provides two to three flushes of color each season.

Zones: 4 to 9

Veronica

A perennial makes a great addition to a flower border, since it will come back year after year. Cooper recommends a veronica plant, especially the *Veronica spicata*, or spiked speedwell (one of her personal favorites). "It provides spiked blooms in various colors from spring through summer, and longer if deadheaded," she says. "Veronica attracts bees and butterflies and is resistant to deer and rabbits."

Zones: 6 to 9

Dahlias

Since the dahlia comes in a range of heights, floral textures, and colors, Speight recommends this perennial to add personality to your flower border. On the shorter end, dahlias reach up to 12 to 18 inches and add a refined touch to the garden with the consistent color and height. "Dahlias can also accent specific areas of the garden, as they stand 36 to 48 inches tall or even higher," Speight says. Some of the biggest benefits of planting dahlias are the long bloom time and their versatility (these are perfect to pick for indoor flower arrangements!). These flowers bloom from early summer until the first hard frost of autumn.

Zones: 8 to 10 ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE MINING JOURNAL SITE ON JUNE 13, 2022

CLIMATE CHANGE UPS MILK PRODUCTION

By Shelby Frink

MARQUETTE — Rising temperatures from climate change may slightly increase milk production, despite the heat stress on cows, researchers have found.

Dairy cows produce less milk when they get too hot, said Rigoberto Lopez, an author of the study and a professor of agricultural and resource economics at the University of Connecticut

However, hot temperatures do stimulate the growth of plants that cows eat to produce milk.

Lost production through heat stress is offset by the increase in feed production, according to the first U.S. study to analyze that trade-off and published in the journal *Agricultural and Resource Economics Review*.

That's because the more cows eat, the more milk they can produce, Lopez said.

Feed is a dairy farm's biggest expense, especially between higher fertilizer costs and the cost of the land to grow it, said Eric Westendorp, a dairy farmer at MOO-ville Creamery in Nashville, Barry County.

Westendorp hasn't seen an impact yet, but noted there is a 5-to-7-pound decrease in milk produced by each cow in July and August due to heat stress.

MOO-ville Creamery is a medium-sized farm with 500 cows, but only about 215 are active milk producers, while the rest are either pregnant or calves, Westendorp said. The farm combats heat stress with fans and shade cloths in barns and by laying down sand for the cows.

In the study, Lopez said, researchers focused on extreme temperatures to see the effects of climate change on dairy cows.

A benefit of a warming climate is that feed production increased over a 10-year span because the growing season lengthened, said Chris Laughton, a co-author of the study and an agricultural economist at Farm Credit East, a Connecticut financial services network.

Increased feed production has economic implications, although the benefits from increased feed production are modest, Laughton said.

Lopez said that whatever happens to feed prices affects profitability.

According to the study, for every 1% increase in 90-degree days, there is a 0.0024% increase in milk production when cows eat the additional feed.

By 2080, the number of days over 90 degrees will increase 10-fold for northern areas closer to lakes, Lopez said. That includes Michigan and northern New York.

Increasing efficiency can also help mitigate the economic effects of climate change, Lopez said. Larger farms are usually the most efficient.

However, Laughton said, it's difficult to see the true effects of climate change because farm efficiency increases with new technology and changing practices. One of the best ways for farmers to mitigate the effects of climate change is to focus on cow comfort during hot days.

At MOO-ville, for example, Westendorp said our robotic milkers increase the farm's efficiency by reducing labor costs and improving production.

Only 55 of the 1,206 dairy farms in Michigan used robotic milkers in 2020, the state Department of Agriculture and Rural Development reported, although University of Minnesota research found they increase daily production by 3-to-5-pounds per cow.

MOO-ville plans to implement a robotic soaking system within the next couple of summers, Westendorp said. It will use motion sensors to detect the cows' location before spraying them with water to cool them off.

Laughton said dairy farmers don't have a reason to be overly concerned about climate change in terms of heat. The bigger concern is that climate change means they're getting rainfall in a more concentrated manner.

That means they should look at irrigation and drainage technology because they're going to go through cycles of having too much water and not enough, "sometimes even in the same season," Laughton said. This will hurt feed production.

The new study didn't focus on the effects of changing precipitation patterns on dairy farms, and Laughton said that would be difficult to quantify because there are many variables. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE WILTON BULLETIN SITE ON JULY 18, 2022

CONNECTICUT FARMERS FEAR WHAT'S AHEAD AS

STATE'S DROUGHT WORSENS: 'EVERYTHING IS CRYING FOR WATER'

By Luther Turmelle

Connecticut farmers have been sweating out the past few drought weeks, concerned that a lack of rain and high temperatures could eat into this year's profits.

Over the last 30 days, the state has experienced lower than normal rainfall, with amounts totaling an estimated one inch. Normally, according to state officials, Connecticut would have seen 4 inches of rain over the same 30-day time period.

Gov. Ned Lamont last week approved a declaration that all eight Connecticut counties are experiencing stage 2 drought conditions due to precipitation across the state being below normal. Under the state's drought plan adopted in 2018, the second stage identifies an emerging drought event, potentially impacting water supplies, agriculture and natural ecosystems.

For farmers like John Lyman, executive vice president of Lyman Orchards in Middlefield, the growing season has gone from good to worrisome in the blink of an eye.

"Up until the last week and a half, the growing season has been a pretty good one," Lyman said. "Now we're starting to see the impact of the dry weather."

And as June gave way to a July that has thus far been warm and largely without rain, farmers are worried what lies ahead.

"It's super dry and we are juggling seven irrigation units to put water where it's most needed and also preserve our water supplies," said Keith Bishop, owner and chief executive officer of Bishop's Orchards in Guilford, which includes a retail store and farming operation.

"Unfortunately our biggest pond is not where we need the most water. Peaches, blueberries, raspberries and tomatoes are our priorities due to being highest value and shallow rooted."

Patrick Herzing, general manager at Michael's Greenhouses in Cheshire, said the lack of rain in July "is already having an impact." Michael's Greenhouses grows annuals and perennials as well as vegetables and herbs,

“We’re using a ton of water and it’s still hard to keep the plants from overheating” Herzing said. “It takes a lot of effort by the people who work here.”

Karen Kalenauskas, who operates a livestock farm in Watertown that bears her family’s name, said she doesn’t believe Connecticut consumers fully grasp what goes into producing the food they eat.

“People aren’t connected to the food they eat,” Kalenauskas said. “The growth of the corn we grow affect how much our cattle grow.”

And right now, the corn that Kalenauskas grows to feed her livestock is enduring a good deal of environmental stress.

“All of the corn is point straight up, begging for rain,” she said. “Normally, the leaves on the corn would have a nice curve to them. Everything is crying for water.”

Lyman said that while Lyman Orchards “has some capacity to irrigate our small fruit, our blueberries and our strawberries, we don’t have that capability for our tree fruit.”

Peaches and apples that will be harvested in the coming months account for about 10 percent of the total revenue at Lyman Orchards, he said.

“Looking ahead, we’re hoping we’ll see somewhat of a normal tree fruit harvest,” Lyman said. “But that’s part of the reason for the diversification of our business. If we have a stress on one part of our business, we’re trying to offset it with growth in another area.”

Lyman is referencing the opening earlier of a new wholesale pie making facilities in New Haven.

An affiliate of Lyman Orchards acquired a trio of buildings late in 2021 and moved its wholesale pie making operations from Middlefield to New Haven. Middlefield Real Estate Holdings LLC paid \$3 million for the buildings, two in the Food Terminal on Long Wharf and a third building at 724 Grand Ave.

Lyman said the company got into the wholesale pie making business in 1996 using kitchen space in the company’s Apple Barrel retail store, which opened in Middlefield in 1972. The wholesale business has grown over time, he said.

The company makes fruit pies for the regional supermarket chain Big Y and also for other grocery chains using the private label of its client retailers.

Shuresh Ghimire, a vegetable specialist assistant educator at the UConn Extension, said most of state’s vegetable growers he has talked with have pretty much accepted that some form of drought conditions “are going to be normal in the future.”

“Generally, vegetables need one inch of water per week,” Ghimire said. “And not only has there not been enough rain recently, but whatever rain we had earlier didn’t leave a lot of moisture in the soil.”

For some farmers who have fields with small acreage, irrigation may not be economically feasible, he said. For a state of Connecticut’s size, Ghimire said less than five acres is a small scale field.

Connecticut has experienced this level of drought five times in the past two decades, in 2002, 2007, 2010, 2016 and 2020, according to Martin Heft, the state’s Office of Policy & Management Undersecretary. Heft is chairman of the Interagency Drought Workgroup that advises Gov. Lamont on water issues.

There are five stages in Connecticut’s drought plan and Heft said in 2020, the state advanced to Stage 3.

“We’re not there yet and hopefully, we don’t get there,” he said. Mandatory restrictions on outdoor water usage don’t start until Stage 4, according to Heft.

This year’s drought has spread from east to west, he said, with Stage 1 levels being declared in Windham and New London counties in June. Heft acknowledged drought related judgments are very site specific.

“Some of the reservoirs are in good shape and some of them have gone down a bit from last month,” he said. “Even the water utilities are all over the map when it comes to handling. Some have mandatory requirements others while others are recommending conservation.”

Bridgeport-based Aquarion Water has mandatory lawn water restrictions in 13 communities spread across Fairfield, Hartford and New London counties. Aquarion, which is a subsidiary of Eversource Energy, serves 56 Connecticut communities, which means the restrictions impact only 23.2 percent of the water company’s service territory.

Contrast Aquarion's actions with those of the the South Central Connecticut Regional Water Authority. The quasi-public water utility that serves almost 430,000 people in 15 communities in the Greater New Haven area.

The Regional Water Authority is asking its customers to voluntarily reduce their water use by 10 percent.

But unlike Aquarion, the RWA is not using any enforcement mechanisms for customers who fail to heed the utility's conservation call. Aquarion sends warning letters to violators and ultimately can shut off service to repeat violators although it has never done so since it began implementing annual restrictions in 2017.

Larry Bingaman, the RWA's president and chief executive officer, said that "while we currently have an adequate supply of water in our reservoirs just a few simple steps to conserve 10 percent of water use will help prolong available water supplies, reduce demand on the system and stress on local water resources as well as on the environment, and lower customer bills." ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE CONVERSATION SITE ON AUGUST 16, 2022

FROM WATERING VIA ICE CUBES TO SPRITZING WITH HYDROGEN PEROXIDE – 4 MISGUIDED PLANT HEALTH TRENDS ON SOCIAL MEDIA

By Nick Goltz

The internet is full of advice on just about everything, including plant care.

As the director of a plant diagnostic laboratory and expert on plant medicine, I help people manage their plants' health. Here are four trends I've seen online recently that have stood out as being especially misleading or potentially damaging to plants.

Watering Orchids And Other Plants With Ice Cubes

Multiple sites claim ice cubes can be used to give orchids a "just right" amount of water. The fact is tropical plants hate cold temperatures. Leaving ice near an orchid's roots may damage them.

Orchids On Ice?

Nearly all houseplants, including orchids, will prefer lukewarm or room temperature water, about 70 degrees Fahrenheit (21 degrees Celsius). Use fact sheets from educational institutions and reputable organizations to determine the correct amount of water and watering schedule for the types of plants you're growing, and then set a reminder on your phone.

Use a potting medium that drains well and quickly. For orchids, a mix of bark chips and sphagnum moss is much better than 100% soil or coco coir.

'No Mow May'

Many campaigns have sprung up recently promoting "No Mow May." The idea is to delay regular mowing for the month of May to provide more feeding sites for pollinators, which are trying to shore up calories after their winter hibernation.

Unfortunately, this practice usually does not benefit pollinators and could damage your lawn's health. Here's why:

Mowing more than 30% of a grass leaf at once is never a good idea. Grasses depend on their blades to photosynthesize and meet their energy needs. When more than 30% is lost at once, the plants may not have enough remaining leaf surface area to photosynthesize properly.

Overgrown lawns have overgrown root systems, which require more energy. Failure to provide it leads to increased susceptibility to disease, poor water management and potential collapse. Such damage is pretty much unavoidable after a monthlong "no mow" period.

Few lawns actually contain enough flowers to be beneficial to pollinators, anyway. For many people, the "perfect lawn" is an unwavering green carpet. But that

uniformity is useless to bees and other pollinators that require pollen and nectar that other plants can provide.

It's great to prioritize pollinator health, but the "no mow" trend is best implemented in prairie, field and wetland environments, where there is a lot of plant diversity and flowering plants.

If you're looking to support pollinator health in your own yard, plant native wildflowers that pollinators will actually want to visit. Most require less water and management compared to grass lawns. Replace your entire lawn or even a small strip. Any amount of lawn replaced is beneficial – and will save you water and money.

Make sure not to mow the wildflowers until they've finished flowering. A wildflower patch usually only needs to be cut once or twice a year. Mowing after the last frost in early spring will spread the previous year's seeds and provide a home for insects to spend the winter.

Using Hydrogen Peroxide To 'Cure' Plant Diseases

Hydrogen peroxide does sterilize surfaces and can reduce bacteria and some fungi. But the rapid reaction that gives hydrogen peroxide its sterilizing properties occurs almost immediately after coming in contact with other compounds. This does not permit hydrogen peroxide to move throughout a plant.

So most pathogens – the organisms that cause disease – will not be affected if they are in a plant's tissues rather than on its exterior. Applying hydrogen peroxide excessively or improperly may even make plant health issues worse by drying surfaces and killing beneficial microbes.

While there is certainly a time and place for sterilizing surfaces in plant care – like with your pruners and propagation tools – the best defense against plant diseases is proper care.

Water your plants only when necessary and provide proper light and nutrition. Research what your plant likes best from educational institutions or other reputable sources. Routine pruning to increase airflow, proper plant spacing, avoiding single-crop planting and crop rotation are just some examples of chemical-free

techniques to reduce plant stress and decrease disease susceptibility.

Diagnosing Diseases Using Phone Apps

Many apps exist that use photographs submitted by the user to identify plant diseases and offer solutions.

The truth is, to diagnose most plant diseases, a scientist needs to culture plant tissue to correctly identify pathogens. Only after an accurate diagnosis can they recommend management solutions. I have a pretty strong opinion here, since disease identification is what I do every day. Plant symptoms that accompany one disease may be practically identical to those of another.

The same symptom can be caused by very different problems. Bugwood.org, CC BY-ND

For example, herbicide exposure, viruses, insect feeding and fungal infections can all cause twisted and deformed leaves. To properly diagnose an issue, the plant's own history, location, site history, time of year and other factors need to be considered before I can take a guess as to what may be contributing to symptoms.

Don't rely on an app to guess at what disease your plant may have – and don't act on bogus recommendations. Instead, reach out to your local university diagnostic lab or extension office for support.

Not sure where to go? Start with the National Plant Diagnostic Network's lab directory. Many, including mine, offer free consultations and recommendations. If you end up submitting a sample to a diagnostic lab, most are affordable – my lab's fee is US\$20 – and will be worthwhile, especially when you consider the cost of replacing the plant with something that could eventually have the same issue. ●

TREES ARE FEELING EFFECTS OF DROUGHT CONDITIONS, POSE POTENTIAL THREAT TO ELECTRICAL INFRASTRUCTURE

By Erica Drzewiecki

BERLIN – Trees are feeling the effects of the drought conditions and pose a potential threat to electrical infrastructure.

As the State's leading utility and energy company, Eversource is addressing this issue in collaboration with a team of forestry partners from the University of Connecticut.

"Current circumstances can result in the loss of trees that are already under stress for other reasons, such as insect infestations, diseases, overcrowding, past storm damage and location factors like already very dry sites," UConn Associate Extension Professor of Forestry Thomas Worthley explained. "Drought can also exacerbate some of these stresses. Some trees may enter dormancy earlier, exhibiting early foliage color change. In general, most trees will produce smaller growth rings during drought conditions, thus sequestering less carbon from the atmosphere than in normal years. Some loss of limbs or branches might also be expected, presenting potential hazard situations."

The U.S. Drought Monitor's Sept. 1 report showed that the state continues to experience severe drought conditions. Experts predict drought conditions will continue through November.

"It has been a hot, dry summer and our team of arborists is seeing telltale signs of stress like weakened branches and early fall color," Eversource CT's Vegetation Management Manager Sean Redding pointed out. "We've seen the devastation storms can cause and trees already in poor health are especially vulnerable to the effects of drought, raising even greater concern of them coming down in a storm,

possibly taking down electric lines with them and causing power outages."

The energy company performs routine maintenance work to clear low-hanging branches and vegetation that could interfere with electrical wires. However, officials encourage property owners to take responsibility for caring for their own trees as well, to prevent hazardous situations.

"Addressing the state of our trees is critically important to ensuring safe, reliable electric service for our customers, and we're committed to collaboration with our communities and property owners as the changing climate drives more extreme drought conditions that weaken trees and threaten reliability," Redding said.

Trees experiencing signs of stress may show thinning at the crown, loss of foliage, early color changes, and mushrooms near the base. People are urged to call a certified arborist to assess their tree's situation if it is showing any of these signs. ●

APPLES IN CT WILL LOOK AND TASTE DIFFERENT THIS YEAR DUE TO SUMMER DROUGHT.

By Abby Weiss

At Bishop's Orchards Farm Market & Winery in Guilford, preparation for the 2022 apple picking season had its fair share of obstacles.

Over the past few months, the orchard has faced Connecticut's severe drought conditions, federal calls for limited water usage and now, heavy post-Labor Day rainfall.

To adapt, Bishop's Orchard owners irrigated water from nearby ponds and paid significantly more for labor and fertilizer, Sarah DellaVentura, co-owner of the orchard, said. The last time she saw conditions this dry was in the 1990s.

“We haven’t had anything like this since back then. This [year] has been extremely painful,” she said.

Apple orchards and pumpkin patches are opening up across the state for autumn 2022. And due to the summer weather conditions, apples and other fall crops will be smaller and more scarce, Bryan Hurlburt, the commissioner of Connecticut's Department of Agriculture, said. He said the state does not have specific numbers on the yield losses.

On the upside, apples, pears and peaches will be sweeter because the sugar will be more concentrated due to the lack moisture, he said.

“There are challenges, but there are also certainly opportunities. And, we want to make sure that everybody's aware that there's still fruit out there, and there are still opportunities out there. And they should still go out there and visit a local orchard,” he said.

Bishop's Orchard in Guilford, Conn. has been around for 150 years. The apple orchard offers fruit and pumpkin picking, and it makes its own apple cider and apple cider donuts.

Mitchell DeFazio, co-owner of DeFazio Orchard and Greenhouses, said his pumpkins and fruit are smaller because the dehydrated trees couldn't hold the weight of the crops.

“We're starting to see a lot of fruit drop,” he said. “Everything was smaller than it should have been and there were lot of yellow leaves here and there. Apples not so much, but with the peaches you can just tell everything was stressed out.”

The burst of rain from this past week could exacerbate those struggles for orchard owners. The summer drought, similar to the one in 2020, caused soils to dry up and harden, hindering its ability to absorb heavy rains and causing flooding in some parts of the state.

"When you're getting two to four inches of rain all dumped all at one time, it is not helpful to us. Especially when the ground is still dried out because of the drought. Because the rain doesn't have anywhere to really to permeate through because everything is so dry," DellaVentura said.

Shuresh Ghimire, an extension educator and vegetable specialist at University of Connecticut, said sudden heavy rain can lead fall vegetables like pumpkins and

butternut squash to crack because they've been building up sugar concentration over the summer due to lack of moisture.

“It can happen on fruit crops as well. So, that could be a potential problem moving forward because we had so much drought most of the growing season and now we received good amount of rain, which is good for the most part, but for those higher content fruit, it may lead to fruit cracking," he said.

But for owners who didn't receive as much rain, the showers provided some relief.

John Lyman, executive vice president of Lyman Orchards in Middlefield, said the rain filled nearby ponds the orchard uses for irrigation, which were running low in July, and has supplied them with plenty of groundwater heading into the fall.

“I think things will kind of perk up. I'm looking forward to a really nice fall and having a lot of people come out and enjoy the orchard,” he said.

Lyman said while the input costs this summer were higher and the crops weigh less, the year was more successful than in 2021 when the rain washed out his crops.

“When you have a really wet season, it's really hard because you can't take the water away. The roots need to breathe and with too much water they suffocate. So there was there was a lot of failures with vegetables. So pumpkins were definitely impacted last year. This year, they're looking better despite the dry weather," he said.

Connecticut experienced its third-rainiest July in 2021 with more than nine inches of rain, according to the National Oceanic and Atmospheric Administration. This year, the state had its 10th-driest July on record with two inches of rain.

*“Last year, everything was underwater. In the year before that, everything was dry the bone and this year, we're back to dry as a bone. Now we're underwater again,”
Defazio said.*

Ghimire believes these extreme weather events will become the new normal for the state due to climate change and will create more challenges for farmers running fall activities. He said some farmers have turned to increasing soil organic matter to hold more water and growing crops covered in semi-controlled environments to adapt.

“We can expect to see more and more extreme weather moving forward. So some level of drought, some level of flooding, is just going to be a fact of farming moving forward. So farmers need to be prepared to deal with those extreme weather events,” he said.

The U.S. Department of Agriculture designated New London and Windham Counties as “primary natural disaster areas” due to drought, and farmers in those countries are eligible for federal economic disaster loans. Hurlburt said later this year, the state plans to roll out a multi-million dollar program to help farmers adapt to extreme weather events.

“I think has been the year to demonstrate what [farmers] going to be facing,” he said.

DellaVentura said like every year, the orchard has overcome the volatile weather and is ready to give customers a fulfilling autumn experience. ●

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HOW MUCH PROTEIN YOU NEED TO EAT EVERY DAY (HINT: YOU'RE PROBABLY NOT GETTING ENOUGH)

By Michael Behar

We all know protein is the single most important building block of muscle growth. But, amazingly, science is only now discovering exactly how much protein we should be getting and—just as important—when we should be getting it.

A small plastic pouch filled with dark brown, organic matter arrived at my doorstep today.

No, I didn't immediately bolt down the stairs in hot pursuit of some teenagers. Instead, I took a closer look and found that the bag actually contained something else entirely: dead crickets.

Alex Drysdale, founder of CRİK Nutrition, was so eager for me to sample his flagship product that he shipped it overnight via DHL from his office in Winnipeg, Canada. I just hadn't expected it so soon. Drysdale, a former communications technician who quit his job last year to cash in on today's protein boom, swears that his critters “are loaded with nutrients because they're made from whole, crushed-up cricket—you're eating the exoskeleton and all the organs.” I try not to picture cricket guts when I open the pouch and take a whiff. Surprisingly, the smell is sweet and nutty. Feeling ballsier than usual, I shove a spoonful in my mouth. Compared with gritty and bitter whey and soy powder varieties, this stuff dissolves instantly on my tongue and tastes like almonds and honey.

CRİK is just the latest form of protein I've happily eaten lately; the others include protein-infused granola, pancakes, Greek yogurts, and the gamut of powders—whey, soy, pea, hemp, and now cricket. The industry reaps about \$9 billion annually, a figure that's quadrupled since 2005. Some dismiss this as just another fleeting food fad, the result of a connection to certain popular high-protein diets, such as paleo. A few experts—along with new federal dietary guidelines announced in January—claim we're eating too much. But I'm happy to report that scientists who study protein insist otherwise.

For the record, the U.S. Recommended Dietary Allowance (RDA) officially recommends just 0.36 grams per pound of body weight. “That's designed for the average person to just exist—hang out, watch TV, do whatever,” says Mike Nelson, Ph.D., an exercise physiologist and founder of Extreme Human Performance, a fitness coaching firm that espouses a high-protein diet. It was also written during the wartime 1940s to recommend the minimum amount for good nutrition when Americans were rationing food. “But if you're not the average person, and you're exercising more intensely,” says Nelson, “you're going to need more protein.”

At 160 pounds, the RDA puts me at 58 grams per day, which is a scant more than a cup of Greek yogurt at breakfast and a small chicken breast for lunch, with zero

protein for dinner. But based on recent findings, scientists now advise at least 0.68 grams per pound and up to 0.75 grams if you're doing intensive weight training (more than two hours daily) and want to bulk up fast—which would put my recommended intake at 120 grams per day, divided into four servings, consumed roughly four hours apart. Because I exercise five or six days a week, Stuart Phillips, Ph.D., a professor of kinesiology at McMaster University in Ontario, who studies how protein supports muscle growth, tells me that 110 grams per day should be ample. I bump up my intake accordingly, almost doubling it.

Two weeks later I've dropped 5 pounds—most of it off my belly. I'm stacking on extra weights for chest and shoulder presses. But the most profound change is in recovery. The throbbing quads and calves I'd suffer after long runs? Gone. And when I overload my muscles while lifting (think: big burn), the soreness lasts for mere hours instead of days.

Right now I crave protein like a drug. I eat it in the morning and, as you'll soon learn why, even before bed. I eat everything from omelets to salmon to pulverized insects that look like shit. And here's the thing: I've never felt better.

Later, when I convey my experience to Robert Wolfe, Ph.D., one of the early pioneers in protein science and now director of the Center for Translational Research in Aging and Longevity at the University of Arkansas, he's not surprised. "When you look at the research, it's impossible not to be impressed with the benefits of a higher proportion of protein than the RDA in the diet," he says. Eat more protein and "by and large, you're going to be fitter. That's the reality."

What's Enough Protein? And What's Too Much?

Despite everything we know about the connection between protein and muscle growth (for the record, protein refers to the amino acids from foods that our bodies require to be healthy and strong but don't produce intrinsically), it wasn't until very recently that scientists began to determine just how much protein we should be eating, what types (animal or plant), when (morning or evening), and how much.

"Back in the early 1980s, we used to think that if you averaged out your recommended protein intake over a week, you were OK," says Nancy Rodriguez, Ph.D., a professor of nutritional studies at the University of

Connecticut. "But fast-forward 10 years, and we realized it wasn't just having protein every two or three days. You should be eating it every day and distributing it among meals and snacks."

For decades, dietitians and trainers generally adhered to the RDA. But Donald Layman, Ph.D., a professor of nutrition at the University of Illinois, suspected this number might be too low. Often regarded as a leader in protein requirements, Layman had been investigating how humans metabolized amino acids and whether there was a threshold amount required to trigger protein synthesis, the biological mechanism that spawns muscle. In 1999, Layman conducted experiments on rats and found that a specific amount of the essential amino acid leucine, contained in all protein, is necessary to kick-start synthesis. Leucine alone can't create muscle—you need all nine essential amino acids to do that; leucine is just the catalyst that ignites the process. "Until you get enough leucine, protein synthesis won't run at 100%," Layman explains. When he extrapolated his data to humans, he determined that for someone like me to optimize post-workout muscle growth, I should be consuming upward of 30 grams of protein per meal, which provides 2.5 grams of leucine. (For that, a whey- or soy-based protein smoothie with a half-cup of yogurt added would do the trick; so would a 4-ounce T-bone steak.)

But what happens if I eat more than that? Would devouring, say, 90 grams of protein in a single sitting—or about 12 ounces of salmon—triple muscle growth? No one knew the answer until Doug Paddon-Jones, Ph.D., a professor of nutrition and metabolism at the University of Texas, consulted with Layman for a study. In 2009, Paddon-Jones enlisted a group of volunteers, including eight men in their early 30s, all weighing about 175 pounds, and fed them each a 4-ounce steak with 30 grams of protein. Five hours later, he took blood samples and muscle biopsies from the volunteers. "There was a 50% improvement in muscle protein synthesis," says Paddon-Jones. When he repeated the test but ramped up the size of the meal, eventually tripling protein intake, synthesis remained the same. "That suggests that somewhere around 30 grams [for a 175-pound male] there is a ceiling effect for your ability to use actual protein-rich foods to build and repair muscle," Paddon-Jones says. For bigger guys, of course, those numbers will rise proportionately. If you clock in at 250 pounds, for instance, your per-meal protein

intake would rise to 42 grams. (And there are other factors that can push that number even higher, such as genes.) Granted, if you're consuming way more protein than you should, there are still some added nutritional benefits—thanks to the amino acids and micronutrients in a varied protein diet (meat, legumes, seafood, soy)—but muscle protein synthesis falls off precipitously.

Too much protein in a single meal is like filling the 20-gallon tank in your SUV with 60 gallons of gasoline—two-thirds of the fuel gets wasted, spewing out onto the pavement. (Excess protein ends up in your urine.) “You don't have a storage site for protein,” explains Phillips. “You can't pack it away for further use.”

Paddon-Jones warns about racking up extra calories: “The biggest problem with overconsuming protein is you're going to get fat. There's an upper limit in terms of what your body can process at one time. You can eat more, but it's likely not doing your muscles much good.”

Before Working Out Or After: What's The Protein Smoothie Sweet Spot?

At the University of Connecticut, Rodriguez hones diets for collegiate and pro athletes, including those in the NFL, NBA, and NHL. She instructs them to get about 35 grams of protein per meal and scales it up for heavier guys. But will any protein do? Rodriguez cites several new studies that have examined plant versus animal proteins, and whole foods compared with supplements. The upshot: To grow new muscle and get bigger while adhering to a low-calorie diet, whole, animal-based sources are preferable, specifically meat, poultry, fish, eggs, and dairy (milk, cheese, yogurt). Now, you might be wondering about the recent World Health Organization (WHO) report from late last year that caused carnivores to panic because it labeled meat a carcinogen and lumped bacon with tobacco in the certain-death category. Not to worry. First, the WHO study surveyed people who consumed almost nothing but—that is, heaps of meat every day. These folks are also often overweight and sedentary. So does meat give you cancer? Or do you get it from being fat and lazy? The answer is almost certainly the latter, meaning that if you're fit and work out regularly, a modest serving (about 4 ounces) a few times a week of beef, pork, or, yes, even bacon isn't going to put your health at risk.

“I don't think you can become the best athlete you can be without meat,” says Luc van Loon, Ph.D., an exercise physiology professor at Maastricht University in the Netherlands, adding that he favors whole animal foods like beef because they digest slowly—a steak can take 24 hours for the body to process—so it provides a steady protein supply all day.

If you're a vegetarian or vegan, good old-fashioned rice and beans, and tofu are acceptable alternatives. But remember: By proportion, animal meat packs up to three times the protein content as plant-based food like legumes and nuts. So with tofu, for example, you'll have to eat a lot more of it to get the same protein you would dining on a 6-ounce filet mignon or a three-egg cheese omelet. Some plant-based proteins are also high in carbohydrates, which, if not readily burned off, end up as fat. (Crickets are about 70% protein by weight.)

If you're going the supplement powder route, scientists suggest you choose whey, the wildly popular animal-based protein derived from cow's milk. For a 2015 study in the *Journal of Food Science*, Phillips analyzed whey, soy, and rice powders and found that whey had the highest leucine content of the three. “And when we're talking about regenerating muscle, the key is protein higher in leucine,” he says. “Based on our work, whey tops the list.”

Whey also ranks first in its ability to feed muscles faster than any other protein type. “Whey protein is absorbed really quickly in the blood, within 15 to 20 minutes,” Paddon-Jones says. Train hard and your body burns stored carbs and fat to produce glucose for energy. But unlike fat, there's no protein cache to tap for making muscle. And as van Loon points out, “when you combine exercise with protein, you get a synergistic response—muscle protein synthesis is doubled.” That's why experts love whey: Its rapid absorption improves the rate of rebuilding compared with other protein sources.

But timing is everything. When muscles contract during strenuous exercise the cells become more anaerobic, and protein synthesis shuts off. So chugging a protein smoothie right before hitting the gym or while exercising is pointless—and a few studies suggest it may even be counterproductive, impeding your muscle's ability to grow. “There's no good reason to do it,” Phillips says. On the other hand, researchers have measured the largest gains in lean muscle growth in

athletes who consume whey protein 30 to 90 minutes after training. “That’s when you get the biggest bang for your buck, because the machinery is set up to resynthesize muscle,” Rodriguez says.

Can You Actually Build Muscle While You Sleep?

When we bulk up in response to resistance training, it’s because there’s a net gain of new muscle growth. Squats break down quads, which respond by rebuilding themselves bigger and stronger—a process that protein amplifies. But like other scientists, van Loon once believed this occurred only when we were awake. Then three years ago, he met with a few colleagues at a bar and “after too many beers,” as he puts it, “we thought, ‘What happens if we give people protein during sleep?’” Scientists had never considered whether protein could be metabolized at night, or if it could, whether muscle synthesis would occur.

When you eat protein, its amino acids are dispatched to various tissues—muscle, organ, bone—where they’re used to repair and rebuild cells. But to determine what happens at night, van Loon had to pinpoint the exact where and when of this process. So at a university animal research facility in the Netherlands, he rigged a Holstein cow with intravenous tubing and pumped in \$40,000 worth of chemical compounds called tracers that allow scientists to follow them throughout the body. From the cow’s milk, van Loon derived a protein supplement he could give to human test subjects and then track the amino acids throughout their bodies. “I could see the digestion and absorption, how much of the protein becomes available in the circulation, and how much of what you eat lands in the muscle over a few hours,” he explains.

Next he conducted two separate protein-and-sleep studies by recruiting healthy, active men in their early 20s. In the first experiment, the men exercised in the evening, then half took a protein supplement before bedtime, with the remainder fed a placebo. Van Loon found that the protein was effectively digested and absorbed while the men slept, and muscle rebuilding was also higher. In the next study, he had the subjects lift weights for three months in the evenings, with half taking a protein supplement before bedtime and the other half a placebo. He found the group who consumed protein prior to sleep had a greater increase in muscle mass and strength.

Based on his initial results, van Loon recommends a so-called “fourth meal” of protein approximately 30 minutes before bedtime—that would be about 30 grams for a guy my size. But keep calories to a minimum, since anything in addition to the protein isn’t going to burn off. (You’re asleep, remember.) Good choices are Greek yogurt, cottage cheese, or a protein smoothie, assuming you minimize the sugary fillers like berries and juice. “Protein prior to sleep gives you a greater window of opportunity to facilitate muscle reconditioning,” van Loon says. “It turns out that nighttime is an unused period when you can stimulate the adaptive response to exercise.”

What’s The Best Way To Get Your Protein High?

Because I’m a carnivore, to me more protein means more seafood, chicken, pork, and beef. On top of ample salmon and bison—two of my favorite foods—during my investigation, I added van Loon’s fourth bedtime “meal,” as well as whey after workouts.

And my grocery bills went out of control.

Ultimately, I decided to mix things up: A few times a week I now splurge on pricey seafood (often tuna or halibut, among the protein kings of fish), and for smoothies I go with organic, grass-fed whey or Drysdale’s CRK powder: the yummiest of the supplements, but—at roughly \$5 for a 32-gram serving of protein—also the most expensive. Primarily, though, I rely on protein-packed basics like yogurt, eggs, peanut butter, and cheese. For breakfast, I do one cup of nonfat Greek yogurt, blended with blueberry kefir, a tablespoon of peanut butter, and a teaspoon of honey. I follow my late-morning workout with a whey smoothie, using the provided scoop to get the correct amount of protein, then sweeten it with whatever fruit happens to be in the fridge—and call that lunch. Dinner varies, but the main dish is almost always a high-protein whole food, such as pork or salmon, eyeballing the portions to get roughly 8 ounces. Before bed, I might snack on a bowl of cottage cheese topped with sliced chicken or turkey breast, dishing it out based on the serving-size info based on the packaging.

After two weeks not only do I feel great but also—as previously mentioned—I’m five pounds lighter, chiefly because protein makes me feel fuller and satiated (which keeps me from snacking), and because of protein’s thermic effects (I actually burn calories while

digesting it). I also notice something else with my new diet: I'm always thirsty. As it turns out, protein is hygroscopic, which means it attracts water like iron filings to a magnet. "If you shift to high-protein, you should drink 50% more water than you were drinking before," Layman advises. This gets me wondering: Besides dehydration, what other potential risks might protein pose?

Low-carb diets, like the Atkins, which became popular in the '90s, preached all-you-can-eat protein. You can fill up on steak and eggs as long as you limit carbs. With Atkins, protein functions like an inert, low-calorie filler: Consume enough of it and you'll be too stuffed to eat anything else. (In contrast, the Paleo diet rightly embraces protein for its superior nutritional value. It falls short, however, because it doesn't prescribe how much protein to eat or when to eat it. It also rejects dairy—even Greek yogurt, which new research has identified as a superlative protein.)

At the height of the Atkins craze, reports of health problems surfaced, the most serious being kidney failure. I ask Phillips whether I should be concerned, and I'm told no. Because many of the Atkins dieters were overweight, he explains, they were also "verging on type-2 diabetes," a disease that can include kidney dysfunction. "But as the circular logic went, the high protein caused the kidney failure in the first place, and that's not true. There's no evidence of that." The other myth is "protein is bad for your bones," Rodriguez says. The going theory used to be that protein-rich foods nudged your body's pH balance toward higher acidity—and too much acid would leach minerals like calcium from bones and lead to osteoporosis. But current research proves just the opposite: Protein increases bone density by improving calorie absorption. "We're realizing that eating adequate protein, along with calcium, is good for your bones, not bad for them," Rodriguez says. In fact, in a 2008 study in *The American Journal of Clinical Nutrition*, Layman wrote, "Higher protein diets are associated with greater bone mass and fewer fractures when calcium intake is adequate."

As I worked to harness the benefits of protein, I discovered that the plant-based soy doesn't build muscle as fast as animal protein or whey. "Soy is about 60% as effective as whey," says Layman. "But if you use a small enough amount, say 12 to 15 grams, you will get no muscle-building effects." I also learned about one big protein no-no: booze. Both Phillips and Paddon-Jones

recount a now-famous tale shared among protein geeks, which involves a team of Australian football players. During the off-season they'd meet every Friday at a gym for weight training. Afterward, they'd go drinking at a nearby pub.

"No one was getting stronger in the off-season," Paddon-Jones says. A coach with a hunch about the booze changed their training to Tuesdays—a less convenient night to souse it up—"and they put on a ton of muscle mass and strength. Alcohol was shutting down protein synthesis."

Last year, Phillips led the first-ever experiment to test the theory. He gathered eight men ages 21 to 26 and put them through an exercise routine that included weightlifting, cycling, and high-intensity interval training. After the workout, he gave them each 50 grams of protein over a four-hour period and then got them trashed. Over the subsequent eight hours, he took tissue biopsies from their quad muscles. The result: Muscle-protein synthesis had dropped by 24% compared with his control group, who got protein but no booze. "Eight solid drinks of vodka definitely messed up their muscles' ability to utilize protein," he says. "Alcohol affects your ability to regenerate and repair muscle and get it ready for a subsequent workout. If you're an athlete, regularly consuming more than one or two drinks a day is not recommended."

Is Calorie Restriction The Panacea To Good Health And Longevity?

There's still one question that can't be overlooked: How will consuming 100-plus grams a day for years on end impact long-term muscle health? "We can't answer that quite yet," Layman says. One sure fact: Men in their mid-40s will find that their muscles begin to naturally shrink. "As we get older, we're less efficient at turning protein into muscle," Layman says. This has led nutritionists to assume that adults need less of the macro as we age. Having documented what high protein does for younger men, scientists now challenge that assumption and plan to conduct longitudinal studies to track men and their muscles over a lifetime.

When such a study occurs, I tell Layman that he should enlist my father, who turned 82 last month and remains an avid athlete. He lives in Seattle, where he routinely devours chicken and salmon, plays competitive tennis

with guys half his age, and often begins his day by paddling his kayak two miles across Lake Washington.

Is It The Muscle-Building Macro? Exercise? Lucky Genes? A Combo Of All Three?

No matter. The sudden jump in strength and recovery I experience after disregarding the RDA and doubling my protein intake is reason enough to stick with it long term. Bring on the crickets. ●

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THINKING ABOUT THROWING AWAY YOUR LEAVES? WHY EXPERTS ARE SAYING TO LEAVE THE LEAVES ALONE

By Stephen Underwood

New England is famed for its fall foliage — splendid red, yellow and orange canopies that give way to barren branches and the annual chore known as “fall cleanup.” For some homeowners, that means raking or blowing leaves and putting them into trash bags to be hauled off to landfills.

But conservationists, environmental groups and gardeners are urging everyone to leave the leaves where they are.

According to the U.S. Environmental Protection Agency, leaves and other yard debris account for more than 13% of the nation’s solid waste—a whopping 33 million tons a year.

Sealed in a landfill without enough oxygen, this organic matter doesn’t just decompose — it releases the greenhouse gas methane, a potent contributor to climate change. Solid-waste landfills are the largest U.S. source of manmade methane — and that’s aside from the carbon dioxide generated by gas-powered blowers and trucks used in leaf disposal.

So what can you do with your pile of leaves instead?

Fertilize Your Garden

“Putting leaves in the trash is a waste of a free resource,” said Gail Reynolds, Middlesex County UConn Master Gardener coordinator. “Leaves are a source of carbon and nitrogen. If you chop your leaves up with a mower you can put them in your garden and it’s a wonderful fertilizer and mulch.”

Using leaves as mulch — instead of sending them to the dump — recycles the nutrients you fed to your plants and trees the previous season, keeps organic waste nutrients local and your gardening efforts more naturally sustainable.

“You don’t have to go out and spend money on wood chips or mulch from a store,” Reynolds said. “It really is nature’s gift to enrich the soil and help keeps your garden healthy through the winter months.”

The leaves also help protect the soil from evaporation, keeping it cooler in the summer and warmer in the winter, while also helping to prevent soil erosion, compacting, and “crusting” or the surface of the soil becoming dried and hard, which increases water runoff and keeps water from penetrating the soil.

“It creates a great cover for the soil which helps retain moisture,” Reynolds said. “It acts as a barrier between the cold air and snow while keeping nutrients in the soil.”

Create A Compost Pile

Compost is organic material that can be added to soil to help plants grow and allows matter to decay naturally creating nutrients.

While it is possible to just leave yard waste including leaves on the ground, experts say it is best to chop them up and put them in a compost pile with other materials including grass clippings, certain types of food waste and sticks and twigs.

There are generally two categories needed for a healthy and thriving compost pile: “browns” or materials such as dead leaves, branches, and twigs and “greens” or materials such as grass clippings, vegetable waste, fruit scraps, and coffee grounds.

“Lawns are not natural,” Reynolds said. “Everything in this state wants to be a forest. That is a natural part of the ecosystem.”

In the state’s forests, no one is raking or picking up leaves but the forest ground is lush and thriving with several plant species. This is because the forest decomposes the leaves from the trees and recycles those nutrients to grow and thrive, according to Reynolds.

While several towns in Connecticut offer curbside leaf pickup and composting, Reynolds warns that if composting is not done correctly in can have a negative side effect.

“Some towns compost just leaves and weeds,” Reynolds said. “They then allow residents to pick up the free mulch it creates in the spring. The issue with that is that it usually doesn’t get hot enough to kill weed seeds. So if you use that compost you can unintentionally bring weeds or invasive species into your garden.”

Reynolds said that taking yard waste off your lawn can allow invasive species or plants to spread.

“Someone could take their ashe branches or twigs to the town compost which could have the invasive emerald ash borer larvae on them,” Reynolds said. “Inadvertently, that larvae could be introduced elsewhere.”

Reynolds said creating a compost pile in your own backyard reduces the chances of spreading invasive species, lowers your carbon footprint, and re-introduces healthy nutrients into your own soil.

Create A Brush Shelter

A brush shelter is simply a habitat on your yard that provides a dense and low-to-the-ground habitat made of leaves, sticks and twigs that acts as a natural forest floor for several different insects and animals including salamanders, chipmunks, box turtles, toads, shrews, earthworms, and butterflies.

Many butterfly and moth species lay pupae in leaf litter, so throwing away leaves each fall may be getting rid of these beneficial insects too. Butterfly and moth caterpillars are a critically important food source for birds in the spring when they are feeding their babies. In addition, butterflies are natural pollinators that

provide critical pollination to several varieties of garden plants each spring, according to DEEP.

Experts say it’s important to not use materials that contain toxic substances including pressure-treated lumber or posts, creosote railroad ties, lead-painted surfaces and tires. These substances can cause wildlife mortality either through contact, consumption, or inhalation.

Dropping Your Leaves Off At A Local Farm

If you’re not able to compost in your own yard, some area farms allow residents to drop off their leaves to be made into mulch and fertilizer.

New Milford Farms was established in 1991 as the first state-permitted composting facility to compost food byproduct waste from Nestle USA operations. It has since expanded to compost green waste in addition to food waste.

The farm, located in New Milford, offers a punch card to residents for \$17 and is good for up to 14 punches.

“Each punch is good for two bags of leaves, so for \$17 you get to drop off 28 bags of leaves” said Sidney Whitman, quality assurance supervisor for New Milford Farms. “This is our busiest week of the year in terms of leaves. It’s been pretty steady for people coming to drop them off.”

The facility recycles tree trimmings, brush, debris from land clearing and grass and leaves to make organic soil and mulches.

Reynolds and Whitman said anyone who may want to drop leaves off at local farms should call ahead first to make sure the farm takes them.

“Not every farm has the capacity to compost,” Reynolds said. “So make sure you call ahead.”

For questions on composting, gardening, invasive species or pollinators, residents are encouraged to contact their local UConn Master Gardener Extension office for free tips, help and information.

“Anyone can call their local office. We have one in every county in the state,” Reynolds said. “We love plant identification and will give you science-based and proven tips to help your garden thrive.” ●

**College of Liberal
Arts and Sciences**

ONE METHOD TO OVERCOME YOUR DEPRESSION

A 10-week intervention can reduce the severity of depressive symptoms.

By Abigail Fagan

KEY POINTS

- Brief Behavioral Activation Treatment for Depression is a 10-week intervention that focuses on values and activities to treat depression.
- Recent research found that this treatment can significantly reduce the severity of depressive symptoms.
- After treatment, symptoms in the group who had clinical depression were statistically equivalent to those in the healthy control group.

A new article published in the *Journal of Psychopathology and Behavioral Assessment* suggests that a 10-week activity-based treatment for depression, called the Brief Behavioral Activation Treatment for Depression, can significantly reduce the severity of depressive symptoms. It works by aligning a person's behavior with their core values.

"People with depression find it difficult to engage with their routines and activities that were previously pleasant or rewarding," says Jerin Lee, a psychologist at the University of Connecticut and lead author of the research. "When people withdraw and isolate, they lose opportunities to be rewarded and reinforced with pleasant activities, which can exacerbate their depression. Brief Behavioral Activation Treatment for Depression (BATD) is a behavioral-based therapy that focuses on increasing engagement with meaningful and values-based activities through strategies such as activity scheduling and self-monitoring to counter depressive symptoms."

To give an example, BATD might help someone understand and clarify one of their core values, such as being a caring and available friend. Once one's values are clarified, BATD helps guide the selection of activities that support those values. So, for someone who values being a caring friend, activities recommended by BATD might be (1) texting a friend, (2) checking in with a friend once per week, or (3) letting a friend know that he/she is thinking about them twice per week.

Prior research has found BATD to be an effective treatment for depression among certain high-risk populations such as cancer patients. However, less is known about how people in the general population respond to BATD.

To fill this gap, Lee and her team recruited 42 general population adults with depression and 38 healthy individuals to complete the 10-week BATD treatment. They measured individuals' levels of depression, anxiety, dysfunctional attitudes, and mindfulness at three points in time: before the treatment began, after the 10-week treatment ended, and three months after the treatment ended.

Not surprisingly, the clinical group reported greater depression, anxiety, and dysfunctional attitudes, and less mindfulness than the healthy control group before the treatment began. However, at post-treatment, the clinical group reported significant decreases in depressive symptoms such that their results were statistically equivalent to the healthy control group. At the three-month follow-up, the clinical group reported minor increases in depressive symptoms, but still showed improvements compared to where they were prior to doing the 10-week intervention.

"Our results suggest that many individuals struggling with depression may benefit from BATD," says Lee.

The authors hypothesize that Brief Behavioral Activation Treatment for Depression works by improving individuals' dysfunctional attitudes and mindfulness.

"Engaging in activities like those found in BATD could reduce dysfunctional attitudes, or negative thoughts about oneself, the outside world, and the future, which is a risk factor for depression," says Lee. "Engaging in activities could also increase mindfulness — or the receptive attention to and awareness of internal and

external experiences as they occur — which is a protective factor for depression.”

The authors hope their research inspires more individuals to seek out treatment for depression.

“Depressive symptoms may seem insurmountable, like a downward spiral that pulls you into a vortex of hopelessness and sadness,” says Lee. “But every action and intention counts. When you engage in activities — like meaningfully connecting with friends, creating art, exercising — that bring you joy and align with your values, it can result in an upward spiral that can pull you out of the vortex. The effects of the positive activities will compound and there is hope.” ●

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ONE YEAR AFTER THE CAPITOL ATTACK, AND WHY IT COULD HAPPEN AGAIN

By Liann Herder

On January 6, 2021, Americans witnessed a bold attack on their Capitol. While many were surprised and shocked at what they saw, some scholars saw that day as the hallmark of a country grappling with white supremacy, the spread of misinformation and growing partisanship. One year later, higher education professionals are still working to silence “the Big Lie” that the election was manipulated in favor of Biden’s victory and stop the rush of violence some believe could happen again.

Dr. Manisha Sinha, the James L. and Shirley A. Draper Chair in American History at the University of Connecticut and an expert on the Civil War and slavery, taught a seminar on Reconstruction last January.

“Most of my students could draw the parallels between what happened then and now,” said Sinha. “The main takeaway that I tried to convey was how contested and fragile American democracy has been, something that

had not occurred to many Americans, including my students.”

It was easy to connect the dots from January 6 to the only successful government coup on American soil, which happened in 1898 when white supremacist groups violently ousted the democratically elected, biracial government of Wilmington, North Carolina. All elected leaders were expelled from the city, Black properties were destroyed and hundreds of people were murdered. After the end of Reconstruction, white supremacists created the “lost cause” myth and rewrote the legacy of the Civil War, turning Confederate soldiers into heroes “rather than traitors who committed treason to uphold slavery,” said Sinha.

“We have only now started taking down Confederate statues which are monuments to men who tried to destroy the American republic. We cannot let that happen again,” Sinha said.

Sinha hopes that higher education professionals have since realized the importance and value of teaching American history and the humanities. Knowing the past should be a “precondition of good citizenship,” she said.

“I was hoping that American citizens and leaders of both parties would condemn the attempted coup. Unfortunately, virtually an entire party is now defending the insurrection and ‘the Big Lie,’” said Sinha. “I fear that voter suppression laws will lead us into another Jim Crow era. If that happens, it will destroy democracy in this country and may even spell the end of the American republic.”

Dr. Gregory J. Vincent, a civil rights attorney and professor of educational policy studies and evaluation at the University of Kentucky, said what he witnessed on television a year ago was “beyond the pale” and “criminal.” He compared it to Watergate. Dr. Charles H. F. Davis III

“The big contrast between Watergate and now was strong bipartisan support,” said Vincent. “If you’ll remember, it was members of Nixon’s own party who said, ‘enough.’ Now there’s a litmus test to be a Republican — you have to be anti-vax, say ‘stop the steal’ — and I do think that level of partisanship is toxic. It’s poisoning the functioning of a good government.”

Vincent said that day was a strong reminder of just how much work educators had to do. For Vincent, undoing

misinformation and building civic understanding starts at a place he holds most dear: the First Amendment.

The First Amendment's freedom of speech provisions enable education and offer protections from the current uproar against critical race theory and The 1619 Project, a series of essays led by Nikole Hannah-Jones that explore the idea that America began not in 1776 but in 1619, when the first enslaved African was brought to its shores. The current politicization of education is a danger to democracy, said Vincent.

"I have a lot of faith in the future, people are looking to get involved and engaged. I would say to take to heart the charge of the late Representative John Lewis — getting into 'good trouble,'" said Vincent. "We play a part individually and collectively, but there's a threat to academic freedom if we continue down this path."

Not every citizen has been so lucky to be enrolled in a course that easily lent itself to discussing the events of January 6. Dr. Charles H. F. Davis III, an assistant professor in the Center for the Study of Higher and Postsecondary Education at the University of Michigan, is unsure just how many college or university faculty were prepared to talk about the day, either when it happened or in the year since.

"Pedagogical strategy is to do something with folks they've been wanting to process. But there's just so much, it's overwhelming," said Davis, referring to the multitude of events that have occurred in the past five years alone, including the COVID-19 pandemic, the murders of George Floyd, Ahmaud Arbery and Breonna Taylor. It can be difficult for institutions, the majority of which are led by white people, to learn lessons from the insurrection "in an implicit way that requires changing what we do, that no longer allows for the miseducation of white people," said Davis.

Davis said that, for him, January 6, 2021 was impactful not just because of what he witnessed but also because of what he did not: police violence. Just months before in July 2020, President Donald Trump ordered tear gas shot into the crowds of peaceful Black Lives Matter (BLM) protestors, who were gathered near the White House. Davis added that before many BLM protests, police could be seen in droves at the location — but seemingly no preparation was done to protect the Capitol, although there is evidence that law enforcement agencies were aware of the threat.

Davis said that the country has learned some positive lessons in the year since the insurrection. But the substantial changes needed to address White supremacy in this country have yet to materialize. Until then, Davis said, it's inevitable that something like January 6 will happen again and sooner than we could imagine. ●

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CRYSTAL-FREE CRYSTALLOGRAPHY

A new twist can make seeing tricky molecules crystal clear.

By Ellen Phiddian

How do we know that DNA is a double helix, or that coronavirus spike proteins are spike-shaped? One technique — X-ray crystallography — can take a lot of the credit. And a team of US scientists have just found a way to make it even more effective.

Their technique is described in a paper in *Nature*.

X-ray crystallography, as the name implies, involves firing X-rays at crystals of a substance to find out how its atoms are arranged. It's a powerful technique for learning about molecules of all shapes and sizes, and has been particularly useful for learning about proteins and other biomolecules. It was Rosalind Franklin's X-ray photos of pure DNA crystals that led to the discovery of their structure, for instance.

But X-ray crystallography, as you might expect, needs crystals to work. Without molecules sitting in large, ordered structures like crystals, the X-ray data is too chaotic to interpret. This means that it's much harder to learn about the many, many substances that don't crystallise easily.

"Most substances form powders composed of small granules, whose X-ray diffraction patterns are harder to disentangle," says Nicholas Sauter, a computer senior

scientist at Lawrence Berkeley National Laboratory, US. These granules are sometimes called “microcrystals”.

Sauter and colleagues have developed a new technique, called small-molecule serial femtosecond X-ray crystallography (or smSFX), which can overcome the powder problem.

The technique combines crystallography with a series of custom-built computer algorithms and an additional, extra powerful X-ray laser. This laser, called an XFEL (or X-ray free electron laser), is faster and more focused than traditional X-ray crystallography methods.

“It’s diffraction before destruction,” says collaborator Daniel Paley, a project scientist also at Berkeley Lab.

“The idea is that the crystal is going to explode instantly when it’s hit by this beam of photons, but with a femtosecond pulse, you collect all the diffraction data before the damage occurs. It’s really cool.”

The algorithms then process this diffraction data from thousands of different microcrystals, all aligned differently, into a consistent image. The whole process takes a few quadrillionths of a second.

This technique, unlike old-school crystallography, can also be done in more lenient conditions. “No fancy vacuum chamber required,” says Sauter.

The researchers demonstrated their technique by using it to determine the structure of two previously elusive materials, both from a class of substance called chalcogenolates. Chalcogenolates, made from a combination of metals and organic molecules, could become useful catalysts and semiconductors.

“Now that we can solve these hard-to-crystallise structures, we can design the best structures for our purposes,” says Nate Hohman, a chemical physicist at the University of Connecticut, US.

One of the chalcogenolates they examined, made from selenium and silver, glows blue under UV light – or, says Hohman, “whenever grad students are around”. It’s been named mithrene, in reference to the substance mithril, from *The Lord of the Rings*.

It’s hard to imagine a chemical serving a better purpose than that, but the researchers are confident their new technique will be able to find it. ●

THE BACKLASH AGAINST RIGHTWING EVANGELICALS IS RESHAPING AMERICAN POLITICS AND FAITH.

Some sociologists believe that the rising number of non-religious Americans is a reaction against rightwing evangelicals. But that’s just part of the story

By Ruth Braunstein

What if I were to tell you that the following trends in American religion were all connected: rising numbers of people who are religiously unaffiliated (“nones”) or identify as “spiritual but not religious”; a spike in positive attention to the “religious left”; the depoliticization of liberal religion; and the purification and radicalization of the religious right? As a sociologist who has studied American religion and politics for many years, I have often struggled to make sense of these dramatic but seemingly disconnected changes. I now believe they all can all be explained, at least in part, as products of a backlash to the religious right.

Since the religious right rose to national prominence in the 1980s, the movement’s insertion of religion in public debate and uncompromising style of public discourse has alienated many non-adherents and members of the larger public. As its critics often note, the movement promotes policies – such as bans on same-sex marriage and abortion – that are viewed by growing numbers of Americans as intolerant and radical.

In a 2002 article, sociologists Michael Hout and Claude S Fischer argued that a significant trend in American religion – the skyrocketing number of people disaffiliating from religion – could be partly explained as a political backlash against the religious right. In the two decades since this article was published, a wealth of additional evidence has emerged to support its general argument. Sociologists Joseph O Baker and Buster G

Smith summarize the sentiment driving this backlash: “If that’s what it means to be religious, then I’m not religious.”

While pathbreaking, this research has been relatively narrow in its focus. This is because it has typically started with the puzzle of the rising “nones” and worked backward in search of a cause, landing on backlash against the religious right. I wondered what would happen if we flipped this question around, and started with the rise of the religious right and public concerns about its radicalism. We could then consider the varied ways that backlash against it has manifested, including but not limited to the rise of the “nones”.

Backlash, after all, can take many forms. The kind of backlash that has led people to disavow religious affiliation in general is what I call a “broad” form of backlash. In this form, backlash against a radical form of religious expression leads people to distance themselves from all religion, including more moderate religious groups that are viewed as guilty by association with radicals. This is a common pattern within social movements, where moderates often worry that radicals will discredit their movement as a whole.

But this is not the only plausible form that backlash can take. One can also imagine a narrower, more targeted, backlash against the religious right itself, in which people do not abandon religion altogether but rather migrate to more moderate or otherwise appealing religious groups. Evidence of this form of backlash abounds. It can be found in rising numbers of people who identify as “spiritual but not religious”. These individuals are not rejecting religion altogether; they are embracing a new category of religiosity, one viewed as unpolluted by its association with radical conservative politics.

Similarly, those who associate with the religious left do not discredit religion in general, but promote what they view as a more pluralistic form of public religious expression. Since Donald Trump was elected president with the support of religious conservatives, typically low-profile groups on the religious left received a surge of positive attention as observers saw in them a means of checking the power of the religious right. As a column by Nicholas Kristof put it in the New York Times: “Progressive Christians Arise! Hallelujah!”

Finally, new research finds that people who are both religious and politically liberal are intentionally distancing themselves from the religious right by depoliticizing their public religious expression – a development worthy of much more attention.

Finally, backlash is not a one-way street – the experience of being the object of political backlash has led to a counter-backlash among the conservative Christians who comprise the religious right. White evangelical Christians believe that they are being illegitimately persecuted and are increasingly invested in the boundary between the perceived morally righteous and their enemies. Religious conservatives not committed to Trump and the Republican party are being pushed out. Those who remain are not only deeply loyal to a shared political project, but less likely to encounter internal checks on radical ideas.

Even as this group is shrinking by some measures, recent data suggests that growing numbers of nonreligious and non-Protestant Americans are adopting the label of “evangelical” – not as a statement of their religious identity, but as a statement of their political identity as rightwing Republicans or supporters of Donald Trump.

Together, these counter-backlashes seem to be driving this movement toward deeper political radicalism.

Backlash against the religious right has had ripple effects far more widespread than previously recognized. These dynamics are effectively reshaping American religion and politics and show no signs of stopping. imagine. ●

AFTER A POOR START, CT'S ANTI-RACIAL PROFILING EFFORT IS MAKING PROGRESS

New legislation could significantly change how police conduct traffic stops

By Tom Condon

The first time the state tried to halt racial profiling in police stops, it didn't go well.

The General Assembly passed an anti-profiling law named for the late Bridgeport State Senator Alvin W. Penn, who championed the issue, in 1999. Police departments were supposed to report their traffic stop data — on paper. But nothing much was done with the data (the paper just piled up), and there was no enforcement mechanism, so many departments stopped reporting it.

Then came a major racial profiling scandal in East Haven a decade ago, in which local police disproportionately stopped and harassed Latino drivers.

This inspired the solons to revise and strengthen the law in 2012. The new version of the Penn Act, among other things, created the Connecticut Racial Profiling Prohibition Project, whose mission is to identify and address racial and ethnic disparities in traffic enforcement.

This effort has worked much better, said former longtime State Rep. William Dyson, who has chaired the Project's advisory board since its inception.

"We recognized what happened before: There was no analysis of data, no resources, no teeth in the law and no sense of urgency," he said.

In addition to reducing racial disparities, the system now could lead legislators to consider a significantly different approach to traffic stops.

Better Data

Since 2013, Project staffers have examined 3.5 million traffic stops by the state's 107 law enforcement agencies, which now are required to file traffic stop data to the state's Criminal Justice Information System each month. The Project team developed a standardized, electronic, multi-part — and mandatory — of data collection and analysis, then used it to determine which communities had the greatest racial and ethnic disparities in traffic stops. The project staff has since visited more than two dozen Connecticut communities (and a few in Rhode Island) to find out what was driving the disparities.

The results are promising. The research has helped reduce racial disparities in several communities while improving police effectiveness. That has been accomplished by encouraging police to focus almost entirely on roadway safety and not use traffic stops as a pretext to address other issues.

With speeding out of control and traffic fatalities at their worst in two decades, more safety enforcement would appear to be warranted.

"We're not talking about less enforcement, we are talking about better enforcement," said Kenneth Barone, who is the manager of the Connecticut Racial Profiling Prohibition Project and associate director of the University of Connecticut's Institute for Municipal and Regional Policy.

Research by Barone and his staff will support a proposal in the upcoming session of the General Assembly to create a two-tier system of traffic stops, to discourage stops for administrative or minor equipment violations.

Busted Headlight

Before the pandemic, state and local police together were making upwards of 500,000 traffic stops a year. The number dropped from 512,000 to 242,000 from 2019 to 2020, mostly due to fewer stops by state police. Barone said preliminary data suggests the number will increase to more than 300,000 stops for 2021 but will still be about 200,000 short of the pre-pandemic numbers.

But of those earlier half-million stops, about 80,000 were low-level equipment issues and another 65,000

for administrative issues such as expired registration, according to his team's analysis of CJIS data.

The motor vehicle code has hundreds of provisions, some of which might be viewed as nitpicky. For example, a license plate must be fully in view, so if a license plate frame, which often extols the driver's alma mater or car dealership, partially blocks the word "Connecticut" at the bottom of the plate, it is illegal.

Similarly, the view through the windshield must be unimpeded, so something hanging from the rear-view mirror, be it an air freshener or a COVID face mask or fuzzy dice, also is a violation.

What's happened for years, here and across the country, is that some officers will pull drivers over for a blocked plate, broken taillight or whatever, and then ask to search the car for drugs, weapons or other contraband. Barone said the practice began in the "war on drugs" in the 1980s and '90s. Though it was about as effective as the war on drugs itself, which is to say not overwhelmingly, the practice of "pretextual policing" continued.

The anti-profiling project's research indicates Black and Hispanic drivers are stopped at a greater overall rate, and at a greater rate for equipment violations and administrative offenses, than White drivers, though there is no evidence that Black and Hispanic drivers commit these offenses more frequently.

Barone prefers the term "racial and ethnic disparities" instead of "racial profiling," because the latter implies purposefully discriminatory policing, when they can be other causes for disparities. Some examples are illustrative:

DUI Squad

Newington made the anti-profiling project's second list of towns with significant racial disparities in profiling, in 2016. Anti-profiling researchers learned that nearly 40% of the town's traffic stops were for defective lighting violations. These, it turned out, were mostly the work of a mobile unit looking for DUI offenders.

The effort may have been well-intended, but it apparently wasn't terribly effective. The research team examined 1,608 traffic stops made for defective lighting and found only one driver had been charged with a DUI.

When presented with the data, the department put more focus on moving violations, a change that paid off. From 2015 to 2019, defective lighting stops dropped by 67% and citations for moving violations increased by about 60%, Barone said.

This resulted in a 250% increase, from 18 to 63, in stops that resulted in a DUI arrest. The majority of the violators, perhaps not surprisingly, were drivers who weaved across the center line. What makes the Newington example significant is that the change in policy greatly reduced racial and ethnic disparities in traffic stops, Barone said.

Newington police chief Steve Clark said in a recent interview that the department also has been working with the Center for Policing Equity, a nonprofit that works to eliminate bias in law enforcement, and said "it has made a difference."

Variations of the Newington scenario have played out in some other communities, according to Barone's research. In Hamden, police were using enhanced traffic enforcement to address crime in a primarily Black neighborhood with a relatively high rate of crime and calls for service.

Officers would stop cars for low-level equipment and administrative offenses and ask to search the vehicle: 22% of drivers were stopped for equipment violations and 18% for administrative offenses such as expired registration, well above the state average of 12% and 9%, respectively. This strategy was not implemented elsewhere in the community.

They rarely found contraband — in less than 7% of vehicles — and when they did, it was usually a small amount of marijuana. There was no evidence the tactic was reducing crime.

After meeting with researchers and members of the community, the department changed the policy, focusing it narrowly on hazardous driving behaviors. The change coincided with a 5% drop in crime and a 10% reduction in accidents, and the seizure of more contraband.

In an effort to address a statewide increase in unregistered vehicles, Waterbury police deployed license plate reader technology to identify drivers with no registration. Much of the enforcement activity was in

the lowest-income neighborhoods, where residents were largely Hispanic.

Researchers demonstrated that registration violations were at the same level or higher in other parts of the city, including whiter neighborhoods.

The data also showed that patrolling Hispanic neighborhoods was driving the racial and ethnic disparity in traffic stops. When the city adopted a more broad-based approach, the disparity was greatly reduced, Barone said.

Border Patrol

In Wethersfield, researchers found a pattern of local police stopping Black and Hispanic motorists as they crossed into the town, particularly those coming from neighboring Hartford. Most of the stops were for minor equipment or administrative issues.

The research report, issued in June, found that the likelihood a Black motorist would be stopped by Wethersfield police increased by more than 13 percentage points and the likelihood a Hispanic motorist by 15 percentage points after they crossed the border from Hartford. Toward the center of town, enforcement became more oriented toward traffic safety issues such as speeding and reckless driving.

The report says that while other factors may have applied, the “first and foremost” reason was discriminatory policing.

The Wethersfield department has had a recent change in leadership. Barone said he has begun regular meetings with new chief Rafael Medina III, whom he described as “very open” to using the data to inform policy. The Hartford residents crossing the border were mostly going to a supermarket, Barone said. He said the same pattern of border patrolling has emerged in some other inner suburbs.

Not all chiefs share Medina’s attitude, or at least they didn’t when the project began. Several pushed back against one of the project’s metrics, called “estimated driving population,” which uses employment, commuting and census data to estimate who is on the road at a given time. Chiefs complained that pass-through traffic in many towns made the measure too imprecise to be useful.

Barone said it was one of seven different tests, and not a major one, for measuring racial disparities. Put all seven into a “preponderance of the evidence” context, and the results are pretty accurate, he said. And, good news, the racial disparity numbers have been dropping for the past three years.

“We had to win trust (with police). We had to get across the idea that we weren’t out to get them but to help them solve a problem,” said Dyson.

Barone praised several chiefs, including Vernon Riddick Jr. of Waterbury (now West Hartford’s chief), Jack Drumm of Madison and Tom Wydra of Hamden (now retired) for getting the picture: seeing the value of the research data and using it.

Restrictions on What Police Can Do

Traffic stops are the most common interaction between police officers and members of the public. They are stressful for the driver and the officer; neither knows how it will play out. Some end tragically

Connecticut is hardly immune. For example, in 2018 Wethersfield police officer Layau Eulizier shot and killed 18-year-old Anthony Vega Cruz during an attempted traffic stop. Traffic stops have been a focus of police reform efforts of the past two years, following the deaths of George Floyd and others.

A Police Accountability Bill passed by the legislature in 2020 addressed traffic stops in a couple of ways. For one, the bill ended “consent searches,” in which an officer pulls a driver over and asks for the motorist’s consent to search the vehicle. Now, officers can only search a vehicle if they have probable cause, or if the driver gives “unsolicited consent.”

The change has been in effect since October 2020. Barone said he won’t know until 2021 data is available, but he thinks the new policy will reduce racial disparities in traffic stops, because consent searches are a major driver of disparities.

Also, the accountability bill broadened the scope of the Police Transparency and Accountability Task Force, established in 2019, and directed the task force to examine several issues, including whether the state should adopt a primary/secondary traffic stop system.

A primary traffic offense is a violation such as speeding or reckless driving for which a police officer can stop a driver and issue a ticket. In the case of a secondary offense, an officer can issue a citation only if there's some other valid reason to stop the driver.

This would mean that an officer could not pull someone over for, say, a slightly obscured "Connecticut" on the license plate but could add it to the charges if the driver is pulled over for speeding.

One state, Virginia, and some municipalities have adopted the primary/secondary system. It will be part of a package of proposals Connecticut's accountability task force will present to the legislature in the upcoming session. According to a draft of the proposal, secondary offenses would include hanging ornaments, tinted windows, defective horns, a license plate displayed in the rear window (as long as it is legible) and a single headlight, tail light, reflector or brake light not in working order.

The Connecticut Police Chiefs Association opposed the end of consent searches and may oppose the primary/secondary concept as well.

"These statutes were put on the books for safety reasons, and you have to be very careful in changing them," said Town of Groton Police Chief Louis J. Fusaro Jr, a vice-president and chairman of the legislative committee of the chiefs association.

For example, Fusaro said, he would oppose making a broken light a secondary offense. "A car could come by with a busted headlight because it was just in a hit-and-run."

(Newington came up with a novel way to deal with broken lights. Officers would stop motorists and give them a voucher, paid for by an insurance company, to have the light replaced at a local garage. The program ended but may be restarted, said Clark.)

Barone takes Fusaro's point — it's obviously better to have all lights in working order — but said equipment issues, especially minor ones, rarely cause crashes. For example, defective lighting accounts for nearly 10% of all traffic stops but is only identified as a contributing factor 0.1% of accidents, according to crash data from 2015-19.

Stops for a display of plate violations accounted for 3.2% of stops but are not a contributing factor in

accidents, while window tint and windshield obstruction violations account for 1.4% of traffic stops but contribute to less than 0.1% of accidents.

The equipment issues more likely to cause accidents, such as faulty brakes, steering or tires, are hard for a police officer on the road to discern. This would seem to argue for regular vehicle inspection rather than more police stops.

Perhaps the strongest argument for a primary/secondary system is that it could focus more attention on serious moving violations.

There may be no way to eliminate speeding, short of technology that will prevent cars from going too fast or a sudden burst of responsible driving. But some measures to calm traffic are in the works. For example, the DOT will deploy automatic speed cameras at highway work sites next year, and the Hartford city council is asking the General Assembly to approve a red light camera pilot program on city streets and has also directed its public works department to initiate other traffic calming measures.

Barone would add graduated fines, to get the attention of chronic speeders, and bring in highway engineers to redesign roads to slow traffic. And he thinks more enforcement is vital to highway safety, with an increased focus on hazardous driving behaviors, not equipment or administrative offenses.

Recalling the number of low-level equipment stops in a normal year, he said: "What if we had 80,000 more speeding stops?" ●

WHY OUR BRAIN CRAVES PATTERN-SEEKING RITUALS LIKE WORDLE

The brain-teasing puzzle is the latest form of pandemic-era self-soothing

By Sarah Pulliam Bailey

In the beginning, Americans created sourdough starters. As people looked for rituals to cope with the early uncertainties of the pandemic, many bought Peloton bikes, built gardens and watched “Tiger King.”

And in Brooklyn, a software engineer said: “Let there be Wordle!” And there was Wordle. Big-time.

In recent weeks, the online game has become a kind of ritual for its players, who pilgrimage daily to a website to solve a five-letter puzzle. After completing the game, many share their score with their friends, along with the grid of yellow and green squares that show how many tries it took them to solve the puzzle. The game, which was purchased by the New York Times, was created in late 2021 by Josh Wardle for his partner as a way to kill time during the pandemic.

While rituals are often thought of in religious contexts such as prayer, a pilgrimage to Mecca, a Jewish Seder, baptism and communion, several scholars said there is no agreed-upon definition for a ritual. But many say ancient and modern rituals in both religious and secular contexts serve a powerful role in people’s lives, especially during uncertain times.

Humans’ brains are designed for pattern-seeking in order to help us make sense of the world, said Dimitris Xygalatas, an anthropologist and cognitive scientist at the University of Connecticut. When humans aren’t able to find patterns, we can experience stress, he said. Something like doing Wordle daily can give people a sense of regularity and a sense of control.

Xygalatas’s studies have found that people who participate in collective rituals have lower levels of cortisol that correspond with lower stress and are often able to build social-support networks. This is why, he

said, communal rituals — such as cheering for health-care workers from apartment balconies — took off in the early months of the pandemic.

“Our mind craves regularity,” he said. “It’s one of the main ways we try to fight anxieties.”

Nebraska-based pastor April Fiet began playing Wordle three weeks ago and was so delighted by it that she crocheted a completed Wordle grid.

“Even though it’s not an overtly religious practice, there’s something spiritual about the discipline of doing something every day,” she said. “It’s created a little community and gives us something to center around.”

Now every morning, Fiet wakes up and completes a Wordle while her husband makes coffee — her reward when she finishes. Only one Wordle puzzle is released each day, and she likes that it’s “a controlled amount of fun” that she can share with Facebook friends.

Fiet, who recently published a book on creating rhythms for life called “The Sacred Pulse: Holy Rhythms for Overwhelmed Souls,” described herself as a “pandemic stereotype.”

“I did sourdough starter, I bought chickens,” she said. “I observed the ‘Tiger King’ phenomenon. Our routines have been so disrupted, and it’s helped people think intentionally how to think through their daily life.”

Rituals also allow people to engage in forms of play, one of the essential activities that affirm our humanity, said Rabbi Gil Steinlauf, who leads Kol Shalom in Rockville, Md. Rituals take us out of the mundane and remind us of something greater than ourselves, he said.

“Playing Wordle and things like that are things that can distract us from the anxieties ... and reminds us of play,” Steinlauf said. “What religion does with that is, takes that same gesture and does a deep dive into that. It’s not just distraction but a window into something more.”

When he asks people whether they have rituals, he added, they often say their morning coffee is their ritual, “a way of grounding yourself in the day with something warm and nurturing.” In Judaism, the Sabbath is a ritual that allows people to let go of the stress of the week and eat with family and friends.

“The message that comes from religion is that breaking up the stress is not just a nice thing to do, it’s an essential thing to do,” Steinlauf said. “Our souls need

reprieve from the constant barrage of stresses that come in life. In religion, we go into, why do we need that?”

With social distancing and houses of worship closing and going virtual, people have found rituals that let them do something simultaneously with friends and family. Some played the game *Among Us*, joined live yoga workouts or watched the show “*Ted Lasso*.” Wordle allows people to play individually and share their scores communally, generally with an understanding that they not give away the answer to the puzzle.

Humans have long created new rituals when old ones fail to work the way they once did, said Michael Norton, a professor at Harvard Business School who has studied rituals.

“Wordle is something that people can collectively get on board with, have a shared understanding of and a similar experience with,” Norton said. “One of the reasons we go to sporting events is we have the communal experience. We can scream in ways we normally can’t.”

As more business leaders decide that the hybrid system of remote and in-person work is here to stay, several recent start-ups have focused on helping companies create better social connections virtually. Kursat Ozenc, a lecturer at Stanford University on organization and culture, said some people have tried to create rituals in Zoom meetings, including sending people a kit they can make together, such as boba tea. Others will ask team members to answer a check-in question on how they’re feeling using emojis.

“You need to connect to something bigger than yourself,” said Ozenc, who co-authored a book last year on “Rituals for Virtual Meetings.” “Rituals can have power to energize people or calm people, so they can help us feel more lively.”

Heather Stringer, a licensed mental health counselor in New York City, said she likes to distinguish between routines, such as taking a shower, and rituals, a set time and space that interrupts old patterns, uses symbols and engages the body.

“The reason why rituals are so important is they provide reorientation to what is meaningful,” Stringer said.

“Sourdough starters helped to reorient us to something that takes time and attention.”

Stringer will sometimes curate or facilitate a ritual for clients. For example, she created a ritual for a woman who had had a traumatic first birth and was pregnant again in which the woman would untie knots while naming her fears. A woman who was coming out of an abusive relationship would lie down and friends would place stones around her as a physical representation that her body was her territory. If a client is religious, Stringer might use Scripture or religious imagery.

“We have a deep human need to be seen and to be honest, not just through talking or getting coffee,” she said. “Rituals allow us to be braver.” ●

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BIDEN FAR FROM FIRST TO CONSIDER IDENTITY IN SUPREME COURT PICK

By Jordan S. Rubin

- Reagan, Trump promised to name female justices
- Race, sex, other demographics present throughout confirmation history

Republicans have criticized President Joe Biden’s pledge to put a Black woman on the Supreme Court, but taking identity into account is nothing new when appointing justices.

Race, sex, religion, and other demographics have long been considered in high-court appointments.

Presidents have picked nominees with typical professional experience while also “focusing on a unique aspect about who they are,” said Renee Knake Jefferson, a University of Houston law professor and co-author of “Shortlisted: Women in the Shadows of the Supreme Court.”

“Demographic factors have always been part of the process,” said judicial-politics expert David Yalof, a

University of Connecticut professor who noted that there have been Catholic and Jewish “seats” on the court, effectively designated for justices of those faiths.

Richard Nixon, who won the White House in 1968 in part by making inroads among southern whites, looked for southern nominees to replace Abe Fortas in 1969. Clement Haynsworth of South Carolina and Harrold Carswell of Florida were both rejected by the Senate, with George McGovern (D-S.D.) calling Carswell’s record, which included resisting desegregation, “distinguished largely by two qualities: racism and mediocrity.”

As a presidential candidate in 1980, Ronald Reagan vowed to appoint the court’s first woman. He followed through by nominating Sandra Day O’Connor, who was confirmed in 1981.

Donald Trump, too, said he’d nominate a woman, to replace Ruth Bader Ginsburg after the women’s-rights-lawyer-turned-justice died shortly before the 2020 election. Trump selected Amy Coney Barrett, who was confirmed.

But Republicans have deemed Biden’s pledge improper. Susan Collins (R-Maine) said it “adds to the further perception that the court is a political institution.”

Ted Cruz (R-Texas) called it offensive and insulting. “He’s saying if you’re a white guy, tough luck. If you’re a white woman, tough luck, you don’t qualify,” Cruz, who sits on the Senate Judiciary Committee, said on his podcast.

Loyola Law School professor Yxta Maya Murray said Collins’ and Cruz’s arguments ignore “that the Supreme Court has been built along the lines of male dominance and white supremacy since 1789.” That year’s Judiciary Act established the tribunal staffed by white men until Thurgood Marshall, the first Black justice, was confirmed in 1967.

“When race and gender are described explicitly, and the idea that a Black woman—who of course is only going to have the most insanely impeccable credentials—is going to get elevated, then all of these really noxious accusations start getting bandied about,” said Murray, who wrote a play based on Brett Kavanaugh’s confirmation hearings, “Advice and Consent: A Play in One Act.”

Affirmative Action

Another Republican senator, Roger Wicker of Mississippi, said Biden’s pick would be an affirmative-action beneficiary.

George H.W. Bush bristled at the notion when he nominated the second Black justice, Clarence Thomas, to replace Marshall in 1991. Bush called Thomas “the best man at the right time—or the best person at the right time, because other—women were considered as well.”

Announcing Marshall’s selection in 1967, Johnson called it “the right thing to do, the right time to do it, the right man and the right place.”

Johnson “didn’t say out loud ‘I’m going to put the first African American on the court,’ but he made a very big deal afterwards that he had done that,” Yalof said. “Subsequent presidents realized that there was something to gain in making those kinds of pronouncements and judgments,” he said.

In that vein, Reagan appointed another “first” in addition to O’Connor: the first Italian-American justice, Antonin Scalia. Senate Judiciary Committee Chair Strom Thurmond (R-S.C.) said at Scalia’s 1986 confirmation hearing that the nominee “is now cast in the role of a symbol. Certainly, he creates great pride by being the first Italian-American who will sit on the Court.”

Scalia “also serves as a symbol in an even larger context,” Thurmond added. He said the nominee, “a first-generation American and the son of an immigrant,” stood “as proof of the vitality of the American dream.” ●

HBCU BOMB THREATS AS WHITE SUPREMACIST VIOLENCE

The bomb threats against historically Black colleges and universities last week are yet another instance of white supremacy and terrorism, David G. Embrick and Johnny E. Williams write.

By David G. Embrick and Johnny E. Williams

We witnessed anti-Blackness in full force last week—the first week of Black History Month—when at least 19 historically Black colleges and universities across the U.S. reported receiving bomb threats, triggering evacuations and lockdowns and following a similar spate of threats against HBCUs in early January.

While there was extensive media coverage of the threats and HBCUs' responses, we believe the seriousness and significance of the threats has been widely underappreciated. The reporting, on balance, projected feelings of relief after police disclosed the threats were unsubstantiated. Some media outlets quoted students or parents who felt confused by the threats and tried to make sense of them, wondering aloud whether the bomb threats were pranks or jokes.

Amazingly, although not surprisingly, not mentioned in many of the media reports were words like “white supremacy,” “systemic racism,” “white violence” or “white terrorism.” A few news outlets such as The New York Times and National Public Radio used the terms “disrupted” or “disrupt” in their headlines.

We need to be more alarmed and outraged about these bomb threats and similar threats against historically excluded and racially oppressed groups in general. These bomb threats, credible or otherwise, do not just “disrupt” people's lives, nor do they just close colleges and universities for a short while. They are examples of daily racial experiences that serve as reminders to Blacks that they are second-class citizens, do not belong in society, need to know their place or had better watch what they say, how they behave and what they do. In a white supremacist society steeped in anti-Black violence

and anti-Black racism, the HBCU bomb threats serve as a mechanism of racial control, both physiologically and mentally.

Indeed, the threats do not need to be deemed credible to remind African Americans that anti-Black violence is not a thing of the past. A mere seven years ago in Charleston, S.C., white supremacist Dylann Roof killed nine African Americans as they worshipped in their church, to remind Black folks there is no refuge from white terrorism. Indeed, according to 2020 FBI data on hate crime statistics, Black or African American people are the most targeted racial group for hate crimes in the U.S. by a wide margin, with 2,871 reported incidents in 2020 alone—a 46 percent increase from the year before. And this is what is officially reported.

While no arrests have been made, the FBI is investigating the threats against HBCUs as a hate crime and has identified six people, all juveniles, suspected of being involved.

What is important to remember is that the HBCU bomb threats do not operate in isolation from other acts of anti-Black violence and racism. Such threats operate in conjunction with other acts of everyday anti-Black racism that work cumulatively to foster a sense of not-belonging and exacerbate existing fears about life in America as a Black or African American person. They invoke fears that are often aggravated by events spurring or condoning racial violence, such as the white supremacist Unite the Right rally that took place in Charlottesville, Va., in 2017. More recently, such fear stoking was on full display at former president Donald Trump's Jan. 15 rally in Arizona, where Trump repeated his unfounded claims that the 2020 election was stolen from him and evoked timeless racist logic designed to stir racial tensions and fuel anti-Black sentiments and racism. Such white threats ought to be considered nothing short of white terrorism.

Finally, one does not need to look too far for evidence on how white violence, or even the insinuation of white violence, negatively affects the health and well-being of racialized Black people. Recent research published by the Proceedings of the National Academy of Sciences by David S. Curtis and colleagues indicates a strong correlation between widely publicized incidents of anti-Black violence and poor mental health among Black and African American people.

The bomb threats to HBCUs are no laughing matter, they are not a joke and they should be taken very seriously and condemned for the white terrorist acts that they are. Let us call out white supremacy and anti-Black racism where and when they occur. To do otherwise is to be complicit in the systemic racist status quo.” ●

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THE CENTER THAT SHAPED BLACK LIFE IN 1970S BROOKLYN

A documentary premiering this month chronicles the history and impact of The East, an organization and meeting place that served as a “microcosm of Black nationhood” in Central Brooklyn.

By Precious Fondren

At 10 Claver Place, sandwiched between a 24-hour parking garage and a beige apartment building, stands a three-story complex that was once the epicenter of Pan-Africanism in Brooklyn.

The brick building, on the edge of Bedford-Stuyvesant and Crown Heights, is now home to 10 apartments, but starting in 1969, it was the headquarters of The East, an organization and meeting place where Black people from all walks of life could learn about the African diaspora and its history and culture, beyond slavery.

The building’s first floor once housed an iconic jazz club where Sun Ra and Gil Scott-Heron played into the wee hours of the morning. Above it, there were workshops on politics and activism for adults, and a state-certified school for children of all ages known as Uhuru Sasa Shule, Swahili for “Freedom Now School.”

Though its doors closed in 1985, for 16 years The East served as an incubator, spurring the political awakening and cultural enlightenment of its hundreds of members and giving them a sense of belonging and pride.

A forthcoming documentary called “The Sun Rises in The East” traces the organization’s inception and its impact and has renewed interest in it among Brooklynites.

The documentary, which features about a dozen of the group’s former members, will premiere at the Brooklyn Academy of Music on Feb. 24.

The film was made by the husband-and-wife duo Tayo and Cynthia Giwa, who also run Black-Owned Brooklyn, an Instagram account and website that highlights Black businesses and document enclaves of Black culture around the borough.

The couple’s curiosity about The East was sparked while they were drafting an Instagram post highlighting the International African Arts Festival, a four-day celebration of African culture featuring performances, spoken-word events and a marketplace. Ms. Giwa soon learned that the festival had originally sprung out of The East.

“We found snippets of information, kind of like these passing references to something that sounded really remarkable, really robust and really revolutionary,” Ms. Giwa said.

Cynthia Gordy Giwa and Tayo Giwa, the filmmakers behind The Sun Rises in The East; They said they made the documentary to highlight how the group shaped Black culture in Brooklyn.

The festival, which began as a fund-raiser and graduation celebration for the first class of students in 1971, is the sole entity of The East still in existence.

The Giwas said they made the documentary because they wanted to honor the organization’s history, and illustrate the magnitude of young Black people deciding what liberation from systemic racism would look like, and then creating it.

“The history’s not hidden from the people who lived it, but they don’t see it anywhere,” Ms. Giwa said. “They don’t see it being spoken about or recorded or celebrated.”

Black people made up almost 75 percent of Bedford-Stuyvesant’s population in 2000, according to a report from the Furman Center for Real Estate and Urban Policy at New York University. By 2019, that number had dropped to about 45 percent.

The Giwas said that even as gentrification continues to reshape the racial makeup of the area, it's not uncommon to walk down a block in the neighborhood and spot red, black and green flags wrapped around trees.

They hope their film shows people how Brooklyn neighborhoods were — and still are — brimming with Black pride.

"Why is central Brooklyn so Black and cool? The East is very much a part of that story," Mr. Giwa said.

After opening its jazz club in the winter of 1969, The East expanded, bringing "a bit of Africa" to Brooklyn, as The New York Times wrote in 1975. Members opened several brick-and-mortar businesses along Fulton Street.

Where a pediatric clinic now stands, a clothing store that sold fashionable dashikis and other African regalia once lived. What's now a boarded-up building held a food co-op and a bookstore.

The film chronicles how the New York City teachers' strike of 1968 and the Black Freedom movement of the 1960s and 1970s played key roles in the founding of The East, and it explores how the organization went on to shape Black culture in Brooklyn.

"The East was a microcosm of Black nationhood," Martha Bright, a former member, said in an interview. "We had culture, language, African aesthetics, politics. We had everything."

Ms. Bright was a student activist who joined The East as a volunteer reporter for its monthly newspaper, Black News.

"We wrote about every kind of current event, community news, profiles, and a lot about politics," she said.

An abandoned building on Fulton Street at the corner of Claver Place that housed several businesses related to The East.

The East emerged against the backdrop of the Black Freedom movement, a catchall term some historians use to describe the overlapping period in which the modern-day Civil Rights movement and the Black Power movement took place.

During this time, local and national organizations with a range of ideologies materialized across the country to amplify the message of Black self-determination, which emphasized the importance of Black people relying on each other in every aspect of life.

"The East was a manifestation of what was going on in every major Black community in the United States," Jeffrey Ogbar, a professor of history at the University of Connecticut, said. "People are saying, 'We need resources, we need funding, we need control of what we teach our children. We need control of all these things,'" he said.

In the Ocean Hill-Brownsville area of Brooklyn, parents and activists, many of whom were founding members of The East, were lobbying for the same control over public school curriculums that community school boards in white neighborhoods had, said Kwasi Konadu, a historian who appears in the film.

"What they were arguing for wasn't new or radical," said Dr. Konadu, who chronicled the period in his book "A View from The East: Black Cultural Nationalism and Education in New York City." "It was only that it wasn't occurring in their neighborhoods and in their communities."

In the spring of 1967, the city granted the community control over schools in their district as part of an experiment to decentralize the schools and give parents a greater say in their children's education.

Tensions between the community school board in Ocean Hill-Brownsville and Albert Shanker, the leader of the United Federation of Teachers, came to a head after the board fired 19 primarily white and Jewish teachers and administrators, Dr. Konadu said.

The firings ultimately led to a citywide strike in the fall of 1968, when thousands of teachers stopped working and public schools were shut down for almost two months.

The desire to offer a more culturally affirming education led to the opening of the Uhuru Sasa Shule school, The East's beating heart, in the spring of 1970.

Teachers at the Uhuru Sasa Shule school led middle school students on a class trip in 1972.

While accounts of how many students attended the school vary, Dr. Konadu said that at the height of its

popularity, in 1978, more than 400 students were enrolled.

In addition to learning the standard curriculum, the students were taught African cosmology, African languages and African value systems. Girls took African dance classes, while boys took martial arts. Lessons weren't always confined to the classroom either.

"One of my lessons was to go see James Brown at the Apollo," Fela Barclift, who taught at the school during the first two years it was open, said.

"The lesson wasn't just about seeing James Brown, but learning about Black culture and Harlem, a very important place in the Black experience in the United States."

Kweli Campbell, the eldest daughter of Jitu Weusi, the teacher and activist who was a founder of The East and died in 2013, said she wasn't aware at the time that other Black children in her neighborhood weren't receiving the same education that she was.

For her, learning about everything from an "African perspective" was expected.

"We didn't start with the Pledge of Allegiance," she said. "We had songs that were about Black positivity."

When it was time to protest the latest social injustice, Ms. Campbell said she and her classmates were on the front lines, "which was a totally different experience from the other people that I grew up with."

Kweli Campbell, a daughter of Jitu Weusi, a founder of The East. Ms. Campbell is among those highlighted in the forthcoming documentary.

Former members of The East said the organization's ethos — one of self-pride and self-determination — was still alive and thriving today.

Ms. Barclift, for example, was unsatisfied with the lack of Black representation in the day care centers she was considering for her daughter. So in 1981, she opened Little Sun People, a private preschool that aims to inject Black pride into its students.

The approach to teaching at the school is inspired by her time at The East, she said.

"I want these children to know that you fit everywhere — you belong," she said. "You know you are grounded

in a history and in a culture that is not only great, but it's magnificent."

In another sign of The East's lasting influence, a plaza in Clinton Hill was renamed for Mr. Weusi in July. The renaming took place the same weekend that the International African Arts Festival celebrated its 50th year bringing Black people from across the world together.

"Through the protests and other avenues of fighting injustice," Ms. Giwa said, "they "they didn't also forget to create something beautiful." ●

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THE LAST PANDEMIC AID ANYBODY WANTS TO NEED

The government will reimburse up to \$9,000 in funeral expenses for deaths related to the coronavirus. But most eligible survivors have yet to get relief.

By Tara Siegel Bernard

Maybe it was because Kerri Raissian's father had spent time in two hospitals and a nursing facility during the last 12 days of his life. Or maybe it was because he had been in the emergency room for only a few hours before he died. Either way, Covid-19 was not listed on his death certificate.

Ms. Raissian has spent the last month trying to change that.

At stake are thousands of dollars from a program run by the Federal Emergency Management Agency meant to ease the financial burden on grieving families that lost loved ones to the pandemic. The government will reimburse up to \$9,000 in funeral expenses for people who die from the coronavirus — as long as there is proper documentation.

"I understand the need for FEMA to guard against fraud, which is what this death certificate criteria is meant to do," said Ms. Raissian, an associate professor of public policy at the University of Connecticut, who has spent hours on the phone trying to retrieve her father's medical files and speak to the doctor who certified his death.

But the strict requirements and the chaos surrounding so many deaths pose a problem, she said: "This policy all but guarantees many people who are entitled to these benefits will not get them."

More than 900,000 Covid-related deaths have been reported in the United States, but fewer than half have been the subject of a claim, according to FEMA data. Roughly 273,000 applicants had been paid, for a total of \$1.78 billion, as of Monday.

There is no deadline to apply, so eligible families can still claim the assistance. But that can mean navigating requirements for documents that aren't always simple to obtain.

Mr. McGaughey's daughter, Kerri Raissian, has spent a month trying to have his death certificate changed so she can apply for federal reimbursement for his funeral. Credit...Lauren Lancaster for The New York Times

It hasn't been easy for Ms. Raissian, who is trying to recoup some of the \$13,000 it took to bury her father, Max McGaughey. Mr. McGaughey, 86, died just after Christmas, less than two weeks after he was admitted to a hospital in Columbus, Texas, with Covid-19. He was discharged to a skilled nursing facility, but was rushed to a hospital in Katy when his oxygen levels crashed. He died of a heart attack a few hours later.

But Covid-19 wasn't listed on Mr. McGaughey's death certificate, an oversight that his daughter has been trying to correct by getting the appropriate documentation from his doctors at the first hospital and the nursing facility so she can send it to the hospital where he died. Then the certificate can be updated through the Texas Department of State Health Services.

"It is bureaucratic and it prevents closure, but also we really need the death benefits," Ms. Raissian said.

The median cost of a funeral was nearly \$8,000 in 2021, according to the National Funeral Directors Association. That is a heavy financial burden, particularly for lower-

income families, which have been hardest hit by the pandemic, or those dealing with the expense far sooner than they had expected.

Ellen Wynn McBrayer, president of Jones-Wynn Funeral Homes & Crematory near Atlanta, helped a woman with two young children plan the funeral for her husband, who died from the virus. The reimbursement program made the sudden expenses easier to afford.

"A young family doesn't really plan for end of life," Mrs. Wynn McBrayer said. "They will be able to have a headstone to visit on their dad's grave. It was a huge blessing in the midst of the storm."

FEMA said nearly 415,000 people had applied for funeral assistance. Roughly 97 percent of those who provided all documentation had been approved as of Feb. 2, the agency said.

Jaclyn Rothenberg, FEMA's director of public affairs, acknowledged that some families have hit stumbling blocks, but said the government agency is responsible for doing its due diligence.

"We are always looking for ways to improve our process and make it easier for applicants especially during these difficult moments," she said. FEMA has also hired a contractor to help better communicate what the program is about and how it works, Ms. Rothenberg added.

Applicants can smooth the process by having all the required paperwork ready when they apply, which begins with a phone call to FEMA. To file an application, a person must be a U.S. citizen, a noncitizen national or a qualified alien. The deceased person does not need to meet those requirements, but must have died in the United States or one of its territories.

To qualify, the expenses must have been incurred after Jan. 20, 2020. All expenses for a deceased individual should be included on the same application, FEMA said. If multiple people paid expenses, one should file the application but include the expense documentation for everyone who contributed. (A co-applicant is permitted.) Reimbursements are capped at \$35,500 if you lost multiple loved ones.

Death certificates issued after May 16, 2020, must list Covid-19 as a direct or indirect cause. For coronavirus deaths before that — when there was less testing early in the pandemic — there's more flexibility: Applicants

can provide a signed statement explaining the connection from the original certifier of the death (or the medical examiner or coroner where the person died).

The program will not reimburse for bills paid with assistance from another source, such as prepaid funeral contracts or burial and funeral insurance. But applicants may still be eligible for FEMA assistance if those sources didn't cover all costs.

Dealing with paperwork in the throes of emotional trauma is difficult, but keeping clear records can ease the application process. Mrs. Wynn McBrayer, the funeral home director, said survivors who intended to apply for the program should be careful to use their full legal name on receipts to match what would be used on the application.

"It is a blessing," she said of the assistance, "if you can find a blessing in the rubble."

Karen Bopp, who lost her 94-year-old mother to Covid last year, learned about the program through an email from her U.S. representative that arrived just hours before her mother died. Ms. Bopp's mother, Mary, died of a heart condition exacerbated by the coronavirus nearly four months after testing positive on Christmas.

"We didn't want to put her in the hospital because there were all of these stories of saying goodbye on a Zoom call, so we kept her at home," Ms. Bopp said, adding that her son, Tyler, handled most of the caregiving. "The Covid thing was a real shocker. She wasn't ready to go."

Before she even applied, Ms. Bopp had to correct the death certificate; it listed diastolic heart failure as a cause of death, not Covid-19. That may have been the easiest hurdle to overcome — her mother's hospice care provider quickly addressed the problem.

Ms. Bopp began the application process in late April, but she wasn't reimbursed until October — much longer than the roughly 70 days that FEMA said was the median time from application to an eligibility decision.

Even with the corrected death certificate, she said, FEMA initially rejected the claim because the agency couldn't find Covid listed as a cause. There were other hurdles: After settling a problem with a hard-to-read burial receipt, there was an issue with the receipt for the coffin.

Ms. Bopp's mother, a Catholic, had requested that it be made by an order of Benedictine monks that had produced a coffin for a friend's funeral. Ms. Bopp had to call the abbey and eventually coordinated a conference call with its business manager and FEMA. The problem took more than a month to resolve.

"I have correspondence with at least 15 if not 20 people of having submitted documentation and having it rejected," said Ms. Bopp, a reading and math interventionist in an elementary school in Illinois.

After more than four months of back and forth — Ms. Bopp said she had logged into her FEMA account more than 31 times — she was reimbursed for the full cost of the funeral, about \$8,000.

The money arrived within a couple of weeks, and Ms. Bopp was able to repay a home-equity loan that her mother had taken out and that the family had used to pay the funeral expenses. With the loan paid off, the family was able to settle her mother's estate.

"The process was way more difficult and time consuming than we had anticipated," Ms. Bopp said, "so it was a great relief to be able to finalize everything." ●

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MARK A. BOYER: NATO WORKS: THAT MAY SURPRISE YOU

By Mark A. Boyer

As we watch current events unfold in Central Europe, NATO is working just as it was designed in 1949. That might surprise you. But as the adage goes, NATO was formed "to keep the Americans in, the Russians out and the Germans down."

Created as a Cold War structure to help confront Soviet aggression, NATO was also seen as one piece in the post-World War II global architecture aimed at avoiding

another world war. In cooperation with organizations such as the IMF and World Bank and more, these structures helped solidify an American view of the global community that remains fundamental to global politics today.

But when the Soviet Union crumbled in the early 1990s, many analysts predicted the demise of NATO as well. What would NATO do without its central anti-Soviet mission? Rather quickly, though, NATO found missions in Bosnia and elsewhere, accepted new members mostly from the former Soviet bloc and became the de facto political-military companion to the European Union. In particular, the admission of former Soviet bloc countries into NATO membership directly hedged against a Russian resurgence on the European landscape.

Now here we are in 2022 with Russia at least superficially revitalized under Putin and working to flex his military muscle in and around Ukraine. In working to reestablish a Russian sphere of influence in central and Eastern Europe, Putin can do little about the countries that joined NATO over the past 25 years. But he can position his soldiers, tanks and other equipment around Ukraine and poke and prod to see what resolve exists within NATO about confronting renewed Russian expansionist interests.

So far, under President Joe Biden, we've seen the "keep the Americans in" pillar of NATO hold firm. From 2017 to 2020, we saw the mixed American signals from the Trump administration where the former president cultivated his bromance with Putin, while most of his other advisers followed more traditionally hawkish views toward Russian intentions and action. Over the past year, the Biden team in collaboration with its NATO allies has been relatively coordinated in their willingness to stand firm against Putin's coercive intentions over Ukraine.

One tricky part, however, in maintaining NATO solidarity, is the various trade relationships that exist between Russia and some NATO allies. Most notably among those relationships is Russian natural gas supplies to Germany and several other crucial allies.

Ironically, this type of potential leverage is exactly why President Ronald Reagan opposed the building of the gas pipeline from the then-Soviet Union to Western Europe in the 1980s. Reagan feared that this type of

supply leverage for a crucial raw material could be used in exactly this type of circumstance. This also is why the Biden team has been so quick in recent weeks to reassure Europeans of the potential for American gas supplies in the months ahead.

It's also worth noting, however, that the third pillar of "keep the Germans down" has changed to "keep the Germans prosperous and actively involved in decision-making." Similar to the emergence of right-wing forces in the United States and many other countries, Germany has had to grapple with both its tragic history and its ongoing share of troubling internal political forces.

That said, Germany remains the largest economy in the European Union, is a major global financial player and for decades has been a force for political moderation and stability throughout Europe and around the world. German leadership in many forums, in collaboration with the United States, is and will continue to be crucial to the ongoing stability of NATO and the resolution of the Ukraine conflict and more.

So while NATO indeed is operating the way it was designed to operate, that doesn't mean that it will succeed in deterring Russian designs in Ukraine and beyond. But it is a solid foundation for what remains of American global leadership now and for some years to come.

The biggest question mark, however, is what role China might play in helping to ease any sanctions against Russia. The prospect of a Chinese-Russian alliance of the moment isn't something anyone in Washington or European capitals wishes to see. While both are major global players, both also have quite narrowly nationalistic views of their appropriate role in the world. How those nationalistic tendencies play out in the longer term will likely determine whether NATO continues its relevance even further into the future and whether its successful design persists. ●

SOME WOMEN ARE SICK OF BEING HARASSED AT GYMS. ARE WOMEN'S-ONLY GYMS FIXING THE PROBLEM?

By Jenna Ryu

- In response to gym harassment and objectification, many women have been trying out single sex gyms.
- Some gym-goers say women's-only gyms provide a safe, supportive environment.
- However, experts caution it doesn't address the bigger issue: men's behavior.

As a fitness influencer, Lauren Lozier's life revolves around the gym. She looks forward to empowering her 61K TikTok followers with daily workout routines and tips for heavy lifting. However, the unwanted stares and attention from men at the gym often caused her discomfort.

"People just stare, and not just a quick glance," Lozier explains. "Most times I'll catch someone sitting behind me, not working out, and just staring directly at my butt."

Her experience is not uncommon. A recent survey of 900 women found 71% of them changed their workout routine due to a negative encounter such as being watched, being followed around or due to unwanted physical contact.

As this issue gained attention and went viral over the past year, Lozier, like many others, tried out a women's only gym. She felt safe, supported and welcomed.

"It was nice to have your own space where you don't have to worry about men thinking weird things," she says, calling the experience "peaceful."

But despite their growing popularity, these establishments are only addressing one part of a bigger issue, experts say.

Women's-Only Gyms Provide 'Safety, Comfort And A Sense Of Community'

Diane Quinn, a social psychologist at the University of Connecticut, says feeling comfortable and safe while exercising is crucial, not only for your fitness journey but for your mental health. According to a 2018 study, regular exercise can decrease stress, anxiety and depression.

However, "when women experience objectification, like getting comments on their body, leering, ogling or harassment, they tend to feel shame about their body and worry about how it appears to others," Quinn says. This can trigger eating disorders, lower self-esteem and discourage women from exercising regularly.

Women's-only gyms have attempted to address these concerns by fostering a safe, supportive environment for those who don't want to worry about being harassed.

Some, like Jane's Gym in Mississippi, provide options like prenatal workout courses or childcare services.

"Safety and comfort is our first priority here," says Paige Anderson, a co-owner of Jane's Gym. "Our mission here is to serve this niche market and largely address women's specific needs, including safety, comfort and a sense of community."

'It's A Short-Term Solution'

But women's-only gyms also have drawbacks. States like Connecticut have ruled against single sex gyms, which violate state laws banning discrimination based on gender, and some gym goers have raised concerns about the limited choice of equipment at certain facilities.

Lozier felt there weren't enough heavy weights and returned to the co-ed gym.

"I was shocked," she recalls. "Co-ed gyms that I typically go to have a lot of different weights and a lot of different options. But the women's-only gym I visited had dumbbells that only went up to 50 pounds and it only had two squat racks with few plate options."

Critics have also pointed out that these gyms, despite their many benefits, are only a short-term solution to

the harassment and objectification of women. The real problem that needs to be addressed is men's behavior.

"Harassment is an issue that's more pervasive than just the gym setting. It happens every day in the workplace, on social media, and I don't think women's-only gyms alone will necessarily change bad behavior," says Summer Hungate, a co-owner of Jane's Gym.

However, she notes they do provide a "much-needed" safe space to work out.

What Needs To Change

Experts say gym harassment is a prominent yet normalized issue, and the burden shouldn't be on women to avoid it.

Ultimately, it is the responsibility of gyms to set zero tolerance policies to "prevent men from engaging in these behaviors, and enforce consequences if they do," Quinn says. This can include removing dress codes at gyms, which Lozier says seems to "apply more heavily to women than men."

'You can't win': Those infamous edited yearbook photos and society's obsession with girls' bodies

"There's still a lot of victim blaming, and people will comment, 'you shouldn't have worn that to the gym' or 'you shouldn't have bent over like that,'" Lozier says. "Having a dress code is the worst thing we can do when it comes to preventing harassment, because people just use that as ammunition to justify these behaviors."

Quinn also suggests that fostering a gym culture that focuses less on our bodies and more on our holistic fitness journeys would allow people to feel more comfortable while working out.

"Many gyms are set up to put people on display. There's windows in front of people doing cardio, and mirrors all over the place," Quinn says. "So maybe toning that down so it's not so appearance-based, where everywhere you look you're seeing every dimension of someone's body." ●

NOVIOLET BULAWAYO BELIEVES FREEDOM BEGINS WITH IMAGINATION

For her 2013 debut novel, Bulawayo was the first Black woman from Africa to become a finalist for the Booker Prize. Her new novel, "Glory," is a story about a nation on the cusp of revolution.

By Abdi Latif Dahir

Like many of her compatriots, NoViolet Bulawayo once thought Robert Mugabe would rule Zimbabwe forever.

A national liberator turned autocrat, Mugabe presided over the southern African nation for almost four decades, infamously declaring that "only God, who appointed me, will remove me" from office. So when in November 2017, he was forced by the military to resign, Bulawayo knew she had to write about this transformative moment in her nation's history.

And so was born "Glory," her second novel, which centers on the rapid fall of a longtime ruler, and will be published on Tuesday by Viking, an imprint of Penguin Random House.

"Writing it felt like responding to a call of duty," Bulawayo, 40, said in a video interview last month. "I felt like I needed to be part of the collective struggle that was going on. So the book is my participation; that's my way of showing up."

"Glory" is being published eight years after Bulawayo's debut novel, "We Need New Names," was released to critical acclaim, making her the first Black woman from Africa to be shortlisted for the Booker Prize.

"Glory," which follows a cast of animal characters in a fictional nation, comes out on Tuesday.

Bulawayo originally set out to write a work of nonfiction about Zimbabwe after the coup, but given the barrage of books, essays and opinion pieces dissecting the post-Mugabe era, she worried that she might not have anything new to say. So she pivoted to fiction, placing

“Glory” in the mythical nation of Jidada, which is suffering under the yoke of a brutal dictator and the whims of his corrupt party.

But instead of people, Bulawayo’s novel is animated by a cast of animal characters — horses, dogs, donkeys, goats, chicken, a crocodile — with revealing names like Comrade Nevermiss, General Judas Goodness Reza and Dr. Sweet Mother.

Bulawayo said her decision to use animal voices was “my way of laying ownership to a very public story, a very public drama, and wanting to kind of tell it on my own terms.”

It was inspired, she said, by Zimbabweans on social media assigning animal avatars to some of their leaders — a reference to George Orwell’s “Animal Farm,” a fable about a group of animals revolting against their human owner to establish a more equitable society.

Bulawayo’s decision was also an act of homage to her late grandmother, who entertained her and her siblings every night with stories and folk tales populated by animals.

“When people talk about literary influences, they expect you to just talk about books,” she said. “But for me, even before I started reading, I was listening to stories.”

Laura Tisdell, who coedited both of Bulawayo’s novels, said the cast of animal characters has changed how she sees politics.

“It’s impossible now to turn on MSNBC or watch a press conference or speech and not see the primal responses, the jockeying for alpha position, the sort of theatrics that remind me of the animal world,” she wrote in an email.

Born Elizabeth Zandile Tshele in the Tsholotsho district, in southwest Zimbabwe, Bulawayo left her home country when she was 18 to pursue degrees in the United States, including an M.F.A. in creative writing at Cornell University. She began writing using the pen name NoViolet Bulawayo as a student. In her Ndebele language, “no” means “with,” and Violet was the name of her mother, who died when she was 18 months old. Bulawayo is her hometown, and Zimbabwe’s second largest city.

In 2017, when Mugabe was deposed, Bulawayo was teaching creative writing at Stanford University, but decided to return home weeks later. There, she caught the heady post-Mugabe days, when many Zimbabweans hoped the soaring inflation, unemployment, food shortages and human rights violations that defined his rule would finally come to an end.

“People were excited. People were happy,” Bulawayo recalled. “People thought we had turned the corner.”

But the euphoric highs soon dissipated, as Zimbabweans, including herself, continued to line up for everything: fuel, groceries, cash. The government of President Emmerson Mnangagwa — a former vice president to Mugabe — has continued to crack down on the opposition and civil society. The novelist Tsitsi Dangarembga was arrested during an anti-government protest in 2020, and Jeffrey Moyo, a journalist with The New York Times, was prosecuted for spurious charges. Last month, Zimbabwe’s vice president, Constantino Chiwenga, said the ruling party will crush the main opposition party “like lice.”

“Glory” follows Destiny, a goat who returns to Jidada to face the country she vowed to leave behind and the mother who plunged into “a deep, dense dark” place when she disappeared. Through her, Bulawayo explores the trauma of displacement, the central role women play in holding societies together and the failure of independent states to attain minimum levels of prosperity for their people. The book also explores the legacy of the Gukurahundi, Zimbabwe’s name for the massacre of thousands of members of the Ndebele minority by Mugabe’s military between 1983 and 1987.

Bulawayo said she deliberately chooses to write about people on the margins, who are likely to be overlooked. “If there’s any measure of wealth in our democracy or the progress of our societies, it is through the status of the poor, of the people who are really at the bottom,” she said. “I have a sensitivity to that.”

But those decisions haven’t always been received with enthusiasm, particularly among academics and artists who have long criticized some Western depictions of Africa as a place of death, disease and dictators.

Bhakti Shringarpure, a co-founder of Radical Books Collective and an associate professor of English and gender studies at the University of Connecticut, said that when “We Need New Names” was published, “it

led to some of the most divisive and difficult debates about how the African continent and African problems should be represented.” That novel revolved around Darling, a 10-year-old living in a shantytown called Paradise whose adventures reveal the crushing poverty and injustice pervasive in urban peripheries. The book was an extension of her short story, “Hitting Budapest,” which won the 2011 AKO Caine Prize for African Writing.

But because Bulawayo was not “white or Western,” Shringarpure said, her book led to thought-provoking conversations around artistic freedom and whether “the African writer always bears some sort of responsibility to repair the Western gaze that determines so much of what we know about the continent.”

Mukoma Wa Ngugi, the author of “The Rise of the African Novel,” said Bulawayo’s first novel marked a shift in African writing that “those who critique it as ‘poverty porn’ miss.” Besides capturing the dire state of affairs in Zimbabwe, he said, it also “captures a United States rarely spoken about in African fiction.” When the protagonist, Darling, moves to Detroit — or as her friends call it, “Destroyedmichygen” — readers encounter, he said, the economic, cultural and linguistic challenges that many immigrants face in America.

“‘We Need New Names’ is a ‘before’ and ‘after’ kind of novel, the kind that marks a new beginning, a new shift in the African literary tradition,” Mukoma said. “To me, it is a complete novel in terms of aesthetics and politics.”

Bulawayo worked on “Glory” for more than three years, during which she closely followed the grass roots activism demanding change in countries including Sudan, Algeria, Uganda, Eswatini and the United States, where the Black Lives Matter movement surged.

Social media became an important part of her research — two chapters in “Glory” are composed just of tweets — but she also kept a few novels about despots by her side, including “The Autumn of the Patriarch,” by Gabriel García Márquez, “Wizard of the Crow” by Ngugi wa Thiong’o and “The Brief Wondrous Life of Oscar Wao,” by Junot Díaz.

The process of writing “Glory” affirmed for her, she said, how “the struggle against injustice is the same really across borders, across time.” No matter the

difficulties citizens encounter, she said, the road to freedom begins in our own imaginations.

“We have to insist on imagining the worlds that we want to see,” she said. “It matters to think that one day Zimbabwe will be free, one day all these countries that need to be free will be free.” ●

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WHY BRENDAN O'CARROLL'S 'MAMMY' BROWN BECAME 'MUMMY' BROWN

Analysis: the Irish comedian's appearance in Tyler Perry's new film suggests how much Ireland and Black America have in common

By Mary Burke

Brendan O'Carroll's character Agnes "Mammy" Brown, the heart of the long-running RTÉ-BBC series, *Mrs. Brown's Boys*, now features in *A Madea Homecoming*. This is the new film from African-American powerhouse comedian, writer, producer, and director, Tyler Perry, which is currently streaming globally on Netflix.

The title character of the highly-successful *Madea* comedy franchise is a resilient and sharp-tongued African-American matriarch played - not always uncontroversially - by the male Perry. His name may be unfamiliar to most Irish people, but Perry is - and there is no better way to put this - the Brendan O'Carroll of America.

Although the *Madea* franchise is routinely dismissed as being lowbrow (a criticism that its fans, like those of *Mrs. Brown's Boys*, ignore), it mixes its sensational family comedy drama with topical socio-political storylines. In the latest film, in which the Black Lives Matter movement is addressed, a further plotline is that *Madea's* great-grandson, Tim, comes out of the closet,

making him the franchise's first openly gay character. For all of the retrograde aspects of a brand of humour that relies upon crude references to an elderly woman's bodily functions, O'Carroll has likewise gravitated to progressive issues lending his Mrs Brown creation to the campaign to legalize same-sex marriage in Ireland, for instance.

Agnes's pronunciation of "knickers" is initially heard as a racial slur by Madea's shocked clan, suggesting how the film's heavy-handed humour draws from America's far-from-funny history of racism. But Irish criticism about O'Carroll's star turn appears, at least initially, to have nothing to do with hard-hitting issues. Instead, it's a complaint that Netflix's English captions have rendered Agnes's daughter's pronunciation of "mammy" as "mummy." (In fact, it is not always clear which word Jennifer Gibney is using in her Cathy Brown role.)

To an Irish commentator, this replacement may seem merely irritating, but America's racial history explains any deliberate decision to make a substitution. 'Mammy' is a historical stereotype of Black women who took care of white children that emerged from pro-slavery literature in the early 19th century. The unfailingly loyal "mammy" was depicted as a sunny, overweight, motherly woman, content with being enslaved or with her servant role.

Hattie McDaniel's portrayal of Mammy in *Gone with the Wind* (1939), adapted from Irish-American author Margaret Mitchell's novel of that title, is the most familiar example of the stereotype to Irish audiences. Although it concentrates on daughter Scarlett O'Hara, Mitchell's 1936 novel begins with Scarlett's Irish-born slave plantation-owner father, Gerald, who sees no connection between the oppression in Ireland he had fled and the South's slave system.

Gerald's Catholic landowner ancestors had been vanquished by Cromwell, and he vows that the "fortunes of the O'Haras would rise again." However, Black bodies pay for the sins of Cromwell, and Gerald shakes off any instinctive empathy he might have felt for those he enslaves. Mitchell's genealogy, too, reflects the fact that the oppressed Irish could become oppressors when the opportunity arose: her Tipperary-born great-grandfather, whose family fled the 1798 Uprising, owned a slave plantation in Georgia.

Even if the switch from 'mammy' to 'mummy' was merely the inadvertent result of a caption algorithm, it does not detract from the commendable fact that the Perry-O'Carroll crossover generated a storyline that takes on Black Irish identity. Much noise is being made about Tim's coming out, but a quietly ground-breaking plot point has gone unnoticed.

Tim brings his college roommate along to the family gathering to celebrate his graduation from college, and this friend, the mixed-race Davi O'Malley (played by Isha Blaaker), is the son of an Irish mother and had lived with his great-aunt in Ireland. This is the pretext by which Brendan O'Carroll joins the action since Davi's great-aunt turns up for the graduation shindig and is revealed to be Agnes Brown.

From RTÉ Podcasts, first episode of *The Black & Irish* podcast with Leon Diop, Femi Bankole, Amanda Ade and Boni Odoemene

"I'm Irish," Davi announces to Madea's clan, and no one bats an eyelid. The impossibility of the category of Black Irish in the strictly segregated universe of *Gone with the Wind* is mocked in Alice Randall's 2001 parody novel, *The Wind Done Gone*, in which almost everyone, Scarlett included, turns out to be mixed-race. (The latter novel is more historically accurate in this regard.)

The election in 2009 of a Black president descended from a Famine-era Co Offaly emigrant challenged the belief that to be Irish American is invariably to be white, though it surfaces when Madea's African-American family connection, Mr. Brown, laughs uproariously at the joke that he and Mrs. Brown must be related. However, Perry's creation of Davi ultimately implies that Mr. Brown and Mrs. Brown could be related. Agnes invites Madea to Ireland at the film's close, so we may eventually find out.

A *Madea Homecoming* suggests how much Ireland and Black America share - not least a love of straight middle-aged male comedians dressed in women's clothes

The theme of the returned emigrant seeking roots in the "auld sod" – exemplified by *The Quiet Man* – was knowingly reversed by Roddy Doyle's short story *Home to Harlem* in *The Deportees and Other Stories*. This 2007 story is about a mixed-race Irish student who travels to New York to track down his African-American GI grandfather.

This underlines how recognition of the complex history of Black-Irish relations in America is also emerging in Irish culture. As Mitchell's genealogy and novel intimate, it is not always a pretty history, but it is, nonetheless, one that is increasingly being acknowledged on both sides of the Atlantic. Altogether, *A Madea Homecoming* suggests how much Ireland and Black America share - not least their love of straight middle-aged male comedians dressed in women's clothes. ●

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JEWISH WRITERS FROM FORMER SOVIET UNION WATCH INVASION WITH FEAR, DREAD — AND RECOGNITION

By Irene Katz Connelly

Novelist Zhanna Slor was born a few weeks after the Chernobyl disaster, in the Ukrainian city of Chernivtsi. Her timely arrival probably saved her father's life. An engineer, he was slated to join cleanup crews at the radioactive site — until Slor's mother demanded he stick around for the birth.

That family story returned to her earlier this month, when invading Russian forces took over the nuclear site. The news "really crystallized the scope of the invasion," said Slor, who published her debut novel, *"At the End of the World, Turn Left,"* in 2021. "Who would even want a radioactive city unless they were planning to take over the country?"

Since the invasion of Ukraine on February 24, Jewish writers from the former Soviet Union have been watching with alarm and dread as war returns to the places their families fled. Some are glued to the news. Others are championing Ukrainian writing, hoping to preserve the cultural legacy currently under threat. Many are seeing key themes in their work, from the

fragility of democracy to the immigrant and refugee experience, play out in real time — even as the onslaught of new developments often makes the daily work of writing seem impossible.

"It's been hard to read, hard to think of anything other than the war," said Ellen Litman, a Moscow-born novelist and professor at the University of Connecticut.

Litman initially followed the war through TV Rain, one of Russia's few progressive television outlets. But after TV Rain was forced to shut down, she turned to the app Telegram, where she can read updates from friends as well as prominent Russian activists, lawyers and economists. For the past two weeks she's condensed those reports into "Telegram Chronicles," short dispatches that she posts on Facebook and Medium for the benefit of English-speaking friends.

"I want them to know about the Russian people who are resisting this war and getting arrested and beaten," Litman said via email. "About the new laws the Russian government continues to introduce to suppress and punish any sort of dissent, about the growing atmosphere of terror there."

Boris Fishman, a Minsk-born novelist whose work chronicles the Soviet Jewish diaspora, said he has closer ties to Ukraine than to his native Belarus. As a teenager, he forged a deep friendship with his grandfather's home health aide, a Ukrainian woman named Oksana. Her cooking helped inspire his food-focused memoir *"Savage Feasts."* Fishman has traveled to Ukraine to spend time in Kyiv and in Oksana's home city, Ivano-Frankivsk.

Fishman says he's in daily contact with Oksana to check on her family. Though safe for now, they're waiting for the day when fighting arrives at their town.

The long history of antisemitic persecution in Eastern Europe has touched Fishman deeply: One of his few Minsk memories involves visiting a steam bath on a street named for a Cossack leader who sought to eradicate Jews, and his parents immigrated because of the daily "humiliation" they experienced. Yet Fishman feels a deep identification with the Ukrainian people, one that stems from his own heritage. In what he described as Russia's "demeaning" attitude towards Ukraine, he sees the treatment his family endured under Soviet rule.

“We were the underdogs, we were the unloved, we were the rejected, we were the ignored,” Fishman said. “It’s a shared minority victimhood.”

At the Los Angeles Review of Books, editor-in-chief Boris Dralyuk, who hails from Odessa and immigrated to the United States in 1991, has been publishing reflections from Ukrainian writers caught in the crisis. For him, this isn’t just a matter of covering breaking news. At a moment when Ukraine’s autonomy is at risk, Dralyuk believes it’s vital to make the country’s literary culture visible to international audiences.

“What strikes me most is the strain of humor that runs through these works,” Dralyuk said. “Sometimes wistful, sometimes sly, sometimes broad, and so typical of the Ukrainian frame of mind, in any language.”

Indeed, sharing literature from the region has become a common way for onlookers of all backgrounds to show solidarity with Ukraine. “We Lived Happily During the War,” a poem by the prominent Ukrainian-born writer Ilya Kaminsky, went viral on social media. Journalist Talia Lavin, who learned Russian and Ukrainian in college and counts Kaminsky as an inspiration, published four poems in translation by the Ukrainian poet Ilya Kiva in her newsletter.

“Translating poetry may seem like the farthest thing from useful in a war, but to me it’s an act of cultural defiance,” Lavin said, noting that Russian rulers have attempted to suppress the Ukrainian language for centuries. Some writers have seen their literary preoccupations become breaking news items. Moscow-born graphic novelist Anya Ulinich, who has written about the Russian immigrant experience, is now documenting the Russian assault through illustrations she posts on Instagram. In her own novel, *Slor* explores the complex nature of immigrant identity for Soviet refugees, who saw the country they fled abruptly cease to exist. It’s a topic that feels especially relevant, and especially thorny, as Russia comes to look more and more like “the country we escaped.”

But while family history has informed her work in the past, she hopes it won’t have to in the future. “Luckily my family is all here now, or I would have all sorts of new things to write about,” she said.

Litman has been writing fiction about Russia’s political trajectory, from potential democracy to total autocracy, after the fall of the Soviet Union. With the onset of war,

that arc has appeared in stark relief. Her book’s new resonance doesn’t mean Litman is getting much work done. “All I’ve been doing is following those Telegram channels and writing and posting about the war,” she said. ●

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THE LONG COVID LEAVES NEWLY DISABLED PEOPLE FACING OLD BARRIERS – A SOCIOLOGIST EXPLAINS

By Laura Mauldin

Up to one-third of COVID-19 survivors will acquire the condition known as long or long-haul COVID-19. The American Academy of Physical Medicine and Rehabilitation estimates that long COVID will add as many as 22 million individuals to the U.S. population of disabled people.

I am a sociologist and researcher focusing on disability. I am aware of the challenges awaiting newly disabled people living with what scientists call post-acute sequelae of SARS-CoV-2 infection, a condition in which someone with COVID-19 continues to have symptoms for weeks or months after infection. One of those challenges is qualifying for Social Security Supplemental Income, the program that provides financial support to disabled people with limited resources.

To receive support, applicants generally must show that they have a condition that greatly limits their ability to work. The program routinely denied the majority of applicants before the pandemic. Between 2009 and 2018, the program denied 66% of applicants.

But the impact of long COVID, a newly discovered condition, is difficult to measure. Its symptoms are difficult to prove, varying in type, intensity and duration, between individuals or over time in the same person.

Survival At A Price

While most people recover from their initial acute infection, some survivors experience continued or newly developed symptoms. Long COVID symptoms can include shortness of breath, fatigue and brain problems, such as difficulty concentrating, remembering or making decisions.

The Centers for Disease Control and Prevention defines disability as “any condition of the body or mind that makes it more difficult for the person with the condition to do certain activities and interact with the world around them.”

Long COVID sufferers report lingering symptoms that are seriously debilitating. They tell researchers that the condition makes it hard to live their lives as they had before the illness. Some patients describe needing hours of extra sleep after standing or walking a short distance. One study showed cognitive deficits, or “brain fog,” in patients with long COVID. They had poor recall ability or were slow in processing information. These problems, they told researchers, limited their capacity to work.

A 2021 study of long COVID patients in the UK found that 28% were out of work because of their condition. Another study showed that 46% reduced their work hours because of long COVID symptoms.

Undefined And Indeterminate

Although the World Health Organization has issued a definition of long COVID, the U.S. medical community has not defined it, especially the “long” part. In fact, in a study that has not yet been peer-reviewed, researchers estimated that approximately 43% of COVID-19 survivors may experience long COVID, which the study defined as having symptoms lasting 28 days or more. In another study, half of COVID-19 survivors reported symptoms beyond six months.

But since long COVID symptoms involve different systems in the body, and there is no simple way to test for it, getting a diagnosis can be difficult. This adds an extra challenge to qualifying for Social Security.

The Center on Budget and Policy Priorities, a nonpartisan research and policy institute, previously noted decades of underinvestment in the Social Security Administration before the pandemic. The institute is

now calling for renewed investment to cope with rising numbers of disabled people.

It is also hard to predict which COVID-19 patients will develop long COVID, or predict the long-term outcomes for those who do. Greater likelihood of severe disease has been found to correlate with a higher risk of long COVID. Complicating matters, however, is the fact that long COVID can emerge from relatively mild cases as well.

Unpredictable And Uncertain

Symptoms seen in patients with long COVID look a lot like symptoms of other hard-to-diagnose and disabling conditions. One reason may be the molecular and physiological similarities researchers recently found between long COVID and diseases like multiple sclerosis, rheumatoid arthritis and lupus.

Long COVID appears to be the newest in a long line of “invisible” or episodic conditions not immediately diagnosed as disabilities. They include fibromyalgia, Lyme disease and chronic obstructive pulmonary disease.

People with fibromyalgia, for example, often struggle with symptoms similar to long COVID, including fatigue or thinking difficulties. Despite a history dating back to the 19th century, the criteria for diagnosing fibromyalgia have existed only since 1990. It remains a controversial illness with few accepted treatments, but that began to change as patients shared their experiences with the condition. Nevertheless, people with conditions like these cope with doctors, social workers and others who might assume that their illness isn’t real, and they face obstacles obtaining financial support, housing and responsive health care.

Disbelief And Denial

Currently, approximately 8 million people receive Social Security Supplemental Income. But surveys show the Social Security Administration still denies many applicants, which studies have linked to stereotypes about disabled people as “conning the system.”

A February 2021 study showed that negative attitudes toward people with significant disabilities are common among health care providers, affecting the ability of those with long COVID to get the care they need.

Speaking of care, research on long COVID has led to proposed treatment guidelines, which promise to help people live better with the condition.

In another promising development, the Department of Health and Human Services and the Civil Rights Division of the Department of Justice recently announced that long COVID can qualify as a disability under the Americans with Disabilities Act.

This means that those with long COVID can qualify for community resources. Those still in the workforce can get employment-related reasonable accommodations, such as flexible work times and remote work. For now, that's all they can count on. ●

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THE COMPLEX LEGACY OF AN ANTI-BLACK RESTAURANT SLATED FOR DEMOLITION

Locals in Smyrna, Georgia, are rallying to preserve Aunt Fanny's Cabin as a tribute to eponymous Black cook.

By Fanny Williams

When Aunt Fanny's Cabin was in its heyday, when socialites and celebrities and presidents (at least the one from Plains) flocked to the outskirts of Atlanta to order "genu-wine Smithfield ham" off menu boards fitted around young Black men's necks, well-placed white residents of Smyrna, Georgia, believed Black citizens of the city were glad to sing and dance for them.

Although the blatantly racist restaurant closed in 1992, the former tenant farmer's home that housed it has sat in the center of downtown—a sawn wood saddlebag dwelling in view of a Publix—since 1997, when the city plucked it from the path of developers to serve as a welcome center. "When Aunt Fanny's is gone, Smyrna is

gone," a distraught longtime customer told sympathetic city leaders at the time.

But the building now faces imminent demolition following a December vote by the city council to "dispose of" the 130-year-old structure if no one came forward with money to move it. According to those familiar with the decision, well-placed white residents of Smyrna believed Black citizens of the city would be glad to see the cabin knocked down.

In Both Cases, The White Folks Got It Wrong.

"We're trying to save this little white house for Black history," says Maryline Blackburn, a leader of the Coalition to Save Aunt Fanny's Cabin, an interracial group rallying to preserve the building as a tribute to the restaurant's eponymous cook, Fanny Williams, who died in 1949. They have until March 16 to submit a bid or persuade the city to change course.

Blackburn has the distinction of being—so far, anyway—the only Black councilwoman in Smyrna history, having served one term from 2017 to 2019. "They're saying this cabin is bad for our community; it's bad for race relations," she says. "Well, removing that cabin is bad for race relations because [then] you'd have nothing to talk about."

The City of Smyrna would prefer not to talk about Aunt Fanny's at all. The only booklet in the local library's collection that touches on the topic is missing and unaccounted for, according to a librarian.

Still, many area residents believe the discussion galvanized by the cabin's presence is worth having, even if they don't agree on its talking points: For every Smyrnite ready to reckon with the lasting brutality of an anti-Black business, there's another local eager to spin happy yarns about the Jim Crow South.

In some ways, the conflict over what to do about Aunt Fanny's Cabin echoes the Confederate monument disputes that have unfolded across the South. Yet in the case of those state-sanctioned memorials, it was established historical fact that they were erected by white supremacists for the sole purpose of intimidating Black Americans and challenging their strides toward justice.

The meaning of the cabin is murkier, since a violently offensive themed restaurant wasn't its only resident. It was inhabited by sharecroppers before it was Aunt Fanny's and enlivened by partygoers of all racial backgrounds after it was Aunt Fanny's. And during the Aunt Fanny's era, it benefitted enormously from Black labor, starting with the work of Williams.

Blackburn's emphasis conveys her conviction that the restaurant enterprise couldn't have existed without Williams.

That theory is still unsettled. But what's clear is sorting out the past and grappling with its contemporary consequences is an exercise bound to become even more wobbly if there isn't a building to hold on to.

Aunt Fanny's Cabin dates back to 1941, when, the Atlanta Constitution reported at the time, Isoline Campbell McKenna opened the cabin as an antiques shop and tearoom. The name was inspired by Williams, whom the paper described at the time as "a famous colored mammy who has been in Mrs. McKenna's family for more than 57 years."

Williams, the paper reported, "always wears a printed calico dress, a big white apron, and a white bandanna wrapped around her head."

Aunt Fanny's Cabin was one of many restaurants in the mid-1900s that parlayed the success of *Gone With the Wind's* antebellum romance and a century-old white obsession with the "Mammy" caricature of older, large-bodied Black women into a steady flow of customers.

McKenna ran into tax troubles within a few years and sold the restaurant to a pair of promoters who played up the racist angle, but the groundwork had already been laid. In 1944, the Constitution described the restaurant's specialty as "a real, old-fashioned plantation meal served by genuine darkies."

Prior to her death in 1949, Williams seems to have served as a greeter at the restaurant, in addition to overseeing the production of jams and jellies. According to the Constitution, "Aunt Fanny belongs to the generation which holds her 'white people' in genuine affection and asks nothing more than a smile from 'Miss Isoline' to light her pathway."

But Who Was Fanny Williams, Really?

The public record is spotty. People who have lived in Smyrna for decades say they've never come across anyone who knew Williams or claimed to be kin to her, although an obituary in the Atlanta Daily World, the city's oldest Black newspaper, cited an unnamed sister from Macon as a survivor.

"I'm hoping they will not try to tear it down or move it: There's nothing else downtown named after an African American."

Nobody has yet turned up a birth certificate, death certificate or wedding license associated with the woman known across the country for her charisma: It's possible that "Fanny Williams" wasn't even the name she used outside of the public eye. The scarcity of facts hasn't stopped amateur genealogists from patching over the holes in her life story with supposition and speculation, which has left room for people on both sides of the cabin debate to produce interpretations in line with their perspectives.

For instance, members of the coalition talk frequently about Williams as an exemplar of interracial harmony, even though nothing is known about her relationship with her white employer. Shaun Martin, who leads the coalition's online presentations, sees Williams as a pioneering entrepreneur.

"She understood the value of her brand," Martin tells me. "Good, bad or indifferent, she understood the value of her brand, having one foot in corporate America and the other foot solidly planted in her community."

It's a plausible reading, but—again—not a proven one.

The notion that Williams beat white supremacists at their own game by using wages and fame earned at Aunt Fanny's to advance Black causes is enormously appealing, but it's hard to follow the money through that storyline.

The Atlanta Constitution reported in 1946 that "her 'beloved' white folks," including McKenna, accompanied her to the groundbreaking at Cobb County Hospital, where Williams was recognized as "the individual who raised the largest amount of money, most of which was contributed by friends who visited the Cabin." (In those days of segregated restaurants, only "friends" from McKenna's social circle would have been admitted.)

Still, the funds were collected, and the hospital was built, so it certainly ranks as an achievement. Williams, dressed all in white, was granted the honor of turning over the first shovelful of dirt.

As for her connection to Wheat Street Baptist Church, which she was also rumored to have supported with significant financial gifts, her obituary in the *Constitution*—headlined “Fanny Williams, Aged Negro, Dies”—identified her only as a church member. There are numerous published references to a Mother Fannie Williams who led committees at Wheat Street in the 1940s, but she died on August 23, 1949, months before Williams’ fatal heart attack.

Williams appears in the federal census just once. In 1930, she’s listed as a 62-year-old maid in the home of McKenna’s younger brother, Richard Orme Campbell, who was just a few years removed from an unhappy marriage.

Campbell’s former father-in-law in 1923 left \$50 to his “servant, Fannie Ramey,” so it’s possible that’s how Williams came into the Campbell fold, but it’s also possible that lots of Black women working as domestics in the Atlanta area were then named Fanny. (Or, more precisely, Fannie: The other spelling barely appears in city directories between 1920 and 1940.)

Wheat Street Baptist has never opened its records, much to the aggravation of Atlanta archivists. But it’s believed that the woman known as Aunt Fanny was buried in South View Cemetery, also the resting place of Henry “Hank” Aaron, who, incidentally, was among the cabin’s Black customers following integration.

So far, coalition members haven’t been able to locate her grave.

“The genealogical problem of trying to trace ancestries and family histories of Black Americans doesn’t end with slavery,” says Micki McElya, a historian at the University of Connecticut and the author of *Clinging to Mammy: The Faithful Slave in Twentieth-Century America*. “It’s a persistent quality of a white supremacist state.”

Elaborating on the obstacles that the coalition has encountered in trying to piece together Williams’ life beyond the character she played for commercial purposes, much as Kentucky native Nancy Green took on the role of Aunt Jemima, McElya says, “Everything

that speaks to this woman’s individual story is pushed to the margins so she can be celebrated as an embodiment of a white supremacist stereotype that has done nothing but wreak enormous damage.”

While anti-Black restaurants cropped up around the South in the mid-20th century—in Atlanta alone, Aunt Fanny’s Cabin inspired Mammy’s Shanty, Pittypat’s Porch and Johnny Reb’s Dixieland—they were equally prevalent in places with predominantly white populations. The Coon Chicken Inn got its start in Salt Lake City, Richard’s Restaurant and Slave Market opened in an all-white suburb of Chicago, and Sambo’s was based out of Santa Barbara, California.

What these venues had in common, besides promotional material and service practices that demeaned and denigrated Black Americans, was that they all served food. As Naa Oyo A. Kwate concludes in her book, *Burgers in Blackface: Anti-Black Restaurants Then and Now*, “Restaurants named after racist epithets insist on their innocence by virtue of the goods they sell. It’s Sambo’s pancakes, after all, not Sambo’s Police Brutality Gun Shop.”

In other words, the link between “good Southern food” and racism wasn’t incidental. Indeed, the long-running celebration of Southern food by white media outlets is as mixed up with “the warped myth of Mammy,” as McElya puts it, as any iconic dish.

“So much of hospitality in this country has been this idea that the slave South represented this Gloriana of refinement and the sort of loving attention of Black people that white people really crave,” McElya says. “As the civil rights movement is working to head on dismantle Jim Crow segregation, this is a place where they know they will be cared for.”

Aunt Fanny’s Cabin finally closed in 1992, outliving its namesake by more than 40 years. The owners at the time, looking to retire, had failed to find new buyers. (A report commissioned by the city in 1997 called it “a victim of too much competition from chains like Cracker Barrel and its more politically-correct interpretation of Southern cooking.”)

But even today, at least among Smyrna old-timers, memories of the place remain vivid. “It was the best squash casserole and the best cornbread,” recalls Max Bacon, who knew a man named “Willie” as the restaurant’s head cook. “I can remember walking to the

back door: Willie always cooked chicken in a big black skillet. He didn't use a fryer. ... It was just good Southern food."

Bacon is a former mayor of Smyrna. In fact, he is the longest-serving mayor in the city's history and retired in 2019 after 34 years in office. It was Bacon who oversaw the relocation in 1997 of the salvageable portion of Aunt Fanny's Cabin to its current site alongside the city's history museum.

At the time, Bacon told the Atlanta Journal-Constitution (AJC) that he was relieved research had determined the circa-1890 building had never housed enslaved people. "That is just too sensitive an issue and we need to promote a good image for the city," he said, aware his constituents were still smarting over National Geographic in 1988 describing their hometown as "redneck Smyrna."

As Bacon recalled it during a phone interview, there wasn't any pushback when the city spent \$82,000 to acquire and move the building. When I asked about reports of NAACP members protesting the restaurant in the 1980s, he said the group's concerns were resolved when employees shifted from wearing menu boards to carrying them, a change that contemporaneous news accounts attributed to a Georgia Department of Labor investigation into alleged child labor law violations.

Bacon didn't get to eat at Aunt Fanny's as often as he would have liked when he was a kid, since it was an expensive night out for a family of six, but he was so fond of the restaurant that he made sure to collect a few souvenirs when the building was being readied for its move downtown.

"I kept a couple of trays and a couple of food stands, and I ended up getting the men's bathroom door, which was in a big pile to be thrown away," Bacon says. "It was painted green, and somebody had hand painted an African American guy smoking a pipe on it. I got it downstairs in my man cave."

Bacon's vision for turning the structure into a welcome center never materialized, but it became a popular site for birthday parties, committee meetings and other community functions. While the city was still renting it out as recently as last year, officials said a 2021 inspection uncovered hazards related to the porch and roof framing that the city couldn't afford to fix.

"All I can tell you is when I left, it was in good shape," Bacon says of the building. "It had maintenance all the time. I'm hoping they will not try to tear it down or move it: There's nothing else downtown named after an African American."

"We pray for the building to be preserved so children who don't even know her name know her legacy."

The city's current mayor is Derek Norton, who, like Bacon, is white. Some political observers in Smyrna speculate that Norton, a registered lobbyist, came up with the Aunt Fanny's removal scheme to distract voters from a downtown improvement plan he rammed through council last fall. Or maybe he was trying to win points with Black voters following an election in which he edged out a Black candidate by fewer than 200 votes out of 7,300 votes cast. I wanted to talk with Norton directly, but city spokeswoman Jennifer Bennett denied all my interview requests.

It's obvious the city doesn't appreciate attention to what Councilman Travis Lindley termed the city's "painful history" in the AJC. "I think it's time to start looking forward," he says. For her part, Bennett suggested I use my time in Smyrna to review an Italian restaurant instead of bothering with Aunt Fanny's, adding, "We welcome you as a visitor to our community and as a writer with expressed interest in restaurants."

When I got to Smyrna, I found the welcome only extended so far.

Since the local library in 1998 mounted an exhibit about Aunt Fanny's, I visited the reference desk to ask if the library had a file on the topic. The librarian said she had to fetch the library director, who emerged from her office to tell me that Bennett had already responded to my "long list of questions" and there was nothing left for me to learn about the restaurant. If I was going to discover anything about the people who worked at Aunt Fanny's, including Williams, the city had determined I wouldn't find it there.

On a recent gloomy Sunday afternoon, ten members of the Coalition to Save Aunt Fanny's Cabin gathered in front of the shipshape building that once housed the restaurant. Pastor Eldren D. Morrison of Shaw Temple AME Zion Church offered up a prayer.

"We stand on this ground in front of hallowed space for us." Directing his supplication skyward, he said, "The

work you allowed [Williams] to do in the kitchen allowed her to help establish Wheat Street Baptist Church and the Black hospital and so many other things. We pray for the building to be preserved so children who don't even know her name know her legacy."

To keep Williams at the center of conversations fueled by the building, Blackburn's coalition is pursuing a full slate of strategies, including weekly Zoom teach-ins and Sunday gatherings outside the cabin. The goal is to attract enough supporters to join hands and encircle the building, now sealed off with police tape.

While coalition members would love to see the city reup its claim to the cabin, they're also preparing a set of unfunded proposals for its removal, a process they say is costlier than necessary because the city has stipulated that one of its chimneys must be left in place. Because of that requirement, the building has to be dismantled fully before being moved.

Twenty miles away, at the South-View Cemetery, a stroll through the non-serviced section of the historic African American graveyard reveals countless wedges of improvised headstones, mostly concealed beneath grass and dirt. If Williams was even buried here, it's not known whether her burial place was ever marked.

In the absence of a real grave on which to place bouquets, two recent comments on her findagrave.com page—accompanied by virtual flowers—sum up the competing views of Williams.

"She's buried in a public plot (perhaps at her request) so her funds could be donated," one anonymous contributor wrote in February, leaning into the myth of "Mammy" as a selfless figure who has no physical needs or desires

"Aunt Fanny was exploited by the owners of Aunt Fanny's Cabin, died penniless and was buried in a pauper's grave. ... [T]hey used her and her image to promote horror," another contributor argued in December, taking Williams' agency out of the equation.

Without any real evidence of Williams, it becomes very easy to graft any message onto her life story.

And without Aunt Fanny's Cabin around, it's likely to become even easier for those in power to decree how the racist restaurant is remembered—if it's remembered at all. ●

SCHOOLS WILL STOP SERVING FREE LUNCH TO ALL STUDENTS – A PANDEMIC SOLUTION LEFT OUT OF A NEW FEDERAL SPENDING PACKAGE

Public schools have been serving all students free meals since the COVID-19 pandemic first disrupted K-12 education. In March 2022, Congress rejected calls to keep up the federal funding required to sustain that practice and left that money out of a US\$1.5 trillion spending package that President Joe Biden signed into law on March 11, 2022. We asked food policy expert Marlene Schwartz to explain why free meals make a difference and what will happen next.

By Marlene B. Schwartz

How did the COVID-19 pandemic initially affect the school lunch program? In March 2020, nearly all U.S. K-12 school buildings closed due to the COVID-19 pandemic.

The U.S. Department of Agriculture, which administers the federal government's National School Lunch Program, quickly granted waivers to increase program flexibility and accommodate the challenges of the pandemic.

These waivers, which have been renewed several times, were critically important for school food service programs as the programs abruptly shifted away from serving meals in cafeterias and designed new distribution models to continue to feed students. Many school meal staff across the country created grab-and-go meals that families could pick up, which was particularly important in the spring of 2020 and the following school year. Another major change, which has continued during the 2021-2022 school year, is that

school systems are able to serve meals to all students at no cost.

Prior to the COVID-19 pandemic, nearly 30 million lunches were served every school day to K-12 students through the National School Lunch Program. Schools provided roughly three-quarters of those meals at reduced rates or no cost at all – with the federal government reimbursing a portion of the cost of those meals.

How much money is involved? The program cost \$14 billion in 2019, before the pandemic disrupted it.

The price of a school lunch for families without free or reduced-cost meals varies. In 2017, full-price lunches tended to run between \$2.50 and \$2.75 apiece.

Are all public school students still getting free meals?

Yes. However, that will no doubt change once the latest waiver expires on June 30, 2022.

Advocates urged Congress to keep funding school nutrition programs at higher levels. But Congress did not include that money in the \$1.5 trillion spending bill House and Senate lawmakers passed in March 2022.

This means that next fall, most schools will have to resume the old three-tiered system where some families don't pay at all, some receive discounted lunches, and others must pay full price.

Two states will buck that trend. California and Maine will continue providing universal school meals after the federal waiver ends due to measures their state legislators passed and governors signed into law during the COVID-19 pandemic.

At the federal level, more than a dozen senators and roughly 50 members of the House of Representatives backed proposed legislation in 2021 that would permanently make school lunch free for all students, regardless of their income. There is significant support for this idea among advocates, but the future of this type of federal legislation remains to be seen.

What are the advantages of making school meals free to everyone?

In my view, the biggest advantage to universal school meals is that more students actually eat nutritious school meals. Following the regulations that emerged from the 2010 Healthy Hunger-Free Kids Act, the nutritional quality of school meals improved significantly, and a recent study found that schools

typically provide the healthiest foods that children eat all day.

The research shows that making school meals free for everyone improves attendance and boosts diet quality. It also decreases the risk of food insecurity and the stigma associated with receiving a free meal. When no one has to pay, the growing problem of school meal debt is also eliminated.

There are important logistical benefits to universal school meals. Families don't have to fill out any paperwork to establish their eligibility for free or reduced-price meals. And cafeteria staff can focus on serving the meals if they don't need to track payments.

What's wrong with charging some students for lunch again?

You have to look at the costs and benefits of the big picture. Universal school meals provide significant benefits to the school community as a whole – most notably, reductions in food insecurity and improvements in student diet quality. I believe these benefits are far greater than the marginal cost of providing free meals to students who would otherwise pay.

The fall of 2022 is also much too early to revert back to the three-tiered system because school food programs continue to face significant challenges. Supply chain disruptions have made it harder to buy some kinds of food, including chicken and whole grain products. In addition, many schools are having trouble hiring the staff they need to prepare and serve the meals, and inflation is increasing food costs.

What do you see happening in the future? Ideally, the federal government will reconsider this issue and support universal school meals.

If that does not happen, advocates, policymakers and researchers will be watching what happens in California and Maine. We will be able to compare what happens in these states versus those that do not continue to provide all students with free meals. My hope is that this information will inform future decisions about implementing universal school meals for all students nationally. ●

‘WE ARE ABLE TO TELL OUR HISTORY’: COLONIAL WILLIAMSBURG TO EXAMINE THREE BURIED AT HISTORIC FIRST BAPTIST CHURCH

By Molly Feser

WILLIAMSBURG — Colonial Williamsburg (CW) will examine three of those buried at the Historic First Baptist Church’s Nassau Street site.

CW and the First Baptist Church’s Let Freedom Ring Foundation announced new information at the Williamsburg Library on Saturday, March 12 regarding excavations and research of the first permanent structure of the Historic First Baptist Church.

Connie Harshaw, president of the Let Freedom Ring Foundation, said permission from the descendant community was needed to proceed with examining remains of three individuals buried at the site to help determine the race, age and gender of those buried.

Among the audience at the library and via Zoom were members of the descendant community, who unanimously voted for the foundation to proceed with uncovering and examining three individuals buried.

CW first announced the discovery of the foundation of the church’s original site on Nassau and Francis streets in the Historic Area back in October.

During the excavation process, archaeologists have located 33 human burials on the grounds, though it is certain that there are more, CW’s Director of Archeology Jack Gary said.

Archeologists have since uncovered brand new information about the site.

A wine bottle turned upside down was found buried at what was presumably the foot of a burial.

“It’s the only grave so far that we have found that has been marked in any way,” Gary said. “It calls up

questions in our mind of whether this is somebody important, as well as the symbolism of the bottle.”

Gary noted that this burial will likely be a candidate for one of the three burials that will be examined as it appears to have some significance.

During Saturday’s meeting, Gary also revealed that what was previously thought to be a 16 x 20-foot building is actually 32 x 16 feet.

“This is a great piece of information that is allowing us now to start to envision what this structure is going to be like,” Gary said.

Ron Hurst, vice president for museums, preservation, and historic resources, said that archeological evidence shows information that helps the team determine what the building looked like and what was inside, such as where the doors, windows and pulpit were located.

While it was previously believed that white landowner Jesse Cole, who owned the property at the time, had given the congregation the building, Hurst revealed that it now appears that Cole gave the congregation a piece of land and the congregation built their own meeting house.

“This is an important piece of information,” Hurst said. “It speaks to the strength of the congregation.”

Also revealed during the meeting was the discovery of a list of names pulled from the first reel of microfilm for the First Baptist Church at the John D. Rockefeller Jr. Library entitled “Baptismal, Memberships and Death: 1865.”

The list, which is described as a record of the First Baptist Church members, was discovered to have close to 1,650 names.

“It was virtually a list of of the ‘who’s who’ in the Black community here in Williamsburg,” Harshaw said.

The list was transcribed by CW archeologists Meredith Poole, Hannah James and Crystal Castleberry and includes baptisms and membership rates ranging from 1865 through 1885, and death rates ranging from 1875 through 1915.

“Seeing all those names really makes these people so much more real,” Poole said.

While discussing the process of examining the remains at the First Baptist Church, Gary said that they chose to

start with three as they believe it will give them some baseline answers before they commit to a much larger project.

“Some of those questions we need to answer include: what is the preservation of the remains? Are the skeletal remains even still preserved? Can we confirm that these were members of the congregation and of African descent? When were they interred in the ground?” Gary said. “Three is the number that’s been proposed and we feel that would give us a sample that would allow us to make decisions going forward.”

Dr. Raquel Fleskes, anthropologist at the University of Connecticut, said that examining three individuals is also important for assessing DNA preservation, as DNA does not equally preserve overtime.

“By doing these three, we’ll be able to see if it is possible to move forward with the rest of the individuals,” she said. “In addition, different parts of the cemetery can preserve differently. It’s really important just to assess what these individuals look like and what their preservation is so we can make sure that the DNA is done as sensitively as possible.”

Dr. Michael Blakey, director of William & Mary’s Institute for Historical Biology, said it will take “less than a year” to confirm race, gender and age of the three individuals.

The descendants will have access to the process.

“We will make sure that the work is done in a way that it is secure and that it is not visible to those who are not part of the descendent community,” Gary said.

Following a unanimous vote from the descendants, Gary said that the next steps, beginning Monday, will be to apply for permits and write a research design.

There will then be another meeting in several months to update the community with more details.

“I am so emotionally full right now,” Harshaw told WYDaily. “This has been a long time coming. Two years isn’t a long time, but it is when the younger descendants are in their upper 80’s or 90’s. It seems like every day matters, and to get their support and vote to proceed with this so that we can confirm who the ancestors are is just amazing.”

“Coming here today was very hard because we are talking about sacred grounds. We’re talking about our

ancestors,” Colette Collier Roots, a descendant from Williamsburg, said. “Anybody that was from Williamsburg that was born and raised here came from First Baptist Church. So in a way, this is like an Ellis Island to us. We want to make sure that the graves and our lost ones are being respected.”

“Now when African Americans come to Williamsburg, we are able to tell our history,” she added. ●

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CAR THEFTS IN CT DECLINED IN 2021, ACCORDING TO PRELIMINARY DATA

By Kelan Lyons

As lawmakers debate how to respond to an uptick in motor vehicle thefts, preliminary figures discussed Thursday suggest there were fewer cars stolen in 2021 than the previous year.

“We’re not necessarily experiencing a continued, substantial growth in auto thefts from last year,” Ken Barone, the associate director at the Institute for Municipal and Regional Planning at the University of Connecticut, told members of the Juvenile Justice Policy and Oversight Committee. “I think if the COVID-19 pandemic continues to remain under control, it’s likely that motor vehicle thefts will continue to decline through 2022.”

The findings support the argument that car thefts increased in 2020 because of societal disruptions caused by the pandemic. As COVID-19 ravaged across Connecticut and the rest of the U.S., it shut down the courts, closed schools and affected policing practices, leading to increases in car thefts in the state and across the nation.

The numbers discussed Thursday are projections, Barone stressed. Last year’s crime stats won’t be finalized until later this year, but preliminary figures and

projections of data not yet collected suggest there was between a 4% and 10% decrease in the number of car thefts in 2021 compared to 2020.

Barone posited that reductions could be due to the state reopening as COVID-19 numbers stay low, cooperative efforts among local police departments and an increased awareness that people should be locking their cars and not leaving key fobs inside, making them easy targets for theft.

Regardless of what the final figures end up showing, Barone is confident that the data will show a decrease from the bump in car thefts in 2020.

Barone made a similar presentation to the committee last year. One of the key findings in his research involved where those thefts were taking place. Motor vehicle thefts have declined in Connecticut's major cities, more likely to be represented by Democrats, and have increased in surrounding suburban communities, which Republicans are more likely to represent.

Projections for 2021 suggest that more than half of towns with municipal police departments likely saw a decrease in auto thefts compared to 2020.

Barone reiterated that there were significantly fewer car thefts in 2021 compared to the peak in 1991, when there were 26,254 such crimes. In 2019, there were only 5,964.

"We're nowhere near where we were 20 or 30 years ago, with this crime," said Barone.

Barone said police rarely make an arrest after a car is stolen. The statewide clearance rate in these cases in 2020 was only 7.3%, Barone said, "meaning 93% of all auto thefts went unsolved in 2020."

These are particularly challenging crimes to solve, Barone said, and the low clearance rate isn't much different from the historic rate for these crimes, which hovers around 12%.

"The historically low clearance rate is an indication that increased penalties for these offenses is likely going to have little to no impact on the overall offense rate," Barone said. "We need to be able to make arrests of motorists and solve these crimes in order for penalties to potentially act as a deterrent for these crimes."

Also of note: For the past 15 years, children — meaning juveniles, the group publicly blamed for the car theft

increase last year — have made up around a third of those arrested for car thefts, he said.

"Now, again, it's still a fairly small number, you're talking about arrest data for less than 10% of all offenses. So make of that which you will," said Barone.

A two-time victim of car theft, Rep. Pat Callahan, R-New Fairfield, stressed the importance of getting to the root causes of why people steal cars.

"Even though schools were closed, people should still know right from wrong. And just the fact that a car is left open doesn't give anyone carte blanche to open it and see if they can start it and steal everything in it," Callahan said. "It's not key fobs that are causing cars to be stolen. It's people that are out there doing it, and why are they doing it?"

Shutting down boys and girls clubs, after-school programs, and schools — entire communities, really — has profoundly affected life for kids and adults during the pandemic, said Rep. Anthony Nolan, D-New London.

"You saying everybody knows right from wrong, that's right," Nolan told Callahan, "but there's a lot of people in our community are going through things that some of us don't understand." ●

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FIRST BAPTIST CHURCH DESCENDANTS OPT TO OPEN 3 GRAVES TO FIND OUT MORE ABOUT THOSE BURIED

By Em Holter and Virginia Gazette

WILLIAMSBURG—The Colonial Williamsburg Foundation will begin the excavation and examination of three bodies buried at the historic First Baptist Church site following a unanimous vote by the church's descendants.

The decision came following a community meeting in which the foundation's archaeology team, First Baptist's Let Freedom Ring Foundation, key historians, anthropologists and the descendants sat down to discuss their options.

To continue with the excavation, the foundation needed permission from the descendant community, according to Connie Harshaw, the foundation's president.

"This is quickly becoming an example to the nation that this is how things should be done," Harshaw said at the meeting, held Saturday at the Williamsburg Regional Library.

"You can't tell someone else's story. We have to let them speak. It has to come from their voice."

With the descendants' approval, the foundation hopes to further understand the race, age and gender of those buried. The foundation's archaeology team has found 33 human burials on the grounds, said Jack Gary, the foundation's director of archaeology.

The archaeology team, under the guidance of First Baptist Church, first began digging at the Nassau Street site in September 2020.

Since then, the team has made several discoveries including the original foundation of the 1818 church structure as well as the later 1856 structure.

Additionally, the team has uncovered several artifacts revealing the lives these people might have lived. In February 2021, the team uncovered bone fragments, which led them to the burial site.

During the meeting, Gary unveiled the foundation's most recent discovery: an up-turned wine bottle.

According to Gary, the bottle makes it the only grave so far that has led to questions regarding its cultural significance.

As a result of the discovery, Gary said the grave will likely be a contender for one of the three to be exhumed.

The decision to exhume and examine three of the 33 discovered bodies will help the foundation answer some of the more baseline questions before they decide to continue further, Gary said. These questions include the state of the bodies, how well they were preserved, whether they were of African descent or members of the congregation and when they were buried.

"We wanted to approach this in a way to get some baseline answers," Gary said. "We feel like we can get some of those answers with a smaller sample."

Examining three of the bodies will help with DNA and genetic testing, since not all DNA is preserved equally, said University of Connecticut anthropologist Raquel Fleskes.

"Different parts of the cemetery can preserve differently," Fleskes said. "It's really important just to assess what these individuals look like and what their preservation is so we can make sure that the DNA is done as sensitively as possible."

The 1818 structure is now thought to have been a 32x16-foot building instead of the previously 16x20-foot hypothesis, Gary said. The recent discovery will further the team's understanding of the structure in order to recreate it.

Recent archival evidence also suggests that Jesse Cole, the white landowner previously thought to have given the congregation the building, gave the congregation the land and they subsequently built the original church.

Additionally, historians discovered a list of names of congregation members found at the John D. Rockefeller Jr. Library titled, "Baptismal, Memberships and Death: 1865." The list includes nearly 1,650 names. The discovery has helped further the church's understanding of its descendants and plays a crucial role in its history.

Following Saturday's decision, Gary said next steps moving forward are to gain the proper permits and begin the research design. From there, excavations will begin. The process of determining the age, race and gender of the bodies will take "less than a year," according to Michael Blakey, director of William & Mary's Institute for Historical Biology.

“This is our shared history and that’s an important fact that people need to always understand,” Harshaw said. “It’s not their history or our history. It is our shared history. We were all in this space at the same time doing different things and we have different perspectives. But we all own it.” ●

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YOUNG PEOPLE NEED US TO SEE THEM AS THEY ARE, AND ADULTS ARE OFF THE MARK, A STUDY SAY

By Madeline Holcombe

There is more we can do to make our kids feel seen, accepted and secure – and it starts with adding more terms for gender identity and sexual orientation to the official forms we give them, according to a new study.

Researchers in Minnesota analyzed data from students across the state in grades eight, nine and 11, finding that a significant portion of the youth population identified with terms including lesbian, gay, bisexual, queer, pansexual, transgender, genderqueer, genderfluid or nonbinary.

Many of the identities the students in the study use are often absent from forms and surveys given to them, which is especially concerning given the high rates of depression and bias-based bullying many students, particularly those who identified as pansexual, nonbinary or transmasculine.

A step as simple as expanding identity options could help, according to the study, published Monday in the American Academy of Pediatrics.

“When these words are on forms and surveys, young people are able to see that adults in systems like schools and healthcare settings see the importance of including them instead of perpetuating erasure that

doesn’t allow for nuanced recommendations or policies,” said study author Nic Rider, assistant professor and coordinator of the Transgender Health Services program at the University of Minnesota Medical School Institute for Sexual and Gender Health.

The study has limitations in that it looks at data from one state and offers only English language identities from a Western perspective, Rider said.

But this statewide look at identity is a huge step forward, said Ryan Watson, associate professor of human development and family sciences at the University of Connecticut.

“This study is a much needed advance in our understanding of the growing diversity of sexual and gender identities,” Watson, who was not involved in the study, said via email. “The ideas that these terms represent are not new; that is, the idea that someone could be attracted to multiple genders is not new within the past decade. However, we finally have terminology that can represent these complex realities.”

What Adults Can Do

The world is run by adults, and the study showed that they can do more to make the institutions meant to serve young people more inclusive.

“These results are a call to adults to educate themselves on the terms and language youth use to describe their identities,” said lead study author Amy Gower, research associate of general pediatrics and adolescent health in the department of pediatrics, University of Minnesota Medical School.

“Everyone can do some research if they hear someone use an identity they are not familiar with. We can all work to make spaces inclusive and free from bullying and discrimination so LGBTQ+ youth can thrive.”

The larger public’s understanding of sexual and gender identity has long been limited to straight, lesbian, gay, bisexual and, less often, transgender, Watson said. Now, it’s time for researchers and stakeholders to understand the wider expanse of identity.

“Young people – in particular – are understanding that gender and sexuality is complex,” Watson said. “Unfortunately, at the same time, state governments are limiting the rights and expressions of these identities. At a time in which youth are finally finding

words to describe who they really are, politicians are limiting the rights of youth and their parents who just want to be happy and healthy.”

Other research in the field has found that while young people report that bullying, harassment and microaggressions are common in schools, they often go unaddressed by staff and administration.

To have a better experience with schools, doctors and other adults of authority in their lives, young people need to feel protected by them, and that can start with curiosity.

“When LGBTQ+ young people share about their experiences or their identities, and you don’t know the terms, take this as an opportunity to have an open conversation from a place of curiosity and compassion,” Gower said.

“Take the time and energy to do some research to self-educate. Then take the information that you’ve learned to be action-oriented to make change in institutions so that LGBTQ+ young people are treated with respect and dignity,” Rider agreed. ●

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ENTERING A THIRD PANDEMIC YEAR, JEWS SEE REASONS TO HOPE — AND STAY CAUTIOUS

By Rudy Malcom

Julia Métraux, now 24, first started having severe fatigue and chronic pain about six years ago — symptoms that led to her eventual diagnosis with vasculitis, which involves inflammation of the blood vessels, in January 2018.

She was hospitalized for a week and then bedridden for six months. Her medical needs made it necessary for her to drop out of college at McGill University. During this period, she said, many people in her life simply stopped checking in on her.

Now, as we enter the third year of the COVID-19 pandemic and society tries to return to normal, Métraux is feeling left behind once more.

Rates of infection are falling, yet contracting even a mild case of the virus, said Métraux, who is fully vaccinated, could worsen her condition by wreaking havoc on her vascular system. And as institutions around her reduce or eliminate COVID-19 precautions, her concerns are increasing. For instance, the University of California, Berkeley, where she is pursuing a master’s degree in journalism, recently lifted its mask mandate.

“It’s really scary to me — almost traumatic — thinking that I could get sick again,” Métraux said.

As Jews from all walks of life confront a third year of life with the virus and its psychological, social, and economic effects, we asked a selection to share their insights. Some, like Métraux, focused on the need for society to continue caring for those most vulnerable to COVID-19. Others reflected on how the pandemic has prompted them to rethink what it means to live a full and Jewish life.

Altogether, they painted a picture of a Jewish community searching for joy and meaning after two years of profoundly disrupted personal and communal existence, as the U.S. hurtles toward a milestone of 1 million deaths from COVID-19. (The official global toll eclipsed 6 million earlier this month.)

“I don’t think we’ve fully processed the losses that we’ve sustained,” said Rabbi Joseph Ozarowski, author of “To Walk in God’s Ways: Jewish Pastoral Perspectives on Illness and Bereavement” and president of Neshama: Association of Jewish Chaplains.

Yet Susan Einbinder, a Judaic studies professor at the University of Connecticut in Storrs, is trying to be optimistic. During waves of bubonic plague, she said, early modern Jewish communities kept praying, writing, building, getting married and having kids.

“The lesson from the past may be less about ‘Here comes the pandemic, and now what do we do?’ and more about ‘It’s here to stay, and what do we do?’” she said. “And where do we find the resilience, humility and compassion to live in a way we aspire to live as Jews and as human beings?”

Find Meaning In Trauma

Whenever something awful happens, April Baskin, formerly the Union for Reform Judaism's czar for racial diversity, equity and inclusion work, says to herself, "I wonder what wonderful things will come of this."

For Baskin, one blessing of an otherwise cataclysmic pandemic is that it helped bring to life a cherished vision.

She first founded the social justice organization Joyous Justice in 2019, shortly before she moved from the U.S. to Senegal, planning to travel back and forth between the two countries. But progress was slow.

In March 2020, days before her flight from Senegal, she learned that flights were being grounded due to concerns over COVID-19. Being forced to stay in one place, she said, brought her a new kind of focus. "God was indirectly saying, 'Stop being afraid, believe in the beauty of your dreams and go for it — it's kind of your only option,'" she said.

She started a podcast with Tracie Guy-Decker, then deputy director of the Jewish Museum of Maryland, which the two use to unpack issues of race and racism. She coached clients on antiracist work. Requests for her services skyrocketed after George Floyd's murder in Minneapolis triggered a nationwide reckoning with race.

For Baskin, who is Black and Cherokee, it reinforced the importance of the work the pandemic had prompted her to zero in on. "If we choose for it to be," she said, "all shit can be fuel or fertilizer."

Guy-Decker, who is white, first got involved with antiracist work during the 2015 Baltimore protests that followed the death of Freddie Gray, a Black man, from a spinal cord injury sustained while in police custody. Five years later, she knew she wanted to do more. And so she quit her museum job in October 2020 to join Baskin full-time.

A past version of herself, she said, would have found the idea of leaving a stable, brick-and-mortar job to help a friend with a startup completely absurd — especially with her husband on a Navy assignment in Bahrain, and an 8-year-old daughter at home. But the events of 2020 had given her a fresh perspective, and "it didn't seem so absurd anymore," she said. "It actually seemed like the most lucid thing I could do."

She makes less money now, Guy-Decker said, but she can still make ends meet. She always thought she needed a traditional job to support her family, but she now recognizes that some of her limits were self-imposed.

For Guy-Decker, like Baskin, the stress of the pandemic proved clarifying; she now works toward making spaces more inclusive toward Jews of Color, work she sees as related to the Talmudic expression kol Yisra'el arevim ze baze, roughly translated as "all Jews are responsible for each other." It's a message the pandemic has made her take more seriously than ever.

"We all focus on actual dollars and cents," she said, "but there are other currencies we trade in — including time, happiness and meaning."

Learn To See The Value In Rest

When the pandemic struck, many Jewish (and non-Jewish) eateries suffered — but not Marisa Baggett's Zayde's NYC Deli in Memphis, Tenn. The kosher catering business thrived so much that around Passover 2021, Baggett expanded it, opening a restaurant.

It was exciting but overwhelming, and it took a serious illness for Baggett to realize her pace of work wasn't sustainable — or fulfilling. She closed her restaurant in July 2021 to focus on her recovery, and is now establishing herself as a painter who tells stories from Torah and Talmud in a contemporary light.

Two years into the stresses of the pandemic, and often still fatigued since her illness, Baggett is happy with a slower pace of life. "The old me would've said, 'In five years, I plan to blah blah,' but for now, I'm enjoying the process and looking forward to seeing what happens," she said. "When I look back at the idea of constantly being productive, I'm surprised I didn't burn out sooner."

Focusing on being alive, rather than pursuing achievement, is "kind of the essence of Torah," she said.

Baggett connected her new lifestyle to the practice of shmita — a Biblically mandated sabbatical that occurs every seven years and begins on Rosh Hashanah. In the Torah, it is a time to forgive debts and let the land lie fallow but can, in broader terms, be viewed as a time of rest and renewal. (The world is currently in a shmita year.)

“I don’t think we’ve ever needed shmita as much as we do right now,” said Betsy Stone, a psychologist and adjunct lecturer at Hebrew Union College. “In the same way that muscles need to be stressed and rest to grow, people need to rest to be able to grow.”

“We’re not in the suffering Olympics,” Stone says. “I think, in a pandemic, everyone has something to complain about.”

“We’re not in the suffering Olympics,” Stone says. “I think, in a pandemic, everyone has something to complain about.” Courtesy of Betsy Stone

COVID-19 has required a “phenomenally high level of adaptation,” Stone said, yet there’s been “no rest and reset time.”

“Many of us say things like, ‘There are other people who have it worse than I do,’ ‘I’m not food-insecure,’ or ‘I have a roof over my head,’ but it just layers shame on top of trauma,” Stone said. “It’s not productive.”

In support groups she leads, Stone is seeing, for instance, extreme stress and fatigue among rabbis, cantors and other Jewish professionals who have faced increased need among their congregations and, in making decisions about communal precautions, become impromptu epidemiologists. “The level of burnout for some is almost paralyzing,” she said.

“We’re going to see mental health issues coming out of this pandemic for at least a decade, and if we’re smart, we’ll begin to address those issues before they explode all over us — not after,” Stone said.

Rabbi Hara Person, chief executive of the Central Conference of American Rabbis, noted that the past two years have “shaken loose” underlying issues like stress and burnout that existed long before the pandemic. The Reform rabbinical organization, she said, will continue to expand webinars, support groups, one-on-one counseling and other offerings to promote “rabbinic wellness.”

“It’s clear that rabbis need a tremendous amount of support, in both their personal and professional lives,” Person said. “The stronger rabbis are emotionally and spiritually, the stronger the communities they serve can be.”

Take Solace In Community

Rabbi Susan Grossman, one of the Conservative Movement’s first woman rabbis, is set to retire in June after 25 years of service at Beth Shalom Congregation, a Conservative shul in Columbia, Md.

She’ll also step down from an unusually long 30-year tenure on the Conservative Judaism Committee on Jewish Law and Standards, through which she has helped shape the movement’s policies regarding COVID-19.

Despite the tragedies of the pandemic, Grossman stressed that the last two years have also brought forth the possibility of transformation. She noted that the so-called “Greatest Generation” — the Americans who grew up during the Great Depression and fought in World War II — were “incredibly able to cope and also the most generous and considerate generation.”

We can find peace, she said, in avodah and chesed — service and acts of loving kindness, respectively — by showing empathy and compassion not just for fellow Jews but for all of our neighbors.

Part of that process: Learning to reinforce the strength of our communities, even and especially under difficult circumstances.

“Jews who feel like they’re part of a Jewish community feel less isolated and cope better than those who are not part of a Jewish community,” said Eva Fogelman, a psychologist in private practice in New York.

Fogelman says that lesson will be particularly important to remember as we enter the third year of the pandemic. A group of experts recently warned that despite a broad nationwide relaxing of precautions, “the nation is not yet at the next normal.” The group, which includes former leaders of the CDC, cautioned that the virus is not yet at low enough levels to be considered “endemic,” and that more research into long COVID is needed.

Additionally, the possibility of future surges and variants remains. While nearly two-thirds of American adults are fully vaccinated, only 41% of children ages 5 to 17 are fully vaccinated. About 20 million children under 5, who are not yet eligible for vaccination, remain unprotected. And at least 7 million immunocompromised adults live in the U.S. “I really hope that people are willing to do

the bare minimum to protect each other,” said Métraux, who is immunocompromised.

Luckily, Fogelman said, “we have developed these creative, innovative ways of being apart yet being together.”

And as Einbinder, the UConn professor, pointed out, Jews have been overcoming obstacles to gathering for centuries. During a bout of plague in 1631, she said, Jews in Padua, Italy were told to pray from their windows and recite the vidui, the deathbed confession, from their doorways, with witnesses stationed in the street. “They didn’t have the Internet,” she said, drawing a connection to Jewish communities’ quick pivot to virtual offerings early in the COVID-19 pandemic, “but they used physical space in creative ways.” And the Jewish community remains creative. The Committee on Jewish Law and Standards has recently ruled that even after the public health threat of COVID-19 has ended, Jews can continue to use technology to make a minyan.

“There’s amazing resilience in Judaism,” Grossman said. “Whatever we’ve experienced, we don’t wallow in it. We learn how to make ourselves and the world a better place because of it.” ●

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WHAT WE MIGHT LEARN ABOUT EMBRYOS AND EVOLUTION FROM THE MOST COMPLETE HUMAN GENOME MAP YET

Newly sequenced, repetitive DNA plays a poorly understood yet foundational role in biology.

By Philip Kiefer

Last week, a team of researchers from more than two dozen research institutions announced a breakthrough in the 30-year effort to create a high-quality sequence

of the human genome. Although the first draft from the Human Genome Project was produced 20 years ago, nearly 8 percent of human DNA remained mysterious. Now, almost every part of the genome—all but the Y chromosome—has been decoded.

The newly mapped regions will give geneticists a window into stretches of the genome once described as “junk DNA.” Those regions are now understood to be fundamental to evolution, embryo growth, and the ways cells replicate and die.

“We’ve discovered things are a lot more diverse than we could have ever appreciated,” says Rachel O’Neill, a comparative biologist at the University of Connecticut, and coauthor on the sequence. The previous results were “like studying culture and music and language for the planet of Earth, and ignoring all of Africa.”

All of the outstanding sections remained mysterious because they’re composed of complex repeating sequences of DNA. A stretch of this genetic material could consist of a thousand-letter long sequence that repeated thousands of times. “They evolved by repetition,” Benedict Paten, a computational biologist at the University of California, Santa Cruz and co-author on the new sequence, told *Popular Science* in an interview earlier this year.

The extreme repetition made sequencing especially troublesome. Although genetic sequencing is much faster and cheaper than it was when the human genome was first reconstructed two decades ago, the most common technology now involves reading short fragments of the genome. Those fragments are assembled into the full picture by matching where the DNA sequences overlap. Piecing together repetitive sections is a bit like working on a jigsaw puzzle of a herd of zebras. The researchers had to develop tools for reading extremely long strands of DNA and code new algorithms to complete the final picture.

Historically, geneticists have described large stretches of the genome, including the newly sequenced regions, as “junk.” The vast majority of genetics research has focused on genes, the comparatively tiny stretches of DNA that are transcribed into RNA, and then translated into proteins, biology’s molecular workhorses. Junk DNA, which makes up 98 percent of the entire genome, doesn’t get translated into functional proteins. “If

you're only interested in that gene to protein pathway, everything else is junk," says O'Neill.

But over the past two decades, biologists have realized that the information contained in that "junk" is foundational to life as we know it—akin to learning that the shelves of a library are also covered in writing. "One man's junk is another man's treasure," says O'Neill. "I'm on the treasure end."

The human genome is assembled into 46 chromosomes, X-shaped "libraries" of knotted up DNA. The new sequence tackled three parts of those chromosomes: telomeres, the chromosomes' "end caps" that prevent DNA from wearing away; centromeres, dense knots of DNA in the middle of each chromosome that are critical for DNA replication; and DNA in the "arms" of chromosomes that are used to build protein factories called ribosomes.

Although this DNA doesn't produce proteins, it can make RNA. And while RNA is usually thought of as a pure information carrier, it can also be an active participant in the cell, latching on to other molecules and facilitating chemical reactions. (This is why some evolutionary biologists believe that the earliest organisms were made entirely of RNA, which would have contained both blueprint and tools for replication.)

In the centromeres, the RNA helps wrangle chromosomes as they replicate. Without the RNA, the entire genome falls apart. DNA in the "end cap" telomeres produce repetitive strings of RNA, which work to hold the ends together, and appear to play a role in the cellular aging process by patching together telomeres as they wear away.

DNA that guiding the construction of the ribosome, called rDNA, could have a similarly wide-reaching role. High-school biology textbooks generally describe ribosomes as dumb machines that read RNA and spitting proteins out. But, explains Maria Barna, a geneticist at Stanford University who was not involved in the new sequence, different ribosomes appear to have slightly different functions.

The key is again RNA. Four "species" of ribosomal RNA, coded by rDNA, are woven into the structure of the factory. Different stretches of rDNA produce slightly different subspecies. "What's emerging right now from the telomere-to-telomere data is that there's

tremendous rDNA diversity," she says. "Almost 25 percent of rDNA can be variable."

Barna says that not all of those variants will actually make it into ribosomes. But the diversity could play a role in everything from giving neurons ultra-precise ribosomes for building specialized proteins to allowing a tumor to grow. "We now have a first-glance catalog of the possibility of these variants that could be applied to normal cellular differentiation, as well as to disease states," says Barna.

The structure of the repeating sequences probably matters. The repetitions can evolve extremely quickly, jumping from chromosome to chromosome, or moving whole genes around. And even closely related organisms can have extremely divergent centromeres and telomeres—which suggests that they play a role in the emergence of new species. "It's a paradox," says O'Neill. "One of the most conserved functions that we share from beasts to humans is also one of the most divergent parts of the chromosome." The open question is how such foundational parts of all biology can also be so flexible. ●

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WHY PUTIN NAME-CHECKED J.K. ROWLING

Putin has used scaremongering about gender and sexual orientation to support his authoritarian agenda. Right-wing politicians around the world are following the same playbook.

By Amanda Taub

The Gay Panic Playbook

It would be easy to start this newsletter by commenting on how odd it was that Putin took time out of a televised address, in the midst of a war, to complain that the West was being too mean to J.K. Rowling. During a speech on Friday, he claimed that Western

elites had “canceled” the Harry Potter author because she “did not please fans of so-called gender freedoms.” (In fact, though Rowling’s views have led many to accuse her of transphobia, her career is just fine.)

But the truth is that I don’t think it was odd at all.

Putin’s claim was just the latest minor addition to a yearslong pattern of scaremongering politics. For the past decade, as he has carried out an authoritarian crackdown on Russians’ political rights and freedoms and concentrated power in his own hands, he has also repeatedly claimed that shadowy Western elites are trying to destroy traditional Russian family values, impose gay ideology on unsuspecting Russian children, or even subject children to sexual abuse.

Taken together, Putin’s message has been clear: Without him, Russia’s traditional values would be erased, and Russian children would be in danger. And so any sacrifices needed to maintain his power were worthwhile.

It worked. That campaign brought Putin crucial support as he dismantled Russia’s nascent democracy, with consequences now playing out in Ukraine, as well as within Russia itself.

But the reasons that kind of politics worked are worth examining more closely. Right-wing politicians around the world are now making similar arguments about gender to bolster their own popularity, even as they threaten democratic institutions in their own countries — including in the United States.

Hierarchy And Threat

To understand what might be going on here, I called Felicia Pratto, a social psychologist at the University of Connecticut who is one of the world’s foremost experts on intergroup relations and social dominance theory. Why, I asked her, would whipping up fears about sexual orientation and trans rights be so powerfully motivating that it could help convince people to sacrifice fundamental political rights?

Gender, she said, is a particularly potent kind of social hierarchy for politicians to tap into, because it affects nearly every aspect of people’s lives. And people can be invested in the stability and safety that hierarchy seems to offer, even if they aren’t at the top of it.

People who score high on psychological traits like social dominance orientation or authoritarianism feel attached to the stability of having reliable, stable hierarchies shape their lives.

“And when you have a declaration of rights for particular people that formerly were not accorded any respect, were not accorded any consideration, not accorded any empathy, that is, I think, deeply disconcerting,” Pratto told me.

It’s a feeling of threat, in other words, that goes far beyond just the loss of specific privileges.

“It evokes a kind of insecurity and instability that is frightening, and seems to go deeper than just the demands of feminism,” said Maria Brock, a postdoctoral researcher at Malmö University in Sweden, who studies anti-feminist and anti-L.G.B.T.Q. politics in the former Soviet bloc countries. “I think that people feel that after this, no truth remains. No stability. No foundation on which to build our kind of lives.” Harnessing that sense of disorientation and fear — and promising protection from it — can be a powerful political tool.

The Power Of Fear

Which brings us back to Putin, and his 10-year project of positioning himself as the protector of traditional gender roles in Russia.

“I don’t think — and people who studied Putin would agree — that he personally is heavily invested ideologically in ideas of gender and sexuality,” Brock said. “Whereas he is, I think, heavily invested in the project of Ukraine and the imperialist project.”

Rather, Putin has whipped up panics about gender and sexuality to demonize the West as a threat to the Russian way of life. In his telling, gay rights are a sign that the liberal West is in decline, but also that Russia needs a strong leader to protect its values.

“It has become a way of creating a divide between the liberal West, which is in decline, and Russia, which holds on to certain foundational positions, the only positions that can create a healthy society,” Brock said.

It’s a playbook that is not limited to Russia. Far-right populists around the world, including the Alternative for Germany party, the Law and Justice Party in Poland, the government of Jair Bolsonaro in Brazil and the Trump wing of the Republican Party in the U.S., have in recent

years embraced a similar strategy — subbing in their own particular political agendas for Putin’s demonization of the West and justification of authoritarian rule in Russia.

“It sort of creates an ideological alliance where gender and sexuality serves as a kind of glue, something that ties together various positions, behind which can be anything — a Christian agenda, a right-wing agenda,” Brock said. “In Germany, it’s very strongly tied to anti-migrant sentiments as well.”

In the U.S., the right wing of the Republican Party has increasingly sought to restrict the rights of transgender people, and to ban discussion of sexual orientation and identity in schools. A recent directive from the Texas governor, for instance, called for the state to investigate parents for child abuse if they provided gender-affirming medical treatments to their transgender children. And this week, the governor of Florida signed a bill banning discussion of certain sexuality-related topics in some primary grades.

The ties between Putin and far-right politicians in Europe and the U.S. have drawn new scrutiny since Russia invaded Ukraine. But the more important lesson here may be that this type of politics can distract attention from, and deflect responsibility for, the erosion of democracy.

That is obviously not to say that the presence of gender-scare politics means that the U.S. is on a path to Putin-style authoritarianism. But as America grapples with threats to its democracy, it is worth paying attention to not just the threats themselves, but also the kinds of claims that might be used to justify democratic erosion — or distract from it.

“Repressive sexism comes along with a resurgence of nationalism,” Pratto said. “They go hand in hand.” ●

TWO YEARS INTO THE PANDEMIC, ‘LITTLE TREATS’ ARE HELPING PEOPLE COPE WITH BIG EXISTENTIAL PROBLEMS.

By Julia Carmel

These days, whenever Jules Zucker has to run an errand, she throws a Reese’s Fast Break candy bar into her bag.

“We’re living in an era where security and ‘the big joys,’ if you will, are not guaranteed at all,” she said. “So all we have to fall back on are small comforts. It’s almost like a poor man’s hedonism.”

Ms. Zucker, a 26-year-old music coordinator living in Brooklyn, is just one of the many people who have been reimagining their lives to include more small pleasures after two years of canceled plans and lowered expectations throughout the coronavirus pandemic.

Tracy Llanera, 35, a philosophy professor at the University of Connecticut who studies nihilism, said that this treat-forward approach is one way people are reclaiming some of the freedom and stability that has been lost since early 2020.

“In the Covid pandemic, the thing that confirms that you’re suffering from existential nihilism is the lack of control,” Ms. Llanera said.

Amid these feelings of ongoing helplessness and grief, she said, people try to find consistent and reliable pleasures.

“Something about treat culture is that you’re always regularly going to get the treat,” she added. “You can depend on that, at least. There’s a guarantee that this small little ritual that you have every week will at least satiate something in you.”

And though the pandemic has altered people’s spending and saving habits, it has also encouraged people to redefine what a treat means for themselves more often and more creatively. Daily walks, for

example, have become a coping mechanism for many workers who no longer commute to the office. ●

including those that well-designed laws and policies can help address.

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PSYCHOLOGICAL TIPS AREN'T ENOUGH – POLICIES NEED TO ADDRESS STRUCTURAL INEQUITIES SO EVERYONE CAN FLOURISH

By Sarah S. Willen, Abigail Fisher Williamson, and Colleen Walsh

“Languishing” is the in-vogue term for today’s widely shared sense of pandemic malaise. According to some psychologists, you can stop languishing with simple steps: Savor the small stuff. Do five good deeds. Find activities that let you “flow.” Change how you think and what you do, and today’s languishing can become tomorrow’s flourishing.

But in an unjust world burdened by concurrent threats – war, a pandemic, the slow burn of climate change – does this argument ring true? Can simple activities like these really help us – all of us – flourish?

As social scientists who study flourishing and health, we have watched this psychological approach capture attention – and massive investment. Most of this work is rooted in positive psychology, a fast-growing field that sees individuals as largely responsible for their own flourishing. This new research, most of it survey-based, aims to revamp health and social policy, nationally and globally. It may well succeed at this — which has us concerned.

What could be wrong with a worldwide effort to help people flourish? Our concern is that a narrowly psychological approach overestimates individuals’ control over their own well-being, while underestimating the role of systemic inequities,

Here’s What People Told Us Affected Flourishing

As researchers who combine surveys with interviews, we know that thousands of data points can tell us many things – but not the stuff you learn from sitting down with people to talk, and listen.

In a new paper based on our collaborative research, we asked open-ended questions that surveys cannot answer. Not just, “Are you flourishing?,” but also: “Why, or why not? What helps you flourish? What gets in the way?”

We took our questions to public libraries and private boardrooms, coffee shops and kitchen tables throughout Greater Cleveland, Ohio, speaking with 170 people from different backgrounds: men and women, rich and poor, liberal and conservative, Black, white and Latino. Would their answers align, we wondered? Would they mesh with the experts’?

In one area, our interviewees’ perspectives line up with leading survey research: For over 70%, social connections had a powerful impact on whether they felt they were flourishing. But other topics people raised are ignored in most leading studies of flourishing.

For instance, a full 70% mentioned a stable income. Nearly as many flagged what public health professionals call the social determinants of health – reliable access to things like healthy food, transportation, education and a safe place to live. Some also cited discrimination, unequal treatment by the police, and other factors described as structural determinants of health.

Poverty, Inequity And Racism Get In The Way

For people who face inequity in their own lives, the links between adversity and flourishing were crystal clear.

Over half of interviewees described themselves as flourishing. But less than half of those earning \$30,000 or less annually were flourishing, compared to almost 90% of those with household incomes over \$100,000. More than two-thirds of white interviewees were flourishing versus less than half of Black interviewees. And nearly three-quarters of people with a bachelor’s

degree were flourishing, compared to just over half of those without.

A Latina woman we interviewed explained how poverty and other forms of structural vulnerability can impair flourishing: “If you have a home that’s infested with roaches, and mold, and lead, and water, then after you’ve worked so hard, you come home and just want to rest. And then you’re like oh, I don’t have food, and you didn’t want to cook ... then you’re eating unhealthy.”

She described how all these factors affect relationships too: “You’re not being a good mom because you’re angry. ... You cannot give 100% at home. ... You cannot give 100% to work, and you cannot give 100% to social life, and you have no friends because you’re so angry nobody wants to talk to you.”

Other interviewees told us how entrenched racism obstructs flourishing. One Black woman described racism’s grinding toll as “exhausting” and “such a heavy lift every day.” She compared it to a game of chess requiring “strategies all day long.” The constant vigilance and pressure she described fit what health researchers call weathering, or premature deterioration in health.

Under circumstances like these, would savoring the small things and doing good deeds really help?

To us, the answer is clear: Without the conditions that enable flourishing, psychological exercises will inevitably fall short. More importantly, they risk leaving behind those already facing adversity and injustice.

Collective Flourishing Requires Structural Change

The path to flourishing is no simple issue of mind over matter. It also depends on society’s systems and structures: Safe, affordable housing. A living wage. Solutions to systemic racism. Affordable, quality food and health care, including mental health care. As decades of public health research have shown, factors like these deeply affect health and well-being. We contend that flourishing research and policy need to consider these factors as well.

There’s nothing wrong with taking concrete steps to cultivate kindness, gratitude and connections with others. To the contrary, these are great ways to

improve mental health and strengthen social solidarity. But tips like these are probably most helpful to people whose lives and livelihoods are already secure. For those who struggle to meet their basic needs and those of their loved ones, it will take a lot more than simple activities to flourish. It will take structural change.

“Hostile environments thwart flourishing; congenial environments promote it,” as disability justice scholar Rosemary Garland-Thomson puts it. Unless political leaders are willing to tackle the root causes of social inequities, chances of flourishing inevitably will be unequal.

Positive psychologists tend to see flourishing as a psychological matter, separate from social and political conditions. Our interviewees tell a different story. Policy proposals that ignore real-world perspectives like theirs risk leading policymakers astray.

Ancient views of flourishing may help forge a path forward. For Aristotle, flourishing is not just about happiness or satisfaction – it involves achieving your potential. In his view, this responsibility lies in one’s own hands. But modern public health research shows that the ability to achieve your potential depends heavily on the circumstances in which you are born, grow and live.

In hostile environments – of exclusion and oppression, scarcity and risk, war and forcible displacement – no one can flourish. Unless all of us – citizens, policymakers and researchers alike – are prepared to confront the root causes of today’s hostile environments, efforts to promote flourishing will inevitably miss the mark. ●

COLUMN: PUERTO RICO'S FUTURE STATUS SHOULD NOT BE A PAWN IN POLITICAL GAMEPLAY

By Jean Guerrero

For Democrats who want to stop the right-wing assault on democracy, statehood for Puerto Rico can seem like a simple fix — one so enticing it may be easy to forget the will of the Puerto Rican people.

As a Boricua journalist who covers the insurrectionist right and comes from a pro-statehood family, I'd love to see Puerto Rico become a state. But Puerto Rico's fate is not for any person stateside to dictate.

Congress is considering two bills that aim to change Puerto Rico's status as a commonwealth, which has enabled decades of economic predation and devastation compounded by COVID and natural disasters. Recent island-wide blackouts are just the latest example of neglect. The bills are the Puerto Rico Statehood Admission Act and the Puerto Rico Self-Determination Act. Only the latter, co-sponsored by New York Reps. Nydia Velázquez and Alexandria Ocasio-Cortez, is truly democratic.

The self-determination bill would create a "status convention" consisting of delegates elected by Puerto Ricans. The delegates would debate and define the implications of various status options — such as statehood, independence and free association (where a sovereign Puerto Rico would retain U.S. economic assistance and transfer agreed-upon authorities to the U.S., such as military defense) — in consultation with a congressional negotiating commission. The bill would fund strong education efforts on this issue and Puerto Ricans would then vote on the options in a referendum. The results would be binding on Congress. Ocasio-Cortez says the bill is "status agnostic."

The statehood admission bill, on the other hand, aims to impose a status based on a nonbinding referendum from November 2020, when about 53% of Puerto Rican voters answered "yes" to the question: "Should Puerto

Rico be immediately admitted into the Union as a state?" That referendum, however, has gotten valid criticism for excluding other status options and for low voter turnout amid political disillusionment. Several previous referendums have been flawed and inconclusive.

Puerto Ricans continue to lack clarity on key questions about statehood. For example, would Spanish remain the language of courts and schools? What new taxes would they have to pay, and starting when? What would happen to Puerto Rico's national Olympic team? They have questions about what independence would look like. Would Puerto Ricans keep their U.S. citizenship, as some experts argue they could?

For those who see Puerto Rico as a pawn, such details are afterthoughts.

"Puerto Ricans should not be used as a political chip for cleaning up a mess they didn't create," Erica González, director of Power 4 Puerto Rico, a coalition of Puerto Ricans who support decolonization in Puerto Rico, told me. "It's not simply a matter of stitching a Caribbean country into the United States. People have to decolonize their attitudes."

A century ago, in *Balzac vs. Porto Rico*, the Supreme Court decided that Puerto Ricans — despite being U.S. citizens — lack the full and equal rights of citizens living in the 50 states and the District of Columbia. It was one of the Insular Cases that restricted the constitutional rights for residents of certain territories who were deemed "alien races." The constitutionality of those Insular Cases is being debated in Congress.

For generations, colonial elites profited from the archipelago at the expense of its people. For Puerto Ricans who've long been treated as second-class citizens, it's not hard to imagine the U.S. treating Puerto Rico as a second-class state as well. Only the self-determination bill ensures a voice for the islands' historically most marginalized communities such as Afro Puerto Ricans, whose concerns could be heard and addressed in the negotiations phase.

Members of Congress from California could play an important role in providing Puerto Ricans with a full say in their future, because they make up 20% of the House Committee on Natural Resources, which oversees Puerto Rico. More than 200,000 Puerto Ricans live in

California, and many have been reaching out to members of the committee to share their thoughts.

Nicole Hernandez, co-founder of the Los Angeles-based Puerto Ricans in Action, told me her primary concern is, “How do we make a more livable world for Puerto Ricans and center the most vulnerable?”

Ricardo Ramírez, an Orange County volunteer for Puerto Ricans in Action, said he’s hoping to persuade progressive politicians who support equality and inclusion to throw their weight behind self-determination.

The Puerto Rico Statehood Admission Act, by contrast, is championed by right-wing interests, such as ousted and disgraced former Puerto Rico Gov. Ricardo Rosselló; Resident Commissioner Jenniffer González-Colón, who was a member of Latinos for Trump; the Fonalledas, a wealthy family in Puerto Rico that donates to Republican candidates; and José Fuentes Agostini, a former Trump campaign advisor who heads the Puerto Rico Statehood Council.

“The lobbying power of the Puerto Rico statehood movement is incredible,” Charles Venator, an associate professor of political science at University of Connecticut and author of “Hostages of Empire,” told me. Yet Puerto Rico status bills, which have been introduced more than 100 times over the years, have floundered. The latest ones will also likely stall in the Senate since most Republicans fear Puerto Rico statehood would tip the balance of power in favor of Democrats.

Logo For Latino Life

Covering the issues, politics, culture and lifestyle of the Latino community in L.A., California and beyond.

Whether the self-determination option — supported by dozens of organizations, Democratic senators and even Republican Sens. Roger Wicker and Richard M. Burr — can win support in the Senate is unclear.

José Bernardo Márquez, a pro-statehood member of Puerto Rico’s House of Representatives, told me self-determination is “the most just and democratic option.” President Biden, he says, needs to deliver on his campaign promises for Puerto Ricans, including self-determination, because “very little of those promises

have been kept except for those related to the flow of emergency funds and parity in access to programs.”

The office of House Majority Leader Steny H. Hoyer (D-Md.) has been exploring a potential compromise between proponents of the two bills. But the consensus should be hammered out by Puerto Ricans, not House Democrats.

If Democrats truly believe in dignity and equality for Puerto Ricans, it’s time to support their right to self-determination. ●

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OPINION | THIS RELIGIOUS SEASON REMINDS US OF FAITH’S LIBERATING PROMISE

By E.J. Dionne Jr.

The proximity of Passover, Easter and Ramadan on this year’s calendar is a reminder that religion can set loose profoundly liberating human impulses. That all three are celebrated in our country speaks to the fruitful interaction between a tradition of immigration and a commitment to religious freedom.

Many who regard theism as a backward-looking social force might usefully consider how each of these holidays contains the seeds of rebellion. Thinking about religion’s progressive side is especially important in light of the single most striking development in the American religious landscape over the past two decades: the rise of the “nones,” those who decline to associate with any organized religion. A large share of Americans are moving away from faith altogether, because they associate it almost entirely with the political right or far right.

This season’s holidays, perhaps Passover most of all, suggest the problem with stereotyping faith in this way. As philosopher Michael Walzer argues, the Exodus story transformed deliverance from oppression into “a

central theme in western thought.” Its message is that the “door of hope” always remains open. The Exodus, the Rev. Martin Luther King Jr. declared, is “something of the story of every people struggling for freedom ... the first story of man’s explicit quest for freedom.”

Easter honors a savior whose ministry was rooted in the social ferment of a moment when the spiritual was necessarily political. “To the poor he proclaimed the good news of salvation,” the Catholic liturgy tells us, “to prisoners, freedom, and to those in sorrow, joy.” The biblical scholar Marcus Borg has argued that the title the Gospel writer Luke uses for Jesus, “Son of God,” was a challenge to the rule of Caesar Augustus, who took that designation for himself.

And for Muslims, Ramadan commemorates the season when God revealed the first verses of the Koran to Mohammed. Their prophet is widely quoted as declaring: “When the month of Ramadan starts, the gates of heaven are opened and the gates of hell are closed and the devils are chained.” That, too, is a liberating idea.

In the United States, the idea that faith calls society to account for its injustices is especially powerful in the Black Christian church whose preaching highlights the Exodus, Jesus’ saving mission toward the marginalized, and the Hebrew Bible’s prophets calling down judgment against oppressors. All resonate with the experiences of its congregants and their forebears.

None of this means that religion is always progressive. Many believers revere tradition and seek to protect it from radical revision. Most try to balance tradition against progress and faith’s personal demands with its social implications.

But the balancing act has become harder and harder for those “nones.” More than a fifth of Americans overall and approaching two-fifths of those under 30 declare themselves unattached to religious organizations. Fewer than half of U.S. adults belong to a religious congregation. This trend is well documented in the 2020 book “Secular Surge” by David E. Campbell, Geoffrey C. Layman and John C. Green.

They and other scholars, including Michael Hout and Claude S. Fischer, offer good evidence that much of the backlash against religion is a pushback against the political right, particularly on issues related to LGBTQ

rights and women’s empowerment. The rise of White Christian nationalism has deepened the backlash.

Their work might serve as a warning to those who preach a tight link between religion and conservatism — and, especially, Trumpism. While claiming to be spreading the Christian Gospel, they’re doing a bang-up job at pushing people away.

Yet backlash is complicated, as Ruth Braunstein, a professor at the University of Connecticut, suggested in an important journal article last year in *Sociology of Religion*. She pointed to how radicalization among the religious right is draining many conservative evangelical churches of their moderates, prompting further radicalization.

Meanwhile, a large share of those drifting from the old religious institutions are still declining to identify as atheists or agnostic. Sociologists have long noted the growth of those who self-identify as “spiritual but not religious,” but Braunstein sees this group as doing more than embracing vague feelings of transcendence. They, like members of more progressive congregations and traditions, are making a public statement “that not all religious people are conservative, and not all liberals are secularist.”

Braunstein also notes that some religious liberals have reacted against the rise of the religious right by “delinking religion from all politics.” In a polarized time, it’s an understandable response. Believers may be seeking interludes of peace in their congregations while rejecting the urge to put today’s political battles over the imperatives of faith.

But at moments of crisis, people of faith cannot avoid taking a stand. This was true during the civil rights struggle of the 1960s, and it is true now in light of the crisis confronting our multiracial and multireligious democracy. Making clear that no party, ideology or faith tradition has a monopoly on God’s blessings would be a good starting point. ●

IMMIGRANT LABOR COULD IMPROVE QUALITY OF CARE FOR NURSING HOME RESIDENTS: PANEL

By Kathleen Steele Gaivin

Increasing the availability of immigrant workers, in addition to solving an industry-wide staffing shortage, could improve the quality of care in nursing homes, Delia Furtado, Ph.D., an associate professor of economics at the University of Connecticut, said Tuesday during a presentation sponsored by the Center on Children and Families at the Brookings Institution.

Furtado cited the recent report from the National Academies of Sciences, Engineering and Medicine that described skilled nursing facility care as “ineffective, inefficient, inequitable, fragmented and unsustainable.” During the pandemic, many, if not most, nursing homes experienced staffing shortages, she said.

Furtado said that she and Francesc Ortega, Ph.D., an economics professor at Queens College, City University of New York, performed an analysis that found that increasing immigration quotas would help the long-term care industry with staffing deficits.

“Where there is more abundant immigrant labor, nursing homes are slightly better able to provide quality care,” she said.

“[A] decrease in the cost of providing quality care only translates into higher quality care in competitive environments,” Furtado and Ortega wrote. “This finding is important not only for thinking about immigration policy but also for evaluating the likely impacts of any policy decreasing the costs of care for nursing homes (for example, increasing Medicaid reimbursement rates).”

A bigger immigrant labor pool would enable nursing homes to fill positions without increasing wages, Furtado said.

“With better staffing, nursing homes can provide better care” she added. “They can notice things. They can fix things when things are not going well.”

Specifically, Furtado said, a well-staffed facility might have fewer serious falls, fewer pressure wounds and fewer urinary tract infections, among other issues.

And immigrant labor could become increasingly important, Furtado said, as the large population of baby boomers ages.

The J-1 visa exchange program could assist providers looking to hire immigrant labor, according to LeadingAge. The program, which is conducted through designated U.S. sponsors, allows foreigners to participate in approved teaching, research and training programs for a set period of time. ●

A HACKED BLU-RAY PLAYER AND A DROP OF BLOOD CREATE HIGH-RES IMAGES

Blood cells focus light in low-cost computational imaging system that is on par with a microscope

By Neil Savage

By hacking a Blu-ray drive and smearing blood on a sensor, researchers have created an inexpensive imaging system for studying microscopic samples, including measuring bacterial growth and doing urinalysis (ACS Sens. 2022, DOI: 10.1021/acssensors.1c02704).

Getting sharp images of a whole slide using a conventional optical microscope can require manually refocusing the microscope repeatedly over different parts of the sample—a time-consuming process. And scanners that can automatically image a whole sample at high resolution are expensive, costing \$50,000 to

\$300,000. So Guoan Zheng, who runs the Smart Imaging Lab at the University of Connecticut, and his colleagues were looking for a way to perform such imaging quickly and cheaply.

They turned to computational imaging, which overcomes the limits of an optical system using techniques such as collecting phase information from reflected light. A computer can then use that information to refocus a picture after it's been taken or construct a 3D image of a sample.

These red blood cells were imaged in 3D using phase information collected by the Blu-ray device. Each cell is about 8 μm across.

To make an inexpensive system, Zheng and his team decided to repurpose a Blu-ray disc player: The lasers inside provide a light source, and the slowly rotating disc drive allows images to be taken at multiple angles.

The researchers installed a sensor under the light source but then needed a way to scatter the light into a pattern the computer could process. Looking for a material that was cheap and available, Zheng hit upon the idea of pricking his finger and smearing his own blood on the sensor. The blood cells naturally spread out in a thin layer and are of the right size to scatter the incoming light in a random pattern, which the computer uses to reconstruct an image of the entire sample.

Their device has resolution comparable to an objective lens with 20 \times –46 \times magnification, over a theoretically unlimited area, and can capture 200–400 images in under 15 s. The group's computer takes about 10 min to process the data into usable images, but Zheng hopes he can reduce that to under 1 min by using a computer with a more powerful graphics processing chip.

The team used their device to see microscopic uric acid and calcium oxalate crystals in urine samples as well as blood cells and blood parasites in a blood sample, all of which are useful in diagnostics. They also imaged bacterial colonies in a dish without having to worry about manually refocusing.

Aydogan Ozcan, a bioengineer at the University of California, Los Angeles, says that the research was interesting, and "it would be even more interesting to perhaps switch to microparticles to create similar computational imaging systems, which could be more sterile, durable, and last longer."

Zheng says that engineering a surface with nanoscopic light-scattering features could yield similar results, but that would add to the cost of the system. The system wouldn't necessarily require human blood: his team also tried using fish blood purchased from a local market and found that worked as well. ●

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WARSAW GHETTO UPRISING: RESISTANCE, REVENGE OR REVOLT?

By Aaron Howard

The Warsaw Ghetto Uprising began on Erev Pesach, April 19, 1943. The Nazis intended to liquidate the Warsaw ghetto as a present for Adolf Hitler's birthday on April 20. The Jewish fighters held off the Nazis for nearly a month, almost as long as it took the Nazis to defeat the entire Polish army in 1939.

Was the uprising seen by the fighters, themselves, as an act of resistance, revenge or revolt?

"Seventy-nine years after the Warsaw Ghetto Uprising, it has become the defining symbol of Jewish resistance to Nazi oppression," said Avinoam Patt, who is the Doris and Simon Konover chair of Judaic Studies and director of the Center for Judaic Studies and Contemporary Jewish Life at the University of Connecticut. Patt is the author of "The Jewish Heroes of Warsaw: The Afterlife of the Revolt" (Wayne State University Press).

"One of the things I try to unpack in my book was how this event came to occupy a central place in the history of the Holocaust and of the Second World War," Patt told the JHV.

"The uprising was reported in real time. It broke out on April 19. By April 23, there was a Jewish Telegraphic Agency report that made the front page of the Jewish Daily Forward. To read the story that Jews were fighting back against the Nazis was incredible at that time."

Avinoam Patt will be in Houston to deliver two lectures on April 28. At noon in Rayzor 119 on the Rice University campus, Patt will speak on "Like Sheep to the Slaughter: The Holocaust, Israel and the Enduring Power of an Image." At 6 p.m., at Holocaust Museum Houston, Patt will speak about "The Jewish Heroes of Warsaw." Both events will be online and in person.

Patt Contends Revenge United The Warsaw Fighters.

"Although the fighters came from different strongly held ideological political movements, they'd seen their loved ones being killed. There were about 50,000 Jews still left in the ghetto, which originally imprisoned up to 10 times that many Jews. There were about 1,000 fighters who were armed."

The fighters did not believe that their armed resistance would result in a victory over the Nazi army. They were animated by the sense that their actions would transcend time and space. They also believed that by taking up arms they would "see German blood flowing in the street."

Information about the revolt emerged from a number of sources. Inside the ghetto, there were several sources, including information provided by inhabitants of the ghetto, themselves, during and after the uprising; notices provided by eyewitnesses from the Jewish underground and Jewish National Committee outside the ghetto; reports of the Polish underground sent to the Polish government-in-exile; reports of non-Jewish Polish eyewitnesses outside the ghetto; German accounts of the revolt, in particular, the report of Jurgen Stroop who wrote a book – a lengthy account of the operation from the German perspective; diaries and testimonies provided by surviving ghetto fighters written in hiding after the uprising; and diaries and testimonies of Jewish noncombatants who survived the revolt inside the ghetto collected after the war.

In his book, Patt writes, "From the perspective of World War II history, the Warsaw Ghetto uprising was understood as the last, desperate act of a doomed people ... that had little impact on the course of the war. From the perspective of Jewish history, however, the event came to be explained as the most significant event since the Bar Kochba Revolt of 135 C.E., celebrated as a revolution in Jewish history, as a counter proof to the myth that Jews did not fight back,

and generally linked to the struggle of the Jewish state after the war. Thus in Israel, the Warsaw Ghetto Uprising became understood as a turning point in Jewish national tradition ...

"When the news of the uprising first reached the outside world, it was interpreted as an event of mythological proportions, standing outside of history. The timing of the revolt coincided with a Jewish awareness of the mass destruction of European Jewry, anger at the apathy of the surrounding world, and intense feelings of powerlessness to stop the destruction and arouse the conscience of the so-called civilized world. This context shaped the ways in which news of the revolt would be interpreted at the time."

During the first year after the revolt, according to Patt, the Zionist movement in Palestine was not sure how to make use of the uprising. The Bundist movement was much more successful at first. In the first year, the name most associated with the revolt was Michal Klepfisz, a Jewish socialist who had expertise in chemical engineering. Klepfisz built, planted and taught the making of explosive devices, what today we would call IEDs.

By 1945, the Zionist movement in the Yishuv were doing a better job of telling the Zionist role in the uprising. The postwar Zionist interpretation was simple and compelling: There was no future for Jews in the Diaspora.

The Bund, on the other hand, said the revolt happened because the Jewish working class united, coming together to fight for freedom and democracy.

Of the core Jewish Fighting Forces leadership, some 40-50 members sneaked out of the ghetto through the sewers as the Nazis burned the ghetto, building by building. The fighters originally had no escape plan.

Patt argues in his book that interpretation of the uprising as a symbol of Jewish resistance was shaped by events prior to the war, not in response to the Holocaust.

"People tend to interpret events as they unfold through existing political frameworks," Patt said.

"The way the press covers events also functions as a way to disseminate different political ideologies. In the book, I compare the way the Daily Forward and Dvar, the flagship paper of the Labor Zionist movement and

the New York Times covered the story. Events are partially shaped by the way people digest their information.”

In the book’s acknowledgments, Patt credits Friday night dinners at his parents’ Houston home with instilling in him a lifelong love of history

“My parents are Yehuda and Nurit Patt. I grew up in Meyerland and we belonged to UOS. We had these Erev Shabbat dinners and discussions after dinner. Everyone in the family loved talking about history, although I was the only one who went on to get my Ph.D. in Jewish history. Growing up, I never imagined I could be a college professor teaching Jewish history.” ●

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A TINY YET VITAL ORGANISM MAY ADAPT TO CLIMATE CHANGE WITH ‘HIDDEN COSTS’

The copepod’s coping method amid rising temperatures and ocean acidity would have consequences for the broader food chain.

By Theresa Sullivan Barger

A recent study shows that the tiny copepod crustacean is the ocean’s equivalent of a canary in a coal mine. New research demonstrates that these “cows of the sea” may be able to evolve to adapt to climate change — but it could come at the cost of their resiliency, a recent Nature Communications study suggests. Most importantly, any changes in their health send ripples across the food chain.

How the Copepod Copes

When simulating future climate change conditions in a lab, namely higher temperatures and oceanic concentrations of carbon dioxide, scientists found that the zooplankton can adapt to warmer and more acidic

water. That’s because the individuals who couldn’t tolerate the higher temperatures and levels of acidification died out. After a few generations, the better-equipped survivors were able to reproduce at normal rates.

But this left them less able to survive other stressors, such as a shortage in the phytoplankton they eat. The copepods reproduce every 20 days, giving researchers the chance to observe how nearly two dozen generations adapted to climate change. At first their reproduction levels slipped a bit, but they were back on track after a few generations, says study co-author Melissa Pespeni, a biologist at the University of Vermont. But when the 21st generation was placed in cooler waters, their reproduction levels plummeted.

“They’re losing a lot. They’re spending their genetic currency, as you will, as they adapt at the expense of being able to tolerate something else that the environment throws at them next,” she says. “Yes, there’s adaptive capacity, but there are hidden costs.”

The noble copepods, along with all life on Earth, have faced a particularly challenging decade: The past eight years have been the warmest on record since record-keeping began in 1880, reports NASA’s Earth Observatory. Earth’s temperature in 2021 tied 2018 as the sixth-warmest year on record, according to an analysis from NASA and the National Oceanic and Atmospheric Administration (NOAA). If, after a hot year, the following year dropped in temperature, the copepod population could face negative consequences, says Reid Brennan, a lead co-author on the copepod study and a marine evolutionary biologist at Germany’s GEOMAR Helmholtz Centre for Ocean Research.

Supply Chain Issues

Copepods occupy an important spot at the base of the food chain: They eat algae and are consumed by fish, including salmon, tuna and cod. In addition to oceans, they also live in nearly every sea and freshwater habitat.

Since the climate change conditions in the lab replicated real-life settings, Pespeni says, losing their genetic flexibility means they’re more susceptible to population crashes. These would impact the entire food chain, she says. Larger creatures, like fish and lobsters, she says,

are able to move away from warmer waters, but tiny copepods (which run as long as 2 millimeters) can't.

Pespeni and her team studied an herbivorous species of copepods, a population that grows with algal blooms. The jellyfish and larger fish then eat them, linking the plants and their nutrients, essentially, to the fish. "So, if you drop out in the middle of this food web, then you're missing a vital connection between the base and the higher-level consumers," Brennan says. "If we have a reduction in zooplankton, then we have a reduction in fish; that has implications for the food we eat, for general ecosystem functioning in the oceans, for carbon fixation in the oceans and so on."

The scientists focused on a copepod species called *Acartia tonsa*, though fish also eat other copepod species, along with other types of zooplankton. Different species of copepods have varying tolerances for salinity levels, temperatures, and hypoxia, or a reduction in the ocean's oxygen levels, Brennan says. So there is hope that if some copepod species' populations plummet, others might be able to survive. Various zooplankton have different nutrient compositions, and fish do better or worse depending on the type of zooplankton they're eating, he says.

Another scientist involved in the study, Hans Dam, a biological oceanographer at the University of Connecticut, says he was surprised by the speed with which the species transformed. "They adapt very quickly and get to the point where they can't get any better, but they don't get back to where they were before being hit with those stressors," he says. "It means there's no free lunch with climate change. There's always a price to pay."

So, if we could somehow slow climate change and the warming waters and ocean acidification returned to normal parameters, he says, populations that have evolved genetically to adapt to climate change may not be able to do so again — just as those in the experiment failed to thrive when returned to cooler, less acidic water.

Species have historically evolved and adapted to changing conditions, but those changes have typically taken place more gradually than in the past several decades. Ultimately, the climate is warming so rapidly that nature can't keep up, Dam cautions. "This idea that nature takes care of things is true; it has happened in

the past. Things do adapt," he says. "The problem is the process has been over many, many millions of years: What took millions of years to happen is now happening in not even a century — nature cannot adapt that quickly." ●

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IOWA, NEW HAMPSHIRE... CONNECTICUT? DEMOCRATS PLAN TO SUBMIT BID TO JOIN PACK OF EARLY PRIMARIES IN 2024

By John Moritz

In a letter sent to national party officials on May 5, Connecticut Democratic Party Chairwoman Nancy DiNardo gave notice of the Constitution State's intent to become one of the first four states in the party's primary and caucus schedule during the 2024 presidential election cycle, and potentially in future elections.

The notice comes as the Democratic National Committee is considering what could be the biggest reshuffling of its nomination schedule in decades, following criticism that the first two states in the current order — Iowa and New Hampshire — are overwhelmingly white and do not reflect the increasing diversity of America or the party's voters.

"Those states don't stand out in any way other than the fact that they've always been first," DiNardo said. "They're not really representative of the country... I think it's good that they're good that they're looking at it again with eyes a bit more wide open about how this should be."

More than 34 percent of Connecticut residents identify as Black, Hispanic, Asian, mixed race or another minority, just slightly lower than the national average of

nearly 40 percent according to the most recent census estimates.

Connecticut also boasts one of the highest levels of educational attainment of any state, making it attractive for presidential candidates seeking to gain support based on policy bonafides. The state's close proximity to New York City also makes it a convenient destination for national news outlets, another potential plus.

One factor that could work against Connecticut is its strong Democratic leaning in federal elections, meaning the party is not likely to get as much of a boost as it would from candidates engaging with voters in a battleground state.

State Rep. Geraldo Reyes, D- Waterbury, the chair of the legislature's Black and Puerto Rican Caucus, said however that Connecticut is "perfectly primed" to be taken under consideration by the DNC based on its demographic changes over the last decade.

"The influx of people coming in here are Hispanic, African American and Asian, they're not caucasian," Reyes said. "We could be ahead of the curve and actually include a state that is closer to 50-50."

Party officials in Connecticut are not alone in trying to take advantage of the open bidding process. According to a tally by the Washington Post, officials in at least 17 other states submitted similar letters of intent to the DNC ahead of last Friday's deadline.

Nearby, officials in New York and New Jersey are reportedly planning their own bids that would likely compete with Connecticut's. In New Hampshire, the only other New England state to submit a bid according to the Post, Democrats are preparing to fight to keep their first-in-the-nation primary status that dates back more than a century.

Iowa and other states currently placed at the front of the nomination calendar, Nevada and South Carolina, are also submitting bids to keep their position or move up, according to the Post.

At stake for all those states — in addition to the clout of testing candidate's political fortunes — is the financial windfall associated with visits from high profile candidates and their trail of staff members, journalists and curious onlookers as they criss-cross the state.

"It's a lot of money," said Fairfield University Political Science Professor Gayle Alberda, who witnessed the Iowa caucuses first-hand while living in Des Moines. "It is a revenue generator, you are selling out hotels, you are having folks go to restaurants and eating out, you're more apt to host a debate... you're bringing in reporters from all over the nation and sometimes the world."

Alberda said that moving one of the early primaries to Connecticut would also give voters here a better chance of meeting one or more of the candidates and drawing attention to local issues. Those making an aggressive push in an early primary would likely try to visit as many of the state's 169 cities and towns as possible, she said.

"That more grassroots, pressing the flesh, face-to-face interaction is more common in those earlier states." Alberda said. "Bringing a candidate to a small town like an Enfield, it generates a lot of excitement and an increased chance of meeting the folks that one of them could become the next president."

Hosting an early primary or caucus is also seen as a way to potentially boost the prospects of home-state candidates for president, though Iowa and New Hampshire have not performed well in that regard.

In 2020, Connecticut was the last state in the nation to hold a presidential primary, doing so on Aug 11 after the original primary date in April was pushed back due to the pandemic. Changing the primary to an earlier date in February would require legislation approved by lawmakers and the governor.

For DiNardo, Connecticut's reputation as one national leaders on COVID-19 response, legalizing same-sex marriage and enacting gun control makes the state advantageous for Democrats hoping to draw attention to those issues on a national stage.

"We have been among the first throughout the country in a number of things," DiNardo said. "We've shown that we've been a leader in this country and I think besides our diversity, that's important too."

According to a report in Politico, Democratic party officials are hoping to come up with a list of states that are geographically balanced as well as diverse. That will make it more difficult for Connecticut to compete against larger and ethnically-diverse states of New York and New Jersey, especially if New Hampshire is not relegated to a later slot, said Ronald Schurin, a

professor of political science at the University of Connecticut, Storrs.

“I think it’s kind of a longshot,” Schurin said. “If it’s just us in the Northeast and New England, that might give us a bit of a leg up.”

The selection process now heads to the DNC’s Rules and Bylaws Committee which expected to hear pitches from state party officials in June, according to Politico, before recommending a list of early primaries and caucuses to the full DNC in July.

DiNardo said she will meet with party officials over the next month to develop a formal pitch. ●

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FIRST IMAGE OF BLACK HOLE AT CENTER OF MILKY WAY GALAXY REVEALED

Sagittarius A* is 4 million times as massive as the sun and some 26,000 light-years from Earth

By Aylin Woodward

At the heart of our galaxy, between 26,000 and 27,000 light-years from Earth, lies a black hole four million times as massive as the sun. For the first time, scientists have captured an image of this cosmic body at the Milky Way’s center—a region of space so dense that nothing, not even light, can break free of its gravitational pull.

The image, released Thursday during simultaneous news conferences hosted by various institutions in seven countries, reveals the black hole, named Sagittarius A*, as a dark center silhouetted against a bright orange-yellow ring. Black holes by their very nature are unseeable, but their boundaries cast a shadow against the bright backdrop of hot gas and dust that encircles them. That shadow is what’s visible to certain telescopes on Earth.

“I am in awe because that’s our supermassive black hole,” said University of Connecticut physicist Dr. Chiara Mingarelli, who wasn’t involved in producing the image. “It feels very personal to see it for the first time, to have that undeniable image of it.”

Observations from the Event Horizon Telescope, or EHT, helped scientists get the image, which was described in six studies published Thursday to accompany the image release. Operated by an international collaboration of more than 300 researchers at 80 institutions, the EHT consists of 11 ground-based radio telescopes scattered across the globe from Hawaii to Greenland that are linked into a single, Earth-sized array. That array can pick up radio waves given off by the gas and dust moving near a black hole’s event horizon—the theoretical boundary beyond which light and matter can’t escape.

As the Earth rotates, each telescope gives scientists a glimpse of the same target from different angles. Then, supercomputers in Europe and the U.S. mathematically combine data from those observations into a single image.

From its inception more than a decade ago, the EHT had two targets in mind: Sagittarius A* in the Milky Way’s center, and another supermassive black hole known as Messier 87, or M87, located at the center of a galaxy 55 million light-years away. Those were the only two black holes near enough and massive enough to be observed from Earth, said Feryal Özel, a University of Arizona astrophysicist who is part of the EHT collaboration and helped reveal the image at a press conference hosted by the National Science Foundation in Washington, D.C.

Submillimeter Array Telescopes located near the summit of Mauna Kea in Hawaii. Video: Harvard Smithsonian Center for Astrophysics

“Back as early as 2000, we had identified these two black holes as the ideal targets for an imaging experiment,” Dr. Özel said. “They are both big enough in the sky that a global array could resolve the features that we were interested in.”

The EHT revealed its image of M87—the first-ever image of a black hole—in April 2019. Both that image and the image revealed Thursday used data collected in 2017, when the EHT included only eight telescopes, Dr. Özel said.

Geraint Lewis, an astrophysics professor at the Sydney Institute of Astronomy who wasn't involved in the collaboration, said he wasn't surprised that the EHT captured the image of M87 before that of Sagittarius A*, even though the latter was originally the collaboration's primary target.

"It is quite active and so bright," Dr. Lewis said of M87, which is 6.5 billion times as massive as the sun. "Sagittarius A* is relatively quiescent, and so M87 made a better target."

M87 is 1,500 times bigger than Sagittarius A*; the latter's smaller size is one of the reasons EHT chose to image it second, Dr. Özel said.

The smaller mass of Sagittarius A* means gas in the black hole's vicinity takes less time to swirl around it than gas nearby the larger M87. "Things are changing around M87 on an order of days, but around Sagittarius A*, it's minutes to hours," Dr. Özel said.

Observing a target that changes so quickly made the image-generation process "extra challenging," Dr. Özel said, so the EHT researchers honed their methodology with M87 first.

Imaging Sagittarius A* was further complicated by the fact that the EHT needed to peer through an enormous amount of material in the Milky Way to glimpse the galaxy's center. That material scatters radio waves and makes the image more blurry. "It took a couple extra years to understand the effect of our galaxy on the image and really get it right," Dr. Özel said.

"When we look at M87, we're looking away from our galaxy."

Dr. Özel said EHT researchers hope to understand how the environment around these two black holes changes from year to year and between observations. While bad weather and the Covid-19 pandemic scuttled good data collection between 2019 and 2021, the collaboration has data from 2018 that its researchers are currently analyzing. Researchers can now compare how these two black holes of vastly different sizes grow, consume matter and affect objects around them.

The Sagittarius A* image marks only the second direct evidence of the existence of black holes. Before 2019,

scientists could only collect indirect evidence of a black hole by measuring the impact of its gravity on nearby objects, or detecting the gravitational waves emanated by it.

"Seeing is believing, and this moment of finally seeing something that was always just a fantasy or an idea or model, it's just such an amazing, captivating moment," said Heino Falcke, a radio astronomy professor at Radboud University Nijmegen in the Netherlands and a member of the EHT collaboration.

One of the collaboration's main goals now is to make beautiful movies showing the movement of hot gases swirling around these black holes, said Paul Tiede, a postdoctoral researcher at Harvard-Smithsonian Center for Astrophysics and EHT collaboration member.

There is a proposal in place to add 10 more telescopes to the EHT over the next decade, Dr. Tiede said. "We can use the additional information from these telescopes to make black hole cinema."

These additions would also help improve the quality of the collaboration's images of M87 and Sagittarius A*—the more telescopes observing the same object, the better the resulting image, Dr. Özel said.

But to catch a glimpse of other black holes that are either less massive or more distant than these two, "we're going to need to put some radio telescopes in orbits around the Earth," she said. Moving observations into space means researchers would be able to put larger distances between individual telescopes, and ultimately create an array that can resolve objects that are smaller and farther away.

"The size of our virtual telescope is actually limited by the size of the Earth," Dr. Falcke said. ●

WHY SEX POSITIVITY IS KEY FOR MOTHERS AND SONS

Is "the talk" too taboo for the two of you?

By Ekuia Hagan

Key Points

- Mothers who allow sons to ask questions related to sex have sons who report more sexual satisfaction and sexual self-esteem.
- Moms don't need to be proactive in talking to sons about sex but simply create a home environment where they can be prepared to be reactive.
- Leading by example might result in one's son being more likely to provide their future partners with a safe space to discuss sexual topics.

Parent-child communication is important, especially when it comes to difficult conversations. No conversation is more taboo than communication about sex. Therefore, I invited Ben Compton from the University of Washington to write a guest entry about research on sex communication and provide some advice on how parents can create a comfortable environment to discuss sex with their children.

The Talk. The birds and the bees. Sex. It's a conversation most parents don't want to have, but a discussion that all children need. But what might be the consequences for children if their parents don't decide to communicate to them about sex?

A recent study published in the American Journal of Sexuality Education helps answer this question. Researchers at the University of Connecticut looked at the impact of whether mothers communicated to their sons about sex. The team of communication scholars was interested in finding out if sons who talked to their mothers about sex lead to positive outcomes for their sons. Specifically, they looked at the relationship

between communication about sex and sons' sexual satisfaction, sexual self-esteem, and sexual anxiety.

What Are We Talking About Exactly?

You might be asking yourself a few questions. First, why look at sexual satisfaction? It might seem odd that talking to one's son would improve his sex life. Previous studies have found that people who communicate more about their sex lives with their sexual partners, however, are more likely to report being happier with their relationships.

Second, what is the difference between sexual self-esteem and sexual anxiety? Sexual self-esteem is the likelihood for an individual to positively evaluate their own sexual worth to others, whereas sexual anxiety is the likelihood to experience tension, discomfort, or anxiety about the sexual facets of one's life. That is, sexual self-esteem is the perception of oneself in relation to others whereas sexual anxiety is the perception of oneself and their sexual experience or confidence. Together, these two are key components of one's own view of oneself as a sexual being.

What Did The Researchers Do?

The team of researchers surveyed 137 young, primarily heterosexual, men aged 18-23. First, these men were asked if they perceived themselves to be sexually active. Next, participants were asked about their communicative habits with their mothers around sexual topics, such as their mother's willingness to discuss sexual information or engage in non-judgmental talks about sex. Finally, each participant answered questions that assessed their sexual satisfaction, self-esteem, and sexual anxiety. The researchers then used the information to study whether this had a positive or negative impact on their sexual satisfaction, self-esteem, and anxiety.

What Did The Researchers Find?

After statistical analysis, the team found that sons whose mothers were more open and nonjudgmental about sexual conversations were more likely to have higher sexual satisfaction and lower sexual anxiety. Sons' sexual self-esteem was not affected. The authors suggest, however, that parents who are more open to the conversation might help to destigmatize sex and

thus teach their sons that sexual interaction doesn't have to be anxiety-provoking or a risky enterprise.

What Can You Do?

Are you worried about what it would be like to talk to your son about sex? Here are two main considerations to keep in mind.

An inviting arena. Simply put—be open with talking to your sons about sex. Not everyone can be an expert, but what research shows is that being willing to discuss and respond in a nonjudgmental way to sexual topics with your sons will have significant positive impacts on their future sexual lives. Many mothers might be feeling unqualified or unconfident about bringing up intimate topics with their sons, but the good news is that creating an open environment, or what the researchers call an open communication environment, will help your son feel more comfortable initiating these conversations. This means you don't have to be proactive, but reactive to when these topics arise.

Quality over quantity. A key feature of the study was that when these young men took the survey, they were asked about their perception of their communication with their mothers, and not necessarily the number of conversations they have had. Because this is only their perception, it means that a son might have had only 1 conversation with their mom, or 10 conversations with their mom, yet the quantity didn't matter so long as their son perceived them as open to talking about sexual topics. Therefore, don't worry about needing to have conversations frequently, as every individual might be more or less comfortable discussing sex. Instead, be ready for when the conversation does come up, so that way your son can leave feeling like it is a topic they could return to you if they wanted.

What Is The Key Takeaway?

Sex is one of the most challenging topics to discuss⁵, but research shows that parents who do not talk to their children about sex lead to increases in adolescent sexual risk behavior⁶ and higher rates of teenage pregnancy⁷. Being an example of how sex-positive communication is appropriate within the family will show children that talking about sex is okay. This can lead to positive outcomes, such as increased use of condoms, a decrease in the number of sexual partners,

and an increase in self-efficacy to communicate with their peers.

It might be uncomfortable but having no conversation might signal to them that talking about sex is something to be kept to themselves. If a safe communication space is created for young men, imagine how your son might be able to create a comfortable space for his potential sexual partners in the future.

Fostering a comfortable and accessible channel of dialogue can help any mother become a monumental figure in their son's communicative development, ultimately facilitating the kind of open communication that elevates boys to men. ●

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THE BUFFALO SHOOTING WAS CENTURIES IN THE MAKING, EXPERTS SAY

The Buffalo shooting was not a "lone wolf" incident but a continuation of centuries of white supremacist terrorism, experts say.

By Char Adams

Some 2,000 Black people were killed from 1865 to 1876, during the Reconstruction era, the result of a widespread effort to use white supremacist terror to maintain economic, political and social control over newly emancipated Black people, according to the Equal Justice Initiative. This reign of terror worked to stamp out any semblance of Black progress after slavery, working hand in hand with oppressive Jim Crow laws that enforced legal segregation throughout the country for decades.

A white man is accused of continuing this legacy of white supremacist terror on Saturday when he allegedly traveled to a supermarket in a Black neighborhood in Buffalo, New York, and killed 10 people, most of them Black.

Experts say his act was not episodic or unprecedented, but is part of America's violent history of using racial terror to intimidate and exert power over Black people. In the days since the shooting, conversations about hate crimes and gun control have consumed the nation. But experts say the Buffalo shooting must be viewed within the context of both historical racist backlash to Black existence and the white supremacist violence that has increasingly become normalized in the country today. The Buffalo shooting, experts say, is not a dangerous turning point for the country, but a continuation of the broad violence Black people in the U.S. have experienced for centuries.

"This is the product of America's culture of violence, its deeply entrenched racism," said Bernard Powers, director of the Center for the Study of Slavery in Charleston and the College of Charleston's academic liaison for the Universities Studying Slavery consortium. The shooting "cannot be separated from it. It's the product of the unwillingness of most white Americans to deal with and address white supremacy and white supremacist tendencies in their own communities."

Authorities say the suspect, Payton Gendron, 18, traveled more than three hours from his home in Conklin, New York, to the Tops Friendly Market in Buffalo, dressed in tactical gear, and shot 13 people, 11 of whom were Black, killing 10 and wounding three. He livestreamed the attack and was arrested at the scene. Gendron was arraigned hours after the shooting in Buffalo City Court on one count of first-degree murder, the Erie County District Attorney's Office said.

Gendron laid out specific plans to attack Black people at the market in a 180-page document in which he identified himself as a white supremacist, racist, and fascist, authorities said. He wrote that he specifically targeted the area due, in part, to its high Black population.

A 2021 report from the University at Buffalo found that the health, housing, income and education conditions for Black people in Buffalo had not improved, and in some cases, had declined in the last 30 years. And experts like Henry Louis Taylor, a professor of urban and regional planning at the University at Buffalo, have said the poor conditions for Black people in the city, and its standing as one of the most segregated areas of the country, makes it a prime target for acts of violence.

In his reported diatribe, Gendron repeatedly cited the white supremacist "great replacement" theory, the false idea that nonwhite people are attempting to replace white Americans through interracial marriage, immigration and violence. Authorities said he also lamented what he described as Black communities' reliance on government resources and social programs.

Gendron's allegedly wrote that he was radicalized on 4chan due to boredom during the early months of the pandemic in 2020. But this theory is not native to 4Chan — Manisha Sinha, an American and African American history professor at the University of Connecticut, said its origins stretch back even further, to slavery and the Reconstruction era. Although fear of Black autonomy and power in the country has long existed, "great replacement" began to take shape as a definitive theory in the late 19th century.

"This is an idea that was organized at the height of Jim Crow and scientific racism," Sinha said. "You have a situation where people in the post-war South just cannot accept the idea of people of African descent as equal citizens and fellow citizens in the republic. This kind of racist opposition to Black rights and Black citizenship is one of the long, lingering legacies and afterlife of slavery in this country. So you have this huge campaign of racist terror."

Stories of this terror stretch throughout America's history. Among the thousands of Black people killed during the Reconstruction era were six Black men slain by a white mob in Duplin County, North Carolina, in 1865, for demanding that a white landowner pay them for their work as sharecroppers. In the decades to come, lynch mobs enforced social codes, spoken and unspoken, to enforce the oppression of Black Americans.

A century ago, the nation witnessed what is considered one of the worst incidents of racial violence in its history. On May 31, 1921, more than 2,000 white people in Oklahoma descended upon Tulsa's Greenwood District, known as "Black Wall Street," where Black business leaders, homeowners and civic leaders thrived. An estimated 300 people died in what is now known as the Tulsa Race Massacre, and the mob, and Tulsa police, burned more than 1,200 homes, businesses and churches along with a school, public library and hospital. History shows a consistent pattern of Black advancement being met with white

supremacist violence. As the 20th century went on, racists would bomb Black churches, terrorize civil rights activists, lynch and otherwise murder countless Black people, and assassinate one of America's most influential Black leaders, Martin Luther King Jr.

The Buffalo shooting comes two years after the nation saw what appeared to be the start of a racial reckoning. The 2020 deaths of George Floyd and Breonna Taylor prompted calls to "defund the police" — a movement that has faced fierce opposition — and combat the structural racism that has shaped the conditions of Black communities for centuries.

That year, the FBI reported a surge in hate crimes against Black people and, last summer, the agency published complete 2020 statistics and found that the number of incidents had reached its highest level in 12 years.

Meanwhile, Republican lawmakers and leaders have passed laws limiting voting rights, banning educators from teaching race history in schools, restricting abortion and banning books about race and gender. Experts have said that the increase in hate crimes and discriminatory legislation indicates a rising tide in anti-Black sentiments, but that is nothing new for the country.

"We classify these crimes today as hate crimes ... but in many respects, the word hate can be a bit misleading because this is actually about power," said William Horne, a historian and co-founder of The Activist History Review. He added that it is important to see the Buffalo shooter's violence not as a "lone wolf" endeavor, but as a symptom of a larger problem in the nation.

"This problem is not incidental, it's not episodic, the problem is systemic. That requires a systemic, thorough, dramatic response," Horne said. "That is a response we haven't seen from the Biden administration, from the Department of Justice, from state and local officials, and that promotes an atmosphere of permissiveness. It promotes exactly these kinds of acts."

K Agbebiyi, an abolitionist organizer who co-created the Defund the Police #toAbolition campaign in 2020, added that the Buffalo shooting cannot be divorced from historical context, from the nation's history of racism.

"This racism won't be fixed solely through talking to your family members, or posting stuff online," Agbebiyi said. "It will require people to join organizations or movements that are working to restructure society."

Gendron cited other mass shootings in his reported document, and made known his support for Brenton Tarrant, the shooter in the 2019 mosque attack in Christchurch, New Zealand; Patrick Crusius, accused of killing 23 people, most of whom were Latino, in an El Paso, Texas, Walmart; Dylann Roof, who killed nine people at a Black church in Charleston, South Carolina, in 2015, and others.

Powers, who lives in Charleston, said he is not surprised that Gendron looked up to Roof because "there are a lot of folks out there who were not as deranged as Dylann Roof, but still shared his sentiments." Still, he said he has marveled at the collaboration among anti-racist organizations, and the allyship he's seen in Charleston in the years since the tragedy. This, he said, makes him hopeful that out of Saturday's shooting in Buffalo will come unity.

"Don't be discouraged by this. Take comfort in what we've seen in the BLM demonstrations," Powers said, encouraging the city's Black population. "Look toward your allies, because they're there. And people who have never been involved in supporting Black causes will do so now." ●

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WHAT EVERYDAY WHITE AMERICANS AND THE BUFFALO SHOOTER HAVE IN COMMON

By Matthew W. Hughey

The day before Payton Gendron drove to Buffalo to commit what has been described as a "straight-up racially motivated hate crime," he circulated a 180-page manifesto espousing the belief that, as one news outlet put it, "the U.S. belongs to White people and all others

should be eradicated by force or terror.” Gendron’s proclamation—a candid rationalization for white nationalist violence—is far from the first of its kind. And it won’t be the last.

Over the past several years, a half-dozen white supremacists committed acts of violence under the belief that their country belongs to white people and they must suppress any risk of replacement by force. This delusion led Anders Breivik to kill 77 people in Norway in 2011 and inspired Frazier Glenn Miller Jr. to kill three people outside of a Jewish community center in Kansas in 2014. Elliot Rodger espoused the same notion in 2014 when he killed six people in Santa Barbara, California.* So did Dylann Roof before he killed nine parishioners in Charleston, South Carolina, in 2015. Patrick Crusius, who killed 23 people in a Walmart in El Paso in 2019, and Brenton Tarrant, who killed 51 worshippers in Christchurch, New Zealand, in 2019, also composed and shared lengthy white supremacist screeds.

I’ve read each manifesto as part of my work as a professor and researcher at the University of Connecticut on the intersection of “race,” knowledge, media, power, religion, and science.

In particular, I focus on whiteness and racism. While there is a diversity of ideas represented under the umbrella of white supremacy, two prominent logics weave their way throughout each manifesto.

First, for example, Gendron writes:

White people are failing to reproduce, failing to create families. ... Mass immigration will disenfranchise us, subvert our nations, destroy our communities, destroy our ethnic ties, destroy our cultures, destroy our peoples.

This is a voice of victimhood, weakness, and panic. But second, and simultaneously, Gendron like many others, proclaims an inherent white racial superiority:

I believe the White race is superior in the brain to all other races. ... The brilliance and creativity found in White’s is incomparable to all other races, therefore I believe that White’s are superior.

These two tales form the DNA of the white supremacist manifesto. It is a double helix of equal parts inadequacy

and superiority, a uniform blend of peril and power. How do two seemingly antagonistic ideas so easily commingle?

Often, these contradictions are rationalized by framing them as the product of psychopathology. Less than 24 hours after the Buffalo shooting, for example, the New York Times reported that Gendron was held for a “mental health evaluation last year” (buried in the story, the report concedes that he was evaluated and released). Others caricature white supremacists as political Neanderthals. “The right-wing extremists who control the modern GOP are all gripped by a racist delusion. The shooter is just the latest to act on it,” Rolling Stone opined. And for others, such contradictions fuse in the tangled pastiche of the internet. The “new generation of white supremacists” is “isolated and online, radicalized on internet memes and misinformation,” as the Los Angeles Times tells it.

But to explain the paradox of racial force and feebleness across white nationalist manifestoes like Gendron’s, we must critically assess whiteness—not mental health, not politics, and not media. This is ironic, given that it seems many do not understand the centrality of whiteness in, well, white supremacy.

The category of whiteness, like “race,” is a biological fiction with a social function. Whiteness emerged early in American history to rationalize exploitation. Early American colonists were slow to develop racial worldviews. But by the mid-1600s, philosophers and scientists like Bernard Varen, John Ray, and François Bernier began to publish ideas about African savagery and European civilization, which were progressively applied to resolve who should be the rulers versus the ruled. These ideas were codified into our legal system. In 1662, for instance, British statutory law conferred slavery with a biological status: Any child born to an enslaved woman would also be a slave. Over time, through a series of laws and social mores, a hierarchy that conferred legal privileges to “white” men, while stripping Black people and Native Americans of their humanity and standing in the legal and political arenas, was cemented.

Put another way, whiteness is not an inherent identity so much as a consolidation of lofty biological, legal, and theological notions that serve to buttress the social and political power of people bearing lighter skin. As W.E.B.

Du Bois points out in his 1920 essay “The Souls of White Folk,” whiteness is a modern concept:

The discovery of personal whiteness among the world’s peoples is a very modern thing. ... The ancient world would have laughed at such a distinction. ... This assumption that of all the hues of God whiteness alone is inherently and obviously better than brownness or tan leads to curious acts. ... I am given to understand that whiteness is the ownership of the earth forever and ever, Amen! Now what is the effect on a man or a nation when it comes passionately to believe such an extraordinary dictum as this?

The effect is a Faustian bargain. And as a result, whiteness exists in a state of perpetual social anxiety. White people are taught that their biological, cultural, and/or God-given nature is to be “inherently and obviously better” than people of color and to have “ownership of the earth.” These ideals are, of course, so lofty that they are unachievable. Discontent is inevitable. Whiteness is a deal with the devil.

Consequently, white people move neither into nor out of moments of racial anxiety, nor do they—despite the popularity of the cliché—experience flashes of “white fragility.” Whiteness does not wax or wane relative to racial pressures, cracking to expose either reactionary political movements or even the occasional mass shooting. Rather, whiteness is an omnipresent imbroglio; it cannot live up to the greatness it assumes it can naturally realize.

Reconciling the peril that results from the inability to fully manifest white power necessitates a scapegoat. And so the crisis of whiteness is continually externalized onto racial “others.” This helps to explain why an increasing number of white people now believe they have been cheated out of their birthright—an inheritance of domination stolen by people of color. White nationalism and supremacy could not function under absolutist apartheid; it is an ideology and practice that requires the presence of people of color to justify its own shortcomings. White peril and white power go hand in hand.

Many of the white men responsible for recent acts of domestic terrorism have penned manifestoes jampacked with lies, errors, and myths about whiteness and the world. Gendron, Breivik, Roof, and others ramble on ad nauseum about interracial marriage,

ethno-racial migration, and welfare—not to mention racial supremacy, eugenics, and murder. But the core tenets of “white nationalism” are neither as rare nor as unpalatable as one may assume.

Before killing nine Black churchgoers in Charleston, Roof wrote about his beliefs that Black people are intellectually inferior to white people. “Negroes have lower IQs, lower impulse control,” he wrote. “There are personality traits within human families, and within different breeds of cats or dogs, so why not within the races?” His ramblings highlight some of the most fundamental and abhorrent beliefs about “race.” And while these notions have ostensibly fallen out of favor in polite society, recent polling makes clear that, among many white Americans, these ideas are still entrenched.

Consider the attitudes captured in the General Social Survey, a national poll “assessing the attitudes, behaviors, and attributes of the American public.” Between 2012 and 2016, 23 percent of white people living in the U.S. believed their intelligence to be greater than the intelligence of Black people. That’s nearly 1 in 4. GSS data from 2021 also shows that 29 percent of white people surveyed believe that Black people do not have “the motivation or willpower to pull themselves up out of poverty.”

The same phenomenon holds true for white nationalist beliefs that people of color migrate to majority-white nations to usurp “the white man’s industries, claim the white man’s welfare and buy and use goods created by the creativity and ingenuity of Western—white—people,” as Breivik put it in his manifesto. While this is supposedly a peripheral belief, many white people support divestment from public welfare services when those resources are believed to benefit people of color, especially Black Americans. Thirty percent of white people believe the government should not aid Black people, according to the 2021 GSS. Roughly a quarter of white people believe we spend “too much” on “assistance to Blacks,” while roughly 20 percent believe we spend “too much” on “improving the conditions of Blacks.”

White people even subscribe to hyperbolic views, shared by Gendron and others, that the world has become increasingly hostile to white people. Gendron opined about “anti-white politicians” and the “anti-white state.” Other white supremacists have even concluded that “anti-white racism is real and a very

underestimated phenomena.” These views are shared by a majority of white Americans. In 2021, the GSS found that 56 percent of white people believe that a white person won’t get a job or promotion while an equally or less qualified Black person gets one instead. Similarly, research has shown that many now believe white discrimination is both more prevalent and more intense than discrimination against Black people. And a host of studies indicate that white people tend to translate increasing diversity as a growing anti-white bias.

In the rush to make sense of the shooting in Buffalo, many have categorized the violence as the reflection of hatred, bigotry, mental illness, and growing extremism. It may be tempting, or even comforting, to view the manifestoes shooters like Grendon leave behind as merely the bile of the big bad bigots. But that conclusion is a pleasant fiction. As it turns out, many white Americans across very different ideological and political orientations believe in and employ similar racist ideologies. In reality, white supremacist terrorism is a natural outgrowth of mundane and banal white socialization. So long as white people hold one another implicitly accountable to unattainable ideals of superiority and excellence while targeting people of color, and Black people in particular, as the objects of their un-manifest destiny, the violence will not end. White Americans cannot exorcise these demons without also examining their souls. ●

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THE MAGA FORMULA IS GETTING DARKER AND DARKER

By Thomas B. Edsall

The chilling amalgam of Christian nationalism, white replacement theory and conspiratorial zeal — from QAnon to the “stolen” 2020 election — has attracted a substantial constituency in the United States, thanks in

large part to the efforts of Donald Trump and his advisers.

By some estimates, adherents of these overlapping movements make up as much as a quarter or even a third of the electorate. Whatever the scale, they are determined to restore what they see as the original racial and religious foundation of America.

“While these elements are not new,” Robert Jones, the chief executive of the Public Religion Research Institute, wrote by email, “Donald Trump wove them together and brought them out into the open. Indeed, the MAGA formula — the stoking of anti-immigrant and anti-Muslim sentiment while making nativist appeals to the Christian right — could accurately be described as a white Christian nationalist strategy from the beginning.”

I asked Katherine Stewart, the author of “The Power Worshipers: Inside the Dangerous Rise of Religious Nationalism,” how much Christian nationalism and the great replacement theory intersect. “The answer is complex,” she said. “There is definitely a wing of the Christian nationalist movement that overlaps with the great replacement theory and demographic paranoia in general.”

At the same time, however, she continued, “there are other wings of the movement that depend less on explicitly racialized thinking and whose concerns are centered more on religious and cultural paranoia. Christian nationalism is making significant inroads among some Latino communities, for example, and there the argument is not that a preferred racial group is being replaced but that a preferred religious and cultural value system (with supposed economic implications) is under threat.”

Instead of Christian nationalism, Stewart prefers the use of “religious nationalism,” which she describes as a reactionary, authoritarian ideology that centers its grievances on a narrative of lost national greatness and believes in the indispensability of the “right” religion in recovering that lost greatness. This mind-set always involves a narrative of unjust persecution at the hands of alien or “un-American” groups. The specific targets may shift. Some focus their fears on the “homosexual agenda”; others target Americans of color or nonwhite immigrant groups; still others identify the menace with religious minorities such as Muslims, Jews and secular “elites” or perceived threats against gender hierarchy

and sexual order. And of course, many take an all-of-the-above approach.

According to some scholars, there are two versions of Christian nationalism, one more threatening to the social order than the other.

Ruth Braunstein, a professor of sociology at the University of Connecticut and the author of the 2021 paper “The ‘Right’ History: Religion, Race, and Nostalgic Stories of Christian America,” wrote by email that Christian nationalism can be described as adherence to a mythical vision of the United States as a “Christian nation” that must be protected and preserved. This mythology has two dimensions: It offers an account of American history that frames the country’s founding as sacred and rooted in Christian (or Judeo-Christian) values, and it defines a “real” or “good” American today as someone committed to these same values.

Within that context, Braunstein continued: We can see how the great replacement theory overlaps with Christian nationalism. Both view some specific population as “real” Americans, whether that is defined explicitly as white Christians or in the more vague and coded language of “real” or “native born” or “legacy” Americans. And both frame demographic change as threats to both that population and to the country’s essential character. Finally, although not all flavors of Christian nationalism include a conspiratorial element, some versions share with replacement theory an imagined cabal of nefarious elites — often Jews, communists/socialists or globalists — who are intentionally promoting racial and/or religious diversity in order to diminish white Christian power.

Braunstein distinguishes between two variants of Christian nationalism. One she calls “white Christian nationalism” and the other “colorblind Judeo-Christian nationalism.”

The first, according to Braunstein, “explicitly fuses whiteness, Christianity and Americanness,” leading to the conclusion that “white Christians alone embody the values on which a healthy democracy rests and, as such, white Christians alone are suited to hold positions of social influence and political power.”

In contrast, she continued, colorblind Judeo-Christian nationalism either ignores race or uses colorblind language to describe ideal Americanness. This has become the predominant form of Christian nationalism

among mainstream conservatives. And for many conservatives, like members of the Tea Party that I studied for several years, the invocation of colorblind Judeo-Christian nationalism is intended to distinguish them from groups on the racist right.

Why have Christian nationalism and replacement theory moved so quickly to center stage? Robert Jones of P.R.R.I. suggested it was “twin shocks to the system” delivered during the first two decades of this century: “the election and re-election of our first Black president and the sea change of no longer being a majority-white Christian nation.” Both of these developments, Jones wrote, happened simultaneously between 2008 and 2016. White Christians went from 54 percent to 47 percent in that period, down to 44 percent today. This set the stage for Trump and the emergence of full-throated white Christian nationalism. Trump exchanged the dog whistle for the megaphone.

Racial and ethnic resentment has grown far beyond the political fringes, Jones argued, citing levels of agreement in P.R.R.I. polling with this statement: “Immigrants are invading our country and replacing our cultural and ethnic background.” Among all voters, according to Jones, 29 percent believe that immigrants are invading our country; among Republicans, it’s 60 percent; among Democrats, 11 percent; among QAnon believers, 65 percent; among white evangelicals, 50 percent; and among white noncollege voters, as pollsters put it, 43 percent.

Not only that, Jones notes: White Americans who agree that “God has granted America a special role in human history” (a softer measure of Christian nationalism) are more than twice as likely as those who disagree with that statement to believe that “true American patriots may have to resort to violence in order to save our country” (28 percent vs. 11 percent).

And white Americans who agree that “God intended America to be a promised land for European Christians” (a harder measure of Christian nationalism) are four times as likely as those who disagree with that statement to believe that “true American patriots may have to resort to violence in order to save our country” (43 percent vs. 10 percent). And white Americans who believe that “Immigrants are invading our country and replacing our cultural and ethnic values” are more than five times as likely as those who disagree with that statement to believe that “true American patriots may

have to resort to violence in order to save our country” (45 percent vs. 8 percent).

In their January 2022 paper, “Christian Nationalism and Political Violence: Victimhood, Racial Identity, conspiracy, and Support for the Capitol Attacks,” Miles T. Armaly of the University of Mississippi and David T. Buckley and Adam M. Enders, both of the University of Louisville, argue: “Religious ideologies like Christian nationalism should be associated with support for violence, conditional on several individual characteristics that can be inflamed by elite cues.” Those characteristics are “perceived victimhood, reinforcing racial and religious identities and support for conspiratorial information sources.”

“It’s unlikely that a single orientation or one belief was promoting the type of violent action we witnessed in Buffalo or the U.S. Capitol on Jan. 6, 2021,” Enders wrote by email. “It’s a toxic blend of extremist orientations, such as Christian nationalism, racism, some expressions of populism and conspiracism, for example, that edges individuals closer to supporting violence.”

Enders went on: Christian nationalism, racism, sexism, homophobia are all about identity conflict — who is morally virtuous and more deserving, who’s “normal” and even what it means to be an American. Each of these orientations is also characterized by an extreme disdain or fear of the “other.” One might look to Christianity for deeper ties between the orientations, but I think the reality is that conspiracy-minded individuals, like the accused Buffalo shooter, can find connections between anything. He saw America as a white, heterosexual, Christian country that was becoming less white, heterosexual and Christian, thereby threatening (his perception of) the American way of life, which was his way of life. But racism, sexism, etc. do not have any inherent connection to a desire to build a Christian nation-state.

In a separate paper, Enders wrote that he and other scholars have found that conspiracy theories, of which great replacement theory is an example, are oftentimes undergirded by antisocial personality traits, such as the dark triad (narcissism, Machiavellianism, psychopathy) and a predisposition toward conflict. If you combine all of these dispositions and traits and dial them up to 10, that’s when you’re most likely to find support for

violence, which is correlated with (but not determinative of) behavioral violence.

Armaly wrote by email that “between 25 to 32 percent of white Americans support some Christian nationalist ideas. We use six questions to assess the degree to which one supports Christian nationalist ideals,” including agreement or disagreement with “the federal government should declare the United States a Christian nation” and “the success of the United States is part of God’s plan.” Around 32 percent of respondents endorse at least four statements, Armaly wrote, “and 25 percent endorse at least five statements.”

Armaly noted that of “the major predictors of support for violence — perceived victimhood, attachment to one’s whiteness, racial animus toward Blacks, support for authoritarianism, support for populism and past or current military service — all, save for military service, are present in the accused Buffalo shooter’s written statement.”

Buckley wrote by email that: 6 percent of whites, 11.5 percent of white evangelicals and 17.7 percent of white weekly churchgoers fall into the joint top quartile of justification of violence, Christian nationalist beliefs, perceived victimhood, white identity and support for QAnon. That would represent millions of individuals. It also represents a far greater share of the white American population than surveys find when testing Muslim American support for terrorism.

Christian nationalism, white replacement theory and conspiracy preoccupation overlap, although each has unique characteristics.

On May 9, the Associated Press-NORC Center for Public Affairs Research released an illuminating study, “Immigration Attitudes and Conspiratorial Thinkers,” based on 4,173 interviews with adults age 18 and over, which breaks down some of the components of hard-line thinking on the right.

The center created two categories, “high conspiratorial thinkers” and “low conspiratorial thinkers,” based on agreement or disagreement with four statements:

- 1) events are the product of plots executed in secret, 2) events are directed by a small group of powerful people, 3) (those people) are unknown to voters and 4) (they) control the outcome of big events like wars,

recessions and elections. The top 25 percent were placed in the high conspiracy category and the remaining 75 percent in the low conspiracy category.

Comparison of the two categories of conspiratorial thinkers revealed sharp differences, according to the report: Seven times as many high conspiratorial thinkers agree that our lives are being controlled by plots hatched in secret places (85 percent vs. 11 percent) and that big events like wars and the outcomes of elections are controlled by small groups of people working in secret (89 percent vs. 13 percent) than their low conspiratorial counterparts. High conspiratorial thinkers believe the people who run the country are not known to the voters at triple the rate of the rest of the general population (94 percent vs. 31 percent), and they are about twice as likely to agree that a few people will always run the country (96 percent vs. 48 percent).

Among those ranked high in conspiratorial thinking, 42 percent agreed that there is a group of people trying to replace native-born Americans and that native-born Americans are losing economic, political and cultural influence to immigrants, compared with 8 percent of low conspiracy thinkers.

In the case of white replacement theory, the report asked two questions: “There is a group of people in this country who are trying to replace native-born Americans with immigrants who agree with their political views” (agree or disagree) and “How concerned are you that native-born Americans are losing their economic, political and cultural influence in this country because of the growing population of immigrants?” ●

IN THE MOOD FOR SEAWEED? THESE CONNECTICUT FARMERS AND SCIENTISTS ARE CULTIVATING KELP FOR THE TABLE, THE ENVIRONMENT AND THE ECONOMY

By Carol Leonetti Dannhauser

On a gray morning in late April, Suzie Flores, 40, the owner of Stonington Kelp Co., hustled out of her hybrid Highlander in a Westport parking lot. She grabbed a couple of coolers of freshly harvested Connecticut sugar kelp from her SUV, then dashed to the rear entrance of a posh restaurant to deposit 60 pounds or so of seaweed.

Because the weather was breaking—for the better, for once—she hoped to hightail it back to Stonington to help her husband, Jay Douglas, work his barge on the Pawcatuck River before their weather window closed.

The climate, it’s changing, and this has wreaked havoc on Connecticut’s fledgling kelp harvest this year. Waters too warm delayed finding wild kelp seed in the ocean last fall. Winter storms disrupted kelp lines at farms along the Connecticut coast. Ferocious winds postponed harvesting trips this spring.

But the half dozen or so people cultivating kelp in Connecticut are a hearty lot, determined to grow the state’s seaweed crop to a respectful place alongside farmed clams, mussels and oysters in Connecticut’s \$30 million aquaculture industry, according to the Connecticut Department of Agriculture reports.

Flores, her peers and a handful of researchers, entrepreneurs, academics, scientists and chefs believe Connecticut kelp can bolster the state’s economy and might help heal the environment in the process.

In 2016, Flores and Douglas bought a small marina in Stonington and moved their young family into a fixer-upper across the street. The hyper-seasonal nature of marina work—kayak rentals, a bait and tackle shop, moving boats to and from neighboring Watch Hill—left an open window in wintertime.

Flores did some investigating. About a decade ago, lobstermen and scallop farmers in Maine began growing kelp in the winter because the growing schedule complemented their summer work, and they already had the necessary gear to harvest. While Flores was intrigued, kelp's nutritional and environmental benefits sealed the deal, she said. Kelp is one of the most nutrient-dense foods on Earth, with an alphabet full of vitamins and minerals from A to zinc and more calcium per ounce than milk.

Like plants growing on land, kelp uses sunlight for photosynthesis, absorbing carbon in the process. Kelp also removes nitrogen and phosphorous from water, making it nature's water purifier. A study by the National Oceanic and Atmospheric Administration in February found that shellfish and seaweed farms remove about 575 pounds of nitrogen per acre. Kelp is a zero-input plant, which means it doesn't need land, fresh water or added fertilizer to grow. Sugar kelp's translucent amber ribbons provide a hideout for marine life, which generate all the fertilizer the kelp needs.

Flores connected with GreenWave, a Connecticut-based nonprofit committed to regenerative ocean farming, which helped her navigate the Connecticut Bureau of Aquaculture's 18-month permit process. Farmers here say that timeline is speedy compared to other states, where permitting can drag on for years. GreenWave helped Flores set up her farm, supplied her with seeds and connected her with buyers.

Each fall, Flores sets out with a contingent of scuba divers to forage wild kelp beds in the Atlantic Ocean for sorus tissue, or reproductive tissue, for seed. Last fall, divers couldn't find any sorus tissue in the usual spots. Due to climate change, warmer waters had chased wild kelp beds further east into the Atlantic. "We took the divers out as frequently as they needed to go. We were just trying to see if there were sources that we were missing," Flores said. Eventually, they located spores, but the delay affected the entire growing season.

Foraged spores are sent to a nursery of sorts in New Haven. There, at GreenWave's hatchery on the Quinnipiac River, spores are released into giant fish tanks, where they attach themselves to a special kind of kite string. After a month or so of growing in the nursery, seeds emerge—tiny kelp blades about a millimeter long. The fuzzy-looking seed strings are spooled around PVC pipes, then transported in coolers to farms throughout southern New England. At sea, farmers unfurl the kite string onto ropes suspended several feet deep between two moorings. The kelp grows downward and can reach more than 10 feet before being harvested.

Setting these lines, or outplanting, usually happens around Thanksgiving. But last year's delays meant that Flores and Douglas spent New Year's Eve bundled up on their boat in the Atlantic, setting the half-inch-thick roping.

"Every week that you have to wait to outplant your farm is a week's less growth," Flores said. "Shortening the amount of growth can mean the difference of a couple of thousand pounds." Last year, Flores harvested more than 13,000 pounds of Connecticut sugar kelp.

Environmental Benefits

Each pound removes substances in the water that might otherwise feed dangerous microalgae, reports Charles Yarish, a University of Connecticut professor whose Stamford lab has one of the most significant collections of seaweeds in the world. Yarish said pollution flows into Long Island Sound from sewage treatment plants, which carry waste and fertilizer run-off, and from the atmosphere.

"Seaweed aquaculture gives coastal managers another tool in their toolbox to remove [potentially dangerous] nutrients in the coastal water. These farmers provide an ecosystem service to the public."

Yarish started studying seaweed aquaculture in the early 1980s when he realized during a sabbatical that the United States has an "exclusive economic zone," or

ocean area over which a nation has jurisdiction, of more than 11 million square miles.

“An astonishing number,” he said. Why wasn’t the United States using this coastal zone to grow seaweed, which could bolster food safety and security, and generate economic and environmental value? “I basically said we have such an opportunity in the oceans to do something for the greater good of people. But nobody was interested. They basically said, ‘Let the Asians provide the product to the U.S.’”

He went to Asia to investigate. In China, he saw huge swaths of coast carpeted by fish and seaweed farms and nearby “huge areas of industrial development,” releasing waste into the same watercourses that fed those farms. He believed the U.S. could do better. At UConn, he developed the Seaweed Marine Biotechnology Laboratory and, slowly, became one of the foremost seaweed cultivation experts in the world. He received funding from Connecticut Sea Grant, which continues to support kelp aquaculture research, and established research farms at the western end of Long Island Sound, in the East River in New York, and in Fairfield off Jennings beach.

Wooded With Noodles

A start-up in Maine asked the professor to help it provide U.S.-harvested frozen kelp noodles to consumers. The partners wooed him with dinner—the kelp strands cut a little thicker than spaghetti, served with olive oil and butter and a heap of mussels, clams and North Atlantic shrimp. Yarish was hooked. He offered to help the company on one condition: all their resulting innovations be available to anyone who asked.

Yarish and the partners developed tools to make farming and processing less labor-intensive and published an ocean-approved kelp manual that started with how to collect sorus tissue and grow it in a nursery and ended with recipes for the food on the plate. Connecticut Sea Grant funded a similar, more scientific manual for scientists. UConn libraries hosted the work, and Google Scholar picked it up. More than 10,000 people downloaded Yarish’s how-to kelp manual. If only he could cultivate more farmers to grow the product.

Yarish’s graduate students suggested that he spread the word through YouTube videos, which might appeal

more than a manual to folks working in fishing communities. Yarish proved to be the ideal emissary with his bushy mustache and zeal for dangling fistfuls of drippy springy kelp in front of the camera. His videos garnered tens of thousands of views.

One of those evangelized was Bren Smith, a former Newfoundland fisherman who owns Thimble Island Oyster Farm in Branford Harbor. Smith had become wary of commercial fishing practices and was searching for more sustainable ways to make a living without destroying the very environment he relied on to ply his trade. In addition, hurricanes had walloped his shellfish business, which damaged his spirit as well as his bottom line. Seaweed seemed to be the right answer at the right time.

Yarish said he found in Smith “not only someone who listened, but someone who could communicate with people who worked on the water, and with other entrepreneurs.” Smith bought into Yarish’s open-source philosophy, in which one kelp farmer helps another. The professor brought in ocean engineers, and Smith drew up plans for long lines, harvesting and more. Smith’s kelp farm in the Thimble Islands would serve as a working laboratory, with planting and harvest documented, tested, sampled, and recorded, and results passed along to the Department of Aquaculture, which runs its own tests for heavy metals, and to Connecticut Sea Grant, which ensures seaweed safety.

Next, Smith started GreenWave to train other kelp farmers. “We thought this will be nice, helping out local folks,” he said, “but 8,000 people signed up for the farmer training program.” So GreenWave changed strategies, offering how-to videos to train whoever was interested.

Last month, GreenWave launched the Regenerative Ocean Farming Hub, a “seed-to-sale” resource that provides free training, tools and community to more than 1,000 kelp farmers nationwide. In Connecticut, 15 commercial kelp-fishing sites from Greenwich to Stonington have permits. But because of mounting challenges, only three commercial farmers, including Flores, harvested in 2022.

“It’s all wind dependent. We’d get out to the farm, and there were 3-foot waves smashing on the side of the boat. You can very easily get yourself wrapped up in a line or get your boat swamped. It was too dangerous,

and sometimes we'd have to turn back," she said. Yarish, Smith and Flores say the state's kelp business could grow with state-supported infrastructure: hatcheries for seed and processors to blanch and freeze or dry kelp. "It's a big challenge," Flores said. "Kelp is a temperature-controlled food. You can't just pull it out of the water and slop it on your deck. It's regulated, like shellfish."

They're hoping Connecticut Sea Grant, an early supporter of kelp cultivation research here, can help find a path forward. Last year, the group was awarded \$766,650 in federal funds to help develop, plan and manage a viable seaweed cultivation industry.

In addition, the group's aquaculture specialist, Anoushka Concepcion, who helped establish the National Seaweed Hub in 2019, was named last year to the United Nations' Safe Seaweed Coalition.

In the meantime, farmers like Flores will continue to supply fresh sugar kelp to chefs from Greenwich to Hartford to Stonington. By Smith's count, anywhere from 1.3 to 1.5 million pounds of kelp will be harvested and sold this year in New England. Depending on the weather, that is. ●

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SCIENTISTS MOVED HUMMINGBIRDS TO HIGH ELEVATIONS TO SEE HOW CLIMATE CHANGE MIGHT AFFECT THEM

Artificial migrations to colder environments altered the small bird's metabolism and ability to fly.

By Elizabeth Gamillo

Anna's hummingbirds, a species native to the west coast of North America, float around California's lowlands before migrating to higher altitudes for the summer. A warming climate may make it harder for the

tiny critters to migrate to higher ground, and the vibrant bird might not be able to adapt, reports Inverse's Tara Yarlagadda. Those are the findings of a study published this week in the *Journal of Experimental Biology*.

Animals and plants have previously shown their ability to adapt to warming climates by moving towards the poles and to higher elevations, where temperatures are cooler. "Think of an AC. If I'm too hot, I can turn it down. If an animal or plant is too hot, they can't turn the AC down," Austin Spence, conservation biologist and study lead author at the University of Connecticut, tells Inverse.

However, when animals trek to higher ground to escape the heat, they may face not just colder temperatures but also thinner, less oxygen-rich air, reports David Nield for *Science Alert*. Humans have already displaced Anna's hummingbirds (*Calypte anna*) because of changing habitats. "Anna's hummingbirds are a great study system because they've already changed their life history because of humans," Spence says to Inverse. The hummingbirds have already started a progression to higher terrain due to warmer climates. Their high-energy lifestyles make them a great model for study because the hummingbirds can cope with various weather conditions, per *Science Alert*. The birds are now found at elevations between 10 to 2,800 feet.

To study Anna's hummingbirds' adaptability, researchers relocated 26 birds from across all average elevation ranges to a location 12,467 feet above sea level and recorded their oxygen levels while they ate or slept, Inverse reports. Using a modified feeder that forced hummingbirds to put their face inside a breathing mask to access food, scientists measured the bird's oxygen consumption while they ate from syrup-filled funnels, per *Science Alert*. To measure metabolism while they slept, the birds were placed in a metabolic chamber that could measure the carbon dioxide the birds produced.

The team found that the tiny birds responded to the colder shift in temperature by increasing torpor, a state that allows the hummingbirds to save energy by slowing down their metabolism. This included lowering their heart rate, per Inverse. Researchers also found that the birds displayed a lower metabolic rate, the birds' rate of energy consumption, when hovering. Reduced oxygen and the lower air pressure at the high elevation

impacted the birds' ability to fly by reducing their energy efficiency.

At higher elevations, the hummingbirds entered torpor, a mini-hibernation state, where their metabolism slowed significantly for 87.5 percent of the night, reported Science Alert. This longer torpor occurred no matter where the birds originally lived. "It means that even if they're from a warm or cool spot, they use torpor when it's super-cold, which is cool," Spence said to Science Alert.

Overall, the team found that while the birds could adapt to the cold, it was harder for the hummingbirds to adapt to lower oxygen levels. Spence tells Inverse that the lower levels of oxygen at higher altitudes may slow the bird's ability to migrate to higher ground. Despite this, it might be possible that Anna's hummingbirds could acclimate to environments with lower oxygen levels over a more extended research period. Anna's hummingbirds living in higher elevations were already found to have larger hearts than those in lower areas, and it implies that their bodies eventually adapted to areas with lower oxygen levels. ●

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CRIME IS LOW, BUT CONNECTICUT'S PRISON POPULATION IS ON THE RISE AGAIN. HERE'S WHY.

By Alex Putterman

After falling last year to levels not previously seen in decades, Connecticut's incarcerated population has begun to increase again, state numbers show.

According to data from the state Department of Correction, Connecticut had 9,912 people incarcerated in its jails and prisons as of Friday, up 11 percent from the state's low-water mark last April and up 5 percent from the start of this year. This marks the first sustained increase in Connecticut's incarcerated population in

more than a decade, blunting a years-long trend toward fewer people in jails and prisons.

The recent shift appears to have been driven largely — though perhaps not exclusively — by the resumption of legal system operations following shutdowns early in the COVID-19 pandemic. As people who waited months during the pandemic to be tried or sentenced have eventually had their cases processed, some have been convicted and incarcerated, thus inflating the total.

"The courts are getting back into their groove," said Michael Lawlor, a University of New Haven professor who previously served as under secretary for criminal justice under former Gov. Dannel Malloy.

"Once we really have the pandemic behind us and the courts are back to something close to normal, I think that's when you would see a new trend establish itself."

A spokesperson for Connecticut's Department of Correction acknowledged an increase in the state's incarcerated population but noted that the totals remain far below pre-pandemic levels, when the state had more than 12,000 people in its jails and prisons.

With crime still low, Lawlor said the recent uptick could eventually look like a blip amid a broader trend of declining incarceration. "Arrests are, generally speaking, down. Reported crimes are, generally speaking, down. New cases being added to the court dockets is down," Lawlor said. "There's no indicator that there's going to be a wave of new admissions to DOC in the future."

Still, some advocates say they're disappointed to see Connecticut's prison and jail numbers trending back upward less than two years after officials celebrated the state's incarcerated population dipping below 50 percent of its 2008 high. Some fear political momentum for decarceration has begun to slow, replaced by tough-on-crime impulses.

"A reliance on jailing more of Connecticut's residents, particularly those that are young and primarily those that are Black or Brown — because let's be honest, that is what we are talking about here — is failed policy," Christina Quaranta, executive director of the Connecticut Justice Alliance, said in an email.

"Connecticut has already learned this lesson and we have made great strides to correct it, but we still have a lot to do.

“We shouldn’t be returning to the dark ages when prison was the only solution.”

A Trend In Reverse

The recent uptick in Connecticut’s jail and prison population follows more than a decade of steady decrease, spurred by low crime rates and an interest among lawmakers in alleviating mass incarceration.

Over that period, particularly during Malloy’s governorship, Connecticut closed prisons, legalized marijuana, raised the age at which teenagers are tried as adults for most crimes, reduced penalties for certain drug-related crimes and established an expedited parole process for nonviolent offenders — all of which likely contributed to steadily declining levels of incarceration.

Then came COVID-19. Suddenly, what had been a gradual trend became a rapid one, as the court system largely shut down, slowing the pace of new sentences. Although releases from jail and prison did not increase as dramatically as the ACLU and other groups demanded, and although legal system backlogs resulted in an increased number of people locked up pretrial, prison intakes dropped sharply enough that the state’s incarcerated population tumbled to new lows.

By summer, the number of people in Connecticut jails and prisons stood below 10,000 for the first time in decades and below half the state’s 2008 total. Lawmakers, including Gov. Ned Lamont, touted Connecticut’s success in reducing incarceration.

At the time, advocates and public officials said they expected Connecticut to maintain its relatively low incarcerated population even after the pandemic ended. Now, though, some say the state could have done more to locked in its record low numbers with deliberate policies meant to keep people out of jail and prison.

“Connecticut has not created the systemic changes that are needed to make the reductions that we saw over the past couple of years and the past dozen years permanent,” said Gus Marks-Hamilton, campaign manager for the ACLU of Connecticut. “We have not addressed early releases, we haven’t addressed

compassionate parole releases, we haven’t done sentence commutations in a real serious way, we have not done bail reform, we have not been looking to reduce arrests by police and investing in communities. None of that has happened.”

According to DOC data, incarceration in Connecticut reached its low on April 8, 2021, when the state had 8,918 people in its jails and prisons. It remained relatively steady at that level for several months, then began to gradually tick back up as court proceedings resumed.

Connecticut again had more than 9,400 people in its jails and prisons by the end of 2021 and has added another 500 since. At the current rate, the state could again surpass 10,000 people in its jails and prisons by the end of the year.

Meanwhile, even as the state’s incarcerated population has shrunk over the past two years, racial disparities in the system have not. Black and Hispanic people accounted for about 70 percent of the incarcerated before the pandemic and about 70 percent still today.

Andrew Clark, director of the Institute for Municipal and Regional Policy at UConn, says he’s not particularly surprised by Connecticut’s recent trends. As he sees it, lawmakers who spoke during the George Floyd protests of 2020 about the need for a more compassionate justice system haven’t taken enough steps to create one.

“The system in and of itself will not solve [rising incarceration],” Clark said. “It needs to the political will to bring people together to say, ‘How do we do this better?’”

‘Right Back To Business As Usual’

Now, advocates say, the question is what happens next. Will the current upward trend in incarceration continue indefinitely, or will it prove to have been a temporary interruption of a years-long trend toward locking up fewer and fewer people?

As some worry about losing progress, particularly at a time when some politicians in Connecticut and elsewhere have renewed their push for tough-on-crime policies, Lawlor said he doesn’t think anything has fundamentally changed.

As he sees it, pandemic shutdowns disrupted a gradual shift away from incarceration, which will resume as soon as the legal system processes its pandemic-induced backlog.

“I don’t see any reason to believe the number is going to go up significantly,” Lawlor said. “It’s probably going to hover where it is, it may go over 10,000 at some point this year, but it’s still within a very stable range right now.”

Lawlor says Connecticut’s priority currently should be reducing the number of people who are incarcerated pretrial, which is higher currently than before the pandemic. Whereas pretrial detainees once accounted for less than a quarter of Connecticut’s incarcerated, they now represent nearly 40 percent, a dynamic that state officials attribute to a backlog of cases with serious charges and high bond amounts.

“That’s the part that’s growing,” Lawlor said.

Marc Pelka, Lamont’s under secretary for criminal justice, said he preferred not to speculate about future trends but that funding in the recently passed state budget should help clear accumulated court cases, as well as reduce crime and violence.

Others, though, see a changing political landscape that could threaten Connecticut’s progress in shrinking its incarcerated population. Republicans in the state have made juvenile crime — and car thefts in particular — a key election-year issue, and the most prominent criminal justice bill to pass during the recent legislative session was not one meant to lessen incarceration but rather one that increased penalties for juvenile offenders.

Sandy Lomonico, a Connecticut resident and criminal justice advocate who was herself formerly incarcerated, said that even after years of reform, she still observes a “lock them up” instinct from lawmakers in both major political parties, disproportionately targeting people of color.

“Some people, and not just in government, bank on ‘Black Lives Matter,’ but then it goes right back to the same political atmosphere, right back to the same business as usual,” she said.

Quaranta, from the Connecticut Justice Alliance, said she also wonders whether attitudes that shifted

following the 2020 racial justice protests have begun to revert.

“Two years have passed since the murder of George Floyd, and if you’re not affected by racism and interaction with the legal system on a daily basis, it’s kind of out-of-sight-out-of-mind,” Quaranta said. “And for some people it’s almost easier to go back to the automated way things were done.”

Still, Lawlor argues Connecticut has arrived over time at a more “sophisticated” way of thinking about crime, with less focus on punishment and more on prevention. Unlike during previous eras, when incarceration spiked seemingly irrespective of crime rates, today he views the two as closely linked.

With crime in Connecticut relatively low, therefore, he expects incarceration to stay relatively low as well.

“If arrests are trending down, if reported crime is trending down, then the prison population will trend down,” he said. “If those numbers were the same as they were before I would have a different prediction, but they’re not.” ●

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ANTISEMITISM ‘NORMALIZED’ IN CT AND BEYOND, JEWISH LEADERS SAY

By Jordan Nathaniel Fenster

Officials say the man who killed 10 at a Buffalo supermarket this month wrote extensively about “replacement theory,” the conspiracy theory that Jews are systematically replacing white people with Black people.

Perhaps the first In 2017 there was a rally in Charlottesville, Va., at which white men wearing khakis and polos, carrying tiki torches, chanted “Jews will not replace us.”

When asked about replacement theory, Michael Bloom, executive director of the Jewish Federation Associates of Connecticut, recalls Charlottesville.

“This is the new reality,” he said. “This is an unfortunate new reality I would say for all communities.”

The idea that Jews control global goings-on, including government and entertainment, is nothing new. The Protocols of the Elders of Zion (a made-up “handbook” of some Jewish globalist cabal) is centuries old now, and it in turn was borne out of yet older conspiracies.

The existence of conspiracy theories about the Jewish community, Bloom said, is “just becoming more normalized.”

Avinoam Patt, director of the Center for Judaic Studies and Contemporary Jewish Life at the University of Connecticut, agreed. “It has been sort of normalized, mainstreamed,” he said.

While conspiracy theories like the one espoused by the alleged Buffalo shooter used to be found in “the dark corners of the internet,” Patt said “there is 100 percent a sense that we’re seeing a creep into more acceptable political discourse.”

There is a direct connection, he said, between the normalization of antisemitic conspiracy theories and incidents like the Buffalo massacre.

“We can see the direct connection between extreme rhetoric leading to extreme violence,” Patt said.

Before Buffalo, in 2017, men chanted “Jews will not replace us” at a rally in Charlottesville, Va. Patt said that could be connected through ideology to the 2018 attack at the Tree of Life Synagogue in Pittsburgh, as well as other incidents.

“This idea that you had to defend in this case white America from invading immigrant hordes,” he said. “It’s not surprising. I think what’s alarming is the degree to which it continues to be normalized.”

Patt said conspiracy theories can be traced back to the so-called “Protocols of the Elders of Zion,” a sham document from the early 1900s that purported to be a handbook for a mythical Jewish cabal in control of world events.

He said at its base is the “idea that there is sort of this world Jewish conspiracy, designed to undermine the

white race, and that also sort of Jews are the puppet masters that control other immigrant groups, other minority groups, other other races.”

Antisemitism is not limited to any one part of the country. “The Jewish community is aware that this is everywhere, including Connecticut,” Bloom said.

“We know it’s here in Connecticut,” he said. “We are fortunate that we do live in a state where we have hate crime laws; we are fortunate to live in a state where our political leaders speak out about hate crimes.”

Antisemitic propaganda not only has a foothold in Connecticut, according to Stacey Sobol, the Connecticut regional director for the ADL, but is stretching its elbows.

“In the last four years in Connecticut we have seen a 20-fold increase in white supremacist propaganda,” she said. “In the first quarter of this year we have had more hate incidents than in all of 2021.”

There are several regions in Connecticut, but Sobol said ADL, which tracks hate incidents in all 50 states, has recorded antisemitic incidents in every nook and cranny of the nutmeg state.

“I wish I could tell you it was in one part of the state,” she said. “It is all over the state.”

Earlier this year, at the request of the university provost, Patt created a class in antisemitism in response to what he said was a visible increase in the number of antisemitic incidents on campus, “including antisemitic graffiti and a swastika that was spray-painted opposite the UConn Hillel,” a Jewish student organization.

The course, held online, drew more than 1,600 students.

“What happens is, when we hear about antisemitism on college campuses, or antisemitism anywhere, we sort of gravitate to focus on the bad actors, which we should. We have to understand why this is happening and how we should respond,” Patt said. “But I think it’s also quite rewarding to see that there are so many students, and generally in society, so many people, who are interested in making a difference and figure out how they can play a role in not just being bystanders but either learning more about it, learning how they can be allies.” ●

THE WOMAN WHO FOUGHT TO END THE 'PERNICIOUS' SCOURGE OF KISSING

New understandings of how disease spread informed Imogene Rehtin's ill-fated 1910 campaign to ban a universal human practice

By John Last

Imogene Rehtin was seized by disgust and terror. Standing in a reception line at a women's society event in Cincinnati in 1910, she watched as the hostess approached, welcoming each of the "30 or 40 women" ahead of her with a kiss on either the cheek or the lips.

"If only I had something to show that would prevent my being kissed," she thought to herself.

A middle-aged mother of two with a deep-seated fear of germs, Rehtin had long since convinced her husband of the pernicious health risks associated with "promiscuous kissing." At the time, a woman of Rehtin's class could hardly go a day without encountering a smattering of smooches. A peck on the mouth was the standard greeting between female friends, as common as a handshake today. This Cincinnati soiree, with its blatant swapping of bacteria, proved to be the final straw for Rehtin, who over the next year and a half spearheaded a short-lived, largely unsuccessful national movement to abandon the practice of kissing.

Naming her group the World's Health Organization, Rehtin distributed circulars outlining the case against kissing and mailed out buttons labeled "Kiss Not" for a 5-cent contribution. She and her hundreds of acolytes—most of them women—campaigning against kissing in all contexts, from the privacy of the bedroom to casual gatherings with friends.

"It is only in unity that sufficient strength can be gained to convince the civilized world that kissing is pernicious and unhealthful," Rehtin declared in a public appeal.

Enduring the ridicule of journalists and the scorn of the medical community, the push ultimately failed to sway public opinion at large. But Rehtin's concerns weren't entirely unfounded. At a time of widespread public health crises and evolving ideas about how illnesses spread, kissing was an easily avoidable vector of disease.

Until recently, Rehtin's story was more or less lost to history. Now, however, a new article in the *Journal of Social History* recounts her ill-fated campaign.

"She was basically right," says study author Peter C. Baldwin, a social historian at the University of Connecticut who stumbled across Rehtin's story while trawling through newspaper archives. "She basically understood what medical science was teaching us at that time."

Behind Rehtin's revulsion was a shifting understanding of disease. In the decades following the Civil War, doctors and researchers built on a nascent understanding of germs to refute outdated ideas about the causes of infection, like miasma theory, which blamed the foul air of decay and refuse. The real culprits, experts were beginning to realize, were microscopic germs—bacteria and viruses that could be readily transferred from person to person.

That discovery "sets off this ... evolution of what people get crazy about," says Nancy Tomes, a historian of the Progressive Era at New York's Stony Brook University and the author of *The Gospel of Germs: Men, Women, and the Microbe in American Life*. "By the turn of the century, it's casual infection—coughing, spitting, sneezing, hand shaking. ... Any skin-to-skin contact ... really just [has] almost a phobic quality to it."

When Rehtin started her campaign, typhoid, cholera and syphilis outbreaks were still common occurrences. Tuberculosis, for which no cure was then known, was responsible for as many as one-third of all deaths in Europe in the 19th century.

In the first half of that century, public health officials sought to combat these diseases with collective civic measures like sewer works and clearing out low-income housing. But as the "unseen threat" of germs became more widely known, says Tomes, experts placed an increasing emphasis on changing human behavior.

“The old public health ... sought the sources of infectious disease in the surroundings of man; the new finds them in man himself,” wrote health official Hibbert Hill in 1913.

In 1896, New York City passed an anti-spitting ordinance that aimed to curb the spread of tuberculosis, with penalties of up to one year in jail. Elsewhere, physicians decried the use of a common Catholic communion cup as a “menace to public health.” In circulars distributed to school boards, public health crusaders like Charles V. Chapin implored teachers to instruct children on the dangers of venereal disease and the virtues of toothbrushing.

“Children should be taught that their bodies are their own private possessions, that personal cleanliness is a duty, [and] that the mouth is for eating and speaking,” wrote Chapin in 1901.

With this shift, responsibility for public health moved definitively from city hall to the suburbs, where women like Rehtin often led the charge. Under an already old-fashioned theory of gender politics, enforcing the norms of proper comportment and behavior fell firmly in the woman-dominated domestic sphere.

By Rehtin’s time, says Tomes, women of means had long been using this ideology “to get out of the house” and spearhead campaigns for the improvement of society. In a seminal 1984 essay, historian Paula Baker described these movements as “municipal housekeeping,” a way in which “women sought to bring the benefits of motherhood to the public sphere.”

“Women become critical as foot soldiers in helping male political leaders,” Tomes says, a “kind of grassroots shock troops” for progressive causes.

Setting up the World’s Health Organization in her Cincinnati living room, Rehtin was following an already “well-trod[den] path,” according to Tomes. Even her hostility to kissing wasn’t wholly unprecedented. Per Baldwin’s paper, several previous health campaigns attempted to limit the practice, albeit not quite so zealously. An Atlanta woman named Avis Boyce, for instance, traveled the country in 1907 to stop the widespread practice of baby kissing. As she told the Chicago Tribune, “There is no way to pasteurize kisses.” (Boyce acknowledged that grown-ups were “hopeless cases” unlikely to ever quit kissing.)

As if to inspire future Rehtins, in 1908, the Washington Post even ran a story in which a Philadelphia doctor said she “firmly believe[d] that the day will come within a generation when a formidable anti-kissing movement will be established.”

“[K]issing practically will be confined to the lower classes,” she predicted, “the educated people having been brought up to see the evils of the habit.”

Compared to other health campaigns of her day, Rehtin’s campaign against kissing was far from unusual. The turn of the 20th century saw a dizzying array of wellness gurus and gospels, some far more bizarre and groundless than a ban on kissing.

Like Rehtin’s, many of these campaigns saw human behavior as the key to disease control, seeking in particular to control lustful, impure or excessive impulses. Political scientist Sylvia Tesh, in her 1982 history of public health, connected this trend to a widespread belief that one could defeat disease by “throw[ing] off ancient ‘artificial’ strictures and liv[ing] in a manner consistent with natural law.”

Sylvester Graham, inventor of the graham cracker, cautioned against the disease-causing properties of meat and hot food, instead advocating a simple vegetarian lifestyle. Fasting fads numbering in the dozens demanded adherents weigh their stool and undergo daily enemas to avoid the dangers of fecal “self-poisoning.”

Many of these campaigns were far more successful than Rehtin’s. Horace Fletcher, the “Great Masticator,” advocated chewing food until it “liquefied” and poured naturally down the throat; his advice proved so popular that it spawned the term “fletcherize,” meaning to chew food slowly and thoroughly. “Never forcibly swallow anything,” he wrote. “It is safer to get rid of it beforehand than to risk putting it into the stomach.”

Yet of all the bizarre turn-of-the-century health trends, Rehtin’s was perhaps the most grounded in actual science.

“It’s not really until much later than this period that you get effective treatments” for common diseases, Baldwin says. “So to kiss somebody who might be carrying tuberculosis, or who might be carrying syphilis, would be a real concern.”

Rechtin was eventually able to claim more than 1,000 adherents, including some 70 brides who donned “Kiss Not” buttons at their weddings. But she faced relentless hostility from the press.

“It’s very clear from the articles that reporters find this ridiculous,” says Baldwin. “They’re thinking that on its face, what she’s saying is so absurd that they can add color to their article by quoting her extensively.”

On highly illustrated pages crammed with jokey cartoons, reporters declared Rechtin’s campaign “hard-hearted” and “cold blooded,” while comic strips imagined couples’ joy at breaking anti-kissing “pledges.”

The medical and scientific communities were similarly dismissive. Much of the criticism, writes Baldwin, painted the idea as impractical and excessive, even paranoid. One prominent official’s editorial in the Washington Post decried Rechtin’s organization as “a society for the prevention of pleasure.”

“Take a darkened nook on a moonlit night, with the beams playing around a couple idly swinging in a hammock; let the antikissing society get to work in such a case, and see what happens,” it read. “You can’t keep it down and there’s no use trying... so long as good, red blood courses through the veins of American youth.”

Baldwin argues that the men of Rechtin’s time doth protest too much. Behind their disdain was a reluctance to cede to women their right to bodily autonomy, he writes, adding, “Young women, in particular, had to be alert for the possibility that any man, whether stranger or trusted friend, might grab them and try to kiss them.”

“The ‘Kiss Not’ button was aimed, in part, at the sort of man who might attempt the erotic gambit of a first kiss before any inviting social cues from the woman,” Baldwin continues. “When American newspapers scoffed at Rechtin’s anti-kissing campaign, they were following an established pattern of treating unwanted sexual advances as a joke.”

Tomes points out that earlier public health campaigns against spitting took aim at lower-class men for spitting in the path of rich women to grab their attention—a form of street harassment that was common in Rechtin’s time.

“[But] what’s interesting about Imogene is she’s really pushing back against men of her own class,” Tomes

said. “She’s really trying to set a boundary that we can recognize today as ‘don’t touch me without my consent.’”

Ultimately, Rechtin’s campaign failed to survive her critics. After a year and a half of campaigning, the World’s Health Organization disappears from the record. “Her campaign basically goes nowhere,” Baldwin says, “and it runs up against ... a whole bunch of problems.”

Rechtin had long since convinced her husband of the pernicious health risks associated with “promiscuous kissing.”

By the 1920s, women’s sexual politics had shifted dramatically. “The ‘new woman’ of the 1920s discarded 19th-century womanhood by adopting formerly male values and behavior,” wrote Baker in her 1984 essay. Baldwin, meanwhile, says that “these modern women are enjoying sex just like men enjoy sex,” making an anti-kissing campaign seem dangerously out of fashion.

Not long after, the introduction of effective antibiotics changed the public health landscape dramatically, greatly reducing the risk of dying from common infectious diseases. The anxiety about hidden germs lurking behind every kiss gave way to a more relaxed attitude toward dirt and disease.

In the end, Tomes deems Rechtin’s failed campaign a product of a period when the philosophy of public health was changing, from behavior-based approaches to societal problems to more targeted scientific solutions. “[Rechtin is] kind of caught in this transition to what public health becomes,” she says.

The dieting charlatans and great masticators who outshone Rechtin in her day would soon be reined in, too. In 1910, U.S. science administrator and politician Abraham Flexner successfully pushed to formalize the practice of medicine and greatly suppress what he called the “quackery” of alternative wellness gurus.

For Baldwin, Rechtin’s story is ultimately a reflection of just how little “following the science” can matter in matters of public health. When it comes to the dangers of kissing, Rechtin was right—but as time proved, in the words of one newspaper headline, it was simply “too pleasurable a pastime to abolish.” ●

ISRAELI SCIENTISTS' BREAKTHROUGH: USING LIGHT TO FIRE UP THE IMMUNE SYSTEM

The technology developed controls the process of entering Calcium into the cell. Changes in calcium levels in cells may cause many diseases.

By Gali Raz

Researchers at the Technion, Israel Institute of Technology, have developed an innovative technology that utilizes light to remotely manage a unique process that controls the entering Calcium into the cell. It could give people the ability over how they feel pain and how much and where their immune system reacts.

Calcium is an essential mineral for human health. Although its effects on bone density are particularly well-known, it serves a far larger purpose in the human body. Calcium is a “messenger” that conveys messages between cells and plays a crucial role in processes that regulate gene expression in immune cells, muscular contraction, and electrical transmission in the nervous system, among many other bodily activities.

A complex system has developed during evolution to control how much calcium is in each cell. This is because abnormal changes in calcium levels in cells are likely to cause many diseases.

Professor Raz Palty of the Rappaport Faculty of Medicine has spent many years studying a central process called store-operated calcium entry that nearly all types of cells use in order to control the levels of their internal calcium stores.

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Calcium Cell Level

Calcium cell level. On the left – intervention-free; on the right – after using the technology developed by the Technion research group. The white circle marks the illuminated area in which the light activates the molecule that triggers calcium influx into the cell.

When this regulation system stops working, the clinical consequences can be catastrophic, including serious harm to the function of T cells, which are an essential part of the immune system.

“The store-operated calcium shuttling system in the cell has been researched for many years,” explained Prof. Palty, who conducted the research together with Dr. Ronald Udasin and Dr. Elia Zomot. “But since this is a highly complex system that generates different calcium signals in different types of cells and also works alongside other calcium entry mechanisms, in a ‘noisy’ environment, it is often very hard to study the role of this cellular machinery under normal physiological settings in which cells are exposed to their native agonists.”

The researchers published in PNAS describes the breakthrough in establishing a technology that allows exact spatial and temporal regulation of calcium entrance into cells.

Prof. Palty’s research group has worked on this challenge, using a number of methodologies from chemistry, biology, and physics to address this difficulty, in collaboration with the research groups headed by Professor Yuval Shaked of the Technion, Faculty of Medicine, and Professor Michael Kienzler of the University of Connecticut.

The researchers developed a reversible optical switch that allows them to regulate when and where medications delivered into the body become active. In this method, they are able to regulate the amount of calcium that enters the cell at the appropriate time and location. Using this technique, the study team was able to modulate calcium entry into T cells and regulate the generation of essential cytokines for immune system function.

Moreover, in a series of experiments conducted in collaboration with a research team led by Professor Alex Binshtok of the Hebrew University of Jerusalem, the researchers discovered that store-operated calcium

shuttling machinery is also active in the perception of pain, suggesting that manipulating this machinery may facilitate a more precise understanding of pain transmission mechanisms. The purpose of the follow-up study is to further the researchers' understanding of these regulatory systems and expand the therapeutic uses of the technology they have built. ●

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HOTTER ANCIENT EARTH HAD PALM TREES AT THE POLES

By Zach Fitzner

Paleobotanist David Greenwood has collected fossil plants from southern Australia for decades. Along with climate scientists and other paleobotanists, Greenwood has started to recreate the ancient environment.

The fossil ecosystem examined by the team existed 55 to 40 million years ago, during the Eocene epoch. This was a time when Earth was much warmer – with tropical weather and palm trees at the poles. Dry continents like Australia were much wetter and lush. The researchers can understand a lot about rainfall and temperature patterns on ancient Earth by looking at plants.

“For example, if a plant has large leaves and it is left out in the sun and doesn't get enough water, it starts to shrivel up and die because of excess evaporation,” said study co-author Tammo Reichgelt of the University of Connecticut. “Plants with large leaves also lose heat to its surroundings.”

“Finding a large fossil leaf therefore means that most likely this plant was not growing in an environment that was too dry or too cold for excess evaporation or sensible heat loss to happen. These and other morphological features can be linked to the environment that we can quantify. We can compare fossils to modern floras around the world and find the closest analogy.”

The research suggests that the Earth was quite sensitive to CO₂, with the poles amplifying the warming effect, a phenomenon that is poorly represented in climate models.

“Southern Australia seems to have been largely forested, with primary productivity similar to seasonal forests, not unlike those here in New England today,” said Reichgelt. “In the Northern Hemisphere summer today, there is a big change in the carbon cycle, because lots of carbon dioxide gets drawn down due to primary productivity in the enormous expanse of forests that exists in a large belt around 40 to 60 degrees north.”

“In the Southern Hemisphere, no such landmass exists at those same latitudes today. But Australia during the Eocene occupied 40 degrees to 60 degrees south. And as a result, there would be a highly productive large landmass during the Southern Hemisphere summer, drawing down carbon, more so than what Australia is doing today since it is largely arid.”

The researchers hope that their study will further the understanding of how our planet warms and improve climate change models for the future. ●

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SCHOOL MENTAL HEALTH RESOURCES CRITICAL TO ENSURING SAFE SCHOOL ENVIRONMENTS

By Amy Briesch and Sandra M. Chafouleas

Whenever a mass shooting takes place in schools, public discussion often focuses on laws or policies that might have prevented the tragedy. But averting school violence needs more than gun policy. It requires both prevention and crisis response that take students' emotional well-being – not just their physical safety – into account.

School violence prevention also requires professionals – counselors, psychologists and social workers – who know how to create an emotionally safe environment, which research shows is critical to safe schools. Unfortunately, statistics show there is a critical shortage of such employees. Staffing shortages have become a major obstacle to creating schools that are emotionally safe for children.

As school psychology professors who train future school psychologists, we know that school counselors, psychologists and social workers are in short supply. Though school shootings have led to increased hiring of police officers to serve in schools, the hiring of experts in school mental health has not kept pace. Demand is greater than supply, a trend that is projected to continue in the years to come.

Staffing Matters

Employment of school counselors is expected to grow 11% over the coming decade. However, there are not enough trained professionals to fill the positions. Current ratios are already twice what they should be, with one school counselor for every 464 students and one school psychologist for every 1,200 students. These ratios are even higher in schools where most students are members of ethnic or racial minorities.

Analysis Of The World, From Experts

Better-staffed schools are more likely to use preventive and restorative approaches to student violence – ones that aim to educate, rather than those that simply aim to punish. In understaffed schools, providers manage only to keep up with emergencies, rather than doing the preventative work required to make schools safer and more successful.

Key preventive and restorative activities to promote emotionally safe environments include:

- **Promoting connected communities:** Research has found that when students feel more comfortable at school, and feel like they belong there, they are less likely to engage in aggressive behavior at school – even when they have experienced violence at home. Key activities such as group decision-making, teamwork-building and conflict resolution – often led by teachers with support from school

mental health personnel – can help build this type of community.

- **Teaching social-emotional skills:** School mental health professionals can help to ensure all students are taught strategies to identify their feelings, calm themselves and connect with others. Students with these skills not only have fewer conduct problems and less emotional distress at school but get better grades as well. Most states, however, don't require schools to teach these skills to all students.
- **Intervening early:** Schools are in a unique position to provide proactive supports when data suggests widespread need. For example, rates of anxiety and depression in youth have doubled since the onset of the pandemic, such that as many as 20% of students in a classroom may be affected. Targeted therapeutic supports delivered in small group formats by school mental health personnel can help prevent the development of future disorders.
- **Providing accessible mental health support:** Schools can be a primary source for mental health support for young people in crisis. This includes both providing direct services in school and coordinating care with community providers. For many students, especially students of color and those with fewer financial resources, school may be the only accessible way to receive mental health treatment.

Preparing School Staff

Even before the COVID-19 pandemic, and much more severely since it began, schools have been struggling to provide enough mental health support to students, given insufficient staffing.

There are several federal bills proposed that aim to expand the number of school mental health workers. One bill would help grow the pipeline by subsidizing the cost of graduate training for those who commit to working in schools. Another would provide grants directly to schools to fund additional in-school positions. However, experts project both bills only have a 3% chance of being enacted by Congress. ●

JAVARI VALLEY: THE LAWLESS PRIMAL WILDERNESS WHERE DOM PHILLIPS WENT MISSING

The largest refuge for Indigenous tribes living in isolation is also a hotspot for poachers and illegal loggers and a major smuggling route for cocaine traffickers

By Dan Collins

In Brazil's far west lies an immense swath of rainforest and rugged terrain reachable only by snaking brown rivers. Wedged alongside the border with Peru, the Javari valley is the largest refuge for Indigenous tribes living in isolation from the outside world.

"The Javari is one of the last true bastions of primal wilderness in the Amazon – and in the world," said Scott Wallace, author of *The Unconquered: In Search of the Amazon's Last Uncontacted Tribes*.

But the region is also a lawless zone where criminals act with impunity, said Wallace, now associate professor of journalism at the University of Connecticut.

Lying along Brazil's Amazon border with Peru, the Javari Valley Indigenous Reservation is the country's second largest, at 85,000 square km (33,000 square miles) – nearly as big as Portugal.

The Javari's tropical bounty has made it a hotspot for poachers, fishers and illegal loggers, prompting violent conflicts between the Indigenous inhabitants and the riverside communities which fiercely opposed the reservation's creation in 2001. It is also a smuggling route for cocaine traffickers who have profited from a lack of state presence and battle for control of smuggling routes between Brazil, Peru and Colombia.

This was the setting in which British journalist Dom Phillips and the Indigenous advocate Bruno Araújo Pereira went missing on Sunday. They were travelling along the Itaquai River, the main waterway access to the Javari valley. A suspect has been arrested in

connection with their disappearance, although police say they have yet to find any evidence of a crime in the case.

The last decade has seen an explosion of drug trafficking through the Javari's hidden waterways as the cultivation of coca – the plant used to make cocaine – surged across the border in Peru.

Coca farming increased by nearly 20% between 2019 and 2020 to 61,777 hectares (152,654 acres) in Peru, the second biggest producer after Colombia, according to UN figures.

In turn, the burgeoning drugs trade has unleashed a bloodbath in the triple frontier between Brazil, Peru and Colombia, as Colombian and Brazilian cartels vie to control access to the Amazon River to ship their cocaine to the lucrative European market.

Gen Mauro Esposito, former coordinator of special border operations for Brazil's federal police, said the triple frontier had become the most dangerous part of the country's 10,492-mile-long border due to Peru's "massive" increase in coca cultivation.

"From the 2000s onwards, there's been a movement of coca fields to Peru's border with Brazil," he said.

Esposito oversaw the 2014 arrest of notorious cartel leader Jair Ardela Michu , alias "Javier", who was personally responsible for at least 50 murders, including a Peruvian police officer. But the Peruvian capo's capture in a joint Peruvian-Brazilian police operation did not quell the bloodletting.

Amazonas, the state where the Javari valley is located, is now Brazil's most violent per capita after a 54% increase in the number of murders last year, according to a study by news website G1, the nonprofit Brazilian Forum of Public Security and the University of Sao Paulo (AP).

"The Amazon is a battleground for a war between powerful criminal organisations," said a Peruvian police source.

For years, the local Family of the North gang, the S o Paulo-based First Capital Command and Rio de Janeiro-based Red Command fought for control of Amazonas. Since 2020, the latter has become dominant, according to security experts.

Colombian crime factions, including militias composed of dissident former rebels are also involved in the conflict, the police source said. "It's a war with a lot of violence, a lot of cruelty."

But the remote region is also a haven of sorts for uncontacted tribes. It is home to approximately 6,000 Indigenous people belonging to 26 ethnic groups, 19 of which live in isolation.

It was the Javari valley's pristine beauty which brought Wallace to the region two decades ago, when he accompanied the legendary Brazilian explorer and Indigenous defender, Sydney Possuelo, on an expedition to track uncontacted tribes.

Many are descendants of the survivors who "escaped slaving raids and massacres at the end of the 19th century and the early 20th century," Wallace said. They fled to the most "inaccessible redoubts" of the rugged wilderness where the headwaters of many Amazon tributaries lie.

"Twenty years ago there were indications of the incipient penetration of drug traffickers in the region and particularly in the areas surrounding the reserve," he added. Today, he lamented it was much worse as the current Brazilian government showed much less interest in "exercising the rule of law".

Jair Bolsonaro and his government "seem to be in favour of extractive activities which end up plundering the forest," Wallace said, adding that the rightwing president's stance gave a "wide berth for criminal gangs to operate".

"They've ceded these territories to criminal operations."

Environmental and Indigenous rights groups have long argued that Bolsonaro's public stance towards Indigenous territories has encouraged land invaders and criminal gangs to act with impunity.

"Bolsonaro's narrative makes it easier for illegal mining and any use of the territory for many [extractive] activities," said Antenor Vaz, the former leader of Brazil's National Indian Foundation, Funai, in the area where the pair are missing.

Meanwhile Brazil's Congress is considering legislation that would open up Indigenous lands for extractive industries, such as mining and logging, said Vaz.

"In the Javari valley there is organised crime. State institutions don't combat it and they don't provide justice," he added. "Criminals feel very empowered by the president's discourse."

The year is 2033. Elon Musk is no longer one of the richest people in the world, having haemorrhaged away his fortune trying to make Twitter profitable. Which, alas, hasn't worked out too well: only 420 people are left on the platform. Everyone else was banned for not laughing at Musk's increasingly desperate jokes.

In other news, Pete Davidson is now dating Martha Stewart. Donald Trump is still threatening to run for president. And British tabloids are still churning out 100 articles a day about whether Meghan Markle eating lunch is an outrageous snub to the royal family.

Obviously I have no idea what the world is going to look like in a decade. But here's one prediction I feel very confident making: without a free and fearless press the future will be bleak. Without independent journalism, democracy is doomed. Without journalists who hold power to account, the future will be entirely shaped by the whims and wants of the 1%.

A lot of the 1% are not big fans of the Guardian, by the way. Donald Trump once praised a Montana congressman who body-slammed a Guardian reporter. Musk, meanwhile, has described the Guardian as "the most insufferable newspaper on planet Earth". I'm not sure there is any greater compliment.

I am proud to write for the Guardian. But ethics can be expensive. Not having a paywall means that the Guardian has to regularly ask our readers to chip in. If you are able, please do consider supporting us. Only with your help can we continue to get on Elon Musk's nerves. ●

DELIVERY WORKER'S DEATH HIGHLIGHTS FAILURE OF POLICE AND GUN SAFETY ENVIRONMENT, ADVOCATES SAY

“By enforcing the laws we already have, I don’t know that this man’s specific murder would have been prevented. But what I can say with confidence is that murders like this one would go down,” one expert said.

By Kimmy Yam

Eva Zhao met her husband, Zhiwen Yan, a fellow immigrant from China, when she moved to the U.S. and began working at the same Chinese restaurant in Queens. She said she fell for him easily, drawn to the way he made everyone feel safe and secure — a quality he later brought to raising their three kids.

But that security was shattered when Yan, 40, was fatally shot in April outside his workplace in Queens. News reports largely portrayed the shooting as a dispute over a takeout order, but experts say the issues driving such attacks are more far-reaching.

One gun-violence prevention scholar pointed to a lack of using red flag laws and police accountability over signs of stalking and violence. And others said there’s a need for greater citywide protection for delivery workers and outreach to immigrant communities.

“He gave everyone around him a sense of safety,” Zhao, 40, told NBC Asian America, speaking in Mandarin. “He was always taking care of the people around him. He was just a wonderful person.”

Earlier this month, authorities arrested a suspect, Glenn Hirsch, charging him with murder, in addition to criminal possession of a weapon, criminal mischief, menacing and stalking. Prosecutors say that for months, Hirsch, 51, from Queens, had allegedly “routinely threatened” the staff of Great Wall Chinese Restaurant,

where Yan worked, after an argument about duck sauce last year, according to the district attorney’s office. It came to a head when Hirsch, who had circled the restaurant seven times that night, allegedly followed Yan and fatally shot him in late April, according to the charges.

Given that Hirsch’s alleged repeated attacks on restaurant staff were at times violent, according to the charges, experts say that the case reveals a glaring lack of action from authorities to prevent gun violence, including the failure to use existing gun laws.

“This is a case where early intervention would have really helped,” Kerri Raissian, director of the University of Connecticut’s Center for Advancing, Research, Methods and Scholarship in Gun Injury Prevention, said of the alleged attacks leading up to the shooting. “We do need more gun laws. ... But we also need to enforce the ones we already have.”

She added: “By enforcing the laws we already have, I don’t know that this man’s specific murder would have been prevented. But what I can say with confidence is that murders like this one would go down.”

The New York Police Department did not return NBC News’ request for comment. But Hirsch’s attorney, Michael Horn, denied the allegations, writing in an email to NBC Asian America that his client, who has pleaded not guilty to the charges, “did not harass, assault or murder Zhiwen Yan.” Horn said his office is conducting a comprehensive investigation.

“Glenn Hirsch is a long time member of the Queens Community who continues to follow the law and is simply asking his fellow citizens to reserve their judgment until the justice system has time to work,” Horn wrote. “I expect that the truth will come out at trial.”

Months Of Stalking And Violent Attacks

Zhao said that on the night Yan was shot, she tried contacting him, calling over and over to no response. As night fell, Zhao said she was told that something had happened to her husband, but the information was still vague. Yet she felt certain he was alive.

“I kept thinking he was in a car accident,” Zhao said, getting quiet. “I thought maybe he had only been injured.”

The fatal shooting wasn't the first time Yan had interacted with Hirsch, according to a statement from the district attorney. The alleged attacks began in November after Hirsch asked for extra duck sauce with his order — a request restaurant staff honored at the time, according to the charges. Regardless, an argument allegedly ensued and Hirsch “became irate,” demanding a refund and calling the police. But after the restaurant explained to law enforcement that they would not take back food because of Covid precautions, Hirsch “stormed out.”

Over the next few months, the charges read, Hirsch allegedly slashed staff members' cars, threatened their lives and pointed a firearm at a worker. During one such incident, Yan spotted Hirsch damaging a car outside the restaurant while wearing a black surgical mask. Hirsch allegedly threatened Yan and other workers, before they pulled down his mask, took photos of his face and documented his license plate.

“The defendant allegedly said in sum and substance, ‘I have a gun’ and added ‘be careful, this is the last time I’m going to tell you,’” the DA said in a statement.

Police were contacted during another alleged car slashing incident but Hirsch disappeared soon after the call was made, according to the district attorney.

Raissian said that Hirsch's alleged actions prior to the shooting parallel patterns of domestic abuse in which individuals often exhibit several escalating examples of troubling behavior. The alleged initial disagreement involved a minor issue, and Hirsch's alleged fixation on it should've been a red flag to law enforcement, she said. If authorities identified the similarities, she said, it's possible they would've handled the issue differently and mitigated any further harm.

“I think the tactics of domestic violence really overlay lots of criminal elements. And we could do a lot with crime reduction if we learned across different kinds of violence, as opposed to trying to compartmentalize these strategies,” she said.

“A warning sign is when a high schooler draws a picture in class that startles their teacher. Pulling your gun on someone and telling them you're going to kill them is a crime. It is well beyond a warning sign.”

One existing gun violence prevention mechanism that officials should have considered filing against Hirsch was

an Extreme Risk Protection Order (ERPO), also known as a red flag law, Raissian said. The order, filed against individuals who pose a danger to others or themselves, prohibits a person from purchasing or possessing guns. If the order was granted, police could have been directed to search Hirsch, his premises or vehicle for guns and remove them. And in Raissian's opinion, the allegations show that there were already several crimes for which Hirsch should have been arrested.

“A warning sign is when a high schooler draws a picture in class that startles their teacher. Pulling your gun on someone and telling them you're going to kill them is a crime. It is well beyond a warning sign,” Raissian said. “We should not confuse the two because it minimizes criminal activity that has already taken place. And the victimization of Mr. Yan was already happening.”

And, Raissian said, an ERPO could potentially have cut Hirsch's access to firearms, even if they weren't directly in his home. According to the prosecutor's statement, Hirsch allegedly drove away from the scene of the crime to his wife's apartment. And after search warrants were executed at the home, police allegedly recovered eight firearms from a closet, which also contained some of Hirsch's own belongings.

Alex Nguyen, research manager at the Giffords Law Center to Prevent Gun Violence, said that the environment in which the allegations took place should not be dismissed, either. He noted that amid the pandemic, Asian Americans have experienced an uptick in hate crimes, with the NYPD reporting a 361 percent increase in 2021, compared to the year before, in NYC alone. And strategies to mitigate such attacks need to be considered.

Not only were there “a lot of opportunities for law enforcement to step in” before Yan's murder, but also there was “more than enough” reason for an ERPO to be requested, Raissian said.

Underscoring Risks For City Delivery Workers And Immigrant Communities

Both Nguyen and Raissian pointed out that members of immigrant communities may often be hesitant to take formal action, out of fear of retaliation or concern over their immigration status. However Raissian said that in this case, particularly because police were involved in at least two incidents with Hirsch, there was an awareness

of his behavior. And while victims may not have been aware that the ERPO process was available to them, the onus then falls on police to file the request.

“The day-to-day lives of people depend as much if not more so on their work conditions. Are they unionized? Can they be unionized? What is their health care?”

“They could have seen a dangerous and escalating pattern,” Raissian said. “It seems like this is a case that is what ERPO laws are written for.”

Other solutions should also be presented when it comes to gun violence prevention, Nguyen said. Many community members have repeatedly reported a distrust in law enforcement, and Nguyen says it’s up to the gun-violence prevention movement to do further outreach to immigrant communities and alert them of resources readily available to them in dangerous situations, including more community-based solutions.

In addition to insufficient action from authorities, experts say that the case also highlights the regular harassment and danger that delivery workers, many of whom come from immigrant communities, face while on the job. Zhao said her husband had been robbed before, his delivery orders ripped from him and his scooter bike stolen several times. Though he had never encountered severe violence, he had sustained mild injuries in the past, she said.

While public education around Asian American history and studies, which have been popularly advocated by nonprofits, can be helpful in reducing the perpetuation of stereotypes, Pawan Dhingra, a professor of American studies at Amherst College, said these campaigns are insufficient when protecting workers in their immediate needs.

“The day-to-day lives of people depend as much if not more so on their work conditions. Are they unionized? Can they be unionized? What is their health care?” Dhingra said.

“When you put it in class terms this starts to matter. Their lives really are shaped by the status of their jobs, and the racial and gender education that we need should be seen as part of an answer. But it’s not the full answer.”

“He was so well-loved around the neighborhood, people would always talk about how great he was.

Toward our kids, he was so selfless,” Yan's wife, Eva Zhao, said.

Now, as the community mourns Yan’s death, Zhao said she hopes people will remember how loving and empathetic her husband was — how, while his safety was never guaranteed, he tried to ensure stability for others.

“He was so well-loved around the neighborhood, people would always talk about how great he was. Toward our kids, he was so selfless,” Zhao said. ●

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A LUCKY BREAK HELPED IDAHO POLICE ARREST 31 MEN LINKED TO WHITE SUPREMACIST GROUP.

By Erik Ortiz and Doha Madani

The arrest of 31 men affiliated with a white supremacist group at a Pride event raises questions over whether the federal government is doing enough to monitor hate-based gatherings that could spill into deadly violence, experts warned.

It took a tip to 911 from a "concerned citizen" to set off Saturday's arrest in Idaho of the men affiliated with Patriot Front, who police say were spotted in a hotel parking lot dressed like "a little army," piling into a U-Haul less than a quarter-mile from the "Pride in the Park" festivities.

During a news conference Monday, Coeur d'Alene Police Chief Lee White said, "We likely stopped a riot from happening downtown."

But multiple law enforcement experts told NBC News that it was concerning that the group assembled nearby and, if not for the lucky break of the tipster, may have caused bloodshed.

"The manner in which these arrests were made reflects the long-standing problems in the way the FBI and the

DOJ deprioritize white supremacist crimes and fundamentally misunderstand the violent element within how the white supremacy movement operates," Michael German, a fellow with the Brennan Center for Justice at New York University, said referring to the Department of Justice. He is a former undercover FBI agent who retired in 2004.

Patriot Front, he added, "has been particularly public in its activities, doing these very aggressive marches, showing up like a flash mob and choosing places where they know they have political opposition with an attempt to intimidate that community, but also prepared to project violence if met with any resistance. So you would hope that this group would be on federal law enforcement's radar."

Extremism experts say that Patriot Front members target Black Americans, Jews, nonwhite immigrants and LGBTQ people, all of whom they consider a threat to the preservation of their European ancestors and the white race in the United States.

The group has made other public displays, including at an anti-abortion march in Washington, D.C., in January, and are often seen wearing blue shirts, khaki pants and balaclavas.

All of the men — hailing from nearly a dozen states — were booked and released on misdemeanor charges of conspiracy to riot and are awaiting court appearances. Coeur d'Alene police and prosecutors said they are still gathering evidence and further charges may be warranted.

White said the Coeur d'Alene Police Department was aware of the group's existence, but he had never specifically encountered its activity in his city of 51,000 located west of Spokane, Washington. Police said among the items seized from the men were shields, shinguards and paperwork that appeared "similar to an operations plan that a police or military group would put together for an event."

The Dallas-based founder of the Patriot Front, Thomas Ryan Rousseau, was among those arrested; he did not immediately return an emailed request for comment. An attorney for one of the men charged told The Associated Press that the group does not have a reputation for violence and that the case could be a First Amendment issue.

"Even if you don't like the speech, they have the right to make it," Michael Kielty, a Missouri lawyer, said.

An FBI spokeswoman declined to comment about whether the agency had been aware of the movements of those arrested and any monitoring of the Patriot Front.

"If, in the course of the investigation, information comes to light of a potential federal violation, the FBI is prepared to investigate," she said in an email.

The spokeswoman added that the agency does not open investigations "based solely on protected First Amendment activity" and cannot investigate ideologies, only on those "who commit or intend to commit violence and criminal activity that constitutes a federal crime or poses a threat to national security."

But German said the FBI has historically used its investigative powers to focus on Black activists and environmentalists it suspects of violent behavior.

"I don't want the FBI targeting even the most ardent Nazi for saying he's a Nazi and preaching national socialism to his community, but what we're talking about is a group that's allegedly committing crimes," he said. "There's a knee-jerk reaction that this is a group engaged in protected activities, rather than acknowledging there's a group bringing people across states lines to commit crimes."

Matthew Hughey, the author of "White Bound: Nationalists, Antiracists, and the Shared Meanings of Race" and a sociology professor at the University of Connecticut, said Patriot Front remains "one — if not the most — active white supremacist group operating."

"Their ideology is flexible enough to make intellectual appeals using savvy propaganda, the internet and social media, or graffiti or stickers left in public places, as well as going beyond that messaging and allowing for violence."

Patriot Front, which he said may have between 200 to 300 "card-carrying" members, formed as an offshoot of another white supremacist group, Vanguard America, whose members participated in the deadly Unite the Right rally in Charlottesville, Virginia, in 2017.

Hughey said the clashes in Charlottesville and at the U.S. Capitol on Jan. 6, 2021, weren't isolated, but part of a broader hate-based and far-right movement that is

searching for the next place to incite violence and domestic terrorism.

The Pride event in Coeur d'Alene, located in a state with a history of anti-federal government and far-right extremism, was an obvious target, experts said, because it had attracted other protesters and comes at a time of divisive political rhetoric and legislation aimed at the LGBTQ community.

"It's not a matter of if, but when" violence occurs, Hughey said.

White said his police department had been in contact "all day" with the FBI following the arrests but declined to speak further on any involvement beforehand. He added Monday that his office had received death threats "against myself and other members of the police department merely for doing our jobs."

Amy Spitalnick, the executive director of Integrity First for America, a nonprofit civil rights organization that funded a lawsuit against the white nationalists who took part in the far-right rally in Charlottesville, said Saturday's arrests were remarkable because they were the result of a community member calling police and local police taking that call seriously.

She added that it's imperative for the federal government to have a hand in monitoring groups like Patriot Front. She said that the fact that Senate Republicans in May blocked a House-passed domestic terrorism bill to regularly evaluate and take steps to address the threats posed by white supremacists and other violent domestic extremists is a failure in getting to the larger root causes.

"This is not a problem that you're going to prosecute or sue your way out of," Spitalnick said.

Other experts said federal agencies should be fully monitoring white nationalist and white supremacist groups, given that Attorney General Merrick Garland warned last year that "racially or ethnically motivated violent extremists" are one of the most lethal elements of the domestic terrorist agenda.

"There are some civil liberty issues that have to be considered, but there is also some monitoring that can and should happen when people are involved in certain activities," said Pete Simi, an associate professor of sociology at Chapman University in California, who has

testified before Congress about white supremacist and anti-government extremism.

In Coeur d'Alene, where Saturday's Pride event drew hundreds who wanted to enjoy colorful chalk art, music and kinship, there was a chance to "support your community and have a good time," Simi added. "But make no mistake. It could have turned into something ugly and harmful in terms of people being victimized and lives being lost."

Delivery worker's death highlights failure of police and gun safety environment, advocates say "By enforcing the laws we already have, I don't know that this man's specific murder would have been prevented. But what I can say with confidence is that murders like this one would go down," one expert said. ●

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A POST-ROE WORLD?

Why Abortion Battles in America Won't Halt Reform Abroad

By Nina Brooks, Minzee Kim, Elizabeth Heger Boyle, and Wesley Longhofer

ny day now, the U.S. Supreme Court will release a ruling that is likely to overturn its 1973 decision in *Roe v. Wade*, the case that affirmed a constitutional right to abortion. Reversing *Roe* would have profound implications for abortion access in the United States. Such a decision would also have ramifications abroad, particularly if a judicial ruling empowers future U.S. presidential administrations to push for restrictions on abortion in other parts of the world.

It is important, however, not to overstate U.S. influence on global abortion policy. The 1973 case was a landmark in allowing abortion access and served as an example to abortion advocates across the world. But in the 50 years since, the United States' international messaging on abortion has been incoherent. U.S. law made abortion legal at home, but additional legislation that followed gave U.S. presidential administrations

tools to restrict access abroad. Indeed, the United States, with policies that are at worst obstructionist and at best inconsistent, has been instrumental in blocking international agreement on abortion liberalization. Nevertheless, the global trend has slowly moved toward greater access to abortion. Whatever the fate of Roe in the United States, other countries will decide their own abortion policies as they see fit.

The Wave Builds

Countries such as France and the United Kingdom first established policies outlawing abortion in the early nineteenth century—and replicated them around the world by declaring their own laws to be the laws of their colonies. But forces pushing policy in the opposite direction emerged not long after. In Europe in the early twentieth century, socialist parties pressed for exceptions to abortion bans, including for women suffering from poverty. The Soviet government was the first to legalize abortion on demand in 1920, although it periodically retracted and reinstated that policy over the following decades. Allowing abortion in limited circumstances gained broader public support across Europe when rates of abortion increased in the 1930s during the Great Depression. By the late 1960s, countries all over the world were moving toward liberalization. The United Kingdom passed the Abortion Act in 1967, Singapore approved its Abortion Act in 1969, India instituted the Medical Termination of Pregnancy Act in 1971, and the U.S. Supreme Court ruled on Roe v. Wade in 1973. When China introduced the one-child policy in 1979, its implementation required access to abortion.

The wave of abortion liberalization in the 1960s and 1970s coincided with a general rise in global attention to women’s rights issues, such as equal employment opportunities, the criminalization of domestic violence, and nondiscrimination in property and inheritance laws. The United Nations declared 1975 to 1984 “the Decade of the Woman” and in 1979 adopted a watershed women’s rights treaty, the Convention for the Elimination of All Forms of Discrimination Against Women, which has since been signed by nearly every country in the world. But even as some countries included abortion access in domestic legislation, others objected to the practice, and strong countermobilization kept the issue out of international agreements. Abortion was not mentioned in the 1979

treaty, nor has it been included in the UN’s Millennial Development Goals or the subsequent Sustainable Development Goals as a component of progress toward women’s rights. At the 1994 International Conference on Population and Development in Cairo, too, the Catholic Church formed strategic alliances with the delegations of predominantly Catholic and Muslim countries to block efforts by women’s rights organizations to add language addressing abortion to conference documents.

The Backlash To Roe

The United States has long acted as a particularly effective spoiler in efforts to build a strong global consensus around abortion. The Roe v. Wade decision sparked an immediate backlash from the domestic anti-abortion movement, and the area where it managed to quickly gain traction was in U.S. foreign policy. Researchers have documented how, in the years leading up to the court ruling, the Republican Party used opposition to abortion to draw Catholic voters away from the Democratic Party and mobilize social conservatives to vote. Republicans received their first legislative win soon after President Richard Nixon was reelected in 1972. The same year that Roe was decided, in 1973, Congress passed the Helms Amendment to the Foreign Assistance Act, prohibiting the use of U.S. aid to pay for abortions.

A decade later, in 1984, President Ronald Reagan sent a delegation to the Second International Conference on Population in Mexico City to announce a new policy, building on the Helms Amendment, that cut all U.S. family planning aid to nongovernmental organizations outside the United States that failed to certify that they were neither performing abortions nor providing any information about abortion. (This became known as the Mexico City Policy.) In 1985, the U.S. Congress passed the Kemp-Kasten Amendment, which imposed a similar restriction on U.S. contributions to the UN Population Fund. Together, these policies resulted in a substantial reduction in U.S. funding available to support comprehensive reproductive health services abroad. Although the policies apply to all recipients of U.S. aid, in practice, the poorest countries—where people often depend on foreign-funded NGOs for health services—are most affected.

There are both moral and practical problems with U.S. policies on abortion access abroad. They represent a sort of imperialist hypocrisy, establishing a hierarchy in which a procedure that is legal in the United States is restricted for women living in other countries. Further, research has consistently found that the Mexico City Policy increases rates of abortion, particularly among women living in countries that receive a lot of U.S. foreign aid. This outcome may seem counterintuitive, but the explanation is logical: when the policy has been enforced, the supply of contraceptives in those countries has declined because the NGOs that provide reproductive health services have lost funding. The result is less contraceptive use, which means more pregnancies and more abortions.

The United States has been instrumental in blocking international agreement on abortion liberalization.

What the Mexico City Policy does provide, however, is symbolic support to opponents of abortion. This and other U.S. policies have created a chilling effect on reproductive rights advocacy in countries reliant on U.S. aid. In interviews conducted by Vanessa Rios for a 2019 International Women's Health Coalition study, representatives of health organizations in Kenya, Nepal, Nigeria, and South Africa reported fear of working with or being affiliated in any way with other groups involved in abortion. They were even afraid to discuss abortion within their own organizations.

The role of the Mexico City Policy in empowering anti-abortion movements helps counteract an important limit on its effectiveness: the fact that every Democratic president since 1984 has rescinded it for the length of his term in office. Although Democratic administrations have restored U.S. funding to aid organizations in other countries that have previously been cut off, those administrations typically have not enacted policies to disrupt anti-abortion networks or support reproductive rights advocacy in those places.

Under President Donald Trump, the United States sought even further restrictions on abortion abroad. In 2017, the administration expanded the Mexico City Policy to apply not just to the \$600 million or so in aid that Washington allocates for family planning and reproductive health each year but to the roughly \$7 billion in overall international health assistance that it provides every year. Rios's interviews suggested that some of these funds were diverted to support anti-

abortion groups abroad—and that conservative politicians and organizations in countries such as Kenya and Nigeria had become more outspoken in response to the change in U.S. policy.

In 2020, the U.S. government, led by Secretary of State Mike Pompeo, co-sponsored (with Brazil, Egypt, Hungary, Indonesia, and Uganda) the Geneva Consensus Declaration on Promoting Women's Health and Strengthening the Family, which, while not binding its 34 signatories to any specific policies, expressed a shared commitment to preventing abortion access. The authoritarian tendencies of the participating countries are striking, especially in conjunction with the steps some have taken lately to restrict abortion, such as the Polish Constitutional Tribunal's 2020 decision limiting the circumstances in which the procedure is legal. Scholars have noted that the backsliding of democracy around the world may lead to further erosions of reproductive rights.

An Undeniable Trend

To date, intermittent U.S. efforts to restrict abortion have not succeeded at reversing a wider global trend toward liberalization. Although some international institutions still shy away from addressing abortion, the World Health Organization, for example, has become an increasingly vocal advocate for abortion liberalization. It issued a report offering technical and policy guidance for safe abortion practices in 2003 and updated it in 2012. In 2019, the WHO moved mifepristone and misoprostol (the drugs in the two-pill regimen of a so-called medical abortion) to its Essential Medicines List, which outlines the minimum requirements for a national health-care system and identifies the safest and most effective medicines for priority conditions. Earlier this year, the WHO made its boldest statement on abortion yet, releasing abortion care guidelines that recommend countries decriminalize abortion and make the procedure available on request to pregnant people, presenting these policies as necessary to reduce unsafe abortions and maternal deaths.

Many countries are trending toward removing abortion restrictions as well, albeit in an uneven and fragmented way. Wealthy countries tend to have liberal abortion laws, whereas their less wealthy counterparts have laws ranging from total prohibition to allowing abortion without restrictions. Since 1994, more than 50 countries

have expanded the legal grounds for abortion. Only four—the Dominican Republic, El Salvador, Nicaragua, and Poland—have made their abortion laws consistently more restrictive. Many factors have contributed to this trend. For one, the WHO's characterization of abortion as a maternal health issue rather than a moral and cultural issue has helped make the practice less controversial. In countries where doctors are a strong political force, they have pushed for decriminalization to give physicians more discretion over the medical procedure. Abortion may remain inaccessible for many women in these cases, however. For example, in Uruguay, a recent law that liberalized the country's policies still requires the pregnant person to meet with a panel of medical professionals who decide whether the abortion will be allowed—and doctors have the right to refuse to perform it. This kind of reform appears to be as much about protecting doctors from criminal prosecution as it is about protecting the interests of pregnant people.

Intermittent U.S. efforts to restrict abortion have not succeeded at reversing a wider global trend.

Notably, access to abortion even expanded recently in Benin and the Democratic Republic of Congo, which are both heavily reliant on foreign funding. In 2019, roughly one-third of Benin's bilateral foreign aid came from the United States, but the government still reformed its abortion laws in October 2021 with an aim to improve sexual and reproductive health. Speaking in favor of the legislation, Benin's health minister noted that unsafe abortions had been responsible for up to 20 percent of maternal deaths in the country. When abortion is criminalized, patients who need medical treatment after an unsafe abortion may fear going to a hospital; if they do go, they often encounter staff with minimal training in abortion-related care. The United States' Mexico City Policy, which further reduces the availability of safe abortion-related services, can further exacerbate this problem. Benin's reforms, however, show that some aid-dependent countries are willing to risk the loss of U.S. funding under the next Republican administration in order to reap the health benefits of liberalizing abortion laws.

In the five decades since *Roe v. Wade*, most countries' abortion policies have depended more on health concerns, alliances with the Catholic Church, or the political power of medical professionals than on the domestic politics of the United States—even when

those politics translate to anti-abortion advocacy abroad. And in the years to come, the same factors that have driven liberalization thus far will continue to do so. Overturning *Roe* may embolden future U.S. administrations to push more aggressively for restrictions within and outside the United States, but the reversal may not be enough to turn back a slowly rising global tide of abortion liberalization. ●

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HOW DO AMERICANS JOIN EXTREMIST GROUPS? A CT PROFESSOR IS SET TO STUDY THAT FOR A GOVERNMENTAL AGENCY

By Jordan Nathaniel Fenster

Evan Perkoski studies extremism. He's hoping to show a link between who an extremist group recruits and what that extremist group then goes on to do, both in the United States and abroad.

Perkoski, assistant professor of political science at the University of Connecticut, is currently finalizing a grant for the U.S. Department of Homeland Security to study the recruitment tactics of extremist groups, and what that might say about their tactics.

"In other words, if we know who your members are, can we figure out what kind of attacks you're going to conduct?" said Perkoski, who usually focuses his research on "political violence, international security writ large, particularly sub-national conflicts and violence, terrorism, insurgency and stuff like that."

To do his upcoming research, Perkoski is taking both a wide and a narrow lens, he said: "There's a time and a place for a broad perspective and a narrow perspective, and in this project, we're combining both."

He's starting out by looking globally.

“We’re doing a cross-national analysis of different terrorist groups and insurgent groups around the world, who they’re recruiting, what kind of attacks they conduct, and how their recruitment priorities can shed light on what they’re trying to plan,” he said.

But then, Perkoski’s intent is to take that knowledge home, and see what it might tell him about domestic terrorist groups.

“Once we figure out the cross-national perspective and apply it here in the United States and say, ‘Alright, we developed all these insights. Now let’s apply it particularly to the United States context and look at the far right, who they are recruiting and what it might say about what they’re trying to do.’”

For example, the Islamic State group recruited Iraqi army veterans with the intention of conducting specific operations that would need members with those skill sets. Perkoski said he’s examining, “Did they actually accomplish those missions once they got these military veterans,” and then apply that to domestic terrorist groups who are actively recruiting military and police veterans.

“With the far right in the United States, we know they have greater ambitions to conduct more sophisticated types of attacks to really have an impact politically,” he said. “But we don’t know if the people they recruit will actually help them get there. That’s what we’re trying to understand.”

There are extremist groups in the United States that actively recruit military veterans. The Oath Keepers, for example, are described by the Southern Policy Law Center as “one of the largest far-right anti-government groups in the U.S. today,” claiming “tens of thousands of present and former law enforcement officials and military veterans as members.”

Perkoski’s research is looking at why groups like the Oath Keepers might specifically recruit veterans.

“We know they want them for their skills,” he said.

“They know how to coordinate, they know how to communicate, they know how to plan operations, they bring a lot of battlefield, violent knowledge to these organizations that they might be lacking if they’re made up of civilians.”

It is the political right he’s examining. Domestic terrorism has not wholly been the province of any one

political ideology, Perkoski said, but there are trends. Domestic terrorism linked to far left groups has, with a few notable exceptions, been less lethal than that associated with far right groups.

“You are seeing violence across the spectrum, for sure, but it’s not an even amount across that spectrum,” he said. “What we’re seeing now is more deadly operations and more intention to commit deadly operations by people on the far right.”

Perkoski said there’s an “ebb and flow” to extremist violence.

“Right now we’re seeing growth and far right extremism and terrorism the United States and around the world,” he said. “in the early 2000s, it was Islamist and Jihadist terrorism. In the 1990s in the US, it was anti-government extremism, Timothy McVeigh-sorts of bombings and things like that.”

In the 1970s, groups like the Weather Underground “were committing attacks in the name of far left politics,” he said.

“These motivations and political leanings ebb and flow over time,” Perkoski said. “It’s just a feature of history.”

Perkoski said the common idea of how a person becomes radicalized is incorrect. It’s not usually a solitary journey toward extremism, but a search for community, a sense of belonging. “It’s usually people who are looking for community,” he said.

“If something happens in their life, to make them feel left out or like a loner, and it’s often through a friend or a family member who brings them into an organization. That’s how they latch on to those ideas.” ●

5 EXTRAORDINARY ANIMAL RITUALS

And their close parallels among humans.

By Jessica Schrader

Key Points

- Ritual is ubiquitous in nature.
- Humans are the most ritualized of all animals.
- Our own rituals often bear striking resemblance to those of other species.

From birds to elephants, rituals are found everywhere in nature. Yet no animal is as ritualized as *Homo sapiens*. All human cultures have a plethora of ceremonial practices that serve many of the same functions for us as they do for other critters. It is no coincidence, then, that many animal rituals are strikingly similar to those found among humans.

Greeting

Social animals often use rituals to say hello. Like humans, various apes and monkeys kiss, hug, hold hands, or caress each other. Some of those greeting rituals are culturally transmitted. Chimpanzee communities perform a "hand-clasp," like a secret handshake that is unique to each group.

Other primates get more creative. Male baboons have a greeting ritual called the "scrotum grasp." The term is self-explanatory. By allowing their peers to handle their sensitive parts, those baboons signal trust. But as it turns out, genital greetings are not unique to baboons.

The anthropologist Mervyn Meggitt documented a similar custom among the Walbiri, an aboriginal tribe in Australia, who use a penis-holding ritual to ease tensions. After a quarrel, a man may visit his adversary and present his penis to him. The host holds it in his hand, signaling his willingness to put his grievances aside. Sometimes, however, the dispute can be so serious that the aggrieved person may refuse to hold the visitor's penis. Such refusal is perceived as a grave insult, which can lead to bloodshed.

Courting

Every year, groups of flamingos congregate in shallow lakes around the world to perform a spectacular mating ritual. Known as a lek, this type of gathering can involve over a million birds.

Once the colorful crowd assembles, they break off into smaller groups that begin to move in circles, holding their heads high and turning them from side to side. After a few turns, they switch partners and repeat the same dance. Watching this graceful courtship dance, one might not help humming the tune of a Viennese Waltz.

Ornithologists who studied these rituals found that the most skilled dancers (those with the largest repertoire and the most varied combinations of moves) were more likely to pair off after their performance. Among humans, too, dancing is one of the most common forms of courtship. And just like flamingos, research shows that good dancers are perceived as more attractive.

Soothing

In 1948, psychologist B. F. Skinner published an article with the title "Superstition in the Pigeon." It reported the results of a bizarre experiment. Skinner placed pigeons inside a chamber designed to release food pellets at random intervals, and observed their behavior. Faced with uncertainty, the birds began to develop rituals: they turned, twisted, swung, and thrust their heads, engaging in choreographed action patterns in an attempt to influence the outcome.

Humans also turn to rituals to cope with uncertainty. Laboratory studies show that both children and adults become more ritualized when faced with stressful situations. Their movements become more stereotypical, repetitive, and patterned, which provides a sense of order and control.

Do these rituals work? In a field study conducted in Mauritius, my colleagues and I found that Hindus had higher heart rate variability after practicing repetitive rituals in the local temple, suggesting that they were better able to cope with stress.

Mourning

Elephants are one of the few animals who seem to have an understanding of death. They seem to mourn their

dead, and even try to bury them by covering them with dirt, leaves, and flowers. They may remain with the corpse for days, taking turns to inspect and caress the body, and alternating between sitting in silence and trumpeting in unison.

These behaviors bear resemblance to the funerary practices found across human cultures, which often include holding wakes, contemplating, and wailing. In many cases, elephants frequently return to the carcass, as if visiting a grave or holding memorial services.

Demarcating

In 2016, a group of researchers at the Max Planck Institute for Evolutionary Anthropology came upon a striking observation. Chimpanzees in a variety of locations in West Africa regularly visit specific trees that seem to have special significance for them. Upon reaching them, they stand upright and start jumping around, screaming, and drumming on their hollow trunks in a state of exaltation.

Perhaps what is most interesting about these visits is that the chimps collect and carry rocks, which they stack at the base of the trees, as if trying to mark their location. Researchers have likened those stone piles to the cairns that people in so many cultures use to mark sacred locations.

Observing the sophisticated nature of some animal rituals, some biologists wondered whether they could reflect some elemental form of spirituality. “If the chimpanzees had a spoken language,” wrote the primatologist Jane Goodall, “if they could discuss [their] feelings among themselves, might not they lead to an animistic, pagan worship of the elements?” ●

DEMOLISHING SCHOOLS AFTER A MASS SHOOTING REFLECTS HUMANS’ DEEP-ROOTED DESIRE FOR PURIFICATION RITUALS

By Dimitris Xygalatas

After the recent shooting in Robb Elementary School in Uvalde, Texas, which claimed the lives of 19 children and two teachers, some local residents want the school demolished. Texas state Sen. Roland Gutierrez said that President Joe Biden has offered to help the school district secure a federal grant for the building’s demolition.

This is not uncommon. In numerous similar cases, buildings were knocked down, abandoned or repurposed in the aftermath of a tragedy. After the Sandy Hook massacre of 2012 in Newtown, Connecticut, that school was destroyed and rebuilt on a different spot on the same property, at a cost of US\$50 million. And in 1996, the town of Gloucester in England bought the house where a couple, Fred and Rosemary West, raped, tortured, and killed 12 young women. The town razed the property to the ground, burned all timber, pulverized each brick and dumped the debris at a secret location before turning the lot into a park.

At a visceral level, this seems obvious: Most people would be uncomfortable carrying on business as usual at the site of a bloodbath. But as an anthropologist who studies some of the most meaningful human experiences, I know that human reactions that feel obvious may often be hard to explain. Why would tearing down and rebuilding it make the situation any better? The answer lies in human psychology.

Notions Of Contagion

Research suggests that we, as humans, are natural-born essentialists. That is, we intuitively think of objects as having certain immaterial inner qualities or essences,

which can be transmitted through contact. For instance, participants in an experiment conducted by psychologists Carol Nemeroff and Paul Rozin refused to wear a sweater that belonged to a serial killer, although they were happy to wear an identical sweater that belonged to someone else.

These intuitions can be observed outside of the laboratory as well. For instance, a study conducted in Hong Kong looked at the effects of death on real estate prices. As it turns out, when a murder, suicide or fatal accident occurred in a house, its market value decreased by as much as 25%, and even nearby properties lost part of their value.

Early anthropologists described this as a form of “magical thinking.” Scottish anthropologist James Frazer argued that this type of reasoning rests upon two basic principles common in all human societies. The first is the “law of similarity,” the idea that physical resemblance implies some deeper connection. This explains the belief found in many cultures that stabbing a doll that resembles a person could cause harm to that person.

The second principle is what Frazer called the “law of contagion.” It states that when two things come into contact, they transfer part of their properties to each other. This is why John Lennon’s piano sold for over \$2 million, and why U.S. Rep. Bob Brady took the glass of water from which Pope Francis had drunk during a 2015 address to the U.S. Congress and later shared it with his family. The assumption is that some of the qualities of the person who once came in contact with the object will rub off. “Anything the pope touches becomes blessed,” Brady said.

If these beliefs and behaviors are based on mistaken premises, should we humor them, or should we dismiss them as irrational? Once again, human psychology might provide the answer.

The Power Of Symbolism

We are a symbolic species. We experience things around us based not simply on their physical properties. We care about where they come from, their histories, their connections and what they stand for. This goes beyond what we think about those things – it also affects how we interact with them.

Psychologists George Newman and Paul Bloom designed an experiment to see whether beliefs about an object’s contagiousness could be altered. They asked people how much they would pay to purchase a sweater previously owned by a beloved celebrity. As they expected, most were willing to shell out substantially more than what a brand-new sweater would cost.

But here is the twist: When told that it would be thoroughly washed before being handed to them, people were less interested in buying the sweater. Inversely, when the researchers asked them the same question about a famous person they despised, participants were willing to pay a higher price after the item had been sterilized. It appears that physical purification would be perceived as removing part of the sweater’s essence.

Purification Rites

Cultural traditions around the world tap into these intuitions to soothe people’s fears and anxieties. In some cases, washing the body is meant to cleanse the soul, which is what happens in baptisms. In other cases, purification comes through the destruction of the evil substance or its proxy.

On New Year’s Day, people in various parts of Latin America build life-size effigies, or “muñecos,” that resemble wicked things and persons: corrupt public officials, villains, personal foes and even the coronavirus. Then they set them ablaze. Their demise is meant to exorcise their polluting power and symbolize hope for the coming year.

A fire dancer performs on the dry lake bed at the Burning Man festival in August 2008 in the Black Rock Desert near Gerlach, Nevada. AP Photo/Brad Horn

Since these practices rely on universal parts of human psychology, they make sense to people who are not religious too. Take, for example, the attendees of Burning Man, an annual festival in Black Rock Desert in Nevada. Ostensibly, this is a crowd as secular as they come: only 5% of them self-identify as religious. Yet thousands of people flock to a makeshift temple where they leave memorabilia related to some of their most traumatic experiences. They then gather to watch the temple burn to the ground, many of them in tears, carrying all the bad memories with it.

There is a powerful cathartic aspect to those purification rituals. Symbolic gestures often speak to our psyche in ways no rational action could ever speak to our intellect. In times of tragedy, it is important to acknowledge this fundamental aspect of our humanity. For even as the pain remains, the knowledge that a tangible reminder of it has been undone can be soothing. ●

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WHEN IS USING DEADLY FORCE JUSTIFIED IN CONNECTICUT? RECENT FATAL ENCOUNTERS RENEW DEBATE

By Jesse Leavenworth

Advocates of a “stand your ground” bill meant to broaden Connecticut’s self defense law called it empowering, but opponents labeled the proposed legislation vague and hazardous, especially to minorities.

Considered by the legislature’s judiciary committee as one of several proposals to fight car crime, the bill and recent fatal confrontations in East Hartford and Litchfield offer a broad view of issues around use of deadly force in defense of person and property.

The bill added motor vehicles to Connecticut’s “castle doctrine,” which says a person may use deadly force and is not required to retreat when confronting a home or workplace intruder. Supported by dozens of gun owners and gun rights advocates in a marathon public hearing in March, the proposal did not make it to a vote in the last session.

In part, the bill said a person could use deadly force “to the extent that he reasonably believes such to be necessary to prevent or terminate an unlawful entry by force into his motor vehicle.” Testimony before the

committee showed widely different views on the need for the amendment.

In support of the bill and another that would have removed the “duty to retreat” when facing intruders in houses of worship, Lauren E. LePage, state director of the National Rifle Association’s Institute for Legislative Action, said “both pieces of legislation place the risk of initiating a criminal assault or other attack back on the criminal aggressor.”

“The current crime wave has the potential to put more and more citizens in dangerous situations without police protection,” Republican Sen. Rob Sampson, a co-sponsor of the “stand your ground” legislation whose district includes Cheshire and Waterbury, testified. “Our laws should reflect their natural right to protect themselves without fear of prosecution.”

Opponents, however, said the bill was vague and unnecessary.

Both the Criminal Justice Division and the Office of Chief Public Defender opposed adding motor vehicles to the castle doctrine law. In written testimony, state prosecutors said existing self-defense laws and jurisprudence “more than adequately ensure that only those whose belief regarding the necessity of using deadly physical force is unreasonable, or who ignore a known avenue of safe retreat, will be held criminally accountable for such use of force. Moreover, human life, even one engaging in criminal activity, is more valuable than a motor vehicle.”

Public defender’s office representative Nicole Van Lear wrote, “the language is so broad that this law would create a danger rather than act as a protective tool.”

“The logical purpose of the castle doctrine is to enable the use of physical force to defend your home when you are inside of it and cannot safely retreat,” Van Lear wrote. “This bill defies that logic and creates a scenario where a person may be justified in using deadly force to stop an unoccupied car theft.”

“The language of this proposal does not limit the use of force to a carjacking situation,” she continued. “As written, the proposal, if enacted, could allow the use of deadly force during non-violent and unoccupied car thefts. Car thefts, unlike carjackings, are not inherently violent endeavors. Allowing the castle doctrine to apply

to a theft of an unoccupied motor vehicle will have unintended consequences.”

‘Presumption Of Fear’

Car thefts in the state spiked in 2020, but the numbers likely decreased last year, according to Ken Barone, associate director at the Institute for Municipal and Regional Planning at the University of Connecticut. Barone said preliminary figures and projections suggest a 4 to 10 percent decrease in car thefts in 2021 compared to 2020.

Still, vehicle burglaries, especially thefts of catalytic converters from cars, trucks and buses, continue to plague individual owners, businesses and school districts throughout the state. Confrontations between police officers, car owners and thieves have led to grievous injuries, including a recent face-slashing attack on a Milford man, who required about 300 stitches, and the bone crushing encounter suffered by a Farmington police officer who confronted a fleeing “cat” burglar suspect last September.

Giving car owners the right to shoot suspected thieves, however, is not the answer, social justice advocates testified before the judiciary committee. Representing the Collaborative Center for Justice, a Catholic social justice advocacy group, Dwayne David Paul and Rachel Lea Scott, wrote, “We reject any legislation that promotes vigilantism among citizens.”

“Any bill with an emphasis on empowering residents to prevent unlawful entry positions them in far too active a role,” Paul and Scott wrote. “The murders of Trayvon Martin, and more recently, Ahmaud Arbery, are examples of the dangers inherent to citizens taking the law into their own hands.”

Three white Georgia men were sentenced to life in prison earlier this year in the February 2020 fatal shooting of Arbery, who was a Black man. George Zimmerman was acquitted in the 2012 Florida fatal shooting of Martin, a Black teenager.

Adopted in 2005, Florida’s stand your ground law says people are justified in using deadly force if they reasonably believe that such force is needed to prevent imminent death or great bodily harm to themselves or others or to stop “the imminent commission of a forcible felony.”

The person employing deadly force, the law says, “does not have a duty to retreat and has the right to stand his or her ground if the person using or threatening to use the deadly force is not engaged in a criminal activity and is in a place where he or she has a right to be.”

The National Conference of State Legislatures reported earlier this year that laws in at least 28 states and Puerto Rico say there is no duty to retreat from an attacker in any place in which the targeted person is lawfully present. Also, the organization reported, some states have replaced the common law “reasonable person” standard, which places the burden on the defendant to show that a defensive action was reasonable, with a “presumption of reasonableness,” or “presumption of fear,” which shifts the burden of proof to the prosecutor to prove a negative.

Such language also was part of Connecticut’s proposed stand your ground bill, which called for “a presumption that the belief of a person who uses deadly force against someone out to kill or badly injure him “is a reasonable belief.”

“It shifts the burden,” bill sponsor Rep. Craig Fishbein said after a 16-hour hearing on a variety of gun-safety bills. “It merely creates a presumption that the action was justified. Of course, the presumption could be overturned, based on particular facts. Currently, one has to prove that their action is reasonable. This bill would put the burden on prosecutors that the presumption of the person was not reasonable.”

State prosecutors in their written testimony rejected that reasoning.

“Such a change in the law is unnecessary because it will have no effect,” the prosecutors wrote, stressing that under current law, if someone claims self-defense, the state must show it wasn’t.

Advocates, however, say stand your ground laws empower law-abiding citizens. Ohio Gov. Mike DeWine signed a broad stand your ground bill last year that proponents said will protect people in confrontations that happen suddenly and quickly, according to Cleveland.com.

Opposing Democrats, along with some senate Republicans, said the law would bring more violence and death — particularly against minorities.

“Only cowards would pass and sign a bill that has been proven to disproportionately harm Black people,” House Minority Leader Emilia Sykes, an Akron Democrat, said in a statement. “Only cowards would support a bill that allows people to shoot first and ask questions later. The blood of the lives lost from the signing and passage of this bill rest solely on those who supported it.”

Connecticut Sen. Gary Winfield, a Democrat from New Haven and co-chairman of the judiciary committee, said such a law is unnecessary and “there are racial implications we’ve seen played out across the country.”

“I have no reason to believe people can’t protect themselves,” Winfield said. “I don’t know why some people think we’ll be safer than what we can do already. I don’t want people feeling they should have to be a hero. Thinking you have a license to be a hero gets people hurt.”

But Harwood W. Loomis, of Woodbridge, told the judiciary committee that as a disabled veteran and older adult, he believes crime has decreased overall in recent years, but the nature of criminal activity seems to be more violent.

“There is a general lack of respect and value for human life on the part of criminals,” Loomis said. “Physically, I am no match for even one younger, stronger assailant — and it appears that today, criminals don’t work alone. They travel and operate in packs. There should never be any doubt that if I am trapped in my car by an assailant or a group of assailants that I have a God-given right to defend myself.”

Recent Deadly Encounters

Loomis’ testimony evokes a fatal encounter in Litchfield last year, when real estate attorney Robert Fisher, 76, shot and killed a man who confronted him outside Fisher’s law office. Fisher was arrested in May on a manslaughter charge in the death of Matthew Bromley, a 39-year-old Torrington man.

Fisher told state police that he considered his own advanced age against Bromley’s relative youth and strength and said he feared for his life, according to the arrest warrant. Bromley had followed Fisher before parking and approaching the attorney as he was sitting in his car. Witnesses said the two argued before Bromley started slapping and punching the older man

while saying he wanted to kill him because Fisher had ruined his life, state police have said.

“I am nearly 75 years old with physical limitations and was fearful he was going to knock me to the ground, leaving me completely helpless,” Fisher told police, according to his arrest warrant.

“I pulled my gun because I did not want him to keep attacking me and expected he would back off and stop; however, he immediately charged me again, grabbing my right forearm that held the gun,” Fisher told police, according to the warrant.

“After a brief struggle over the gun,” he continued, “I shot him. After I shot him, he stumbled back a few feet and collapsed on his back.”

But witnesses told police they did not see Bromley grab for Fisher once the older man pulled a handgun, the warrant said. The men were about 5 to 6 feet apart when Fisher first lifted the gun and pointed it at Bromley’s neck, the warrant said.

“I’d like to add that I don’t believe that this is self-defense because the younger male did not have a weapon,” one witness was quoted as saying. “I think the older male could’ve punched the other guy and settled it that way rather than shooting him.”

In contrast with that case, an East Hartford man was inside his home early on June 16 when two teenage boys attacked him. Police say the man shot and killed both intruders.

“This case is currently being treated as a home invasion,” police spokesperson Officer Marc Caruso said Friday, “and there are no charges pending at this time.”

State law says a person is justified in using “reasonable physical force” upon another person to defend himself or a third person from what he reasonably believes to be the use or imminent use of physical force. Deadly physical force may not be used unless the actor reasonably believes that such other person is using or about to use deadly physical force or is inflicting or about to inflict great bodily harm.

The question of whether deadly physical force is justified often arises in fatal encounters between police and crime suspects. An FAQ on the state Department of Emergency Services and Public Protection site offers a detailed look at the issues involved.

Factors considered when determining appropriate use of force, according to the agency that includes state police, include level of resistance, strength of the offender, knowledge of past violence, presence of weapons, immediacy of the threat, danger posed to those involved and the ineffectiveness of other techniques to control the suspect. ●

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DOES WARFARE MAKE SOCIETIES MORE COMPLEX? CONTROVERSIAL STUDY SAYS YES

Archaeological analysis suggests an arms race in ironworking and cavalry spurred bureaucracy and bigger populations

By: Michael Price

War is hell. It breaks apart families, destroys natural resources, and drives humans to commit unspeakable acts of violence. Yet according to a new analysis of human history, war may also prod the evolution of certain kinds of complex societies. The twin developments of agriculture and military technology—especially cavalries and iron weapons—have predicted the rise of empires.

“I think they make a convincing case,” says Robert Drennan, an archaeologist at the University of Pittsburgh who wasn’t involved in the work. Yet he and others argue the study offers a rather limited look into how exactly these factors might have shaped societies.

Scholars largely agree that agriculture was one of the major drivers of increasingly complex societies by allowing for bigger, more sedentary populations and divisions of labor. More contentious has been the role of strife.

“The majority of archaeologists are against the warfare theory,” says Peter Turchin, an evolutionary anthropologist at the University of Connecticut, Storrs, and the new study’s lead author. “Nobody likes this ugly idea because obviously warfare is a horrible thing, and we don’t like to think it can have any positive effects.”

The scholarship in this area hinges on how one measures and defines social complexity. For the new study, Turchin and colleagues chose three quantifiable metrics: the size of a society and its territory, the complexity of its ruling hierarchy, and how specialized its government is, from the presence of professional soldiers, priests, and bureaucrats to the intricacy of its legal codes and court systems.

Next, the scientists turned to a database known as Seshat: Global History Databank. (Turchin is the chair of Seshat’s board of directors, and several other authors on the paper sit on the board or work there as staff.) The Seshat project pulls together historians, archaeologists, and other experts in more than 400 past societies around the world that date back up to 10,000 years ago. Project leaders asked these experts to break down aspects of ancient life into different variables: Did the 12th century Ayyubid Sultanate of southern Yemen have full-time bureaucrats? Yes. How many people lived in Peru’s Wari Empire between 650 and 999 C.E.? Between 100,000 and 500,000.

Turchin and colleagues grouped the hundreds of societies over time into 30 global regions and sorted the societal variables into 17 data buckets, including military innovation and how long people had been practicing agriculture. Then, they devised an algorithm to determine how well the data from each bucket predicted growth in their chosen three dimensions of social complexity.

Two factors stood out. Unsurprisingly, the longer a region had been practicing agriculture, the more likely it was to be socially complex. But even more predictive was military innovation—specifically the introduction of mounted warfare and the emergence of iron weapons, researchers report this month in *Science Advances*.

Cavalry surfaced as a particularly dependable sign of imminent empire. In each Eurasian region Turchin and colleagues examined, megaempires emerged 300 to 400 years after the appearance of cavalry. The Achaemenid Empire, for example, which occupied much

of modern-day Iran, acquired both ironworking and cavalry around 900 B.C.E.; in 500 B.C.E. its territory eclipsed 3 million square kilometers.

Once a society adopted superior iron weaponry and formed cavalries, it could protect itself from rivals or overwhelm them, Turchin says. He thinks this competition is what drives societies to become more complex, building more hierarchical armies to fight ever-more-complex wars and organizing increasingly bureaucratic governments to manage diverse resources and growing populations.

Turchin acknowledges that these results concern his team's specific definition of social complexity; they say nothing about any particular society's cultural complexity. That's an important distinction because complex societies thrived for millennia throughout sub-Saharan Africa, the Americas, the Pacific islands, and elsewhere, but few conquered huge swaths of territory to become massive empires; their societies were often smaller and their governments less hierarchical and specialized than their counterparts in Eurasia and northern Africa beginning around 1000 B.C.E. When European colonization introduced iron and horses to these societies, the authors write, they, too, experienced a jump in the societal traits considered complex in this study.

The Inca Empire, Turchin notes, is something of an outlier. It needed neither iron nor horses to develop a massive population and complex governance. It did, however, have llamas, and using them as transport animals would have given the empire a competitive advantage over rivals, he says.

"It's compelling that amidst the umpteen variables that they consider here, the impact of horses really rises to the top," says William Taylor, an anthropologist at the University of Colorado, Boulder, who studies humanity's history with the animals. "I think the paper underscores the importance of horses as an agent of social change."

But he quibbles with some of the historical and archaeological data used to build the new model. For example, the study presumes horse riding arose in 1000 B.C.E. on the Pontic-Caspian steppe, but Taylor says scholars are still seeking answers as to exactly where and when people began to ride horses. Also, many early horse-riding societies left behind relatively few archaeological clues and are likely underrepresented in

models, such as Seshat, that rely heavily on archaeology.

Monique Borgerhoff Mulder, a human behavioral ecologist at the University of California, Davis, says the researchers should be applauded for "taking an innovative, macrolevel, quantitative approach to history."

But she thinks the time between advances in agriculture and military technology and the development of social complexity is too long to be confident about their impact. She says a lag time of 300 to 400 years between the arrival of ironworking and horses and the rise of an empire suggests "military technology must be viewed as a very remote predictor of the outcome."

If it is true that warfare ultimately propelled human societies into certain kinds of complexity, though, Turchin says that's no reason to celebrate it. The crucial ingredient in this evolution was competition, he says, not violence. ●

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I KNEW THE MEN MURDERED IN THE AMAZON—AND THEIR ALLEGED KILLER

The slayings of Dom Phillips and Bruno Pereira mark a new escalation in the battle for the Amazon, its resources, and its Indigenous defenders.

By Scott Wallace

The brutal murders of a British journalist and an Indigenous rights activist this month in the Amazon hit especially close to home for me. I knew them both; I know the community and the stretch of river where the killings took place. Most uncannily of all, I know the confessed killer. His name surfaced as a suspect within a few days of the pair's disappearance on June 5 in the

Javari Valley, an immense wilderness region of rain forest and snaking rivers along Brazil's borders with Peru and Colombia.

Dom Phillips, 57, had taken time out from reporting for The Guardian newspaper to work on a book about the Amazon, and we had compared notes on several occasions about our experiences in the rain forest, sharing tips and contacts. Bruno Pereira, 41, was an Indigenous rights activist who dedicated his life to defending Brazil's most vulnerable populations. He was a reluctant warrior—kind and gentle, the father of three children, including two toddlers.

Police officers at Atalaia do Norte on the Javari River investigate the disappearance of Phillips and Pereira after appeals from around the world prompted Brazilian authorities to intensify search efforts.

Pereira had served as a valuable source for many stories I've written for National Geographic. Sometimes I identified him by name. More often I did not, to protect him from hostile bosses who had taken over FUNAI, Brazil's Indigenous affairs agency, since the start of rightwing populist Jair Bolsonaro's presidency in 2019. A veteran field agent with expertise in protecting isolated tribes, Pereira had to watch his back under Bolsonaro, who from the get-go made rolling back protections of Indigenous lands and the environment a centerpiece of his agenda.

Phillips' and Pereira's confessed killer is a lanky, 41-year-old fisherman named Amarildo da Costa de Oliveira, known to all by his nickname Pelado, or "Baldy." As soon as I heard him mentioned in the news, I was certain he was the same person I had come to know 20 years ago. Oliveira was a skilled backwoodsman who could swing an axe with deft precision into a log he stood on, just a few inches from his bare feet, without so much as a flinch. He was among 10 non-Indigenous frontiersmen who had been recruited, together with 20 Indigenous scouts from three different tribes, to join a Brazilian government expedition into the heart of the sprawling Javari Valley Indigenous Territory in 2002. The mission was to track, but not make contact with, a mysterious, seldom-glimpsed tribe called the flecheiros, or Arrow People.

The remote region on the border between Brazil and Peru is home to the Javari Valley and the Vale Do Javari

Indigenous lands — a 33,000 square mile reserve home to many uncontacted indigenous peoples.

The expedition was led by renowned Indigenous rights activist and explorer Sydney Possuelo, founder and then-director of FUNAI's Department of Isolated Indians. In the late 1980s, Possuelo had pioneered Brazil's extraordinary no-contact policy to protect highly vulnerable isolated tribes from forced contact by outsiders. In 1996, he'd been instrumental in the creation of the 33,000-square-mile Javari reserve, an ecological and cultural treasure of primal forest that harbors the world's largest concentration of Indigenous communities living in extreme isolation, the so-called "uncontacted" tribes. Possuelo invited photographer Nicolas Reynard and me to document the expedition for National Geographic.

At the time of the reserve's establishment in the late 1990s, Possuelo oversaw the expulsion of hundreds of non-Indigenous miners, loggers, hunters, and fishermen who had been helping themselves to the region's abundant timber, fish, and wildlife. Some resettled in a string of communities of wooden shacks built on stilts and joined by catwalks, just down the Itacuaí River from the reserve's boundaries. Among the settlers in one of those hamlets was the family of Oliveira. Many of the displaced families seethed with resentment for the creation of the Javari reserve, for the Indigenous people, and for those allied with them.

Federal police initially arrested Amarildo da Costa de Oliveira on weapons charges. The fisherman later confessed to killing and dismembering Pereira and Phillips, according to police.

How had the affable, 21-year-old wilderness trailblazer I remembered from 2002 morphed into a hardened criminal who witnesses say routinely poached large quantities of forbidden fish and game and joined armed assaults on government outposts? Had he become a triggerman in an escalating war for the Amazon, its resources, and its Indigenous defenders? (Brazilian authorities say two other suspects are in custody in connection with the murders, and they are seeking five more as possible accessories to the crime.)

Going back into my notebooks from 20 years ago, I found traces of a darker side to Oliveira. The week before the start of the expedition, he told me around the campfire one night, he and two other fishermen had

been assaulted by masked bandits as they made their way through a furo – one of the many shortcuts between bends in the region’s twisting rivers that open up during the high-water season. The assailants took their outboard motors, shotguns, and 200 kilos of fish. Oliveira and his friends paid the local police to find the culprits and “break them,” he said. I asked what he meant. “Kill them.” Only the presence of other police officers at the time of their arrest spared the lives of the bandits, he said. It was precisely in one of those narrow shortcuts on the Itacuaí River that Oliveira and at least one other accomplice ambushed and murdered Pereira and Phillips.

Impact Of Government’s Faltering Protection Efforts

Experts say the Javari has become an even more dangerous place in recent years, especially for Indigenous people and environmental defenders. The biggest reason, they say, are Bolsonaro’s stridently anti-Indigenous, anti-environmental rhetoric and policies. These have encouraged a surge in deforestation and invasions of Indigenous territories by ranchers, loggers, miners, and adventurers of every description, while giving organized criminal syndicates room to operate across wide swaths of the Amazon with impunity.

“Today, invaders of Indigenous lands have the protection of the government, all the way up to Bolsonaro,” says Possuelo, who is now retired and living in Brasilia. “They act with more daring, behave more aggressively, because they feel protected by the government.”

Under Bolsonaro, the budgets for FUNAI and the environmental protection agency IBAMA have shriveled. Experienced field hands have been reassigned or dismissed, replaced with political loyalists. Shortly after taking charge in 2019, FUNAI’s Bolsonaro-appointed president, Marcelo Augusto Xavier da Silva, dismissed 15 field coordinators without warning. Perhaps most ominously, he removed Pereira from the helm of the Department of Isolated Indians, where he’d served for the previous 14 months. In the days before being sacked, Pereira oversaw a coordinated heliborne strike with IBAMA, federal police, and army units that destroyed dozens of gold dredges operating illegally along the Javari’s eastern flank. The operation earned Pereira the enmity of some powerful and dangerous

people. It was the last major strike against criminals plundering resources in the Javari reserve.

Questions sent to the FUNAI leadership regarding the recent murders, as well as the agency’s faltering efforts to protect the Javari and other Indigenous territories, went unanswered.

After his removal from the sensitive post, Pereira took unpaid leave from FUNAI and returned to the Javari. He had spent several years in the 2010s there, where he acquired a depth of knowledge about isolated tribes and how best to protect them. With FUNAI’s capacity and will to defend the reserve crumbling, he volunteered to organize and train an all-Indigenous territorial vigilance force to deter incursions. He showed patrol members how to organize logistics and trained them in the use of georeferenced photos and video, radio communications, and drone technology. Pereira invited Phillips to the Javari to document his work and meet members of the vigilance patrol. While out with the team on June 3, they clashed with Oliveira and two other fishermen.

According to witnesses from the Indigenous vigilance team, the fishermen shouted threats and pointed their rifles menacingly at Pereira and Phillips, who recorded the confrontation on video. His images added to a trove of evidence gathered by the Indigenous patrols of environmental crimes committed inside the reserve that Pereira planned to turn over to federal police on the day the pair disappeared.

“Sure, it’s dangerous. Our teams are out there, confronting the intruders,” said Paulo Marubo, general coordinator of the Union of Indigenous Peoples of the Javari Valley, or UNIVAJA, when I reached him by phone last week at his office in Atalaia do Norte on the Javari River. “It’s a risk, but if we don’t do anything, if we don’t face this, who’s going to do it for us?”

Three years ago, FUNAI contractor Maxciel Pereira dos Santos was assassinated in broad daylight by a motorcycle hit team in the nearby city of Tabatinga, located on the main trunk of the Amazon River. Santos was known to have had several run-ins with fishermen and wildlife hunters in the Javari. Shortly before his death, he was part of a team that caught poachers red-handed inside the reserve with 300 turtles and a cache of 40,000 turtle eggs. His murder was never solved.

With the latest killings, Indigenous leaders perceive a disturbing trend in the fight to preserve their lands and resources. “The level of violence directed against Maxciel and the manner in which they killed Bruno and Dom Phillips shows there is a real hatred for the defenders of the environment and Indigenous people,” said Beto Marubo, UNIVAJA’s national representative, who left Atalaia last week for Brasilia in the face of repeated death threats. “We believe there is a strong connection between what happened to Maxciel, what happened to Bruno, and the invasions of the Javari Valley Indigenous Territory.”

Suspected Links To Organized Crime

The increasingly brazen intruders are no longer small-time players with a net or rifle seeking to put a meal on the family table. Members of the Indigenous patrols say that more and more, poaching crews appear to be highly-capitalized ventures, backed by a shadowy network of outside investors with suspected links to the illicit drug trade. Their fishing boats feature high-horsepower motors, and they carry large quantities of fuel, expensive gill nets, ice, and hundreds of kilos of salt to preserve bushmeat and critically endangered pirarucu, one of the world’s largest freshwater fish. In a rare police action, officers in March intercepted fishermen leaving the reserve with two dozen endangered river turtles, 650 pounds of salted bushmeat, and nearly 900 pounds of salted pirarucu.

The evident outlays of cash create both the ability and the imperative for fishermen such as Oliveira to head deeper into the Javari territory, stay there longer, and return with hefty payloads to settle their debts. Unconfirmed reports indicate that Oliveira may have owed a Peruvian financier nicknamed “Colombia” more than \$15,000 because a load of his contraband had been intercepted by the Indigenous patrols.

As intruders penetrate into the depths of the Javari, Indigenous leaders and their allies fear the growing likelihood of a conflagration involving the uncontacted nomads roaming the forest. “They’re definitely putting the isolados—the isolated ones—at risk,” says Orlando Possuelo, Sydney’s son, who is based in Atalaia do Norte and has been working alongside Pereira in advising the Indigenous patrols for the past two years. Poachers are pillaging the animals the isolated groups depend on for survival. And uncontacted groups remain highly

vulnerable to contagious diseases, for which they have little to no immunological defense. Finally, and perhaps most immediately, there’s the very real danger of violence. “These fishermen don’t hesitate to shoot,” Orlando says. “If they’re willing to kill outside the reserve, there’s no doubt the lives of the isolated ones are in danger.”

An uncontacted Indigenous group would have no way to peacefully communicate with interlopers entering their territory. Their likely first response would be to attack, which could provoke a bloodbath when intruders respond to spears or arrows with far more lethal bullets, says Paulo Marubo. “Anyone knows what the results will be between those carrying firearms and those who do not have them.”

The hope of averting that alarming possibility was what led Pereira to risk his life. “The greatest concern that I have is the advance of outsiders—be they for projects authorized by the government or illegal players like loggers, miners, and land-grabbers—into the territories of the isolados,” Pereira told me in a phone call in 2019 after he was ousted from heading the isolated tribes department. “At the same time, you have the crippling of FUNAI and the department to protect the isolated tribes. It’s a very dangerous mix.”

Indigenous leaders of the Javari say they will not be intimidated by the murders of Pereira and Phillips, and that the vigilance patrols will continue.

“His memory strengthens our spirit to fight, to defend the territory,” Marubo says. “Before Bruno fought for us, and now we will fight for him.”

Police officers now say, despite their earlier statements that the crime appeared to stem from a personal dispute, that they are investigating a possible link between the murders and a larger web of organized crime. ●

TOXIC SLIME CONTRIBUTED TO EARTH'S WORST MASS EXTINCTION—AND IT'S MAKING A COMEBACK

Global warming fueled rampant overgrowth of microbes at the end of the Permian period. Such lethal blooms may be on the rise again

By Chris Mays, Vivi Vajda, Stephen McLoughlin

At sunrise on a summer day in Australia, about an hour's drive from Sydney, we clambered northward along the base of a cliff on a mission. We were searching for rocks that we hoped would contain clues to the darkest chapter in our planet's history.

Life on Earth has experienced some terrifyingly close calls in the past four billion years—cataclysmic events in which the species driven to extinction outnumbered the survivors. The worst crisis occurred 252 million years ago, at the end of the Permian Period. Conditions back then were the bleakest that animals ever faced. Wildfires and drought scoured the land; oceans became intolerably hot and suffocating.

Very few creatures could survive in this hellscape. Ultimately more than 70 percent of land species and upward of 80 percent of ocean species went extinct, leading some paleontologists to call this dismal episode the Great Dying.

This calamity has been etched in stone across the globe but perhaps nowhere as clearly as on the rocky coasts of eastern Australia. By midmorning we had found our target: an outcrop of coal within the cliff face. Sedimentologist Christopher Fielding of the University of Connecticut, one of our longtime colleagues, had recently identified these rocks as river and lake sediments deposited during the end-Permian event. Following his lead, we had come to sift through the sediments for fossil remains from the few survivors of the arch extinction.

From our vantage point on the outcrop, we could see our first hint of ancient devastation: the absence of coal beds in the towering sandstone cliffs above us. During our dawn scramble across the rocks, we had spotted numerous coal beds sandwiched between the sandstones and mudstones in the lower rock levels. These coals date to the late Permian (around 259 million to 252 million years ago). They represent the compacted remains of the swamp forests that existed across a vast belt of the southern supercontinent Gondwana. In contrast, the younger, overlying rocks that span the early part of the subsequent Triassic Period, some 252 million to 247 million years ago, are devoid of coal. In fact, not a single coal seam has been found in rocks of this vintage anywhere in the world. Instead these strata reflect the peaceful deposition of sand and mud by rivers and lakes, seemingly undisturbed by life.

Historically ignored because of its paucity of fossil fuels for humans to exploit, this so-called coal gap has recently emerged as a key to understanding the history of life on Earth. We now know it was a symptom of a sick world. At the end of the Permian, not only did terrestrial and marine ecosystems collapse, but so, too, did freshwater ones. Recent studies by our team have shown that as global temperatures surged at the close of the Permian, blooms of bacteria and algae choked rivers and lakes, rendering them largely uninhabitable. Our findings help to explain why the ensuing mass extinction was so devastating—and raise concerns about the future of biodiversity in our warming world.

Scorched Earth

As the sun rose higher in the sky, its heat beat down on us relentlessly. We managed to pack in a few productive hours of fossil and rock collection before the outcrop became unbearably hot. At that time, in the early summer of 2018, it seemed warmer than the previous field season. Maybe it really was warmer, or maybe it was just because we had recently arrived from chilly Stockholm, where we work at the Swedish Museum of Natural History. Regardless, by midmorning we retreated to the shade for a couple of hours to cool down and ponder what we had seen.

We found the coals to consist almost entirely of compacted leaves, roots and wood belonging to trees in the genus *Glossopteris*. *Glossopteris* trees flourished in

wetlands and readily formed peat, a precursor to coal. Directly above the coals we saw no fossils at first. All the outcrops of similar age around Sydney seemed to contain a fossil dead zone. There were no leaves or roots and scarcely a fossil of any kind, with one critical exception: simple, curved sand-filled burrows up to two meters long. Based on the sizes and shapes of these burrows, we concluded that they were most likely excavated by small mammal-like reptiles roughly the size of modern gophers or mole rats. The busy burrowers had made their homes in the muddy dead zone, implying that these animals had survived the end-Permian catastrophe. Moreover, their burrowing strategy was probably key to their success: it provided a refuge from the scorching surface.

All organisms must bend to the forces of nature. Like our ancestors that survived the end-Permian event, we sought a reprieve from the punishing temperatures during our fieldwork. Fortunately, we had to hide for just a few hours before we could emerge. But what if the insufferable heat had lasted months— or millennia?

Before long the sun crept westward, casting us in the cliff's shadow, and we concluded the day's work by collecting more rock samples to analyze back in the laboratory. For most paleontologists, the absence of observable fossils, as occurs within the dead zone of a mass extinction, makes for a short expedition. But we suspected that the full story lay hidden in fossils that couldn't be seen with the naked eye.

We combined the day's samples with those we had collected from other rocks of the same age around Sydney, then split them into three batches. We sent one batch off to Jim Crowley of Boise State University and Bob Nicoll of Geoscience Australia to obtain precise age estimates for the extinction event. The second batch went to our colleague Tracy Frank of the University of Connecticut so she could calculate the temperatures that prevailed during the late Permian. We took the third batch with us to the Swedish Museum of Natural History, where we sifted through the samples for microscopic fossils of plant spores and pollen, as well as microbial algae and bacteria, to build a blow-by-blow account of the ecological collapse and recovery.

As expected, our analyses of the microfossils showed that abundances of plant spores and pollen dropped off precisely at the top of the last Permian coal deposit, reflecting near-total deforestation of the landscape. To

our surprise, however, we also found that algae and bacteria had proliferated soon after the extinction, infesting freshwater ecosystems with noxious slime. In fact, they reached concentrations typical of modern microbial blooms, such as the record-breaking blooms in Lake Erie in 2011 and 2014. Because explosive microbial growth leads to poorly oxygenated waters, and many microbes produce metabolic by-products that are toxic, these events can cause animals to die en masse. In the wake of the end-Permian devastation, the humblest of organisms had inherited the lakes and rivers and established a new freshwater regime. We wondered how these microbes came to flourish to such a great extent and what the consequences of their burgeoning were. To answer these questions, we needed more context.

Insights came from analyses of the other two samples. The age estimates revealed that the ecosystem collapse coincided with the first rumblings of tremendous volcanic eruptions in a "large igneous province" known as the Siberian Traps, in what is now Russia. The term "volcanic" seems inadequate in this context; the volume of magma in the Siberian Traps was a whopping several million cubic kilometers. Thus, the Siberian Traps province is to a volcano as a tsunami is to a ripple in your bathtub. Studies have consistently implicated the Siberian Traps igneous event as the ultimate instigator of the end-Permian mass extinction, in large part because of the composition of the rocks in the area. Prior to this event, the rocks underneath Siberia were rich in coal, oil and gas. When the Siberian Traps erupted, the heat of the intrusive magma vaporized these hydrocarbons into greenhouse gases, which were then emitted into the atmosphere. Atmospheric carbon dioxide levels increased sixfold as a result.

The timing lined up with Tracy's new geochemical temperature estimates, which revealed an increase of 10 to 14 degrees Celsius in the Sydney region. The age estimates also nailed down the duration of the observed changes in the Sydney area: the temperature spike and ecosystem collapse had occurred within tens of thousands of years. This geologically rapid change in conditions drove animals from temperate zones to extinction or compelled them to live part-time in the cooler temperatures underground. It also triggered the widespread microbial blooms we detected in our microfossil studies: the slime revolution had begun.

The ancient recipe for this toxic soup relied on three main ingredients: high carbon dioxide, high temperatures and high nutrients. During the end-Permian event, the Siberian Traps provided the first two ingredients. Sudden deforestation created the third: when the trees were wiped out, the soils they once anchored bled freely into the rivers and lakes, providing all the nutrients that the aquatic microbes needed to multiply. In the absence of “scum-sucking” animals such as fish and invertebrates that would otherwise keep their numbers down, these microbes proliferated in fits and starts over the following 300 millennia. Once this new slime dynasty had established its reign, microbe concentrations at times became so high that they made the water toxic, preventing animals from recovering their preextinction diversity for perhaps millions of years. We had just discovered that freshwater, the last possible refuge during that apocalyptic time, was no refuge at all.

A Recurrent Symptom

Author Terry Pratchett once wrote of revolutions: “They always come around again. That’s why they’re called revolutions.” Although the end-Permian was uniquely ruinous to life, it was probably just the end of a spectrum of warming-driven extinction events in Earth’s history. If the environmental conditions that led to the end-Permian microbial blooms are typical for mass extinctions, then other ecological disasters of the past should reveal similar uprisings. Indeed, almost all past mass extinctions have been linked to rapid and sustained CO₂-driven warming. One might therefore expect to see similar, albeit less dramatic, microbial signatures for many other events.

From the precious little previously published data we found on freshwater systems during other mass extinctions, the pattern held up. So far, so good. But the best sign that we were onto something significant came when we placed the end-Permian event, along with the others, on a spectrum from least to most severe. The extinctions appeared to show a “dose- response relationship.” This term is often used to describe the reaction of an organism to an external stimulus, such as a drug or a virus. If the stimulus is really the cause of a reaction, then you would expect a higher dose of it to cause a stronger response. When we applied this reasoning, we saw that the global severity of these microbial “infections” of freshwater ecosystems really

seemed to have increased with higher doses of climate warming. The relatively mild warming events barely elicited a microbial response at all, whereas the severe climate change of the end-Permian gave rise to a metaphorical pandemic of aquatic microbes.

We then compared this pattern with the most famous mass extinction of all: the end-Cretaceous event that took place 66 million years ago and led to the loss of most large-bodied vertebrate groups, including the nonbird dinosaurs. In a matter of days some of the most awesome animals to walk the land, swim the seas or fly the skies were snuffed out. Although massive volcanic eruptions are known to have occurred at this time, the majority of extinctions from this event are generally attributed to the impact of an asteroid at least 10 kilometers in diameter that struck an area off the coast of modern-day Mexico at a speed of up to 20 kilometers a second. The resultant global cloud of dust, soot and aerosols may have inhibited the proliferation of photosynthetic microbes in the immediate aftermath of the event. Once the sun broke through, some microbes did multiply, but their reign was short-lived and relatively restricted, probably because of the modest

Without a simmering Earth to prop them up, we found, a new world order for microbes quickly breaks down. The contrasting microbial responses to magma- and asteroid-driven extinction events highlight the importance of high CO₂ and temperature for fueling harmful algal and bacterial blooms. This link between greenhouse gas-driven warming and toxic microbial blooms is both satisfying and alarming: an elegant theory of freshwater mass extinction is emerging, but it may be simpler than we thought to cause widespread biodiversity loss—and it all seems to start with rapid CO₂ emissions.

On The Rise

Today humans are providing the ingredients for toxic microbial soup in generous amounts. The first two components—CO₂ and warming—are by-products of powering our modern civilization for nearly 200 years. Our species has been industriously converting underground hydrocarbons into greenhouse gases with far more efficiency than any volcano. The third ingredient—nutrients—we have been feeding into our waterways in the form of fertilizer runoff from agriculture, eroded soil from logging, and human waste

from sewage mismanagement. Toxic blooms have increased sharply as a result. Their annual costs to fisheries, ecosystem services such as drinking water, and health are measured in the billions of dollars and are set to rise.

Wildfires can exacerbate this problem. In a warming world, droughts intensify, and outbreaks of fire become more common even in moisture-rich environments, such as the peat forests of Indonesia and the Pantanal wetlands of South America. Wildfires not only increase nutrient levels in water by exposing the soil and enhancing nutrient runoff into the streams, but they also throw immense quantities of soot and micronutrients into the atmosphere, which then land in oceans and waterways. Recent studies have identified algal blooms in freshwater streams of the western U.S. in the wake of major fire events. Farther afield, in the aftermath of the 2019–2020 Australian Black Summer wildfires, a widespread bloom of marine algae was detected downwind of the continent in the Southern Ocean.

Wildfire could have helped nourish aquatic microbes in the deep past, too. Our investigation of the sediments above the coal seams around Sydney revealed abundant charcoal, a clear sign of widespread burning in the last vestiges of the Permian coal swamps. As in the modern examples, a combination of surface runoff and wildfire ash may well have led to nutrient influx into late-Permian waterways and the proliferation of deadly bacteria and algae.

These ancient mass extinctions hold lessons for the present and the future. Consider the following two premises of Earth system science. First, the atmosphere, hydrosphere, geosphere and biosphere are linked. If one is significantly modified, the others will react in predictable ways. Second, this principle is as true today as it was throughout Earth's past. The Intergovernmental Panel on Climate Change (IPCC) applied this logic in its latest assessment of the causes and impacts of global warming.

Drawing on ice, rock and fossil records, this consortium of more than 200 scientists concluded that the world has not experienced the present levels of CO₂ in more than two million years. In periods with such levels of CO₂ in the past, how high were sea levels? How did these conditions affect soil-weathering rates? How were the forests distributed? In other words, how did

this difference in the air affect the oceans, land and life? Our society should be desperate to answer such questions in relation to our modern CO₂ levels of 415 parts per million (ppm), not to mention 800 or 900 ppm, which is where the IPCC estimates we'll be by the year 2100 if the world continues to burn fossil fuels at the current rate. As CO₂ keeps rising, we need to look further back in time for clues about what to expect. The records of past extreme warming events are only becoming more relevant.

The analogy between the end-Permian event and today breaks down in at least two important ways, yet these discrepancies may not be as comforting as we might hope. For one thing, the pace of warming was probably different. Life struggles to cope with large environmental changes on short timescales, so perhaps the end-Permian event, the worst struggle in history, occurred much more quickly than modern warming. It is more likely that modern warming is much faster, however. Our team and others have shown that the sixfold increase in CO₂ during the end-Permian collapse happened over the course of perhaps tens of thousands of years. At business-as-usual rates, the IPCC projects the same increase in CO₂ concentration within hundreds, not thousands, of years.

A second strike against the analogy is the human element. Humans are becoming a force of nature, like a magma plume or a rock from space, but the diversity of ecological stressors they exert is unique in Earth's history. For this reason, we argue that extreme warming events from the past, such as the one that occurred at the end of the Permian, potentially provide a clear signal of the consequences of climate change. If we listen carefully enough, the fossils and rocks can tell us the results of warming alone, without additional, possibly confounding influences from humans such as nutrient influx from agriculture, deforestation via logging or extinctions from poaching.

Here is the message these past events are telling us with increasing clarity: one can cause the extinction of a large number of species simply by rapidly releasing a lot of greenhouse gas. It does not matter where the gases come from—whether the source is volcanoes, airplanes or coal-fired power plants, the results end up being the same. When we add to that mix the myriad other stressors generated by humans, the long-term forecast for biodiversity seems bleak.

There is, however, a third way in which our species could break the analogy, one that is far more hopeful. Unlike the species that suffered the mass extinctions of the past, we can prevent biodiversity loss through the intelligent application of our ideas and our technologies. Case in point: we can prevent a microbial takeover by keeping our waterways clean and curbing our greenhouse gas emissions.

It is increasingly clear that we are living through the sixth major mass extinction. Freshwater microbial blooms, wildfires, coral bleaching and spikes in ocean temperature are becoming more frequent and intense in our warming world.

Where along the extinction-event spectrum the present warming will place us is, for the first time in Earth's history, up to just one species. ●

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WITH E-SCOOTERS POPPING UP IN CT, ARE THE STATE'S STREETS SAFE ENOUGH FOR THEM?

By Verónica Del Valle

Electric scooters in the United States were nowhere, and then they were everywhere all at once.

Backed by venture capital money, dockless electric scooter share programs began popping up in city after city throughout 2017 and 2018, introducing a new form of transportation to urban life.

Now as e-scooters make their way from the country's largest metropolitan centers to the cities and towns of Connecticut and more towns move to allow e-scooters on their streets — and more reports of injury or death while using one are making the news — lawmakers and residents are asking: How do we make it safe?

It turns out that safety in micromobility is complicated and made up of dozens of individual factors — like

driver behavior, road infrastructure and local regulation.

“Safety is a multi-dimensional issue, but it's really incumbent upon us to manage the factors and the variables that we can control,” said Paul Steely White, public affairs director at the e-scooter company Superpedestrian.

E-scooter adoption is still in its early phases in Connecticut. Though some people across the state may own electric scooters, a small group of cities and towns have launched share programs through several different companies. Hartford, Bridgeport, Fairfield and Ansonia all currently run scooter shares. Other towns like New Milford have experimented with e-scooter initiatives in the past.

And even more e-scooter users could be on the way, depending on municipal policy making. Stamford — the state's second-largest and fastest-growing city — could undo a 17-year-old ban on scooters that city officials say is not enforced — a ban that does not prevent the city from debating welcoming in e-scooter shares.

During preliminary conversations about Stamford's potential embrace of micromobility, safety emerged as one of the top concerns among city Representatives in terms of the scooter riders, road users and vulnerable populations.

Hartford was one of the state's earliest adopters of micromobility, initially in contract with the transportation company Lime. But that partnership was phased out two years ago, and Hartford connected with Superpedestrian, with its fleet of 50, as its second provider.

Though scooter share companies cannot control everything that happens on the road, they've increasingly moved to limit what they can. Companies can limit the areas within a city where their e-scooters are operable, a practice called geofencing. Similarly, speed ceilings can help reduce how fast a user goes.

Steely White said Superpedestrian does both in Hartford and focuses on maintenance. Individual operators cannot ensure that a city has protected bike lanes — which can drastically cut down on the number of injuries among bikers and scooter users — but operators can “keep the fleet tidy” and “educate riders on the rules of the road,” he said.

Geofencing and speed ceilings are among the features that led Fairfield, one of the state's newest e-scooter adopters, to launch a one-year pilot program with the company Bird. City Community and Economic Development Director Mark Barnhart said the e-scooters can only operate south of Interstate 95 between the train station and the beach.

The scooters can also only drive at a maximum of 15 miles per hour, but even that comes with a caveat: The scooters must go slower in the downtown district where there are more cars and more pedestrians.

"We just wanted to give folks a little bit more time to react to the obstacles, especially as people might not be familiar with the operation of those e-scooters," he said.

The program has been in place for just over a month, but Barnhart said he believes uptake thus far has been strong. Internal data indicates that more than 4,000 e-scooter rides have happened in Fairfield among about 1,100 unique riders. Strong ridership also means there have been some "growing pains," especially when it comes to safety, he said.

Most residents' complaints center around "people that are riding recklessly" and "improperly parked scooters," which can block the sidewalk for other pedestrians. In terms of the people driving recklessly, Barnhart said he hopes to "get the bad apples out of the system" through Bird's own tracking system.

"We are able to track the last person" who uses the scooter, he said. "We can identify that individual, issue a warning — and then the subsequent, they can't rent a scooter anymore, so they'll be booted off the platform."

Though electric scooters and scooter shares have been popular for about five years, the data on them is still scarce, mainly because the line between privately owned scooters and dockless, shared scooters can be blurry.

However, one thing is clear enough: Their presence is steadily growing. Data from the federal Department of Transportation Statistics show that, as of 2021, scooter share systems served 110 cities across the country, up from 64 in 2018.

During that same era, the number of reported scooter injuries also increased significantly. The U.S. Consumer Product Safety Commission estimated that scooter-

related accidents were linked to about 7,700 emergency room visits in 2017. By 2020, the number jumped to 25,400.

In Bridgeport recently, at least two scooter-related accidents resulted in major injuries. A child riding an electric scooter on a sidewalk sustained serious injuries after losing control and slamming into a metal pole. A month later, a pickup truck hit two teenagers riding on a motorized scooter, killing one boy and injuring the other.

Eric Jackson, the executive director of the Connecticut Transportation Institute at the University of Connecticut, which oversees the state's Crash Data Repository, said it's difficult to get an idea of how many accidents involve scooters statewide because there's no category capturing data specifically on the vehicles.

The crashes, he said, seem like an "abnormality as of now, just due to increased risk-taking behavior post COVID.

"I think these might just be a symptom of the bad driver behavior we are seeing all over the place now and less on scooter or moped use," Jackson said.

Many scooter users and micromobility advocates see bad driver behavior as one root of the problem rather than unruly riders. Though electric scooters may be getting into crashes, few in the sustainable transportation community said they see them as a primary threat.

"People walking are not causing pedestrian deaths and crashes," Gannon Long, a Hartford resident and activist, said. "People biking are not causing pedestrian bike deaths and crashes. People who are driving cars are the ones who are crashing into pedestrians and killing them."

This story includes prior reporting from staff writers Ethan Fry and Peter Yankowski. ●

PERMANENT BIRTH CONTROL IS IN DEMAND IN THE US—BUT HARD TO GET

After the Supreme Court’s Dobbs ruling, more people are seeking to get their tubes tied—assuming they can find a sympathetic doctor.

By Jacob Sugarman

THE FALL OF Roe v. Wade stands to dramatically shake up contraception trends. In the days following the US Supreme Court’s Dobbs ruling, clinics began to report a surge in people requesting tubal ligations—more commonly known as getting one’s tubes tied. This is a procedure in which the fallopian tubes are surgically blocked or sealed to prevent future pregnancies, one that is very difficult to reverse.

But those requesting the procedure often encounter a big barrier: doctors. Despite the American College of Obstetricians and Gynecologists (ACOG) advising that “respect for an individual woman’s reproductive autonomy should be the primary concern guiding sterilization provision,” people who can get pregnant are often refused the procedure. By and large, the decision still lies very much in the hands of the physician.

A doctor will typically refuse to perform a sterilization procedure on the grounds that the person is too young, that they don’t have enough children, or that they might come to regret the decision—or a combination of these factors. Without a partner or any children, a person’s chances of obtaining the procedure drop even lower. (There is no existing ethical guidance from the male counterpart to ACOG—the American Urological Association—on the provision of vasectomy services.)

The attitudes of today’s doctors are grounded in a history of pro-natalism that’s existed for decades in the United States. In the 1970s, the criteria for allowing sterilization were even stricter: A woman would be denied access to the procedure unless their age

multiplied by the number of children they had equaled 120 or greater—if you were 40 years old with three children, you would be approved for the procedure, for example. In essence, a woman’s reproductive autonomy was decided on the basis of a mathematical calculation. Even today, doctors often require the sign-off of the patient’s partner.

Lisa Harris, an ob-gyn and professor at the University of Michigan, has seen an influx of young women requesting tubal ligations at her institution since the fall of Roe. Many of the patients have come to her after having been refused by other doctors. It’s a different manifestation of society not trusting women to know what they need, Harris says, and “probably related to the same distrust that leads to things like abortion bans.”

For Kayla, who lives in Chicago, a traumatic experience when she gave birth prematurely to her daughter last year meant she is sure she never wants to have another child. “I can’t see myself going through that again,” she told her doctor. When her physician suggested birth control, Kayla pleaded for something more permanent. “And she told me, ‘No, I’m too young ... Maybe my daughter will want siblings.’” Since then, Kayla has visited at least three doctors requesting a tubal ligation, and all have refused, for similar reasons.

The concept of the risk of regret is a significant barrier to access and is based on the subjective opinion that people who can become pregnant will always want to bear children. In reality, this isn’t true. The largest study to look at rates of reported regret in sterilized women—the Collaborative Review of Sterilization—followed 11,000 sterilized women for 14 years after having the procedure. It found that childfree women who had been sterilized reported the lowest rates of regret among all groups of patients. “And yet this myth that women, especially women without children, will come to regret their decision to be sterilized persists,” says Elizabeth Hintz, an assistant professor of health communication at the University of Connecticut.

All of these reasons for denying sterilization are in direct contradiction of ACOG’s ethical guidance. Yet doctors face no repercussions for refusing to perform procedures; the US does not track data on how many sterilization requests are denied. “So there’s no accountability—there’s no capacity to enforce a consequence,” Hintz says.

Access to the procedure isn't equitable across society. Echoes of sterilization's checkered past—in which marginalized groups of women were forced to undergo the procedure, including women of color, women who were poor, and those living with disabilities or mental illnesses—still linger today. Black, Latina, and Indigenous women in the US are up to twice as likely as white women to be approved for sterilization, while women with public or no health insurance are about 40 percent more likely to have the procedure than privately insured women.

“The bottom line is that the way that this is legislated around—and the way that these very subjective sorts of assessments are able to be made—is just a means of perpetuating this very white, wealthy, able-bodied, and cisgender idea of who ought to have children,” says Hintz.

One corner of the internet in which those seeking the procedure can find advice and tips is the r/childfree community on Reddit. The subreddit has folders with extensive information on how to request the procedure, a collated list of doctors who will perform it, and a sterilization binder that members can take to their doctor with a template consent form and a form to list their reasons for wanting the procedure.

Alongside rising requests for permanent forms of birth control, the overturning of Roe has already triggered an uptick in the number of people seeking longer-lasting but nonpermanent birth control, such as intrauterine devices (IUDs). But the idea itself that birth control—permanent or otherwise—could replace access to abortion is inherently flawed, says Krystale Littlejohn, an assistant professor of sociology at the University of Oregon whose work explores race, gender, and reproduction. Despite the fact that the majority of people who can get pregnant use some form of birth control, one in four women will have an abortion in their lifetime. This is why the “just get your tubes tied” or “just get an IUD” rhetoric that has emerged in the wake of Dobbs isn't helpful, she says.

For one, choosing these forms of birth control is not a trivial medical decision: Heavier, more painful periods and a potentially painful implantation procedure—often with no pain relief—are among the possible consequences of getting an IUD. Tubal ligations require an invasive surgical procedure and, as with any surgical procedure, can lead to complications.

In fact, the advice to use birth control can be seen as just another form of policing people's bodies, Littlejohn says. “When it comes to people suggesting that their friends or their loved ones get on long-acting birth control, I think that people believe that they're helping other people, but what they're really doing is encroaching on their human right to bodily autonomy,” she says. Roe's fall won't just mean that people with uteruses are forced to give birth, she says; it's also about compelling them to use longer-acting or permanent forms of birth control.

A person living in a restrictive part of the US may now feel compelled to seek out longer-term contraception or get their tubes tied—which is tantamount to compulsory birth control. “That's not the solution right now,” she says. “I think it's really important that we don't try and fight reproductive injustice with reproductive coercion. ●

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IN COLOMBIA AND CHILE, LATIN AMERICA IS RETURNING TO DEMOCRACY

But is the Biden administration listening?

By Jacob Sugarman

It was the culmination of a democratic movement that began with Colombia's constitutional reform of 1991 and extended through the peace accords of 2016 ending a decades-long conflict between that country's government and the Marxist-Leninist Fuerzas Armadas Revolucionarias de Colombia (Revolutionary Armed Forces of Colombia, or FARC)—a conflict in which, newly declassified documents reveal, the United States played an integral role. On June 19, Gustavo Petro defeated far-right demagogue Rodolfo Hernández to become Colombia's first left-of-center president. Francia Márquez Mina, Petro's running mate, will serve as the

country's first Black vice president; the pair earned more votes than any ticket in the nation's history. As the Colombian people celebrated in the streets of Bogotá, the former guerrilla fighter vowed to represent "that silent majority of peasants, Indigenous people, women [and] youth" while speaking against a backdrop that read "EL CAMBIO ES IMPARABLE" ("change is unstoppable").

Petro's triumph, which follows similar left-wing victories in Chile, Honduras, and, to a lesser extent, Peru, signals a broader pendulum swing within Latin America reminiscent of the "pink tide" during the early aughts. For a Biden administration that often frames its foreign policy around the dangers of autocracy, this political shift would seem like a positive development. But given that the interests of these countries are frequently at odds with those of Washington in an increasingly multipolar world, the administration's support for this democratic wave remains hazy, even as Biden himself asserts the importance of fortifying the rule of law at home and abroad. Now, as Brazil prepares for a presidential election this October amid the threat of an autogolpe ("self-coup") by the increasingly dictatorial Jair Bolsonaro and a possible return to military rule, Biden must decide whether he's committed to proving that democracies can provide for their citizens, as he asserted at the Summit of the Americas in Los Angeles earlier this month, or whether he sees the term "democracy" as little more than a slogan, fundamentally devoid of meaning.

"One could well imagine John F. Kennedy saying those kinds of things in 1962," says historian of modern Latin America Robert Karl of Biden's recent address. "Sixty years of antidemocratic behavior later, they're a little harder to swallow, particularly in this moment when the state of US democracy is so fragile."

Under a different kind of Democratic administration, Karl contends, Washington might take steps to avoid alienating the Petro government and pushing it into the orbit of China or Russia. But Biden is a different animal. While Petro's acknowledgement of the unique threats posed by climate change dovetails with warnings the US president issued while promoting his Build Back Better agenda, the Colombian leader's pledge to reduce his country's dependence on fossil fuels and halt any further extraction could pose a serious challenge to Washington, especially as Russia's war in Ukraine shows no signs of abating. What is clear is that the United

States' relationship with what had previously been its most reliable client state in the region is likely to change. Less clear is how the Biden administration will respond to possible land use and drug interdiction reforms—or how it will promote democracy in countries like Colombia.

"One of the fascinating things about the Summit of the Americas was that it laid bare that Washington simply does not have the same range of tools for regional engagement that it once did," says Brian Winter, vice president for policy at Americas Society/Council of the Americas and the editor of *Americas Quarterly*. "Senior officials in the governments of countries like Brazil, Chile and Argentina still talk about the idea of a new Marshall Plan for Latin America, and that's simply not on the table because of the political and fiscal reality of the United States."

Brazil is another story entirely. Whereas the Colombian right recognized Petro's victory as legitimate, Brazilian President Jair Bolsonaro has relentlessly undermined his country's election integrity even as recent polling suggests he will probably lose in the first round of voting to Luiz Inácio Lula da Silva of the Workers' Party. More dangerous still, although most of the military appears committed to upholding the country's Constitution, Bolsonaro has earned the support of several key officials, some with ties to the Brazilian dictatorship from 1964 to 1985. Officers like Almir Garnier Santos, who serves as commander of the Brazilian Navy, have echoed the president's claims about the vulnerability of voting systems, while Defense Minister Walter Souza Braga Netto has allegedly threatened to prevent the election from proceeding unless changes are implemented. (Braga Netto, who is expected to be Bolsonaro's running mate, denies the claim.) Brazil's Supreme Court justice and top election official Edson Fachin maintains that these concerns are baseless. According to a report by New York Times Rio bureau chief Jack Nicas, "Mr. Bolsonaro's tactics appear to be adopted from former President Donald J. Trump's playbook, and Mr. Trump and his allies have worked to support Mr. Bolsonaro's fraud claims."

As recently as last month, Bolsonaro questioned the legitimacy of Biden's own victory. So why would the US president grant him a private audience, as he did at the Summit of the Americas, and allow an aspiring dictator to lobby for Washington's help in defeating his opponent?

The simplest answer is that the Biden administration was trying to save face. After its 11th-hour decision to bar Cuba, Nicaragua, and Venezuela from the conference prompted several political leaders from Latin America to skip the event in protest, the White House couldn't afford to lose Bolsonaro as well—however distasteful the president may find his Brazilian counterpart. (The summit was their first face-to-face meeting since Biden assumed office.) Still, that doesn't explain his decision to praise Bolsonaro's management of the Amazon mere days after British journalist Dom Phillips and Brazilian activist Bruno Pereira had disappeared in Vale do Javari. "There is a literal genocide being perpetrated against entire cultures of indigenous peoples," notes Brian Mier, editor of the website Brasil Wire. "Biden acted as though Bolsonaro had done nothing wrong."

Frederico Figueiredo, who served in the Brazilian chancellery office under Presidents Dilma Rousseff and Michel Temer, believes the US president is "between the devil and the deep blue sea" with the upcoming elections. "It's a complicated choice for Biden, because Bolsonaro can offer him things like the privatization of state-owned companies that he knows he won't get from Lula," Figueiredo explains. "Lula would also [engage the nations in] BRICS [Brazil-Russia-India-China-South Africa] and rededicate Brazil to organizations like CELAC [the Community of Latin American and Caribbean States] that could check US hegemony in the region. But Bolsonaro is an internationally repulsive figure, and [dealing with him] threatens Biden's supposed commitment to strengthening democracy."

Then there is the United States' decision to exclude Latin America's authoritarian regimes from the summit itself. While Brazil remains a flawed democracy, Bolsonaro has made no secret of his contempt for democratic norms. So where does the Biden administration draw the line, and how much of its reasoning is motivated by its own self-interest?

In a recent interview with The Washington Post, newly elected Chilean President Gabriel Boric acknowledged that he has many criticisms of the governments that were prohibited from participating in the conference but said they were best delivered in person. "I believe we can have a better relationship if the United States understands it in terms of political equality with the region's countries, particularly those with shared

values," Boric said. "Those values would be much better supported without paternalism."

Other Latin American nations, such as Argentina, have urged the Biden administration to substantiate its democratic rhetoric by addressing the "unequal" rules of the international financial system. These range from trade embargoes that have been in place for years and sometimes decades to IMF loan surcharges designed to keep poor countries in debt.

"In the absence of a grand vision, the Biden administration could figure out what parts of its bureaucracy can competently and materially improve the lives of Latin Americans," says Mark Healey, head of the history department at the University of Connecticut and a specialist in Latin America. "It's just not immediately clear that that is what it will do."

In 2022, after the horrors of Operation Condor and an attempted coup at home, this may be the only kind of leadership the United States has left to offer. ●

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Q & A: HOW SHINZO ABE SOUGHT TO REWRITE JAPANESE HISTORY

Japan's longest-serving Prime Minister wanted a more assertive place for his country on the international stage—at the expense of atonement and historical accountability.

By Isaac Chotiner

Shinzo Abe, the former Prime Minister of Japan, was assassinated on Friday, in the city of Nara. A member of the Liberal Democratic Party, Abe had served in Japan's highest elected office twice: the first time, for a year, starting in 2006, and the second time between 2012 and 2020. Abe came from a prominent political family—his father had been a foreign minister, and his

grandfather had served as Prime Minister in the late nineteen-fifties after avoiding war-crimes charges—and remained one of the most powerful politicians in the country even after leaving office, in 2020. As Prime Minister, Abe sought to reestablish Japan as a forceful presence in international affairs, and his policy to jump-start the Japanese economy came to be known as Abenomics. He failed, however, in his push to revise Japan's constitution to allow the country to take nondefensive military action abroad. Abe cultivated strong relationships with a number of world leaders, including Donald Trump and the former Australian Prime Minister Malcolm Turnbull, but relationships in the Asia-Pacific region, especially with South Korea, were strained by Abe's unwillingness to fully acknowledge Japan's heinous behavior during the Second World War.

After Abe's death, I spoke by phone with Alexis Dudden, a professor of history at the University of Connecticut who specializes in modern Japan and Korea. She was in Tokyo when we talked. During our conversation, which has been edited for length and clarity, we discussed Abe's Second World War revisionism, his complicated feelings about America, and why his push to reform the Japanese constitution ultimately failed.

How do you see Abe's legacy?

He was a Prime Minister who reconfigured Japan's place in East Asia, or at least tried to. He tried to create a more assertive Japan through a very proactive—as he liked to describe it—attempt at diplomacy. And he travelled widely. He met with Vladimir Putin more than with any other world leader: more than twenty times. He did meet Xi Jinping, and he was the first foreign leader to meet Donald Trump after [Trump] became President. Abe, however, created a deep rift between Japan and its Asian neighbors over his extremely hawkish outlook, his extremist positions on the legacy of the Japanese empire, and its responsibilities for atrocities committed throughout Asia and the Pacific. While many are extolling him as a great leader, his personal vision for rewriting Japanese history, of a glorious past, created a real problem in East Asia which will linger, because it divided not just the different countries' approach to diplomacy with Japan; it also divided Japanese society even further over how to approach its own responsibility for wartime actions carried out in the name of the emperor.

You used the phrase “rewriting history.” Do you mean rewriting the truth, or do you mean rewriting the way people in Japan understood their history? To what degree was Abe, when he came into office for the first time, in 2006, a departure from the way that Japan understood its own history? And to what degree was this more of the status quo, but just in a more aggressive fashion?

The helpful thing about studying Abe is that he himself published several articles and books, and he gave numerous speeches about history and about his vision of Japan's history, in particular. When he first became a parliamentarian, in the early nineteen-nineties, inheriting his father's seat, he was part of a study group inside Parliament that is believed to have written a document denying the Nanjing Massacre. This article used to be available in Japan's Diet archives. It is no longer traceable, but it was there. Abe began in the mid-nineties, when there was an effort to really socially readdress Japan's wartime role in Asia, after the death of Emperor Hirohito, in the wake of the first “comfort women” coming forward. That's when Japanese political leaders really became more public about the positioning of their own parties' views of Japan's role in Asia, in a new, more strident way that sought to rewrite how Japan and the Japanese should see it.

Fast forward to his first term as Prime Minister, in 2006. By that time, these issues had been much better studied academically and socially within Japan and throughout the world. Abe made a big effort, in 2006 and 2007, to deny that Japan bore any state responsibility for the comfort women, in particular. And he failed at that attempt. This is when he and his supporters took out a full-page ad in the Washington Post. And it was a real moment of shock for him when the U.S. Congress passed a nonbinding House resolution asking Japan to atone for its role in creating the comfort-women system. That was also when he resigned for the first time because of his ulcerative colitis.

But, between 1994 and 2006, his chief lobbying group, called the Nippon Kaigi, was created—this political-lobbying group didn't have much of a public face, but it emerged as an extremely powerful ideologically based group. And this is why comparing him to Trump and [India's Prime Minister Narendra] Modi and other extremists—or people with extreme views or people who give voice to extreme views—is apt, because these groups seem to come out of nowhere for a lot of us.

Like, who was Steve Bannon until there was Steve Bannon? Abe, in that interim between being a junior parliamentarian and becoming Prime Minister, had become this group's head of history and territory. And, in that moment, he also published a work about making Japan great again, which he called "Towards a Beautiful Country."

I just wanted to follow up on the Nanjing Massacre. Americans may know this as the Rape of Nanking, when, in 1937, Japanese soldiers killed hundreds of thousands of Chinese people and raped tens of thousands. And there have been some efforts in Japan to deny all this. What exactly was Abe arguing about this?

He argued several aspects of this in different places—specifically that much of it was a fabrication, that much of it was an effort by China to smear Japan, that, in fact, nowhere near the numbers of people as claimed had been massacred, and that in many cases it was the Chinese soldiers targeting the Japanese. And so this is really that kind of Holocaust denialism.

He's a departure insofar as he comes as part of the backlash in the early to mid-nineties to many Japanese leaders, even those within Abe's own party, beginning publicly to accept Japan's responsibility for state-sponsored atrocities. This, in particular, is because, in Japan, until Emperor Hirohito died, in 1989, it was not possible for any public official, let alone any academic, to publicly discuss the role of the emperor and whether the emperor himself, or Japan in the name of the emperor, bore responsibility for these atrocities. And the hot-button issues are Nanjing and the comfort women and Abe's visiting the Yasukuni Shrine.

After Abe came to power in 2012, there were some efforts to apologize more for Japan's wartime behavior, with some American pressure, presumably because the United States wanted to unite Asian countries around opposing China, and Japan's wartime record was a stumbling block. Were these moves by Abe sincere or substantive?

It would not be possible for me to judge the sincerity of someone's apology. However, what is possible to judge is what Abe's study group continued to do with him continuing to be in charge. In particular, as soon as he came into power for the second time, in 2012, the group opened a cabinet-level investigation into what's

called the Kono Statement, which the Japanese government, led by Abe's own party, had issued to apologize for the comfort-women issue, in 1993. Abe ordered an investigation into how that statement came about. And that really touched off a more public debate among Japanese academics, Korean academics, Chinese academics, and all of their supporters, but, most importantly, the victims, saying, "Wait a minute, is Japan going to rescind the apologies it's already made?"

Abe would say things like, "Well, I maintain the positions of the government of Japan," on wartime anniversaries, et cetera. And yet, at the same time, his own government was not just whittling away but hollowing out what was already on the books—in particular the Kono Statement. So it's under Abe's second term, in the twenty-tens, that, for example, we see a government-backed effort to pressure publishers into removing passages about atrocities committed by the Japanese Army and Japanese soldiers during World War Two, particularly on the continent in Asia, and also how Japanese efforts should be remembered at the archival level, how Japan's efforts against the Allies should be taught, and how battles that were lost should be thought about, for example.

When he was invited to address a joint session of the U.S. Congress, in April, 2015, he gave a speech that everyone stood up and applauded at. And yet the battles that he recalled were largely battles that Japan had won against America or were considered a draw. And the Americans recognized that this was what he was talking about. Then, in August of that year, Abe talked about how Japan's efforts in 1904 and 1905, when Japan defeated Russia in the Russo-Japanese War, gave hope to oppressed people throughout the world. Well, this was the war that led to the colonization of Korea, so the speech was a direct slap to Korea. And so, at each stage, when it appeared as if Abe was sort of recognizing that Japan had committed these acts, he actually was using words that made clear he was distancing the country from taking any responsibility or from any sense that he would accept responsibility for the atrocities committed and things that continue to fuel the so-called history problems in the region.

When it came to the comfort-women issue, it really became clear that he was moving away from all of the hard work that had been done prior to his coming back into office. Successive administrations had upheld this acceptance, the 1993 Kono Statement, but Abe

announced, after Japan and South Korea agreed in late 2015 to settle the issue of comfort women, that he felt sorry for these poor people but that there was no evidence that the government of Japan had been responsible or that the state of Japan had constructed this system. And so, while it was reported that he was making these gestures of atonement, it became clear that Abe was going in the other direction, dragging Japan back toward the seventies and the eighties, when successive administrations just refused to acknowledge that this history had even happened.

When you read about Japan wanting to amend its constitution, or you read about Abe or other Japanese leaders wanting to play more of an active diplomatic role in global affairs, I think a lot of people would say, “Well, World War Two ended more than seventy-five years ago. And Japan has largely been at peace with its neighbors since then. So has Germany. Why shouldn’t these countries be allowed to be essentially ‘normal’ countries? Certain countries are not inherently more violent than others.” How do you respond to this argument?

Abe was very clear that much of his effort was to exonerate the name of his grandfather, who had been labelled a class-A war criminal. [Abe’s maternal grandfather, Nobusuke Kishi, was imprisoned for three years but was never tried. He later became the Prime Minister, in 1957.] And Abe wrote in his book about, as a child, being teased because other kids his age were taunting him for his grandfather. So he really saw it as his mission, his destiny, to exonerate the family name and, therefore, to overturn this notion of criminality—that, at the war-crimes tribunal, Japan should not have been found guilty as charged.

This issue is also part of what had been a source of division within his party, the Liberal Democratic Party: whether Japan should have accepted what at the beginning were called the American terms, the American constitution. Sure, at the beginning, in 1947, when the U.S. occupation sort of handed this constitution to Japan, and when it went into effect, in May, 1947, it was viewed as an American document. But, over time, it came to be how the Japanese were taught about their place in the world. I don’t use the word “pacifist” to describe the constitution, but it is a constitution that prohibits waging war abroad. And, by the mid-nineties into the early two-thousands, it became far more commonplace to hear words such as

“masochistic,” “self-defeating,” and “emasculating” about the constitution.

Abe saw it as part of his mission to rewrite Japan’s place in Asia, in the world. As you say, why shouldn’t every country have the right to this? What’s important to bear in mind is the constitution never prohibited the right to self-defense. Japan has an astonishingly strong military, and has had one since it was able to transform, with U.S. backing, in the early fifties, its police force into what was known as a self-defense force. While Japan has, since after the Second World War, not had the right to wage war abroad, fire bullets abroad, except in self-defense, it does refuelling missions, humanitarian missions, alongside the United States, in particular, but also with the United Nations peacekeeping force. Abe, however, had a different vision for this. He saw a normal Japan with a full-fledged military with the right to do whatever it wants.

What’s also important to bear in mind is that a lot of Article 9 [of the Japanese constitution], prohibiting the ability to wage war, has already been eviscerated. Many refer to this as the salami slicing of the constitutional law. In 2015, Abe also announced that it was time to enact something called collective self-defense. And this became a huge issue throughout the summer of 2015, when for the first time, really since the nineteen-sixties, people were taking to the streets, marching against Japan adopting this new legislation, because this would have been the first step to overturning the ban on waging war abroad. Fast forward to now, even Thursday’s morning papers here, before he was assassinated, had a huge discussion over increasing Japan’s defense budget. And it’s something that the current Prime Minister would like to accomplish. Abe had been a strong advocate of increasing Japan’s defense spending, purchasing what are used as attack weapons.

It is ironic, considering Abe’s thinking about the American imprint on the Japanese constitution, that it was the Americans who had saved his grandfather from a much worse fate after the war—something they had done with many suspected war criminals in Germany and Japan they wanted to rely on, often for anti-Communist reasons.

Much of Abe’s writing is actually, in the end, rather anti-American because he also very much wanted to revisit the judgment at the war-crimes tribunal. I don’t mean

to get too into the weeds, but the rise of postwar Japan is predicated on this. When Japan resumed sovereignty, in 1952, after the San Francisco Treaty, the acceptance of the peace treaty was predicated on the Japanese government's acceptance of the war-crimes judgment. It's not like we should erase Japan's great success and the wonderful things that Japan has accomplished in the postwar era. But what Abe was trying to do was rewrite these little parts of history, which are actually huge parts, in a way that exculpates Japan and the Japanese people from any notion they had committed any crimes or done bad things during World War Two.

It does seem that, despite this more nationalist posture, he had some success in relations with neighboring countries, with the exception of South Korea, maybe because it coincided with a more assertive China. Do you agree?

He worked very closely with a certain group of Washington-alliance managers, as they're known, who continue to want Japan to have a much more forceful military role in Asia and in the world. And, in particular, he's credited with this notion of the Indo-Pacific strategy. Whether he himself coined the term is still up for debate, but he said that he really wanted Japan to be able to engage more militarily with Australia, India, and the United States in this sort of containment that's come into play—containing China, in particular, by bolstering Japan's naval capacities and so-called defense capabilities.

So, his efforts to engage had far more to do with beefing up Japan's military capabilities. We see this in particular in Okinawa, where there's a base that's been under debate for years, and he was absolutely clear that, despite local opposition to the construction of this base, it was going to happen because this was necessary to his vision of hardening Japan's security position and posture. The way I think about Abe's legacy is in pretty tough terms, because the policies that he shaped and that are on the books for Japan have created this very rigid wall, almost, in the water around Japan which allow the language of security to dominate thinking. And, at the same time, a majority of Japanese, while they definitely see China as an increasingly aggressive threat and see North Korean missiles flying overhead, do not want to have Japan just do America's bidding.

I want to come back to the thing that I said earlier about the irony of the right wing in Japan, and you can see this

in other countries, too, where there are historical and other reasons for a certain kind of anti-Americanism, but their policies are very closely allied with America's.

It is the irony overlaying his career because, at its fundamental core, making Japan "beautiful" is quite anti-American. And yet, on the surface, he's seen as the person who tried so hard to make Japan's alliance promises to the United States stronger. But these are solely in security terms, and have led to greater insecurity in the region. The standoff with Korea, the increasingly frozen ties with China are a result of Abe's determination to make Japan great again. And it therefore really comes down to: What is the meaning of "great" for Abe, and for the legacy of Abe? Because, again, most Japanese have come to have a different understanding. The other irony is that all of Abe's nationalism will be overlooked by America because politicians like Abe allow America to outsource its containment of China. ●

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SHOULD GUN SAFETY BE ON YOUR DOCTOR'S CHECK LIST?

Researchers Want to Know Why It Isn't

By Harriet Jones

Doctor Stacy J. Taylor routinely asks her patients about safe gun storage at home. "I had someone say they put it in their bedside table and it is loaded," said Taylor, a family practitioner with Trinity Health New England. "So, I said, 'Maybe that's not a great idea. If you don't have a safe, at least keep the gun in one place and the bullets in another.'" Her patient promised to consider making a change.

Questions about safe gun storage don't pop up at every annual physical or well visit. Studies suggest that only a quarter of family physicians regularly discuss gun safety with their patients.

Despite having some of the strictest gun control laws in the country, Connecticut is enduring high levels of gun violence, with more than 60 deaths in the first six months of 2022.

Across the nation, with more than 300 mass shootings this year, gun fatalities remain a leading cause of premature death. In 2020, 45,222 people in the U.S. died of gun-related injuries, with suicides accounting for more than half of those deaths, the Centers for Disease Control and Prevention reports.

A new study by two University of Connecticut researchers aims to find out why doctors aren't routinely addressing this serious public health problem.

"We looked at why they don't include firearm security or safety conversations as part of what we call anticipatory guidance," said Jennifer Necci Dineen, an associate professor in residence at the School of Public Policy at the University of Connecticut, referring to when doctors ask about things like cancer screenings and whether a patient uses a seatbelt.

Study Seeks Ways To Reduce Gun Violence

Dineen and co-researcher Kerri Raissian, an associate professor, did a qualitative survey of 18 family physicians in 18 states, including Connecticut. Most physicians surveyed did not ask about gun safety as a primary question but were apt to bring it up if another answer prompted the inquiry.

"So, if I screen in for depression, for example, they may ask me if we have guns in our house," Dineen said. "If I express concern about my partner or, let's say, one of my children is violent, and I talk to my physician about that, they may ask me if I have guns in the house. But they rarely will bring that up proactively."

The research is part of UConn's ARMS Center (Advancing Research, Methods, and Scholarship for Gun Injury Prevention), which connects scholars, advocates, and policymakers in seeking ways to reduce all forms of gun violence.

The researchers selected nine states that have laws regarding gun storage in the home and nine that do not, aiming to determine whether the legal and political framework of the state influenced the physicians' decisions. In Connecticut, Ethan's Law on safe gun storage was passed in 2019. The legislation is named for

15-year-old Ethan Song from Guilford, who died from an accidental shooting in a neighbor's home where there were unsecured firearms.

Doctors' broaching the topic of guns has been a political minefield in the past. In 2011, Florida passed a law that forbade physicians from asking about firearm ownership. After a series of appeals, a 2017 ruling found that the statute infringed on doctors' First Amendment rights.

Florida is not the only state to attempt so-called "gag" laws. Similar, though less restrictive, laws have been passed in Minnesota, Montana and Missouri.

But to the researchers' surprise, the political climate of the physicians' home state didn't seem to be the deciding factor. And doctors' comfort level with the topic was only part of the picture. Instead, the most significant barrier turned out to be time.

"While we had suspected that a lot of it had to do with comfort or political context," Dineen said, "what we're hearing is it has more to do with time pressure and the fact that there's more to talk about now than there ever was before."

Add to that time pressure the fact that many conversations at wellness appointments are guided by a form provided by the doctor's electronic medical record system.

"These electronic medical records are prepackaged and purchased," Dineen said. "They tend to come with a standard set of items. Some of those items are driven by what's covered by insurance in many cases."

Dineen and Raissian are at the early stages of their research. They are writing a paper on their 18-state survey and hope to get funding to expand their research to include pediatricians and OB-GYNs.

They hope their research will inform how electronic medical records are compiled so that gun safety questions become a routine part of wellness appointments.

Gun Safety Taught To Medical Students

Dr. Adam Weinstein, associate professor of medical sciences and pediatrics at Quinnipiac's Netter School of Medicine, says all medical students should be

introduced to the idea of asking about safe gun storage as part of their training.

“We introduce this in September of the first year of medical school in a session where we introduce them to health maintenance visits for children and adults,” he said. “Gun safety is introduced as one part of this more comprehensive whole with regards to health promotion and disease prevention.”

Most students will also see the principle in practice as they observe health maintenance visits with a preceptor who is a family medicine practitioner and then again in their third year as they participate on the care team.

“It’s a truly experiential learning,” he said, “though the experience is not specific to gun safety and storage counseling. Rather it’s done in the context of and part of the full comprehensive health maintenance visit.”

Taylor, who, in addition to being a family physician, is a member of the board of directors of the Connecticut State Medical Society, agrees that the question is also one of training.

“I do have students in my practice, and I teach them how to ask that question before they go in and ask it for the very first time,” she said. “If you just say to someone, ‘Do you own guns?’ that comes across as confrontational.”

Taylor said the better question is: If you own a gun, is it stored safely? “You are implying that you care about the storage, not the gun ownership,” she said.

“It’s a fine line between the patient perceiving you’re challenging them versus helping them.” ●

The Fight Over Berlin’s Comfort Woman Statue

Why the bronze figure of a girl in Germany is infuriating the Japanese government.

By Seth Berkman

On the second Monday of each month, Jim-Bob Heimberg walks across the street from his family’s flower shop café to a park in the quiet Berlin neighborhood of Moabit. There, Heimberg, a tall, 27-year-old German, places a crown of flowers atop a statue of a small Korean girl.

Crafted in bronze and granite by artists Kim Seo-kyung and Kim Eun-sung, the artwork is known as the Statue of Peace. Although the figure is not meant to represent any particular person, the Kims used their daughter’s hands and feet as a model for the nameless girl who sits with a bird perched on her left shoulder next to an empty chair. The statue symbolizes the estimated 200,000 comfort women forced into sexual slavery to serve Japan’s armed forces during the early 20th century. During a recent visit, young German children placed yellow leaves in her hands or sat in the unoccupied chair to keep the girl company.

The statue was installed two years ago by Korea Verband, a local nonprofit focused on education in human rights, Korean culture, and Korean-German relations. Before then, Heimberg didn’t know about the comfort women, who first came public with their accounts in 1991. Today, his shop, Kuchentischlerei, is decorated with miniature replicas and postcards of the little girl. “History should be discussed, and you have to stand up for it even if you don’t have any part in it,” Heimberg said.

Over the past year, a group of Berliners have been fighting to make the statue a permanent exhibition. There are more than 90 Statues of Peace around the world that have come to represent not only the comfort women’s travails but also those of other survivors of sexual violence and wartime abuse.

“The statue is a symbol against patriarchal violence during wars and other conflicts, a memorial for all nations to stop this behavior—an apology, and therefore a memorial for peace,” said Angelika Krüger, a member of senior citizens activist group Omas gegen Rechts (Grannies Against the Right). “Because Germany began this terrible war, and Japan was a confederate of Germany, Germany and Berlin has a special responsibility to show that it is important to let this statue, this memorial for peace exist.”

German authorities, however, do not fully share Heimberg or Krüger’s perspective. The noncommittal stance worries the statue’s supporters during a time of rising Japanese antagonism, and when a new South Korean president fervently backed by anti-feminist voters wants to improve relations with Japan. “There is this genuine attempt by South Korean conservatives to discredit the comfort women movement entirely,” said S. Nathan Park, a nonresident fellow of the Sejong Institute who writes about Asia. “This is the part that escapes a lot of outside observers.”

When Shinzo Abe died on July 8, many obituaries omitted the former prime minister’s adamance in silencing comfort women and his resistance to offering a formal apology. During his leadership, Japanese textbooks erased references to its army’s colonial brutality.

Since the first Statue of Peace was unveiled in Seoul in 2011, Japanese officials and right-wing extremists have harassed educators, activists, and others who publicly discuss the Japanese military’s wartime system of forced labor. Many who reject the history of comfort women believe Japan has apologized enough, or that offenses have been overblown. Wounded national pride is a less-publicized excuse among Japanese conservatives.

“There’s a lack of will by the Japanese government in keeping up this memory and engaging with its own imperial colonial past,” said Gang Sung-Un, a Korean who’s studied in Germany since 2010 focusing on Korean women during the colonization era.

Government documents and interviews detail how comfort stations were set up to follow Japanese soldier deployments throughout Asia. In Yonson Ahn’s book *Whose Comfort? Body, Sexuality and Identities of Korean ‘Comfort Women’ and Japanese Soldiers During*

WWII, she reports that comfort women taken from throughout Asia were subjected to forced sex, lynching, whippings, stabbings, and shootings.

Today, there are only about 12 known survivors, making wider awareness of their stories vital, Kim Seo-kyung told me. “Since a lot of them are passing away and there will be less primary evidence available, there’s a lot more pressure from the opposition to get this over with and stop the installations,” Kim said.

Alexis Dudden, a history professor at the University of Connecticut whose research specializes in Korea-Japan relations, helped organize a 2015 letter signed by a group of American academics condemning Japan’s revisionist history regarding comfort women. Denialists retaliated by sending her 10 to 15 death threats every day; eventually, an FBI officer was assigned to her classroom.

She is also one of several professors at American public universities who’ve received Freedom of Information Act requests in an unfounded search for incriminating e-mails. The requests emanated from white American men living in Asia, whose online writings are sympathetic to Japanese nationalism and anti-comfort women.

“I was charged with working together with Nancy Pelosi on an international conspiracy to bring down the government of Japan,” Dudden said. “I was simply teaching about comfort women from documents I have found in the government of Japan archives.”

The Japanese government became more open with their efforts to muzzle the comfort women after a statue was erected nine years ago in Glendale, Calif., according to Tomomi Yamaguchi, a professor of cultural anthropology at Montana State University. When the appeals court upheld the dismissal of a pro-Japan conservative group’s lawsuit against Glendale, the Japanese government filed an amicus brief with the Supreme Court, which declined to review the case in March 2017.

Comfort women denialists have been successful stopping other installations, though, sometimes with direct requests coming from the Japanese consulate general, Yamaguchi said. She added that Japanese businesses have even pressured local governments, noting the Denso Corporation’s protests against an installation in Southfield, Mich.

Similar harassment tactics have been employed in Germany. In 2017, the Memorial Museum Ravensbrück, a former concentration camp for women, displayed a miniature Statue of Peace at its visitor's information area. The Japanese embassy in Berlin contacted the Brandenburg state government to remove the statue, according to Horst Seferens, a press officer at the memorial. "The statue symbolizes the historical fact that women from Korea were abused by Japanese soldiers during WWII," Seferens wrote in an e-mail.

Four years ago in Hamburg, Japanese Consul General Kikuko Kato asked to meet Irene Pabst after she organized a comfort women exhibit at the Dorothee-Sölle-Haus. Kato dismissed requests to hold a joint public event to discuss comfort women history and demanded removal of the Statue of Peace at the exhibit, Pabst said.

Although Pabst did not acquiesce, a statue in Freiburg was scrapped in 2016 after protests from Japanese state officials and politicians in Matsuyama—Freiburg's sister city in southern Japan.

Initially, Berlin appeared ready to capitulate until Omas gegen Rechts joined Korea Verband to organize in resistance. Together, they have led weekly rallies calling on local leaders to keep the Statue of Peace permanently.

Deutsche Welle reported that Stephen von Dassel, mayor of the Berlin borough of Mitte, acknowledged that his district "had to submit to the needs of German national interests—including German-Japanese diplomatic relations" when considering the statue's future. Gang Sung-un identified how there are streets or parks in several German cities named after Hiroshima or Nagasaki.

Nine Yamamoto-Masson, a Japanese French artist and activist who resides in Berlin, noted how Germans often speak of *vergangenheitsaufarbeitung*—which essentially means "working off the past"—to promote how they've atoned for violence committed during World War II. She said local leaders are contradicting themselves and the concept of *vergangenheitsaufarbeitung* by not recognizing victims of Japanese war violence. "There are a lot of people of Japanese descent who very actively want this to be talked about, who support the struggle," said Yamamoto-Masson, who has created artwork about the

attempted erasure of the comfort women's stories. "Stephan von Dassel's statement also tells us that we don't belong."

A press officer for von Dassel wrote in an e-mail that the district office is engaged in discussions about the statue with various parties and that "no further public statements will be made on the subject of the Peace Statue until further notice."

The Japanese Embassy in Berlin did not respond to requests for comment, but other Japanese officials have been more vocal. Last April, Japanese Prime Minister Fumio Kishida asked German Chancellor Olaf Scholz for swift removal of the Berlin installation during a meeting in Tokyo.

When asked for comment about the meeting, a German government spokesperson wrote in an e-mail: "The federal government of Germany has strong, frequent and trustful relations with the Japanese government. As standing policy, we do not report from confidential talks." (In 2015, then-German Chancellor Angela Merkel told Japan to face up to its wartime past.)

"If they withstood that pressure and fought for truth, that would look really good for them, but somehow they don't want to do it," Yamamoto-Masson said of German officials. "It is much more than an issue between South Korea and Japan. It is a feminist issue, an anti-colonial issue, an issue of human rights, an issue of challenging what happens in war time and conflict and the subsequent silencing of victims and attempts to whitewash history and to distort narratives."

Many German residents with ties to Korea don't expect the South Korean government to intervene. The new president, Yoon Suk-yeol, ardently courted misogynistic voters at a time when anti-feminist screeds are increasingly common in Korean society and politics—regularly emanating from Yoon's conservative People Power Party. Yoon is also reportedly seeking to dissolve South Korea's Ministry of Gender Equality and Family.

"I think there are very good reasons to believe Yoon Suk-yeol will not be interested in helping," said Gang. "His political party I think is reason enough to be worried this new government won't be interested in representing the interests of the comfort women."

Simultaneously, Korean right-wing publications are frequently translated into Japanese, and Korean

denialists are regularly invited to speak to Japanese audiences, Yamaguchi said, adding that “when the Korean conservative sector becomes stronger, that will certainly energize the Japanese right-wing sector.”

Japanese and Korean denialists, Dudden said, “feel disenfranchised, they feel socially marginalized, so they connect through these spaces in which hatred and the denunciation of something that appears to be smearing their pride brings them together.”

Amid the growing opposition, Korean Germans are continuing acts of resistance. On July 8, a Statue of Peace was installed at the University of Kassel, after Tobias Schnoor, president of the student council, learned about the uproar over the Moabit site and began collaborating with Korea Verband—the organization that erected the Berlin statue.

Nataly Jung-hwa Han, chair of Korea Verband, has lived in Germany for the past 40 years. Like many Korean Germans, her mother, a nurse, emigrated during the Cold War and helped rebuild the country as part of the Gastarbeiter (guest worker) program—beginning in the 1960s, an estimated 20,000 South Korean nurses and miners arrived in West Germany in an exchange of labor for economic aid.

Han told me that the statue is not anti-Japan but anti-colonialist and that the history of comfort women should be regarded as German history. “Migrants and our memories are also coming here,” Han said. “They always talk about integration, but who’s history should you remember? Not everything in German history has happened on German ground. What is German? We are also German.” ●

EXCAVATION OF GRAVES BEGINS AT SITE OF COLONIAL BLACK CHURCH

By Ben Finle

Archaeologists in Virginia began excavating three suspected graves at the original site of one of the nation’s oldest Black churches on Monday, commencing a monthslong effort to learn who was buried there and how they lived.

The First Baptist Church was formed in 1776 by free and enslaved Black people in Williamsburg, the colonial capital of Virginia. Members initially met secretly in fields and under trees in defiance of laws that prevented African Americans from congregating.

A total of 41 apparent burial plots have been identified. Most are 4 to 6 feet (1.2 to 1.8 meters) long and up to 2 feet (0.61 meters) wide. The soil is discolored in places where holes were likely dug and filled back in. Only one grave appears to be marked, with an upside-down empty wine bottle.

Before excavations began Monday, a private blessing was held.

“It was important for us to have that ceremony — to bless the ancestors,” said Connie Matthews Harshaw, a church member and board president of a foundation that preserves First Baptist’s history. “Because we don’t know their names. Their names are known only to God.”

First Baptist’s original church was destroyed by a tornado in 1834. The second structure, built in 1856, stood there for a century. That building was bought in 1956 and razed to build a parking lot for Colonial Williamsburg, a living history museum that was expanding at the time and that now has more than 400 structures.

For decades, the museum failed to tell the stories of colonial Black Americans — many of them enslaved — who made up more than half of the 2,000 people in

Virginia's 18th century capital. But in recent years it has made an effort to tell a more complete story, placing a growing emphasis on African-American history.

When the church's original structure was uncovered last year, First Baptist Pastor Reginald F. Davis said it was "a rediscovery of the humanity of a people."

"This helps to erase the historical and social amnesia that has afflicted this country for so many years," he said.

If human remains are found in the plots that are being targeted, DNA tests and analyses of bones will be conducted, said Jack Gary, Colonial Williamsburg's director of archaeology.

DNA analysis should be able to determine the person's eye color and skin tone as well as propensity for certain diseases and genomic ancestry. Analysis of bones can show a person's age when he or she died as well as their quality of life and the physical stresses they endured, Gary said.

The remains will be taken to the Institute for Historical Biology on the campus of William & Mary, a university in Williamsburg, for cleaning and bone analysis. The University of Connecticut will conduct the DNA testing.

Church members eventually want to submit DNA to determine familial links with those who are buried there. The human remains will eventually be reinterred.

"I would say that by the late 1800s or early 1900s, they had stopped burying people there and it started to fade from memory," Gary said.

The suspected burial plots were a surprise for many, said Harshaw, a member of First Baptist. But some older congregants had long believed descendants were buried there based on stories passed through the generations.

"When your grandmother tells you something, normally you can count on it," Harshaw said. ●

CONNECTICUT WRONG-WAY DRIVING DEATHS AT RECORD. DRUNKEN DRIVING AND MORE PLAY ROLES. IT'S A 'HORRIBLE YEAR'

By Ed Stannard

Connecticut already has hit a record for fatalities caused by wrong-way drivers, with half the year to go, and the COVID-19 pandemic may be contributing.

"It's a horrible year," said Eric Jackson, executive director of the Connecticut Transportation Institute at the University of Connecticut. "It's not atypical for wrong-way driving crashes to involve impaired drivers. We've seen a lot of risk-taking behavior taking place across the board," including speeding — some drivers roaring down the highway at 85 mph or more — and people not wearing seat belts.

"The common thing that we see is that almost 90% of wrong-way drivers have a blood-alcohol content greater than 0.2 [percent]," Jackson said. The legal limit is 0.08 percent.

"We even have some in our database that are almost 0.3 and then we have some drivers that have a combination of cannabis and alcohol in their system at the time of crash," he said.

Jackson said traffic enforcement also "has decreased during COVID. The number of citations issued this year vs. 2019 are about a quarter of what they were." He attributes the decrease to manpower shortages and the Police Accountability Law.

While he can't be sure, Jackson believes the nearly 2 1/2 years of COVID-19 have made people impatient and frustrated.

"They don't really care about personal safety as much as they used to," he said. "They've kind of gotten used to this message ... that everything's dangerous out there.

“We are seeing fatalities across the board increase, and they started with the COVID lockdown. They started traveling at higher speeds.”

Already this year, there have been 17 fatalities from nine wrong-way crashes through June 30, according to the state Department of Transportation.

“The wrong-way and highway crashes and fatalities are just astronomical in 2022,” said DOT spokesman Josh Morgan.

He said the “really horrific numbers this year” compare with 2021, when there were three wrong-way crashes and three fatalities; and 2020, with two wrong-way crashes and four fatalities. “We almost have doubled that in 2022 and we almost have half a year left,” Morgan said.

The numbers refer to wrong-way crashes on interstate highways, which have separate entrance ramps in each direction.

“When someone gets on [Interstate] 84, 95, going in the wrong direction, that usually ends up tragically for people,” Morgan said.

He said the crashes are not limited by geography, with Route 8, Route 15, Interstates 95, 91, 84 and 395 all affected.

“It’s really not one ramp, one location, and what’s important to remember is we know where these crashes happen,” Morgan said. “We don’t know in all instances where they got on the highway.”

“They may travel five to 10 miles going in the wrong direction, not realizing they’re going the wrong way,” Jackson said. “It’s very difficult to know, because most of the time they either die in the crash or they don’t know or can’t remember where they got on.”

One woman drove 13 miles before she saw another vehicle, he said.

The worst crash this year occurred May 29, when four people died on I-95 in Guilford. A Nissan Altima, traveling northbound in the southbound lane, hit a Chevrolet Colorado. Both drivers died, as did two passengers in the Chevy, according to state police.

- Luis Fernando Garduno Cidals, 22, of Westbrook, was the sole occupant of the Nissan. The driver of the Chevrolet Colorado

was identified as Johnny Bookhardt, 76, of Norwalk. His passengers were Caroline G. Bookhardt, 68, and Patricia Greene-Kessler, 66, both of Norwalk,

Other examples, reported by state police:

- Nathan Tomlin, 21, of Ledyard, was arrested for allegedly driving the wrong way on I-395 in Lisbon on July 17, sideswiping a car and taking off. He failed a sobriety test.
- A woman suffered serious injuries and two men were also hurt in a wrong-way crash on Route 8 in Waterbury on July 11.
- Samantha Smith, 31, of Windsor Locks died July 10 when her pickup truck hit a tractor-trailer head-on on I-291 in Manchester.
- Shahid Malik, 61, of Easton died after his car, heading the wrong way, hit another vehicle on Route 25 in Trumbull on June 15.
- Nicole LaFlamme, 33, of Bristol was killed when she hit a Jeep head-on on Route 5/15 in East Hartford on June 12.
- Patricia Tucker, 82, of New Haven, and her passenger were killed May 31, when Tucker, driving eastbound in the westbound lane of Route 82 in Haddam, hit a vehicle driven by Tyreek Aveon Woods, 22, of Hamden, who survived.

Tucker was taken by LifeStar to Hartford Hospital, where she was pronounced dead. Her passenger, Berthina McNair, 83, of East Haven, was pronounced dead at the scene. Woods was taken to Middlesex Hospital with suspected injuries, and a passenger in his car was flown by LifeStar to Hartford Hospital with serious injuries.

Aggressive Driving

Both Morgan and Jackson said most wrong-way crashes are caused by impaired drivers and speeding is a big contributor.

“People driving over 85 mph has increased by a factor of five ... and it really hasn’t come down to pre-COVID speeds that we see,” Jackson said.

Aggressive driving has also risen. “The number of road-rage shootings on the interstate have more than doubled this year,” Jackson said. “It really seems as

though highway behavior has become a lot more aggressive and people are a lot less tolerant and accepting of people around them.”

It’s not as if drivers aren’t warned they are entering the highway on an exit ramp. Morgan said there are “Wrong Way” signs on the back of every speed limit sign, which appear about every minute as someone is driving.

There are also wrong-side crashes, in which someone crosses the center line on a road that does not have the physical separation an interstate does: Route 1 on the shoreline or Wethersfield Avenue in Hartford, for example.

While someone can drift over the median because they are drunk, texting or falling asleep, “it’s difficult for us to separate those out,” Jackson said. “It may be somebody (at) a parking lot and they ended up on the wrong side. There’s a lot more contributing factors to wrong-side crashes than there are to wrong-way crashes.”

“Wrong-way drivers specifically make a decision to turn onto the interstate in the wrong direction,” Jackson said.

“We’ve heard, why don’t you just put spike strips on all of the off-ramps,” which flatten when a driver rolls over them in the correct direction, Morgan said. However, “those are not federally approved,” he said. Research has shown they work at slower speeds in garages, parking lots and the like.

And if someone drove over spike strips the wrong way and flattened their tires, they’d be blocking the exit ramp, he said.

Instead, the DOT has been replacing plain green lights with directional arrows that tell drivers “this is not your turn [signal] to the on-ramp. Keep going straight,” he said.

Also, in November the DOT announced it would launch a pilot program to put cameras on the Wrong Way signs that will set off red flashing lights if they detect a wrong-way driver. The first lights will go up in 15 locations and were installed in Danbury at the Route 6/I-84 interchange in 2020, Morgan said.

Since then, there have been no wrong-way crashes associated with that entrance, which is near bars, hotels

and restaurants, he said. “This is a high-volume area that has a lot of nightlife,” Morgan said. “It’s encouraging data.”

The 15 locations were chosen from 236 where exit and entrance ramps are located on the same side of the road, according to the DOT. The locations (some cities have more than one) are in Derby, East Hartford, Hamden, Hartford, Manchester, New Haven, North Haven, Plainville, Rocky Hill, Southbury and Stonington.

If the cameras detect a wrong-way driver, the DOT also will get an alert, Morgan said.

Jackson said ultimately “it comes back to individual people and being responsible for their individual actions and I feel that responsibility has decreased dramatically.” ●

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THE ETHANOL FRAUD

By William T. Alpe

America’s ethanol scam is responsible for the malnourishment of millions of people, higher energy costs and substantial resource misallocations. The most damning count of this indictment is corn ethanol fails to do what it is supposed to do and is more tragic because corn ethanol is not environmentally responsible.

The United States now uses 40 percent — or more than 6 billion bushels — of its corn production for conversion to ethanol (2021). If this acreage were employed for corn or other grains for human consumption, it could be enough to stave off starvation for millions. In addition, it would also lower fuel costs and improve automotive performance.

Currently, if the United States were to devote the 6 billion bushels of corn used for ethanol to corn for food, it could more than meet the world’s total demand for imported corn.

The scam began with the bipartisan passage of the Open Fuel Standard Act of 2011, which phased in requirements that new vehicles be engineered to

operate on sustainable fuels to reduce carbon emissions and lower American dependence on oil.

We produce so much ethanol because the government subsidizes it big time. As David Frum points out in a recent Atlantic article, the government has required ethanol to be added to gasoline, with the production of ethanol receiving “all kinds of grants and subsidies.”

An honest computation of these subsidies would be helpful but is not readily available. In congressional testimony in 2017, the Congressional Budget Office stated the private economy could not make profit-producing ethanol, therefore “the federal government provides financial support for the development, production and use of fuels and energy technologies ... through tax preferences and ... spending programs ... with the purpose of increasing energy production, reducing greenhouse gasses and encouraging research.”

While the amount of government financial support is uncertain since both the prices of oil and corn are involved in the final prices received by producers (farmers and oil refiners). These are classic examples of production complements — when the demand for gasoline increases, the need for ethanol also increases.

However, a higher price of gasoline will cause the quantity demanded of gasoline to decline and, likewise, the demand for ethanol. There are many moving parts when determining government payments for ethanol, including the jumble of corn subsidies and the payments for ethanol itself. Estimates of taxpayer costs via subsidies and special interest carveouts vary widely, but a reasonable guess is \$10 billion per year.

Frum recalls that the late senator John McCain joked that he began his day with a glass of ethanol. It would be an amusing quip if it were not for the fact that the ethanol boondoggle is costing lives and treasure. It costs the world not only American corn but other crops that would be grown in replacement of corn without ethanol subsidies.

A recent study in Proceedings of the National Academy of Sciences (“Environmental Outcomes of the US Renewable Fuel Standard” by Tyler J. Lark et al.) shows that ethanol does not help the environment and might be harmful to it.

The authors state that “our findings confirm that contemporary corn ethanol production is unlikely to

contribute to climate change mitigation.” In addition, the authors point out that their research does not consider land-use impacts. They do find that ethanol production harms water quality, and it changes farmers’ planting decisions, heavily favoring corn over other grains that are more desirable for human food consumption.

The tragic consequences of ethanol mandates are not only that they are costly to the world community via misallocation of food production but that they pollute the planet with fertilizers and farm-equipment exhausts and are useless in combating climate change. Unless a technical change is made and adopted in ethanol production and use, these mandates are harmful and will be at best neutral for carbon emissions going forward. ●

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IS ‘MONKEYPOX’ RACIST? OFFICIALS CALL FOR NAME CHANGE

By Jordan Nathaniel Fenster

In agreement with other public health officials, Connecticut commissioner of public health Manisha Juthani has said monkeypox should be renamed to avoid any racist insinuations.

“Any naming of an infectious pathogen or clinical syndrome that implicates a nationality, ethnicity, region, or animal can be stigmatizing and harmful to the implicated group,” she said by email.

The World Health Organization made a decision early in the coronavirus pandemic to call the coronavirus “SARS-Cov-2,” and, “in a similar way, renaming of monkeypox, especially since it now has been declared a global emergency, is important to prevent further stigmatization that affected patients have experienced,” Juthani said.

Juthani is joining a chorus of public health officials who believe monkeypox should be renamed. In New York

City, for example, Health Commissioner Ashwin Vasani sent a letter to WHO Director General Tedros Ghebreyesus asking that the virus be renamed.

“NYC joins many public health experts and community leaders who have expressed their serious concern about continuing to exclusively use the term “monkeypox” given the stigma it may engender, and the painful and racist history within which terminology like this is rooted for communities of color,” Vasani wrote.

University of Connecticut virologist Paulo Verardi, a specialist in pox viruses, explained that the virus is called “monkeypox” because it was first identified in monkeys, though that is something of a misnomer.

“It became clear over time that monkeys, just like humans, were incidental hosts,” Verardi said. “In nature, monkeypox virus is typically isolated from rodents in Africa, particularly squirrels, so it seems to be a ‘rodent’ virus, not a ‘monkey’ virus.”

Though the disease is endemic to Africa, the current outbreak has not been tied to any African nation, and Vasani wrote to Ghebreyesus that using the term “monkeypox” could result in proliferation of stigma.

The goal, Verardi said, would be “to avoid a linkage to certain geographical areas, in this case Africa, since the current outbreak is not directly linked to Africa, and also to avoid racist remarks and stigmatization of those affected by the disease.”

Something similar happened with the HIV/AIDS epidemic, when “early misinformation about the virus led people to believe that it was spread to humans after people in Africa engaged in sexual activity with monkeys,” Vasani wrote.

“This kind of false messaging created incalculable harm and stigma for decades to come,” he wrote. “Continuing to use the term ‘monkeypox’ to describe the current outbreak may reignite these traumatic feelings of racism and stigma — particularly for Black people and other people of color, as well as members of the LGBTQIA+ communities.”

Verardi said the WHO and other agencies have discussed an effort to rename the virus “numerous times, but so far no action has been taken.”

Ghebreyesus said in June that the WHO was considering “changing the name of monkeypox virus, its clades and

the disease it causes,” though to date no name change has been announced.

That announcement came days after a group of 30 scientists issued a letter calling for a new name, “that is non-discriminatory and non-stigmatizing and aligned with best practices in naming of infectious diseases in a way that minimizes unnecessary negative impacts on nations, geographic regions, economies and people and that considers the evolution and spread of the virus.”

Those scientists used “hMPXV1” as a “placeholder label” for the virus, and suggested they “believe this is an opportunity for a break with the name monkeypox and the historical associations attached to that name.” ●

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COMPLETE STREETS: HERE'S HOW STREETSCAPES, BIKE LANES AND SIDEWALKS CAN SPUR MAJOR ECONOMIC DEVELOPMENT

By Robert Storace

Complete streets is a concept that economic development experts have talked about for decades, and it's an approach to planning, designing and operating neighborhoods — particularly downtowns — that enables safer access for people, including pedestrians, bicyclists, motorists and public transit users.

Increasingly, Connecticut cities and towns are embracing the concept to make their communities more attractive for residents, businesses and even visitors to live, work and play.

It's also seen as an economic development tool, making downtowns and other areas safer and more aesthetically pleasing in order to lure businesses and developers.

And large sums are being invested to kick-start complete streets projects. The city of New Britain, for example, is nearing completion of a \$45 million investment that has repaved and extended sidewalks, and added bike lanes and racks, safer street crossings and new landscaping along streetways.

That work may not be flashy or grab headlines, but New Britain Mayor Erin Stewart said businesses and investors have shown more interest in the Hardware City because of those infrastructure investments and other efforts. It's helped entice developers like Avner Krohn, who has built, or is building, hundreds of market-rate apartments in the city, she said.

"When you create these spaces and make them more friendly and walkable, you will see an economic development impact," Stewart said.

Other municipalities including Hartford and West Hartford are also making sizable investments in complete streets projects.

Transit-Oriented Development

Mary Donegan, a professor in urban and community studies at the University of Connecticut, said the complete streets concept has been around for awhile, but need and vision for it intensified in the 2000s.

"Here in the United States, we began to focus more on streetscaping as part of the pushback of the urban renewal period; it really increased in the 2000s," said Donegan, who has been affiliated with UConn since 2017. "It pushes back on the idea that you need to have a car to get around. What were cities built for, cars or people? Once you switch the mindset that it is for people, you can then focus on helping people move and feel safe to enjoy communities when streetscapes come in."

Complete streets projects – depending on the scope – can be expensive and in some cases cost tens of millions of dollars. Funds, at least in Connecticut, are often available through state entities like the Department of Transportation and federal government, Donegan said.

Communities that have walkable downtowns often spur interest from developers and investment. Donegan singled out New Britain as an example of how to get streetscape projects moving forward.

Some of the city's complete streets plans are being done near CTfastrak bus stops, in turn making those areas more desirable for residents while also encouraging transit-oriented development.

"New Britain has done such a great job, as they have had a complete streets plan for about a decade now," Donegan said. "They have a long-term vision and it's been easy for them to chase the money."

Stewart, who is in her fifth, two-year term, said recent private development in the city is reaching \$100 million, helped in part by streetscape improvements that make New Britain more appealing.

One of the well-known complete streets projects in recent years was the build-out of the \$7.4 million Beehive Bridge, which turned a dull concrete highway overpass into a honeybee sculpture that adds an artistic sense to an old industrial city.

Investments like that, Stewart said, have helped renew interest from developers like Krohn, of Jasko Development.

In one of his earliest projects, Krohn took a long-neglected building on Main Street and renovated it into a mix of first-floor retail and luxury apartments. He also renovated the Rao and Raphael buildings into mixed use.

He's now in the middle of two of his largest New Britain projects — "The Highrailer," a 114-unit apartment building going up at 283 Main St., and "The Brit," a nearby 100-unit residential development being erected at the corner of Main and Bank streets.

"The extensive city and state investment in the planning and execution of the streetscape projects has spurred continued development from Jasko and others," Krohn said. "When a downtown is walkable, pedestrian-friendly and beautiful, new businesses and residents feel compelled to live and work within that environment. Interconnectivity within the downtown and the neighborhoods is key to the overall growth of the city and its success."

New Britain's complete streets strategy started over a decade ago and has focused largely on downtown, but Stewart said she wants to expand those efforts into other neighborhoods.

Safer Travel

The city of Hartford is in the midst of either recently completing or working on four complete streets projects valued at \$125 million, according to Aimee Chambers, Hartford's director of planning.

One includes redesigning Albany Avenue to make it more pedestrian friendly. Another project on Farmington Avenue is expected to start next year and will focus on pedestrian safety and urban design, Chambers said. It will have various beautification aspects to it, including new light poles, trees, flower and planter beds.

Complete streets projects are aimed at making travel safer with new roundabouts and signals, creating bicycle facilities for riders, and making areas greener and more friendlier for residents, businesses and bicyclists, Chambers said.

"The end result is about beautification and mobility around the city," Chambers said. "We are trying to encourage more feet on the street and, in turn, more utilization of our businesses and to explore the environment more. There is a lot of development in the city and these (complete streets projects) are a good way to continue to spur development."

The town of West Hartford recently adopted a new transit-oriented development zone that includes its Elmwood and Flatbush CTfastrak bus stations, with hopes of marrying rapid transit with denser, more pedestrian-friendly development.

The town has also focused on complete streets projects within that zone.

Its \$3.8 million New Park Avenue Complete Street Improvement project dates back to 2017 and is expected to be completed at the end of 2024, according to James Brennan, West Hartford's assistant town engineer. It entails making improvements on almost a mile of road on New Park Avenue from New Britain to Oakwood avenues.

It will, among other things, take four traffic lanes down to three while also adding bicycle lanes. That will help

support recent residential projects in the area including 616 and 540 New Park, which have added, or will add, dozens of new apartments in town, bringing more feet to the street.

"Streetscape improvements are a fundamental way to enhance the viability of a street or neighborhood," Brennan said.

What Are Complete Streets?

Examples include:

- Expanded or new sidewalks
- Protected bike lanes
- Narrower driving lanes
- Comfortable and accessible transit stops
- Frequent crossing opportunities
- Accessible pedestrian signals
- Lighting
- Street furniture
- Wayfinding signage

Source: City of New Britain

The term complete streets refers to designing, constructing or modifying roadways to be safe and accessible for all people, regardless of age, ability or transportation mode. Such projects also help spur economic development. ●

THE LITTLE-KNOWN HISTORY OF THE CONNECTICUT KANSAS COLONY AND ITS ROLE IN ENDING SLAVERY

By Steve Grant

Until now, the pre-Civil War story of a courageous anti-slavery effort in Kansas by scores of Connecticut emigrants has largely slipped through the cracks of history.

But Michael Stubbs of Eskridge, Kansas, a retired film industry location manager with a love of history, painstakingly researched the story of the Connecticut Kansas Colony, as these settlers were known.

In more than 20 years of research, he amassed revealing documentation on the colony and its key role in what is called Bleeding Kansas, the often-violent clash over the future of the Kansas territory as a free state or slave state.

Stubbs makes a strong case that the Connecticut Kansas Colony played a significant role helping Kansas become a free state.

In 1856, 57 men, four women and two children from across Connecticut left the state to begin life anew in Kansas — “Free-Staters,” as emigrants to Kansas who opposed slavery were known.

It was a tense, divisive time in American history. In 1854, with slavery a major issue, Congress repealed the Compromise of 1820, which limited slavery to states in the South, while designating Kansas and Nebraska as new territories — and letting the territories themselves decide by vote whether to prohibit slavery.

The North, where abolitionist sentiment was substantial, feared that if the territories allowed slavery, the South would soon dominate all three branches of the federal government and perpetuate slavery.

Settlers poured into Kansas, many of them pro-slavery from neighboring Missouri, a slave state. Others arrived

opposed to slavery, especially those from New England, touching off conflict that quickly became ugly.

When newspapers in the North reported that an effort was underway in Alabama to raise armed recruits to march to Kansas and drive out Free-State settlers, abolitionist leaders in the North were outraged. Early in 1856, after mass meetings in New Haven that received national newspaper publicity, organizers of the Connecticut Kansas Colony held a final meeting before departing.

‘Beecher’s Bibles’

On hand was the Litchfield-born Rev. Henry Ward Beecher, a fervent abolitionist, an orator with a national reputation, and brother of Harriet Beecher Stowe. Beecher and his church in Brooklyn, N.Y., donated Bibles and Sharps rifles — the most modern firearm of the day. Newspapers subsequently dubbed the colony the Beecher Bible and Rifle Company. The rifles themselves came to be known as “Beecher’s Bibles.”

Kansas was frontier and many new settlers were primarily motivated by the opportunity to start life anew on open land, not necessarily by strong feelings one way or another about slavery, according to Nicole Etcheson, the Alexander M. Bracken professor of history at Ball State University in Indiana and a Civil War scholar who has studied Bleeding Kansas.

But some settlers, including members of the Connecticut Kansas Colony, were inspired by anti-slavery convictions from the get-go. Drawing upon first-person accounts, recollections and other period sources, Stubbs documents the pivotal role of the Connecticut settlers, all out of proportion to their comparatively small numbers. They did it politically and with their Beecher’s Bibles.

Charles B. Lines, a cabinetmaker from New Haven who was the leader of the Connecticut Kansas Colony, described the colonists’ motivations in a public appeal for money shortly after the group emigrated.

“It is not claimed because the company originated in a desire to promote the cause of freedom in Kansas, that therefore no other motive or hope animated its members...” Lines wrote. Some of the settlers, he wrote, joined the colony “for the purpose of improving their condition” or to benefit their health.

Still, he continued, “it is beyond all question true, that the leading object was in a legitimate and peaceful manner to aid in the permanent establishment of a government consecrated to FREEDOM, and rear upon that virgin soil the institutions of a pure Christianity.”

The settlers came from New Haven, Middletown, Hartford, Avon, West Hartford, Wethersfield, Farmington, New Hartford, Guilford, Cheshire, Bolton and Durham, among other cities and towns.

Manisha Sinha, the James L. and Shirley A. Draper Chair in American History at the University of Connecticut, agrees that the story of the Connecticut Kansas Colony is all but unknown in Connecticut, despite the compelling way it connects Connecticut history with the Bleeding Kansas conflict.

Sinha, author of “The Slave’s Cause: A History of Abolition,” said the New England states were hotbeds of anti-slavery sentiment, and the Connecticut Kansas Colony is a telling example of how these settlers were determined to make a difference. They were motivated by their convictions and willing to endure the hardships of a move to the frontier, she said. “I admire the gumption of these people.”

The Connecticut Kansas Colony settled in a tiny frontier village called Wabaunsee.

earliest know photograph of the First Church of Christ at Wabaunsee (now know as the Beecher Bible and Rifle Church) collection of Connie Jones Pillsbury. The church was organized in 1857, the building was completed in 1862. As indicated on the reverse, the photograph was taken by (W. P.) "Bliss Photographic Car".

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Compared with settlers from the Midwest, the Connecticut settlers tended to be more educated and represented many occupations. Few were actually farmers, though farm skills were much needed in frontier settlements.

“I’m surprised they even made it past the first year,” said Kathryn Mitchell Buster of Kansas City, the great-granddaughter of one of the most influential and

courageous of the Connecticut settlers, William E. Mitchell Jr.

A Natural Leader

Mitchell was an adventurous young man born in Scotland, brought to Middletown as an infant. His father was a founder of Middletown’s Anti-Slavery Society in the 1830s. Mitchell traveled to California and Australia in search of gold, before returning to Middletown at the time the Connecticut Kansas Colony formed.

He signed on. Buster said the slavery issue was a major motivating force for her ancestor, and, she suspects, it was also “another adventure.”

From all accounts, Mitchell appears to have been a natural leader and was elected captain of the Wabaunsee Prairie Guards, the colony’s militia. It was formed to defend the settlement and assist in the defense of Free-State settlements harassed by pro-slavery “Border Ruffians” from Missouri.

Concerned that one of the colonists, Amos Cottrell, originally from Cheshire, was late returning from Kansas City, and amid rumors of conflict in Lawrence, a Free-State stronghold, Mitchell and two others set out to locate Cottrell and find out what was happening in Lawrence.

They found Cottrell unharmed in Topeka. Mitchell and Dr. J. P. Root, originally from New Hartford, continued to Lawrence. Returning, they were captured by pro-slavery militants and imprisoned. Thought to have been murdered, their deaths were reported by New York and New Haven newspapers.

But Mitchell and Root had survived. Mitchell was said to have refused to cooperate with the Border Ruffians, even snarling defiantly at his captors when they put a noose around his neck.

There are varying reports of what exactly happened, including one that he beat his captors back. Great-granddaughter Buster thought it more probable that “he was so obnoxious and stubborn they just let him go.”

Saving Lawrence

But first he and Root were taken to Lawrence, where they witnessed the initial sacking and burning of the town by pro-slavery forces.

Months later, the Wabaunsee Prairie Guards, led by Mitchell, were called to the Lawrence area. Massed just outside Lawrence, armed pro-slavery forces were preparing to destroy Lawrence and the Free-State movement once and for all.

In an address delivered in New London nearly 50 years later, J. M. Hubbard, a colonist originally from Middletown, related that the militant abolitionist John Brown, born in Torrington, already had led his supporters into skirmishes with pro-slavery groups. Hubbard said Brown also was there as the Lawrence confrontation loomed.

When a pro-slavery reconnaissance party advanced, the Wabaunsee Prairie Guard militia, well-positioned, opened fire with their Sharps rifles — Beecher's Bibles" — and though greatly outnumbered, repelled the pro-slavery forces in what has come to be known as "the Battle of the 2,700," referring to the size of the pro-slavery militia.

Cottrell, in a recollection some years later, insisted "It was the Wabaunsee boys and they alone that turned that body of men back in double-quick time."

Mitchell's leadership at the Battle of the 2,700, saving Lawrence from certain destruction, "was probably his most significant act," Stubbs said.

"Today, most historians of the period are unaware of the significance of the Prairie Guards saving the day and preventing the destruction of Lawrence," Stubbs said.

Likewise, Stubbs maintains that history has overlooked the significance of Root's role in Kansas becoming a free state.

When pro-slavery forces blockaded the Missouri River, barring Free-State advocates and the food, clothing and money sent by their supporters in the North, Stubbs said it was Root who found an alternate route around the blockade from southeast Nebraska.

Root personally laid out the route, Stubbs said, tying rags to trees and bushes to show Free-Staters the way

By 1857, if not a bit earlier, it was becoming clear that the Free-Staters "were getting to be the majority," said Virgil W. Dean, a historian and now-retired editor of *Kansas History: A Journal of the Central Plains*. Bleeding Kansas was coming to end.

In 1861, when the first Southern states seceded from the Union, Republicans in Congress had the votes to admit Kansas as the 34th state, a free state. But, Dean noted, even after Kansas became a free state, black men could not vote for another decade.

Wabaunsee, meanwhile, was intended by the colonists to be the New Haven of the West. Its streets are named for New Haven streets, including an Elm Street. But in the 19th century what is now the Union Pacific Railway chose a rail route on the other side of the Kansas River, when ferries were the only way to cross the river. That ensured Wabaunsee was to remain the tiny village it is today.

After the Bleeding Kansas years, Capt. Mitchell and his family used their home as a stop on the Underground Railroad, sheltering slaves on their way north to freedom.

Originally just a log cabin built by Mitchell, it was added to over the years. In recent years, the present owners discovered when removing some siding from the home that the original log cabin is still there, underneath.

In 1953, one of Mitchell's sons donated part of the original Mitchell farmstead to the Kansas Historical Society to create a park. In 2005, when the society was unsure it could create a park at the site, Stubbs organized a citizens campaign and incorporated as a nonprofit, which took over the site and created the Mount Mitchell Heritage Prairie Park, which preserves a patch of the tall-grass prairie that once covered a vast part of the region. With newly acquired additional land, the park is now 165 acres.

Named in honor of the Wabaunsee Prairie Guards, the park is managed by the Mount Mitchell Prairie Guards, and Stubbs is the president.

The park is a popular outdoor educational resource for school children and other visitors and is recognized as a National Park Service Underground Railroad Network to Freedom site and a Freedom's Frontier National Heritage Area Star Attraction.

The Connecticut Kansas Colony is history now, but, Stubbs said, “the purpose of the park is to keep this story alive for future generations.” ●

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JEFF MITTON: NATURAL SELECTIONS: ACHEMON SPHINX MOTHS’ RANGE IS SHRINKING

By Jeff Mitton

While watering my rock garden, I inadvertently flushed an Achemon sphinx moth, *Eumorpha achemon*, which flew less than 20 feet to clutch onto a Stella D’Oro lily, where it stayed for the remainder of the day.

This species is crepuscular and nocturnal, so it is rarely seen during the day but first appears about dusk and is active most of the night. Achemon sphinx moths are the smallest in the genus *Eumorpha*, but are large in comparison to moths in general. They have a body length of up to 2 inches and wingspans from 3.4 to 3.8 inches.

On the dorsal side, adult moths have soft brown tinged with pink and dark brown triangular patches on the thorax next to the wings. The bright salmon colors of the hindwings flash when the moth flutters.

Five instars or stages of caterpillars change colors dramatically as they molt. The first stage is light yellow, with a very prominent horn, which earns the sphinx caterpillars the common name “hornworms.”

Second-stage caterpillars are either green or brown, while third and fourth stages are green or brown with seven white diagonal stripes on each side. Fifth-stage caterpillars are red or brown or green and lack the horn, but a conspicuous eye spot appears where the horn was attached.

The puparium is about 3 inches long, dark brown and rounded at one end, pointed at the other. It is rare to

find a puparium, for they are usually buried in the soil beneath the plants that the caterpillars fed on.

Caterpillars eat the leaves of many species in the family Vitaceae, which contains species of grapes and Virginia creeper. For this reason, vintners do not welcome Achemon sphinx moths to their vineyards.

Sphinx moths have a number of traits usually described with superlatives. They are strong and fast fliers — top speed is 30 mph, and males have been documented to fly over 2 miles to find a mate. Their wings beat so fast that they emit a fluttering buzz — wingbeat frequencies during acceleration reach 41 cycles (up and down) per second.

Sphinx moths can hover, an ability shared only with hummingbirds, hoverflies and some bats. Their color vision is acute, allowing them to distinguish flower colors at light levels that appear pitch black to you and me. Odor sensors on their antennae are incredibly sensitive, allowing males to find fragrant flowers at night and to detect a plume of female pheromone being released more than a mile away.

A species of sphinx moth native to Madagascar has a tongue 14 inches long to reach nectar in the extremely long spurs of star orchids. They can hear the bat sonar and can mimic it to confuse the threatening bat. No doubt about it, sphinx moths are extraordinary.

About 1,450 species of sphinx moths have been described worldwide and more than two dozen are native to Colorado. The most common sphinx moth in Colorado is the white-lined sphinx, *Hyles lineata*.

Both Achemon and white-lined sphinx moths have enormous ranges, spanning most of the North American continent. High abundance and a large geographic range usually indicate that the species is secure. But a disturbing trend has been documented in the eastern portions of the ranges.

Sphinx moths have been declining for the last 50 years in New England. Biologists have been documenting this ongoing ominous trend, and trying to determine which factors are driving it. Habitat destruction, coastal development, overgrazing by deer and other factors have been discussed, but David L. Wagner, at the University of Connecticut, has built a convincing case that sphinx declines are attributable to *Compsilura concinnata*, a parasitic, tachinid fly introduced from

Europe to New England in 1906 to control two introduced pests, gypsy moths and browntail tussock moths.

Unfortunately, *C. concinnata* is a generalist, laying its eggs on caterpillars of over 200 species in North America. When the eggs hatch, larvae burrow into the caterpillar to consume it from the inside — a grisly demise. Wagner has compiled data documenting the decline of sphinx species in New England, and he is unable to find evidence that either Achamon or white-lined sphinxes still live in Connecticut.

A neighbor gave me an Achemon puparium found among the roots of a lilac tree, and we agreed that I would try to photograph the moth as it emerged. However, it never emerged, and when I opened it to see what was wrong, I found that it was completely filled by numerous puparia of a tachinid fly (identified by Valerie McKenzie). We have several native tachinid flies in Colorado, but I was troubled by the possibility that the tachinid fly that probably drove Achemon and white-lined sphinxes to local extinction in Connecticut had arrived in Colorado.

Well-intentioned biologists have introduced *C. concinnata* in many other places beyond New England, including Minnesota and California. Fortunately, Wagner informed me that it has not yet appeared in the southern Rocky Mountains. Extinction is forever, and it would be tragic to lose such a remarkable group of moths. ●

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CONNECTICUT RELEASES POLICE USE-OF-FORCE DATA FOR 1ST TIME

By Dave Collins

HARTFORD, Conn. (AP) — Connecticut released data Thursday for the first time showing the race of people subjected to police use of force, a reporting practice

that many states are beginning to adopt in the wake of nationwide calls for more police accountability.

The data from 2019 and 2020 appeared to show Connecticut police used force on Black people at disproportionate rates compared with white people, but the analysts who released the data cautioned that there were limitations in the reporting, saying it was “insufficient” and could not be used for a comprehensive assessment.

The state is just the second in the country, after New Jersey, to publicly report statewide police use-of-force data, officials said. Several other states have passed similar requirements in recent years and will soon be reporting their results. The changes have come in response to fatal shootings and other uses of force by police officers against Black people that sparked outrage and protests across the country.

Several cities in the U.S., including New York, have been reporting use-of-force data for years. The FBI has been gathering data nationally but has not yet released the raw data or analyses.

The Connecticut report said that of the more than 1,300 people reported to have been subjected to police use of force in 2019 and 2020, 38% were Black, 33% were white and 20% were Hispanic.

The Connecticut population is 13% Black, 65% non-Hispanic white and 18% Hispanic, according to U.S. Census data.

Analysts and police officials said comparing use of force data to the Census data was neither valid nor fair for a host of reasons.

The bulk of use of force reports came from police departments in the state’s largest cities, which have much higher minority populations, said analysts in the report by the Institute for Municipal and Regional Policy at the University of Connecticut.

Ken Barone, associate director of the institute, said it may be better to compare the use-of-force data with arrest data. In 2019 and 2020, about 34% of people arrested in Connecticut were Black, 44% were white and 21% were Hispanic. The number of use-of-force incidents was just 1% of the number of arrests.

“A disparity still appears to exist in reported incidents of force involving Black individuals when compared to available arrest data,” the report said.

Scot X. Esdaile, president of the state chapter of the NAACP, said the racial demographic data was troubling.

“It’s not something that I think I’m surprised about because we see on a regular basis the heavy hand of law enforcement on Black communities, and we’ve seen it for decades,” he said. “This kind of validates that something seriously needs to be done.”

David McGuire, executive director of the American Civil Liberties Union of Connecticut, also said he found some of the data disturbing,

Of the more than 1,300 people subjected to police use of force over the two years, police reported that 31% were said to be emotionally disturbed, 9% were said to be suicidal and more than 40% were said to be under the influence of drugs or alcohol, the report says. And about a third of the people subjected to police force were fleeing at the time.

“It is another clear indication that there needs to be a very intentional move by government ... to move money out of policing and into services people need,” McGuire said.

According to the report, 1,058 officers used force on 650 people in 2019, and 977 officers used force on 663 people in 2020. Some incidents involved multiple officers. There are about 7,250 police officers in Connecticut.

Bridgeport, the state’s largest city, led all departments that reported data with 264 use-of-force incidents over the two years. Waterbury reported 229 incidents, followed by state police with 181, New Haven with 161 and Hartford with 91.

Connecticut has more than 100 police agencies. The data included incidents reported by 60 departments. Other agencies reported they had no use of force incidents or did not submit data.

The data included the use of guns, stun guns, pepper spray, fists and physical restraining. Most of the uses of force were physical restraining — more than 800 incidents over the two years — while incidents involving deadly force and firearms totaled nearly 280. In most

cases involving police drawing guns, officers only displayed them and did not fire, the report said.

In 2019 and 2020, 11 people were killed by police officers’ deadly use of force. Most of the people subjected to police force were unarmed — 90% in 2019 and 85% in 2020, the report said.

Officials believe a standardized form for all departments that was rolled out in July 2022 for use of force will take care of some of the inconsistencies in reporting.

Cheshire Police Chief Neil Dryfe, president of the Connecticut Police Chiefs Association, said police leaders will be closely watching future reports that include better data, including race and ethnicity numbers, to see if any changes in policing are warranted.

“The big takeaway I think, for me and many other chiefs, is that force is used in just a small, tiny fraction of police community interactions,” he said. ●

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‘WHAT IF IT HAPPENS HERE?’: WHY SMALL CONNECTICUT TOWNS ARE EMBRACING ARMED SECURITY IN SCHOOLS

By Austin Mirmina

EAST HAMPTON — When the Board of Education this week approved adding armed security officers to some of its schools, it mirrored similar efforts to bolster security made by school officials in recent months.

Since the fatal mass shooting at a Uvalde, Texas, elementary school in May, schools across the state have scrambled to tighten security and prevent similar tragedy from tearing apart their communities. One of the most popular — and controversial — strategies has been implementing armed security.

A pattern has emerged amid the school safety resurgence: Many that have recently approved or are considering armed security mostly operate in sleepy, quaint towns that, until now, haven't introduced firearms into their facilities.

This trend has arisen as many small schools rush to enact policies that some larger urban schools have been incorporating for several years. School officials say the general reason for their haste is an intense desire to protect their communities from another lethal shooting.

Area Towns, Similar Measures

This summer, at least seven other school districts besides East Hampton have approved adding armed security guards: Montville, Stamford, Killingly, New Milford, Regional School District 15 (Middlebury-Southbury), RSD 16 (Prospect-Beacon Falls), and RSD 18 (Lyme-Old Lyme). All but one of those districts consist of towns whose total population is below 25,000 residents, according to the most recent census data.

Both Marlborough and Brookfield public schools are publicly weighing the issue of armed security. In Marlborough, a safety and security team is considering the addition of a school resource officer along with other measures, Superintendent Dr. Holly Hageman has said.

SROs are law enforcement officers who work at the local police department, while armed security officers, or ASOs, are typically retired police officers or state troopers.

The Marlborough schools security team will make recommendations to the Marlborough Board of Education at its August or September meeting, Hageman said.

The Brookfield Board of Selectmen recently backed plans to put police officers in elementary schools and hire armed officers. That proposal will now head to a town vote.

According to census data, those two towns both had populations below 18,000.

'Protecting The Children'

East Hampton has employed an armed security officer at its high school since 2019. But its recent decision to

implement armed security at two elementary schools and a middle school was a "direct response" to the Uvalde shooting, Superintendent Paul K. Smith has said.

"What impacted our town to really consider (armed security) was the Robb Elementary School shooting," Smith said this week.

"I think because it was an elementary school, similar to Sandy Hook (Elementary School), it was like, 'Oh my God, our elementary kids are targets.' It's not just a one-off at Sandy Hook, now it happened at Robb Elementary," he added.

In addition to armed security, the schools are also adding mental health counselors and establishing a school-based mental health center to better serve students, Smith said.

"We like to feel that we're a safe little town, but incidents like this make you realize that no town is safe," he said.

In June, the Board of Education for RSD 18, Lyme-Old Lyme, approved adding armed security officers to all district campuses for the upcoming school year.

RSD 18 Board of Education Chairman Steven Wilson said that decision was "simply about having some way of protecting the children." The board also considered how having an armed officer on school property would reduce the amount of time it took to engage a shooter versus how police normally respond during an incident.

"The argument was made that it can take up to 20 minutes to get to the school site," Wilson said. "It's a small town but we don't have a lot of police officers on our force."

Schools in Middletown and Cromwell, the two largest municipalities in Middlesex County, have employed school resource officers for several years, officials said.

The area's third largest municipality, Portland, has an unarmed security guard stationed at one of its schools, Superintendent Dr. Charles Britton said.

"One of the reasons why we've not felt the same level of compulsion (for armed security) potentially in Portland is because ... we have an unbelievably close relationship with the police department," Britton said. "They are at our schools everyday."

Portland school officials have discussed the possibility of hiring a school resource officer, Britton said, but determined that “we don’t know if that’s necessary, only because we’re very fortunate that response times and police presence is something we don’t have an issue with.”

Small Towns Most Affected

The school shooting in Uvalde — a community of about 16,000, according to census data — revived a debate about why smaller communities are repeatedly afflicted by these types of mass casualty incidents.

Of the 10 deadliest school shootings in U.S. history, seven have occurred in towns with less than 45,000 residents, census data shows.

There could be multiple explanations for why mass school shootings seem to occur more frequently in smaller towns, and unfortunately, research on the subject is limited, one mental health expert said.

One reason could be that there is a disproportionate amount of urban school districts compared to rural school districts in the country, making it more likely that a mass shooting would occur in a small-town school, Sandra M. Chafouleas, an educational psychology professor at the University of Connecticut, wrote in an email.

However, a critical piece in preventing school violence is ensuring that “every student is connected socially, and has the right emotional and behavioral supports to feel safe and secure,” Chafouleas said.

A 2002 study unpacking the question behind fatal school shootings in rural communities found that urban communities may have fewer resources for coping with violence because those types of incidents occur more frequently in that setting compared to rural communities.

“Youth violence has been a problem in urban communities for many years, which has likely resulted in greater funding for programming, the implementation of violence intervention programs and tighter security in many urban schools,” the study concludes.

‘What If It Happens Here?’

East Hampton resident Daniel Finn said that he constantly worries about the safety of his children while they are in school, partially due to the cycle of fatal school shootings in rural communities.

“I have this constant fear when I send my kids off to school (that) — what if it happens here?” Finn said. “It consistently happens in small towns, so what if it happens here?” ●

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THE LONELIEST TREES: CAN SCIENCE SAVE THESE THREATENED SPECIES FROM EXTINCTION?

There are trees so rare that only a single specimen remains. Some conservationists want to save them all — but others question this lofty goal.

By Aisling Irwin

Perched among the fronds of the world’s loneliest tree, Viswambharan Sarasan had an important decision to make. Sarasan had worked for years to get access to this palm — the last living member of the species *Hyophorbe amaricaulis*, which grows in Curepipe Botanic Gardens, Mauritius.

He reached up towards a cluster of its walnut-sized, olive-green fruit. Sarasan, a botanist at the Royal Botanic Gardens at Kew, near London, had been through sensitive negotiations for permission to take the fruit, each with one crucial seed inside. He then had to wait for the tree, nicknamed the lonesome palm, to produce them. Nine metres up, 50 fruit dangling within his grasp, he had to decide how many to take: enough to give himself a chance of culturing them back at Kew, while leaving enough for local scientists to work with.

“It was the only shot I could get,” he says of his visit in June 2006. “But I didn’t want to take all the seeds and then it turns out badly.”

He picked ten fruit. It was not his lucky number.

When the plight of trees gets publicity, deforestation is generally the reason, but it is not the only crisis they face. Nearly one-third of trees — more than 17,500 species — are threatened with extinction. This is more than twice the number of threatened mammals, birds, amphibians and reptiles combined¹. Mass plantings of trees, paradoxically, often add to the problem by using single species. Now, hundreds of plant conservationists globally are fighting to save the trees speeding towards extinction.

“We shouldn’t be giving up on any tree species,” says Paul Smith, head of Botanic Gardens Conservation International (BGCI), a London-based charity that co-leads the campaign to secure the future of the world’s threatened tree species.

But time is short, the obstacles are formidable and both climate change and fashions in ecology are moving against them.

Peter Bridgewater, a specialist in biodiversity governance at the University of Canberra, Australia, says that finding a natural home for every tree species is impossible because climate change is altering ecosystems so fundamentally. Scientists who think this goal is realistic are “living in their own cloud cuckoo land”, he says.

Neglected Trees

Inextricably linked with the problem of climate change, and equally as damaging, is the disappearance of species from Earth. The rate of extinction is at historic levels and accelerating, with around one million animals and plants under threat.

The plight of trees can get lost among the tales of endangered mammals or birds. To get trees more visibility, in 2016 the BGCI, working with the International Union for Conservation of Nature (IUCN), organized the largest conservation assessment in the IUCN’s history: the Global Tree Assessment. Hundreds of plant conservationists searched rainforests, mountains and strife-torn regions, sometimes with no

more than a crinkly herbarium specimen or the testimony of a long-dead explorer to guide them.

In a 2021 report, they announced that they had found 58,497 tree species, of which 17,510 were threatened². Since then, almost 2,800 of those have been labelled as critically endangered. Some 142 species are thought to be extinct in the wild (see ‘Trees under threat’). This year, a separate group of modellers estimated that a further 9,000 tree species are undiscovered³.

It is not just the number of trees, but also their diversity that matters. A single species can be the foundation of an entire ecological network, and its disappearance could cause a cascade of extinctions that might lead to an ecosystem collapse.

How much can forests fight climate change?

Strong, diverse ecosystems are also better at sequestering carbon, says Jean-Christophe Vié, director-general of the Franklinia Foundation, a private organization in Geneva, Switzerland, that funds tree conservation and supports the Global Tree Assessment. No tree species should be viewed as dispensable, says Vié, because it would set a precedent for every developer, farmer or logger to justify removing any threatened tree.

But tree conservation has become lost in international biodiversity targets — partly because trees get subsumed into general plant-conservation goals, and because plants are generally less showy than birds and animals. Trees need to be assessed for ecologists to champion them, says Malin Rivers, head of conservation prioritization at the BGCI.

“If you look at mammals, birds, reptiles, they have data to bring to the table when there is a policy discussion,” she says. “Taxonomy gives the species a name; conservation assessment gives it a voice.”

Protect And Propagate

Armed with the Global Tree Assessment’s catalogue of threatened species, conservationists have begun prioritizing species and taxonomic groups. The best approach, says Smith, is to protect vulnerable trees in their natural habitats. If that’s not possible, researchers try growing them from seed in a laboratory, greenhouse or botanic garden.

The Global Tree Assessment revealed that nearly two-thirds of threatened trees are found in areas that are already protected, and stressed that one important task is to strengthen or expand these havens.

That might mean controlling grazing, implementing a national logging ban for a particular species or establishing plots on which the tree can be cultivated for fruit or flowers without harming the larger population. On the eastern Caribbean island of Dominica, for instance, where harvesting resin for incense was killing lansen trees (*Protium attenuatum*), a tweak to the tapping method has halted the damage.

Sometimes, however, so few trees are left that protecting an area isn't enough.

In Tanzania, seed-biology specialist Fandey Mashimba works with a tiny population of a towering species called *Karomia gigas*. These trees, with their large oval leaves and distinctive, papery fruit, were thought to have gone extinct in the 1980s, but around six of them were discovered in 2011 by botanists from the University of Dar es Salaam. Protecting the habitat isn't enough, because a fungus destroys their immature fruit. Mashimba, who oversees seed production for Tanzania's Forest Service Agency, tries to whisk the fruit away before the fungus infects them, to sterilize and multiply the seeds for planting.

Mashimba and his colleagues tried germinating hundreds of *K. gigas* seeds. The result: just three treasured plants, which Mashimba monitors through his office window as their giant leaves wave in the breeze. In 2018, the forestry service also dispatched 6,000 fruit to the Missouri Botanical Garden in St Louis. There, botanist Roy Gereau oversaw the extraction and cultivation of 24,000 seeds. The seeds produced only 30 plants. Last year, one sapling unfurled a small, pale purple flower, which perished within a day. When two trees flower simultaneously, botanists will attempt cross-pollination.

Mashimba is lucky in one respect: at least *K. gigas* produces seeds. Some trees produce none because their pollinators are gone; sometimes only one sex of a tree remains. For instance, most of the surviving specimens of the catkin yew (*Amentotaxus argotaenia*) in Hong Kong are male. After a global search for a close genetic relative, a single suitable female was discovered in the Royal Botanic Garden Edinburgh, UK; scientists

there dispatched cuttings for planting near the surviving males. When they flower, reproduction can begin, says Gunter Fischer, a restoration ecologist at Missouri Botanical Garden. But this could take 30 years.

Even if scientists do manage to acquire seeds from trees that are near extinction, germinating them can be tricky. Some go into dormancy, a protective state that, depending on the species, might be broken only through heating, cooling or scarring. Natural dormancy can last for years. Scientists try to circumvent it by culturing the embryo — the small section of a plant seed that will become the roots and stems — in a process known as embryo rescue.

Every Trick In The Book

The lonesome palm in the Curepipe Botanic Gardens — elderly, damaged and spindly — has seed problems, germination problems and more. It has resisted multiple rescuers since the 1980s. One obstacle is that the palm produces male and female flowers at different times, to avoid self-fertilization. Using a ladder and a brush, scientists override this process to collect, store and transfer pollen.

It was the fruit of one such assisted-pollination project, each containing a single seed, that Sarasan carried back to Kew in 2006. He knew that lonesome palm seeds don't grow if they are planted, so he used embryo rescue. With so few seeds, he felt there was no scope for experimenting with different culture media, so he made his best guess as to which blend to use.

"I was so protective," he says. "It was the responsibility, the excitement and also the fear of losing it."

The plantlets grew to 25 centimetres long. Then, one day, their fine white roots turned brown and they died, doubtless because of some nuance of the culture medium, he says.

Trees are dying much faster in northern Australia — climate change is probably to blame

Other efforts have been derailed by mishap. In 2010, Kew horticultural scientist Carlos Magdalena negotiated to collect some freshly picked palm fruit while he was visiting Mauritius. Owing to a misunderstanding, two of the five fruit stored in a nearby fridge were eaten by a garden labourer who did not know their significance.

Back at Kew, the seeds from the others failed to germinate.

The failure rankles with Magdalena, who has a string of plant rescues to his name. As he roves the Kew greenhouses, steamy sanctuaries for plants that are bereft of a place in the wild, he sometimes feels he is all that stands between a species and its permanent loss.

José Luis Marcelo Peña knows how he feels. In 2018, Marcelo Peña, a taxonomist at the National University of Jaén in Peru, was trekking through a steep, parched forest in Peru's Marañón valley when he discovered a tree with light green flowers: *Pradosia argentea*, thought to be extinct.

"It was a unique happiness that cannot be described," says Marcelo Peña. Surveys yielded 200 more trees in the area, all of which were imminently threatened by agriculture.

COVID-19 lockdowns began just as he attempted to save them. Without university facilities, but with remote help from the BGCI, he extracted 400 seeds from the purple fruit at home. More than 60 germinated: 20 survived. The following year, he tried again using fresh seeds, but a fungus got them all.

As he finishes his story, he removes his glasses to wipe tears away. "It's a big responsibility," he says. And even with 20 little successes in the nursery, Marcelo Peña is concerned about the next step — reintroduction to the wild. Local people were unaware of *P. argentea* until recently, he says. They now support protecting the remaining trees — but they also need space to farm, which could put those survivors at risk.

Back To The Wild

Thriving in the wild is a distant dream for *K. gigas*, too. Tanzania's forest agency and its partners are developing seed-propagation sites and nurseries for the species. But its future is uncertain, mostly because new trees could succumb to the same mysterious fungus.

"We might have to content ourselves with saying, well, we have these lovely creatures in the zoo," says Gereau.

Reintroductions can be spectacularly successful, however. The BGCI highlights a project on Malawi's Mount Mulanje, the only natural home of the cypress *Widdringtonia whytei*. In 2019, just seven mature trees remained, the others victims of illegal felling. By 2022,

thanks to a collaboration with Malawi's Forestry Research Institute and local people, the slopes are alive again with 500,000 seedlings, and many locals now make a living through this endeavour.

Propagation itself turned out to be fairly simple, says Smith. In Mauritius, by contrast, ecologists have a tougher task. The Mauritian Wildlife Foundation, with help from botanists elsewhere, is attempting to save multiple critically endangered species at once, but success at propagation varies widely. There have been some dramatic restorations, including of some species from which only a single tree remained. But the lonesome palm, now part of this project, continues to resist.

A fourth attempt has begun. Nets hang around the tree to catch the male flowers and store their pollen for hand fertilization when the female flowers appear. In France, botanist Stéphane Buord at the National Botanical Conservatory of Brest hopes to overcome the problem that faced Sarasan — too few seeds — by tapping into the large quantities of seeds produced by *Hyophorbe vaughanii*, a close Mauritian relative of the lonesome palm. He and his team have spent years working out a complex technical protocol that coaxes its embryos into rooted seedlings that survive outside a test tube. Now he is waiting to try this approach on the seeds of the lonesome palm.

If he succeeds, the palm might eventually be reintroduced into a national park or into the wild. Kersley Pynee, a conservation scientist at the Mauritius National Parks and Conservation Service, has reintroduced other trees and shrubs and says it is an uphill struggle. Plants can fall victim to fungi, pests and other assailants. After one recent planting of 1,000 seedlings of the flowering shrub *Nesocodon mauritianus*, just 5 now remain, he says.

This is to be expected, says Smith. In nature, trees produce vast quantities of seeds, of which only a fraction germinate and survive because of natural dangers such as infestations, fire or competition for light or nutrients.

Tree Museum

The Global Trees Campaign has so far planted out hundreds of thousands of seedlings from 300 threatened tree species. But for trees that can no longer

survive in the wild, the only other options are to keep a specimen in a living collection, or to store its seeds in a bank.

One target of the 2011 Global Strategy for Plant Conservation, part of the Convention on Biological Diversity, was to conserve at least 75% of threatened plants in living collections or seed banks by 2020 — a goal that has not been met. What's more, simply drying and freezing seeds doesn't always work. Technologies such as cryopreservation — fast freezing at ultra-low temperatures — could offer an alternative, although it is expensive and impractical for many countries. And in 2018, conservationists warned⁴ that the seeds of one-third of tree species cannot be banked, largely because they don't survive drying.

Smith rejects this bleak diagnosis. Between seed banks, cryopreservation, nurseries, botanic gardens and arboreta, there are plenty of options to “buy us time”, he says.

One trend that could help is mass tree-planting, in which governments and corporations plant trees to sequester carbon to meet emissions targets. Done badly, as many of these projects are, mass plantings can destroy biodiversity. Done well, they could rescue many species, says Smith. “This is a bandwagon we really need to jump on.”

To help boost the usefulness of such projects to biodiversity, the BGCI and its partners have drawn up a certification programme for tree-planting projects called the Global Biodiversity Standard.

Species conservation could also piggyback on the growing ecosystem-restoration movement. There are now more than 100,000 of these projects globally, helping ecosystems to capture carbon and provide essential services.

Smith argues that including native species strengthens such projects. But restoration ecologists are often more concerned with overall function than with individual species, says Curt Meine, a historian of ecology at the Aldo Leopold Foundation in Baraboo, Wisconsin. And they want ecosystems to provide multiple services to humans, including sustainable livelihoods. Some acknowledge that tree conservation should have a place. “I do think it's important work and we could learn a lot,” says Robin Chazdon, a restoration ecologist at the University of Connecticut in Storrs.

But there are more threatened tree species than there are restoration projects to absorb them. “It's not going to be the way of protecting all of those tree species,” she says.

Some ecologists have deeper concerns. Bridgewater says that the efforts of conservationists and of restoration ecologists don't factor in climate change.

“They all in the end assume that nothing is going to be changing,” he says. But many trees, and whole ecosystems, just won't survive in their current ranges, he says.

“You could save every tree species but it will not be what people think — it will be in botanical gardens and larger managed conservation areas, and planting where it's suitable for survival, not where it's currently growing.”

But the tree saviours are driven by something visceral: panic at the permanent loss of the rich, unique, irreplaceable and often-undeciphered identity of each species. “I don't feel I am, as a humble human, here for a few decades on this planet, authorized to just cut off millions of years of evolutionary history,” says Vié. “Every species has a value.” ●

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HISTORIANS ADVISE THE PRESIDENT. THE PROBLEM? THE SCHOLARS WERE ALL WHITE.

By Sandrya Dirks

When President Biden spoke on Sept. 1st, to tell the nation that democracy is in danger, his warnings echoed the words of many who have been paying attention. Especially those who study the past.

Not a month earlier, the president met with a group of handpicked historians who told him that democracy was teetering, hanging on by a thread.

After The Washington Post reported on the historians meeting, it didn't take long for some to raise questions, not about the fact that democracy is in peril, but about the monochromatic makeup of those delivering that message.

It seemed the Biden administration had only invited white experts to advise the president — four historians and one journalist: Princeton historian Sean Wilentz, University of Virginia historian Allida Black, presidential historians Michael Beschloss and Jon Meacham, who is also an occasional speechwriter for Biden, and journalist and Atlantic staff writer Anne Applebaum.

But it wasn't only the lack of diversity in that group, it was where that lack of diversity seemed to lead.

"They compared the threat facing America to the pre-Civil War era and to pro-fascist movements before World War II," read the Post's sub-headline.

Those comparisons leave out important parts of U.S. history that resonate today, says Kenneth Mack, a professor of law and history at Harvard.

"We don't really have to look outside the United States, nor do we really have to look all the way back to the Civil War to think about things like voter suppression, demagoguery, and fascist tactics," he says.

"We've had the death of democracy happen right here, in the United States," says Mack. "African Americans experienced this directly." He's talking especially about the overthrow of Reconstruction, and all that followed, well up until the Civil Rights Movement.

Jelani Cobb, a New Yorker writer and the new dean of Columbia Journalism School, adds, "The formative experience around American authoritarianism has been the treatment of people of African descent and people of Indigenous descent."

Cobb says the meeting missed the point. If you don't examine how democracy has died for people of color in this country, you might miss how freedom fades not in big bombastic moments, but in slow ongoing repression.

And if you exclude the voices of scholars and writers who understand an anti-democratic, fascist order as heritage, rather than an aberration, you might miss how democracy has before been pulled back from the brink.

"In having an all white room," Cobb says. "you kind of replicate the kind of gaps in perspective that we've seen that have facilitated this problem in the first place."

It's Exactly What Is Happening Now

Reconstruction was a bold plan to repair the wounds of slavery, and build out of the ashes of civil war a multiracial democracy. Rather than accept equality, it was violently overturned by Southern whites.

"At the turn of the century we lost everything," says University of Connecticut Professor Manisha Sinha.

"It all went down the drain because of a very reactionary Supreme Court and because of state laws and local authorities who were willing to subvert elections and not allow people to vote."

"Sounds familiar?" she asks. There was rising white supremacist domestic terrorism, lynchings and the reign of the Ku Klux Klan, and what Sinha describes as "racist authoritarianism."

In many ways, she says, "it's exactly what is happening now."

Both Sinha and Mack note that the past cannot just be grafted onto the present. But it's important to understand how racism and white supremacy have always been at the center of threats to our democracy.

"If you talk to scholars of race, that's the kind of perspective that you get," Mack says.

Mack says he is glad the president is meeting with scholars to talk about the lessons of history. "The group that Biden had in was a very distinguished group," he says.

"But the real question is, are there other people who would add to that discussion and enrich it and bring something that the people who were invited didn't bring?"

Erica Loewe, White House Director of African American Media, told NPR in a statement: "Since day one, President Biden has regularly engaged with diverse stakeholders and community leaders who offer different perspectives on a variety of issues. As a result, he has consistently taken action to ensure personnel and policy decisions reflect the diversity of this nation."

Whose history is being centered?

We can not know exactly what the historians said to President Biden, or whether they talked at any length about reconstruction and the death of democracy.

But two of the historians appeared on TV afterward to talk about the meeting.

Both Princeton Professor Sean Wilentz and Presidential historian Michael Beschloss confirmed and reiterated the Post's reporting on the two key moments in American history they picked to focus on — the lead up to the Civil War and the 1930's and 1940's.

Beschloss talked to MSNBC's Jonathan Capeheart. "If we were living in 1940," he said to Capeheart, who it's important to note, is a Black man, "you and I would've said there's a serious danger that America will not be a democracy."

The "we" is telling; America at that time was already not a democracy for most Black people.

Beschloss went on, saying, "There are people from within who wanna make this an authoritarian system."

He didn't mention that in the 1940's many Black people already lived under authoritarian systems, like Jim Crow.

Beschloss pointed to a second reason that democracy felt perilous then, as it does now. "The Nazi Germans, the Italians, the Imperial Japanese — we're living in a world where fascism is on the March," he said.

But those rising fascist movements abroad borrowed heavily from America's fascist tactics, from Jim Crow and America's brutal treatment of Indigenous people. "A global thing," says Manisha Sinha, "but homegrown in the United States."

Wilentz also didn't mention race and American history when he spoke with CNN. What he did say was the moments where democracy is at risk all have something in common — a crisis of legitimacy.

"The key to all of this is when the basic institutions of the country are being called into — the legitimacy of those institutions is being called into serious question," he told CNN's Michael Smerconish.

"That certainly happened before the Civil War and led to secession. The slaveholders' rebellion in which they

said, look, we don't believe in your constitution. Your constitution is wrong."

That was a moment when Southern whites rejected and questioned the legitimacy of the federal government. But across American history Black people and people of color have had a justified, deep distrust of American institutions.

Whose distrust and rejection of American institutions is Wilentz placing at the center of the story?

Wilentz has a history of getting race and racism wrong, says Jelani Cobb. He points to an infamous piece, entitled "Race Man," that Wilentz wrote in 2008. "Sean Wilentz said that Barack Obama had run the most racist campaign in modern American history," Cobb says.

In the essay, Wilentz accused the Obama campaign of "the most outrageous deployment of racial politics since the Willie Horton campaign ad in 1988 and the most insidious since Ronald Reagan kicked off his 1980 campaign in Philadelphia, Mississippi, praising states' rights." That announcement, just miles from where 3 civil rights workers were murdered by the KKK, was seen as a tacit nod by Reagan to white supremacists.

"Here we have this crisis which is shot through with racial elements and that's the person in the room," Cobb says. "Yeah. That's a problem."

In The Room Where It Happens

Scott Kurashige, executive director of the American Studies Association, says to really understand the past, and its role in the present, we must look to historians who study more than just those in power. There is value to the presidential historian who reads every scrap of paper a president wrote, he says. "But if that's not paired with someone who's analyzed the labor movement, the civil rights movement, the Black freedom movement, the movement of Japanese Americans for redress against incarceration," you don't have the full story.

It's not enough to understand democracy is at risk, without learning from those who have borne — and still bear — the brunt of its loss.

"The people who've studied exclusion and people who've studied the struggle for civil rights and democracy for oppressed peoples have the biggest insights into how fragile democracy can be," he says.

They also have insight into something else, "What it takes to build a movement — what type of struggle, what type of sacrifice, what type of courage and determination it takes to obtain, and preserve democracy."

Because if we have ample examples in our historical DNA for the death of democracy, we also have a blueprint for its protection, and rebirth. There were abolitionists who fought against the horrors of slavery in America. Then, after the failures of reconstruction and the imposition of a brutal system of Jim Crow, came the long fight for Civil Rights.

"It took lots of people, activists on the ground, working daily to reintroduce democracy in those parts of the United States where it had been taken away," historian Kenneth Mack says. "And it was only reintroduced within my lifetime."

The 1960's struggle for equal rights was a massive movement led by Black people and people of color — people who maintained a stubborn belief in America's promise as they pushed for a second attempt at reconstruction.

"I think it's really important for us to remember that even as ordinary American citizens, you can actually push the pendulum of history," says historian Manisha Sinha.

People must push, Sinha says, but those in power must act. "The only time American democracy has been protected has been when the federal government has responded in forceful ways," she says.

The August historians meeting was not the only time President Biden hosted experts to learn from the past. Earlier this year he met with another group that included Annette Gordon-Reed, a Black scholar who studies race, law and history at Harvard. In previous speeches, Biden has compared today's threats to voting rights to Reconstruction and post-Reconstruction America.

But Jelani Cobb says it's still concerning that this meeting of all white historians happened at all. Especially at the same time that there is a movement by Republican politicians to censor and silence the histories of Black people and people of color across the United States.

The campaign to outlaw the teaching of America's racist — and anti-democratic — past is not a coincidence, says Cobb. The same politicians who are pushing history into the shadows, are also pushing and promoting voter suppression laws pulled directly from that past. "What they are doing is effectively turning off the light switch," at the moment we most need to be able to see, Cobb says.

History after all, can be read like a map.

"There's a map that will help us understand the moment we're in, and we are plunging ourselves into complete darkness at that moment." ●

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BURNING MAN HIGHLIGHTS THE PRIMORDIAL HUMAN NEED FOR RITUAL

By Dimitris Xygalatas

At the end of each summer, hordes of people flock to the Black Rock Desert in Nevada to erect a makeshift city the size of the Italian town of Pisa. They call it Black Rock City. A few days later, they will burn it to the ground, leaving no trace.

During their time together, they partake in an extravaganza of unique experiences. Wearing wild costumes and riding carnivalesque vehicles, they attend colorful parades, spectacular light displays and interactive art installations.

Since its inception in 1986, attendance has increased from a few dozens of individuals to over 70,000 — and hundreds of thousands in various regional versions around the world.

In surveys, Burners, as they call themselves, report experiencing strong feelings of connection during the event. Over three-quarters say that their experience was transformative, over 90% say that these transformative effects lasted beyond their stay, and

over 80% say that they made a permanent impact on their lives. The great majority return again, many of them every year.

What makes this bizarre event so meaningful to so many people?

The Ceremonial Experience

The overwhelming majority of Burners identify as nonreligious, yet the deeply spiritual experiences they report resemble those of religious groups. Indeed, the similarities with religion are no accident.

Burning Man, as the event became known, started as a solstice get-together by a handful of friends on Baker Beach in San Francisco. In 1986, they decided to build a wooden effigy and then torch it. Co-founder Larry Harvey called this a “spontaneous act of radical self-expression.” As people started gathering to watch, they realized they had created a ritual. The next year, they put up fliers and drew a bigger crowd. It has been growing ever since.

Harvey was an avid reader of anthropological theories of religion. He was particularly interested in the role of ritual in creating meaningful experiences. These experiences, he argued, address a primordial human need: “The desire to belong to a place, to belong to a time, to belong to one another, and to belong to something that is greater than ourselves, even in the midst of impermanence.”

As an anthropologist of ritual myself, I can see that ceremony is at the essence of Burning Man. It begins as soon as Burners walk through the gate. Upon entering, people signal their arrival by ringing a bell. They hug and greet each other by saying “Welcome home!” That home is treated as sacred, symbolically demarcated and protected from the polluting influence of the “default world,” as they call the outside. Upon their departure, they will perform a purification rite, removing all “matter out of place” – anything that doesn’t belong to the desert, from plastic bottles to specs of glitter.

Leaving their default name behind them, they use their “playa name.” It is a name gifted to them by another Burner and used to signify their new identity in the playa (the desert basin). They also abandon many of the comforts of the outside world. Monetary transactions are not allowed, and neither is bartering. Instead, they

practice a gift economy, modeled on traditional ceremonial customs.

Anthropologists have noted that such ceremonial exchange systems can have important social utility. Unlike economic exchanges that produce equivalent outcomes, each act of donation creates feelings of gratitude, obligation and community, increasing both personal satisfaction and social solidarity.

The Burning Man Temple is yet another testament to the power of ritual. When sculptor David Best was invited to build an installation in 2000, he erected a wooden structure without any use in mind. But when a crew member died in a motorcycle accident, visitors started bringing mementos of people they had lost, and later gathered to watch it burn at the end of the event.

Since then, the temple has become a symbol of mourning and resilience.

Its walls are covered with thousands of notes, photographs and memorabilia. They are reminders of things people wish to leave behind: a personal loss, a divorce, an abusive relationship. It is all consumed by the fire on the final night as onlookers gather to watch silently, many of them in tears. Such a simple symbolic act seems to have surprisingly powerful cathartic effects.

The weeklong event culminates with the ceremonial destruction of the two largest structures looming at the center of the ephemeral city. On the penultimate night, a wooden effigy known as “the Man” is reduced to ashes. And in the final act, everyone gathers to watch the burning of the temple.

The Human Thirst For Ritual

The oldest known ceremonial structures, such as Göbekli Tepe in Turkey, predate agriculture and permanent settlement. Although they took enormous effort to build, they too, like Black Rock City, were only used by ephemeral communities: groups of hunter-gatherers who traveled long distances to visit them.

It is not until hundreds of years later that evidence of settlement in those areas was found. This led archaeologist Klaus Schmidt to propose that it was the thirst for ritual that led those hunter-gatherers to permanent settlement, paving the way for civilization.

Whether this radical hypothesis is historically true is hard to know. But phenomena like Burning Man could confirm the view that the human need for ritual is primeval. It both predates and extends beyond organized religion.

Burning Man defies a strict definition. When I asked Burners to describe it, they used term such as movement, community, pilgrimage or social experiment. Whatever it might be, Burning Man's unprecedented success, I believe, is due to its ability to create meaningful experiences for its members, which reflect a greater human yearning for spirituality. ●

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PRE-HISTORIC POO FROM SHEEP DISCOVERED BY SCIENTISTS

By BBC Staff Writer

Scientists have discovered ancient animal poo dating back to around 13,000 years-ago.

The droppings are thought to be from sheep. According to researchers, hunter-gatherers living in Abu Hureyra, the Upper Euphrates valley in Syria, used to look after them and other animals outside their huts.

They were able to discover the poo after closely looking at substances present in the soil called dung spherulites.

These are tiny balls that form in the intestines of plant-eating animals before they are pushed out of their body when they go to the toilet!

It was these tiny balls that allowed the team to find out when the poo was approximately made, which is somewhere between 12,800 and 12,300 years ago.

Professor Peter Rowley-Conwy, from Durham University who contributed to the research by studying animal bones, said that the people living there at the time only looked after a small number of sheep by their house.

The sheep's did not belong in big herds like we see today.

The hunters ate the sheep for a source of food, along with a species of antelope called a gazelle. They also ate smaller animals birds, hare and fox.

Then eventually, by the Neolithic period, which is between 10,600-7,800 years ago, herded animals such as sheep and goats became more important to them than the hunted ones.

Professor Alexia Smith, from the University of Connecticut in the US who helped carry out the study, said that hunter-gatherers "would have had no idea of the massive changes in society they were setting.

"The way we live today rests heavily on the hunter's shift from a reliance on hunting and gathering wild plants and animals to a dependence on growing and herding our food." ●

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THE WORLD'S OLDEST WINGED INSECT IS IN TROUBLE. HOW FRIGHTENED SHOULD WE BE?

Mayflies are among nature's best environmental sentinels — and their current message to us is grim

By Robert O'Harrow Jr.

One morning in April, I waded into a cold mountain stream in Virginia called the Hazel River. I was there to fish for brook trout but found myself looking more than casting. The sun coming through the trees had gathered into a soft haze above the pool I was in. Hovering in the illumination was a cinnamon-colored insect.

It moved slowly up and down with what seemed to be the rhythm of a gentle song, its long body and tails

hanging below the wings. I was reminded of something I couldn't quite recall. UFOs came to mind. Then ballet dancers. And finally sprites. I had seen mayflies plenty of times over the years — trout love to eat mayflies, and I love to catch trout — but this one was enchanting.

In the spirit of the moment, I tried to summon what I knew about them. This mayfly had lived for a year or so underwater as a nymph with gills and an outer skeleton of armor. It had probably emerged into the terrestrial world that morning with new wings. It was in search of a mate and didn't have a moment to lose: In a day or two it would be dead.

When we think about the environment, we tend to think big. As in air, ocean, rainforest and the globe itself. The same holds true about species in peril. Whales, elephants, California condors and other large animals get a lot of press. But insects? Unless they're the darlings of the bug world — think honeybees and monarch butterflies — they're pests to be avoided. "It's really hard to get people to care about an insect," says Richard Knecht, a paleobiologist at Harvard University's Museum of Comparative Zoology. "People say, 'Well, what's that got to do with me?'"

When it comes to the mayfly, I have learned that the answer is: more than you might imagine. Mayflies are a mainstay of the world's many food chains. The nymphs consume algae, plant matter and decaying leaves. The nutrients and energy gained as a nymph are passed on to other animals when they are eaten by such predators as trout, bass, spiders, frogs, lizards, birds, bats and myriad other animals. Even some people eat mayflies.

Mayflies require relatively cool, clean water to live, which makes them among nature's best ecological sentinels. For those who know how to look, their bodies hold precise clues about the state of the water and land around them. Some scientists call them "biosensors." Overly warm water, pesticides, silty runoff from development and other pollution will wipe them out or force them to move to cleaner environs.

In other words, these little-known creatures are invaluable narrators of environmental change. They are also, unfortunately, victims of the very trends they can identify — and they are now fading at a disturbing pace from freshwater streams, rivers and lakes around the world.

Mayflies are the oldest surviving winged insects on the planet. Knecht discovered a mayfly impression from some 300 million years ago in rock behind a strip mall in Massachusetts. The bug's short-lived elegance has inspired wonder and rumination by artists and poets since the first reference to them in the Epic of Gilgamesh, a Mesopotamian poem and one of the world's oldest pieces of literature. In an allusion to its brief life span, Aristotle dubbed the insect ephemeron. The Chinese scholar and poet Su Shih used the idea as a metaphor. "We exist no longer than mayflies between Heaven and Earth," he wrote in 1082. Near the peak of the Renaissance, Albrecht Dürer made an engraving called "The Holy Family With the Mayfly." The insect is sitting at the feet of the Virgin Mary.

Today, more than 3,700 species live worldwide in freshwater creeks, rivers, ponds and lakes. That includes hundreds of species from Maine to Louisiana to Washington state. I'd heard that a species of tiny mayfly inhabits a creek near my home in Arlington County, Va. I wanted to see for myself. The creek, Pimmit Run, is part of a storm-water drainage network with natural-looking stretches punctuated by concrete tunnels. I arranged my visit at the end of April to coincide with an effort by local citizen-science volunteers to help the county assess the stream's water quality. The continued presence of mayflies would be a good sign.

Under the direction of a county water specialist, Lily Whitesell, the volunteers worked in pairs, walking in the creek, kicking up rocks and sifting the water with hand nets. Whitesell suggested I look at one of the nymphs they had captured through a field microscope set up on a card table near the creek. I laughed out loud when it came into focus: It was horrific-looking, a veritable sci-fi movie monster with claws, bulging eyes and long, thrashing tails. "Isn't that cool?" Whitesell said.

When such nymphs transform and take flight, they can offer a great spectacle for people who happen to be near the right water at the right time. Clouds of them hover and bob in the air as they search for mates. The spectacle can verge on the sublime.

Some of the biggest hatches involve *Hexagenia*, a genus of large mayflies that burrow in silt and mud and in summer erupt from big lakes like Erie and rivers such as the upper Mississippi, Ohio and Illinois. Billions of bugs have emerged in a single day, enough to feed tens of millions of birds. So many *Hexagenia* have fallen dead in

some hatches that municipalities have used snowplows to clear them off roads.

In the mid-20th century, at a time when industrial activity sometimes poisoned lakes and rivers where *Hexagenia* live, their numbers plummeted in the Great Lakes region. Eventually, clean water legislation curbed much of the pollution, spurring a decades-long rebound in *Hexagenia* populations.

In recent years, however, scientists and conservationists have been troubled by anecdotal reports that *Hexagenia* hatches were tailing off again. Roadways did not need plowing as often. And car windshields — an informal measure of upper Midwestern bug life — regularly appeared to be less splattered.

No one had enough data to say for sure what was going on, and there were not enough funds or biologists to test all the water where *Hexagenia* live. But a few scientists had a clever idea: Perhaps they could use weather radar to see if *Hexagenia* clouds showed up. The technology had been used to track migrating birds. Why not *Hexagenia*? When they ran tests of the radar at night, the researchers realized they could see and record images of *Hexagenia*. They also could use the method to examine how the images of hatches now compare to those previously recorded by weather radar. “The real beauty of it is you can look at patterns through time to see if there have been changes in the timing and the amount of those clouds of insects,” Sally Entrekin, an entomologist at Virginia Tech and one of the researchers, told me.

In 2020, Entrekin, meteorologist and ecologist Phillip Stepanian and four other scientists published startling findings in the Proceedings of the National Academy of Sciences. Year after year, the size of *Hexagenia* hatches was dropping. The fact that *Hexagenia* are thought to be among the most resilient of mayflies made the insight especially troubling.

Some scientists contend that the *Hexagenia* decline may be part of a natural cycle that has been occurring for thousands of years. In any event, they say there are not enough long-term data to make sweeping pronouncements. But Entrekin and her colleagues argue that the evidence points to something ominous.

“[P]ersistent environmental changes could threaten to once more extirpate *Hexagenia* mayflies from North America’s largest waterways, making this ephemeral

spectacle — and its vital ecological functions — a thing of the past,” their paper said.

The evidence compiled by the researchers suggests the main culprits behind the *Hexagenia* decline are humans: our pesticides; the way we treat our sewage; the fertilizers we use on crops and lawns; how we build and spread. The byproducts of so much of what we do leaches into freshwater and fouls it. “There’s no doubt,” Entrekin told me, “that we’re losing the habitat that supports a lot of species that have very narrow environmental requirements.”

It is impossible to draw definitive conclusions about what this means on a planetary scale. The *Hexagenia* research applies only to one region of America and one type of large mayfly. But the evidence of a global problem for mayflies — and other insects — is mounting.

In the United Kingdom, for instance, a nonprofit group called WildFish Conservation examined chalk streams from 2015 to 2017, and again last year. Such streams can be some of the purest waterways on the planet. They are fed by cool springs that bubble up from aquifers through a form of limestone called chalk, and they’re often home for pollution- and temperature-sensitive insects and fish such as trout. WildFish estimates that the diversity of mayfly species in the streams has declined by as much as 44 percent since 1998. The researchers believe that sewage runoff, silt and a “poisonous cocktail” of pesticides and other chemicals are disrupting these once pristine habitats.

I reached out to David Wagner, a biologist and lepidopterist at the University of Connecticut, for context, thinking that perhaps the problems were isolated or overblown. He has studied insects for decades and reviewed numerous scientific studies about them from around the globe. He did not provide much comfort. There’s a growing body of research suggesting that the world is in the midst of its sixth mass extinction, he said. The losses of all kinds of creatures appear to be driven by climate change, habitat degradation, pollution and other ecological stressors.

In a paper for the Proceedings of the National Academy of Sciences last year, “Insect Decline in the Anthropocene: Death by a Thousand Cuts,” Wagner and several other scientists delivered a stark warning about

the disappearance of insects. The report did not focus on mayflies, but Wagner told me they are among the most vulnerable of the world's insects because of their need for clean, well-oxygenated water. "Mayflies are reliable 'canaries in the coal mines' for freshwater systems," he explained. "And their future prospects, especially in areas that are drying or warming, are bleak."

I wanted to hear from a true obsessive, someone who has built his life around mayflies. So I went to Indiana and connected with Luke Jacobus, an associate professor of biology at Indiana University-Purdue University Columbus and a visiting scholar at Purdue. He has spent his adult life exploring mayflies and runs Mayfly Central, an online clearinghouse of mayfly names and classifications.

I found him near a parking lot on Purdue's campus, a little more than an hour northwest of Indianapolis. He took me to a basement warren in one of the science buildings and then into a room with concrete floors, painted cinder-block walls and rows of tall metal file cabinets. This was the modest home to a great treasure trove, perhaps the world's largest collection of mayflies. Jacobus opened some of the cabinets. They were filled with clip-top canning jars. In the jars were vials, and in the vials were mayflies pickled in ethanol, nearly 700,000 of them. "Most of the world's diversity is here," he said.

The specimens hold untold secrets about the environment, world ecology and aquatic life. But because there likely will never be enough biologists to study them properly, many of those secrets will never be revealed. Mayflies and fieldwork are going out of fashion for young scientists, who are focusing more on genetics and molecular biology, Jacobus said. Many of those who know how to look beneath the surface sheen of water, who understand the aquatic habitats, anatomy and taxonomy of these tiny creatures, are retiring or dying. "I'm one of the last of my kind," he explained.

His zeal for the bug was triggered in the winter of his freshman year at Purdue, when he was required to collect an aquatic insect for a biology class. On a lark, he looked in a drainage ditch on his parents' Indiana farm. He had seen the water many times without paying attention. It was a revelation. "It's amazing to me that there is so much life and so many interesting things that

are in plain sight that we never notice," he said. "I wound up falling in love with mayflies." One measure of his devotion: Jacobus and his wife went on a mayfly collection tour for their honeymoon.

"It's amazing to me that there is so much life and so many interesting things that are in plain sight that we never notice," says Jacobus. "I wound up falling in love with mayflies." (Mustafa Hussain for The Washington Post)

Indiana is home to one of the most diverse arrays of mayfly species west of the Appalachian Mountains, about 160 identified so far. According to state records, nearly a quarter of those are threatened, endangered or gone. In some streams in the state and across North America, mayfly populations are so depleted that they may not be able to reproduce in sufficient numbers for much longer. Jacobus calls these bugs "the living dead."

The next morning, he retrieved me in his pickup truck, and we hustled toward the confluence of the East and West Forks of the White River, about 120 miles southwest of Indianapolis. The target of our field trip was *Maccaffertium meririvulatum*, also known as the fresh flat-headed mayfly. It was one of those thought to be endangered. Jacobus had received a small research grant to see if he could determine the fate of the species and several others on a state list of missing and endangered species.

As we passed by scrubby fields and small towns, Jacobus rified on and on about mayflies. He explained that they are so evolved for mating that they don't eat after they enter the terrestrial world. Their adult mouths don't even work. He also told me there was no way to understand their fate without a grasp of ecology, the study of how organisms relate to one another and their physical environments.

There's no global explanation for the disappearance of mayfly populations. The reasons are usually connected to the area around particular streams and lakes — and may include agriculture, construction, suburban runoff, and rising air and water temperatures. But more and more, such environmental stressors appear to be having broader impacts.

He believes that some mayflies will survive, no matter what insults come their way. The heartiest, and, in an evolutionary sense, luckiest, will probably live on after humans are long gone. But he admits that a decline in

the variety of species would be a gloomy prospect. When mayflies go missing, he said, it's a clear indication that yet another place in the world is out of balance.

Jacobus turned the truck into a grassy area near the river. As he gathered his net from the truck's bed and tucked collection vials into his vest, a man in a pickup truck drove up rapidly. The man lowered his window and said we were on private property and needed to leave. Jacobus was calm. He explained who he was and why we were there. The driver grinned and gave us a why-didn't-you-say-so look.

He got out of the truck and offered his hand. His name was Lowell. He described himself as a disabled former farmer. It turns out that he was enraptured by bugs. "I've been collecting insects since my daughter was born, and she's 18," he said. "You can look at God's personality by looking at the bugs."

Jacobus and I walked through some trees and sidestepped down a steep bank to the river. He plunged a canvas-and-mesh pouch on a long pole into the water and muck below. It came out with a splash. He put the mesh bottom close to his face and murmured at the minute bugs wiggling in the reddish silt. Then he scrunched his eyes, as though perplexed. Jacobus said a few of them could be the ones he was looking for. It would take time in the lab, looking at them under his microscope, to be sure. Jacobus was hopeful they would turn out to be the right species — partly for personal reasons but mainly, he said, because he wanted to establish with scientific precision the species that are, and are not, disappearing from Indiana waters.

On the drive home, Jacobus became philosophical. "Mayflies are the oldest group of winged insects still alive on our planet, and they've got stories to tell," he said. "I'm trying to help tell those stories."

When it comes to storytelling, some of the best practitioners on the planet happen to be fly fishers — who are also fussy, opinionated and more than a little crazy when it comes to trout and mayflies. Anglers and their fishing associations have been keeping a close watch on freshwater streams in America for a century or more. Groups like Trout Unlimited spend millions every year trying to preserve them.

Many fly fishers are worried. That includes Steve Schmidt, who owns a fly shop in Salt Lake City and is a former guide and something of a legend among certain

anglers in the West. I called him to talk about Baetis, among the most common groups of mayflies in North America.

We met on a rocky stretch of the lower Provo River, in a Wasatch Mountains canyon east of Salt Lake. Baetis, sometimes called blue-winged olives, or BWOs, are treasured by anglers because they are so common and, like other mayflies, often entice trout to feed on the surface. They live in most streams where there are trout — and in many like Pimmit Run that are too degraded for the fish but healthy enough to support some aquatic invertebrates. They can emerge so prolifically that trout will eat them with abandon while ignoring the fake flies that anglers offer.

With our waders on, we strung up our rods and tied on tiny barbed fake BWOs that were about half the length of a pinkie fingernail. Schmidt had a task for us before the fishing began. He unfurled a large homemade seine net made of mesh attached to four-foot-long dowel rods. He told me to press the rods into the bottom of the stream while he shuffled toward me, kicking up silt and rocks and the aquatic insects among them.

After we lifted the seine from the water, Schmidt found bugs in the dark brown silt that had stuck to the mesh. He plucked them out with tweezers and put them in a plastic container holding river water. Blue-winged olives wiggled like miniature minnows among the golden stoneflies, aquatic beetles and other insects.

The haul showed the lower Provo was very healthy. Other rivers in Utah — and across the West — are not. Drought, rising temperatures and wildfires, coupled with pesticide runoff and silt, have diminished or destroyed freshwater streams here and across the country in recent years. Schmidt believes the populations of mayflies, stoneflies, caddis flies and other aquatic species beloved by anglers are hitting a "tipping point" in many places. And it's happening at a time when there are more anglers than ever before — in part because so many people thought of fly-fishing as a safe outside activity during the pandemic. "We used to see caddis flies to the extent in the evening you'd get vertigo," he said of one nearby river. "There were so many flying upstream in this continuous wave that if you didn't stop looking at them, literally, they would give you the heebie-jeebies." Schmidt paused. Now, he said, "they're all but gone."

Anglers have been driven to distraction by mayflies and other insects for hundreds of years. The first known description of artificial fishing flies comes from a Roman named Claudius Aelianus. In the second century, Aelianus described how anglers on a river in Macedonia tied red wool and rooster feathers to a hook to catch fish. It may be the first description of a mayfly pattern, or so said fly-fishing historian Paul Schullery when I asked him about it.

Fly-fishing as we know it evolved in England in the mid-1800s. By the end of the century, wealthy British men had developed rigid codes for the right way to tie flies and cast to fish on their beloved private chalk streams. When it came to mayflies, these patrician anglers were only concerned with imitating the bugs in their late, doomed hours. To fish for trout with flies imitating underwater nymphs — a routine practice now — was thought dishonorable.

The role of the mayfly in fly-fishing fits what Jacobus and other scientists term “cultural services.” That’s the aesthetic, spiritual and recreational value that various organisms provide to the well-being of people. The more I looked, the deeper the current of mayfly culture went. Consider the British musician Paul Weller, founder of bands the Jam and the Style Council, who wrote a wistful song titled “Mayfly” not long ago: Oh, endless sleep / Perchance to dream / As a mayfly.

When mayflies go missing, Jacobus says, it’s a clear indication that yet another place in the world is out of balance. (Mustafa Hussain for The Washington Post)

An angler and photographer named Ted Fauceglia told me he shot some 25,000 close-up film photographs of the bugs over two decades. He can’t explain exactly why. “I wanted to get the essence of mayflies,” said Fauceglia, who eventually published some of the mayfly photos in fishing magazines and as a coffee-table book. “But they’re a mystery, and I couldn’t put it into words.”

And there’s the Midwestern artist, printmaker and poet Gaylord Schanilec, who spent four years studying mayflies from Wisconsin waters and making wood engravings of them. His devotion to mayflies began one afternoon while fishing. When he saw one rise from the stream, he followed it and grabbed it with his hand. He examined it under a magnifier he uses for engraving. “I was amazed by what I saw: the hues vivid and fresh, the patterns evolving and converging — here was the

perfect subject for a color wood engraving,” he wrote later.

Mayfly identification is exacting, so he sought help from a Wisconsin entomologist named Clarke Garry. Their 2005 book, “Mayflies of the Driftless Region,” is a hybrid of art, homage and science. Schanilec told me he was exploring a big question: What does it mean to be alive? “The mayfly,” he said, “really is a pretty obvious example of how fleeting everything is.”

Garry said the project gave him a chance to put his love of science to use in the cause of art. He’s alarmed by what the disappearance of mayflies and other aquatic insects may be telling us. “We’re taking bits and pieces away from the natural world that we may never be able to replace,” he said. “As ecologists like to say: How many rivets can you take out of an airplane before it finally can’t fly?”

In late July the biennial meeting of the International Conference on Ephemeroptera was held virtually for the first time. The conference was convened jointly with the International Symposium on Plecoptera, a group devoted to stoneflies and, as far as I could tell, every bit as committed in its efforts to understand that bug’s place in the world’s troubled environment. Mayflies and stoneflies often coexist in freshwater habitats, and the fate of the two seem entwined.

While most presentations explored aspects of the biology of mayflies and stoneflies, some sounded alarms about places where the bugs were disappearing. Conference organizer Ed DeWalt and another scientist from the University of Illinois, through work with computer models, concluded that certain species could disappear in the Midwest because of development, pesticide runoff and the region’s changing climate. Apparently, Illinois has already lost more than 1 of 4 native stonefly species. Meanwhile, a scientist from India said deforestation, development and climate change in the Western Ghats mountains are imperiling dozens of mayfly species and the freshwater they inhabit.

One study in the conference concerned the upland summer mayfly in the United Kingdom. Craig Macadam of Buglife, a conservation nonprofit at the University of Stirling in Scotland, has studied the bug for years. It’s the only Arctic mountain mayfly in the British Isles. A decade ago, he predicted it would be forced to move

north because of rising water temperatures. And now it's happening. Upland summer mayflies are moving to smaller, colder streams higher in the hills. The species no longer inhabits 4 out of 5 sites where Macadam found them in the past. The outlook for them is grim.

Macadam and several other scientists met with me in a session arranged by DeWalt. Macadam described a citizen-science project that documented a sharp decline of all insects, including mayflies, in recent decades. Volunteers working with his group photographed their license plates before and after trips.

The plates serve as a standardized way to measure the number of splattered bugs of all kinds in particular times and places. Macadam said there's been a 59 percent drop in insect splats measured since 2004.

But it's his research on the upland summer mayfly that troubles him most. "The species I've been studying for over a decade now is disappearing," he said. "And that makes me incredibly sad." Jacobus, the Indiana biologist, was on the video call. In an email exchange later, I asked for his impressions. He was uneasy. "We are losing mayflies and other things that support life as we know it and that make life worth living," he said. "Nature's foundations are buckling under global change. The world has always been changing, and it always will, but now it's changing fast." ●

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CEMETERIES ARE A MAP TO THE PAST, BUT MANY IN CT ARE FALLING INTO DISREPAIR AND NEGLECT

By Stephen Underwood

Connecticut has about 5,000 graveyards that serve as home to its ancestors and a solemn reminder of its history. But across the state, graves are falling into disrepair as earth, grass and weeds swallow markers

that have become illegible with years of corrosion and neglect.

"Cemeteries are a map to the past," said Walter Woodward, Connecticut state historian emeritus and associate professor of history at the University of Connecticut.

"They are quite literally cities of the dead and in some places you can trace the origins and development of the place and region just by the records of a cemetery."

Woodward said cemeteries also function as cultural artifacts. Those artifacts can teach us about how we have viewed death, practiced religion, made art, designed landscapes, built structures and even run businesses throughout history.

"These are wonderful historical records that are largely neglected," Woodward said. "Through neglect we really lose an important source of historical knowledge."

Woodward said due to changing traditions and cultural norms, the future looks bleak for older cemeteries without volunteers stepping up to help preserve gravestones.

"There was a time when people were more connected with their ancestors but not so much today," Woodward said. "The old traditions of caring for family gravestones is not nearly as common as it used to be. As a result, many gravestones are abandoned and neglected."

The task has frequently fallen to the state's many private cemetery associations, with no oversight.

"We need to do more to protect them," Woodward said. "Sadly many cemeteries are falling into neglect and gravestones are becoming unrepairable. The past is literally crumbling away."

In some cases, private citizens are stepping up across the state to help preserve the past.

Plainfield

Plainfield resident Jason Bowns has made it his mission to protect history one gravestone at a time. Bowns, a

history teacher at Plainfield High School, became enamored of the town's historic Old Plainfield Cemetery after wandering onto its grounds two years ago.

But after closer inspection he realized that some of the graves were in dire need of repair.

"Gravestones were leaning and some were lying broken on the ground," he said. "There's actually a tree growing right out of a grave. So that's when I realized something needed to be done."

Bowns said he was told by Town Historian Ruth Bergeron and members of the Plainfield Cemetery Association, which owns the cemetery, there'd been short-lived efforts in the past by volunteer groups to spruce up the cemetery that quickly fizzled. So Bowns decided to address the issue with the help of some likeminded individuals.

"I started an all-volunteer group to come out and take care of the town's historic graves," Bowns said. "We are a dedicated team of trained professionals helping to preserve our history."

The Plainfield Grave Guardians Association — whose mission is to clean up and restore Old Plainfield Cemetery and the town's other historic cemeteries — provides grounds maintenance and grave marker care and helps educate the community about those interred in Plainfield's historic cemeteries.

"The earliest stone in there goes back to the 1730s. Not only are there veterans in there but ancestral families of the community," Bowns said. "There is a surgeon who served at the Battle of Bunker Hill and three soldiers who were part of the African American regiment for Connecticut during the Civil War. I think it's important we remember their contributions."

Connecticut's historic cemeteries often are the final resting place for veterans who served in some of the nation's earliest battles and wars.

Old Plainfield Cemetery is unique for its conservation status of an endangered plant species that had been found 31 years ago. At the request of DEEP, a verbal agreement was reached decades ago to maintain the upper portion of Plainfield Cemetery, and stop mowing a 0.02-acre area where the endangered plants grow.

The state agency last year notified the town it planned to conduct a full survey of the grounds to determine if

other examples of the plant could be found. But to conduct such a search, the cemetery grass needed to be left to grow.

Bowns worked out an arrangement that included restarting mowing around graves.

"They extended the perimeter of the no-mow area that was in place around where the plant has been found by around 20 feet or so," Bowns said. "But we made sure that graves were still respected."

Bowns said he intends to keep helping to preserve graves until he can't do it anymore.

Branford

Ed Zack of Branford has spent the last three years contacting the archdiocese, cemetery manager and officials at St. John Bosco Parish, which oversees St. Agnes Cemetery, in hopes of conditions improving there.

Grave markers of veterans are in many cases unidentifiable due to leaves and weeds clinging to the stones.

In some instances, grave markers peek through weeds and grass obscuring details about the person resting below.

"It's a disgrace," Zack said. "These are veterans. They should be treated better."

Zack and other volunteers said they take it upon themselves to clear and maintain those markers. The situation makes it difficult to identify veterans' graves so flags cannot be placed near Veterans Day or Memorial Day to honor their service, he said.

Zack performs maintenance of 15 graves, something that began 12 years ago with the marker for his father, World War II Cpl. Edward John Zack Sr. The number grew to include his father's brothers' markers and those of family friends.

"I've heard nothing," Zack said. "Every time I try to contact the parish I get no response."

The conditions of the cemetery have driven Zack to contact state officials, including the state Department of Health, and lawmakers, and he hopes to continue to bring attention to the problems.

Zack said that he has been told there is not enough help at the cemetery to do full perpetual care.

“I feel bad,” Zack said. “These people died thinking their gravestones would be taken care of.”

Defining Neglect

State law defines a “neglected cemetery” as a burial place with more than six graves that is not under the control or management of any currently functioning cemetery association and which has been neglected “and allowed to grow up to weeds, briars and bushes, or about which the fences have become broken, decayed or dilapidated.”

In some graveyards, the grass is mowed, but the time-consuming and expensive work of righting, repairing and cleaning stones is left undone. Nature has overtaken some small cemeteries, gradually lost in the woods.

State law says cemeteries can be “acquired, owned, managed and controlled” by religious entities, cemetery associations or by towns, but that law does not require that towns perform cemetery maintenance.

In 2014, the state established the Neglected Cemetery Account, authorizing the Office of Policy and Management to make grants available on a first-come, first-served basis for cities and towns needing help covering the costs of clearing weeds and brush, mowing and fixing fences, walls and gravestones. The grant money comes from fees collected from death certificates.

For the past six years, municipalities have fully tapped the neglected cemeteries fund. Revenue comes from death certificate fees and is dependent each year on the number of certificates requested, OPM spokesman Chris McClure said. The money can be used to mow grass, clear weeds, briars and bushes, repair fences and walls and straighten gravestones.

Ruth Shapleigh-Brown of the Connecticut Gravestone Network said that the state needs to clean up outdated, contradictory and unenforced laws governing cemeteries.

“In the past 20-plus years of being involved with burying ground history and preservation,” she wrote in written testimony for a 2014 bill establishing the fund for

neglected cemeteries, “I’ve constantly seen our state statutes concerning cemetery maintenance being ignored and abused with no accountability or concern expressed at any legal level.” ●

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HEAVY HITTERS ON HEAVY WEATHER

By Wendy Mitman

“What’s the joke about heavy weather? You know it when you see it.”

Randall Reeves drew laughs from the Cruising Club of America (CCA) sailors attending the forum “Heavy Weather Sailing: Bluewater Perspectives” as part of the CCA’s centennial celebration in Newport, Rhode Island, last week. He joined four other heavy hitters who know a thing or three about heavy weather—renowned solo racer Jean-Luc Van Den Heede, National Sailing Hall of Fame nominee Rich Wilson, veteran high-latitude expedition sailor Steve Brown, and panel moderator and esteemed navigator W. Frank Bohlen—all there to describe their experiences and share what they have learned.

And while it may be a bit of gallows humor to joke about winds, seas, and situations that most of us hope never to see in our sailing lives, it’s a great illustration of what all agreed are vital attributes any sailor should bring the challenge of heavy weather sailing—a positive attitude, and a kind of joy and satisfaction in working the problem.

“If you think you can get through it, you can get through it,” said Reeves, who in 2019 completed his Figure 8 voyage, singlehanded 40,000 nautical miles around the Antarctic and North American continents, on his 45-foot aluminum sloop, Mōli.

"I am very happy each time I find a solution," said Van Den Heede, a six-time solo circumnavigator and 2019 CCA Bluewater Medal winner, of the adaptability needed when the unexpected happens or a forecast presents a navigational challenge. "If you like adventure, you like to solve problems. If you have no problems, you are watching TV, so, no problem."

Wilson, who set multiple records aboard the 60-foot trimaran *Great American* and survived, with Steve Pettengill, the boat's catastrophic capsizing off Cape Horn in 1990, said that while fear can make you think about what could happen, "what's worse is something happening that you can't fix."

The conversation began with Bohlen, an oceanographer, Gulf Stream analyst, and emeritus professor of marine science at the University of Connecticut, providing a succinct primer on wind, wave, and sea state science. "You are part of this," he urged the sailors in the audience.

"You're working with models. They all have a finite resolution." One data point, he noted, may come from roughly 12 square miles of ocean. "You and I care about a 50- to 60-foot patch of the ocean. You've got to be part of the game. You've got to get out on deck, look at the wind, the seas, look at the radar, the barometer. You are very much part of the equation. You can't blame it all on the forecasters."

The discussion ran the gamut from specific experiences with different types of drogues and other methods of slowing the boat down—from running downwind under bare poles to heaving-to—to the imperatives of preparation, research, and practice. Brown, who won the Royal Cruising Club's Tilman Medal for epic passages including around the Americas via the Northwest Passage and Antarctica aboard his *Bestevaer 60*, *Novara*, emphasized that proven techniques such as heaving-to are only as useful as your practice with your boat.

"All boats handle differently," he said. "It's absolutely essential to test it." He described running into a brutal storm while sailing from South Georgia to the Falkland Islands—finally turning around and running "for 42 hours in hurricane-force winds." He and his crew deployed a Jordan Series Drogue. "We shut the door, went below, slept, and played cards for 42 hours. The boat yawed no more than 10 degrees."

Preparation and practice, he reiterated, were key.

So is anticipation. Reeves described playing "what-if games—what if the cap shroud lets go right now, what if the rudder gets jammed—what will I do? I try to run through these scenarios in my head so that I can be prepared for when the stuff hits the fan." When a storm was imminent, he said, he focused on self-care—getting sleep, eating good food, cleaning up himself and his boat—all to be as rested as possible for the challenge to come.

Van Den Heede echoed this strategy, noting that the worst part of heavy weather is not at the beginning of a storm, but rather toward the end when the sea state becomes more confused as the wind shifts in a storm's wake. "Rest at the beginning of a gale," he said. "Sleep. Eat. You must keep cool, have a positive attitude, don't be scared, because at the end of the gale, you may have to hand-steer."

Brown, who noted that he is neither a racer nor a singlehander, described similar mental and physical preparation "making sure everything inside is well prepared...eliminate the fear factor, give the crew confidence in the boat and in you as a skipper." He also reiterated that his core heavy weather strategy starts with "never being in the wrong place at the wrong time."

"Being out in extreme conditions can be a massive adrenaline rush," Brown said, "but over time it gets exhausting. It wears down the crew, it wears down the boat."

And while much of a sailor's focus may be on what's happening on and above the sea, paying attention to the seafloor beneath is equally critical. Van Den Heede described racing a *Swede 55* in France in a three-day gale and capsizing in seas that had piled up on a shallow shelf, blowing the mast out of the boat.

"I made a big mistake," he said. "I didn't check the chart that we were passing in depths of 8 meters...check the charts. Don't pass where the bottom is coming up."

Reeves recalled a particularly difficult night in the Indian Ocean when he was pinned on the shallow banks of the Crozet Islands when a low arrived.

"That evening when the sun went down, or rather when the slate-grey sky went black, I remember sitting in the cockpit thinking, I don't know how we're going to get

through this,” he said. “It was just huge, steep seas, and everything was breaking. And I was pretty right actually; overnight, we were knocked down a couple of times.”

In the end, he said, it’s important to maintain perspective. “Remember,” he said, “this was all your idea, being out here. You wanted this.” ●

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HIGH SCHOOL TELLS STAFF TO REMOVE PRIDE AND BLM FLAGS

A Boston-area high school aimed to avoid placing items that can “cause disruption or distraction” in classrooms, the principal said.

By Aviva Bechky

Administrators at a Boston suburban high school told staff not to display items that could be political, including Pride, Black Lives Matter, and “thin blue line” pro-police flags, according to The Boston Globe.

A Stoughton High School employee also told The Boston Globe that staff members were directed not to use the phrase “DEI,” which stands for “Diversity, Equity and Inclusion.”

The district superintendent, however, told The Globe in an email that no such directive was given.

In an email obtained by The Globe clarifying the rules, Stoughton High School administrative principal Juliette Miller told faculty that she wanted to keep classrooms safe for all members of the community.

“We need to avoid placing items in the classroom that can cause disruption or distraction,” Miller wrote.

Thomas Raab, the superintendent of Stoughton Public Schools, told Fox News that he is committed to diversity, equity and inclusion.

“Over the last couple of years, teachers have been asked to remove potentially controversial items from their classrooms,” he wrote in an email to Fox News. “This is part of a consistent effort by the district to limit potential disruptions to students’ learning so that our students and faculty can focus on educational lessons inside the classroom.”

Banning Pride and Black Lives Matter flags, however, can hurt LGBTQ students and Black students, some experts say.

Ryan Watson, an associate professor at the University of Connecticut who studies health disparities among sexual and gender minorities, told The 19th that policies against Pride flags hurt closeted LGBTQ students in particular.

Watson said one of the largest downsides “is the inability for youth who are not out to know where they can be safe, and who they could talk to in an emergency, or who they can first come out to and not lose resources or safety.”

Melanie Willingham-Jaggers, the executive director of GLSEN, similarly told Education Week that BLM flags are largely controversial only if one believes in white supremacy.

As Education Week reported, heated debates over Pride and Black Lives Matter flags in schools are taking place across the country. In Newberg, Ore., the fallout of a directive removing Pride and Black Lives Matter symbolism included protests, lawsuits, a firing and a recall election for the Board of Education, Education Week said.

Initiatives against Pride and Black Lives Matter symbolism in schools have had real consequences for teachers as well as students.

In Texas, CBS Austin said a teacher lost her job after refusing to stop wearing a Black Lives Matter mask in 2020.

In Missouri, another teacher resigned after being forced to take down a Pride flag, USA Today reported in 2021.

Teachers’ free speech rights are complicated, because what they do inside the classroom isn’t always protected by the First Amendment, according to the American Civil Liberties Union of Washington.

“What you say or communicate inside the classroom is considered speech on behalf of the school district and therefore is not entitled to First Amendment protection,” the ACLU wrote in 2016. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE MILFORD MIRROR ON OCTOBER 2, 2022

DOT, UCONN STUDY OF PEDESTRIAN SAFETY IN CT FOCUSES ON CROSSING SIGNALS AT INTERSECTIONS

By Abigail Brone

In an effort to reduce the number of pedestrians hit by cars, a new research project conducted by the state Department of Transportation and the University of Connecticut is studying the type of crossing signals at some intersections.

Eight municipalities across Connecticut received upgraded crossing signal lights as part of the research project run by DOT and UConn’s Connecticut Transportation Institute, which looks at traffic patterns and ways to improve safety on the state’s roads.

Two of the upgraded crosswalk signals are in Groton, with one each in Bridgeport, Clinton, Danbury, Darien, Middletown, Shelton and Windham, according to Marisa Auguste, one of the project’s researchers.

“The Traffic Engineering Division of the Connecticut Department of Transportation recently completed installations of concurrent pedestrian crosswalk signals at several intersections around the state to improve safety,” Auguste said.

Pedestrian Study

Concurrent pedestrian signals have been installed at the following intersections:

- Route 1 (Long Hill Road) at Maxson Road in Groton
- Route 184 (Gold Star Highway) at Kings Highway in Groton
- Route 217 (East Street) at West Lake Drive/East Lake Drive in Middletown
- US Highway 1 (East Main Street) at Meadow Road/Mallard Lane in Clinton
- Route 66 (Boston Post Road) at Mayo Street/Adelbert Street in Windham
- Route 202/6 (Mill Plain Road) at Kenosia Avenue in Danbury
- Route 1 at Clinton Avenue and Brook Lawn Avenue in Bridgeport
- Route 1 at Center Street and Squab Lane in Darien

In the study, side street crossing signals were switched to concurrent signals, which allow pedestrians to cross the main road while drivers traveling in the same direction have a green light, she said. Side street greens mean pedestrians can cross a major road while cars on that street have a red light, but cars on a smaller side street have a green light, she said.

“Concurrent pedestrian signals clarify when pedestrians should cross while also reducing delays for both pedestrians and drivers,” Auguste said.

“Pedestrians will use a push button to initiate the ‘WALK’ signal to appear, indicating that it’s safe to cross,” she said. “A flashing countdown meter lets pedestrians know how much time they have left to cross the road. Drivers turning left or right must yield to pedestrians crossing the road.”

The study focuses on side streets with pedestrian crossing signals that look like miniature stop lights, with a green light to signal it is safe for pedestrians to cross, DOT spokesperson Josh Morgan said.

Concurrent signals are clearer, by flashing “WALK” or “DON’T WALK” and including a countdown message for pedestrians, Morgan said.—

The study, which was funded with a \$200,000 Federal Highway Administration grant, began with the first few crossing lights installed in May and June, he said. The final three crossing signals, located in Bridgeport, Darien and Shelton, were installed and put online within the last week, Morgan said.

The project's goal is to determine whether concurrent signals are safer than exclusive signaling, said John Ivan, the project's leader and a UConn engineering professor. Exclusive signaling halts traffic from all directions to allow pedestrians to cross.

“Pedestrians don’t wait for ‘WALK’ signals at exclusives, then the car shows up by time they’re across the street. The turning vehicle arrives, doesn’t expect pedestrians in the crosswalk,” Ivan said. “Bottom line is, exclusive is safer when pedestrians wait — but they don’t wait. The drivers especially get frustrated when a pedestrian pushes the button. but doesn’t wait, and then the walk signal comes, and everyone’s stopped and there’s no one walking.”

The concurrent signals are most often used in areas with high pedestrian volume, but they can be less effective as it takes longer for the signal to cycle through the green traffic lights and allow pedestrians to cross, he said.

With exclusive signaling, “there were fewer total crashes, but they were more severe,” Ivan said. “We found fewer crashes overall, irrespective of phase, but looked at the crashes at intersections. There were more pedestrian crashes at side street greens compared to exclusive. But there were more serious pedestrian crashes at exclusive phases.”

In 2019, 53 pedestrians were killed by cars in Connecticut, according to the nonprofit Governors Highway Safety Association. In 2020, the number of pedestrian fatalities rose to 61 in the state, according to GHSA.

From January 2021 to September 2022, the state reported 1,884 car crashes involving pedestrians, according to UConn’s crash data depository. In September alone, there were 74 car incidents involving pedestrians, according to DOT’s crash database.

A major concern in the study’s effectiveness, however, is the low pedestrian use of the areas studied, Ivan said.

“(DOT) gave us a list of locations that they were considering ... then we selected from that list. Essentially to create a study design so that we could control for factors that we think would be important and related to interactions between pedestrians and vehicles for examples,” Ivan said. “We looked at all locations on Google Earth to make sure it’s a place

where there actually were pedestrians.” Despite the preparation, Ivan and his team said they are concerned about the lack of pedestrians in the designated areas. A group of undergraduate students working with Ivan spent hours stationed near the crosswalks in the study to observe pedestrian and driver behaviors.

“We did not anticipate or think-through how few pedestrians there are. We looked at all the locations one-by-one to see, are there houses on one side and businesses on other?” Ivan said. “We looked at some we thought for sure there was going to be a lot, like a senior center on one side and neighborhood on other and: nobody.”

Included in the study are crosswalks with the new concurrent signals, a few with the old stoplight-style crossing signals and some with exclusive signals for comparison, he said.

Aside from the crosswalk signal, each of the intersections has the same variables, including distance to cross the street, traffic volume and whether there are sidewalks on both sides, Ivan said.

The study's observation period began in July and is expected to conclude at the end of October. Ivan said he hopes to prepare a draft of the study report in about March and complete a final report by June. ●

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BEFORE POMPEII, A VOLCANO CLOAKED THIS ANCIENT VILLAGE IN VOLCANIC ASH

The 4,000-year-old ruins of the village of Afragola reveal agricultural abundance in ancient Rome.

By Sam Walters

About 4,000 years ago (and approximately 2,000 years before the burial of the city of Pompeii), an early

eruption of Mount Vesuvius cloaked another ancient village in a cover of volcanic ash.

Today, the ashy remains of this village paint a nearly complete picture of ancient life in Southern Italy. And according to a new paper published in the *Journal of Archaeological Science: Reports*, this life featured a cornucopia of autumnal agricultural goods.

A Look Into Village Life

Located about 10 miles to the west of Mount Vesuvius, the ancient village of Afragola was covered in a sheet of ash, silt and alluvial sediments when the volcano erupted around 4,000 years ago. Over the years, this sheet of material protected the site, making it ideal for archaeological investigation.

"Afragola was buried by a gigantic eruption of Vesuvius, and it tells us a lot about the people who lived there," says Tiziana Matarazzo, a paper author and an anthropologist at the University of Connecticut, in a press release. "The cover of ash was so deep that it left the site untouched for 4,000 years — no one even knew it was there. Now we get to learn about the people who lived there and tell their stories."

After identifying the village as a result of a nearby construction project, Matarazzo and a team of archaeologists and anthropologists uncovered approximately 5,000 square meters of Afragola. This makes the village one of the most studied sites from this time period in Southern Italy.

In addition to identifying shelters where villagers would have lived with their immediate families, the team also found a sizable storage structure in the village where grains and agricultural goods would have been stored and shared.

The remains of this warehouse suggest that the villagers of Afragola profited from an abundance of food sources, including a diversity of grains, an assortment of nuts and acorns, apples, pomegranates and cornelian cherries — all of which were preserved within the structure as a result of their coating of ash.

This agricultural abundance, the team says, suggests that the volcano exploded in the midst of the villagers' fall harvests.

"By finding fruits and agricultural materials, we were able to identify the season of the eruption, which is usually impossible," Matarazzo says in a press release.

Agricultural Answers

According to the team, the blast occurred in several successive stages. In the first of these stages, Vesuvius sent out a burst of rubble in the opposite direction of the village. This enabled villagers to flee and explains why the site shows signs of escaping villagers (including the footprints of frantic adults and children) but no buried bodies.

Ultimately, a shift in the wind sent a cloud of material back towards the village, covering it completely in ash. During this stage of the eruption, a thick layer of volcanic debris created casts of the city and its immediate surroundings, coating the area in a durable material known to scientists as cinerite. After 4,000 years, the cinerite casts of the site have remained resistant to wear and tear.

As well as protecting the huts and the storage warehouse, the cinerite casts also preserved a diversity of plant life surrounding the site, strengthening the team's conclusions about the seasonality of the blast. In fact, the imprints of leaves and fruits found around the village provide further evidence that the eruption occurred in the fall.

According to the team, there's much more to study within the remains of Afragola. Future studies will investigate the variety of animal bones also found on site, providing new insights into the traditions of animal management in ancient Southern Italy. ●

IN GRAVES OF A LOST BLACK CEMETERY, HOPE FOR LINKS TO FAMILY HISTORY

At a site paved over to make way for Colonial Williamsburg, Black residents seek clues in unearthed graves

By Michael E. Ruane

WILLIAMSBURG, Va. — Archaeologist Jack Gary pulls back the plastic tarp covering the grave. A few surprised frogs jump out of the way. He shows the outline of the burial, marked by the disturbed soil thrown on top of the deceased.

At the foot of the grave, his team found a broken bottle turned upside down and probably placed intentionally. The reason is not clear. The old African American First Baptist Church that stood here and buried its dead here is long gone, replaced by a parking lot.

Eight blocks away, on this bright Sunday in August, Dennis Gardner, 87, whose great-grandparents are said to be the first people married in the old church in the 1850s, has arrived for the 11 a.m. service at the new First Baptist Church, the congregation's home for several decades.

So have Robert A. "Bobby" Braxton, 84, who, as a youngster, rang the bell in the old church; and the Rev. Julie Grace, an associate minister, whose parents brought her there as an infant but who later left Williamsburg, she thought, for good.

They came to pray, sing and to express the wish that the departed in the old cemetery, where more than 40 graves have been found, might reveal their stories.

Those worshipers are part of an extraordinary project here in which experts at the Colonial Williamsburg Foundation and William & Mary are working at the behest of potential living descendants of those resting in the graveyard.

Over the years, African American cemeteries have been violated, obliterated and forgotten. And debate has simmered over how, or even if, human remains in such cemeteries should be examined.

Here, the "descendant community," eager to fill gaps in vanished African American and family history, has been consulted and briefed at every step, and has urged the archaeologists on.

Who were the people laid to rest in the graves? Could one of them be an ancestor of someone living in the community?

"I'd be very proud," Gardner said, if such a link were found. "I'd probably stick my chest out a little further."

He said he is the oldest active member of the church and began attending services in the old building when he was 6.

"It's a very important part of our history," he said. "If they could find my great-grandparents and test their DNA, they could link them further back to those who first came over on the slave ships, then where they came from."

Black History Erased

The First Baptist Church of Williamsburg, organized in 1776, is one of the oldest Black congregations in the country.

It dates to a time when enslaved and free African Americans around Williamsburg worshiped in a remote forest shelter made of tree limbs and underbrush.

Church tradition says that a local White businessman, Jesse Cole, while walking his lands one day, came upon the congregation meeting and singing in such a shelter. Moved by the scene, he offered them a carriage house he owned on Nassau Street.

In 1818, a "Baptist meeting house" was reported on the site. In 1834, a newspaper reported that the "colored people's meeting house" there was blown down by a tornado. In 1856, it was replaced by the church that would stand for 100 years.

Williamsburg was the capital of Virginia from 1699 to 1780, and by 1775, more than half of its 1,880 residents were Black, most of them enslaved.

In the mid-20th century, an effort was underway to re-create the Colonial world of the former state capital as a tourist attraction. African Americans who live there today say much of the history of Black life in Williamsburg was erased as a result.

The 1850s church did not fit with a 1750s motif. It was torn down in the 1950s, after Colonial Williamsburg bought out the congregation and paid for the new church outside the historic district.

Gardner said his family also was bought out, in 1955, and moved from its home on Nicholson Street, near the reconstructed colonial capitol, to a Black neighborhood outside town.

Colonial Williamsburg “displaced a lot of the Black families,” he said. “Matter of fact, we were one of the last ones to sell.”

The move got the congregation a stately new church with stained glass windows and a parking lot. The Gardners got a better house and, for the first time, a car, his sister, Christine Jordan, said.

They did not know all that was left behind, she said. And many said they were too young at the time to register anger.

The old site was paved over in 1965 and turned into a parking lot. A modest historical plaque was erected.

A New Look At The Past

Connie Matthews Harshaw and Donald Hill ring the historic bell at First Baptist Church of Williamsburg on Aug. 14, 2022. (Kristen Zeis for The Washington Post)

In 2020, Connie Matthews Harshaw, the president of the church’s Let Freedom Ring Foundation, noticed Williamsburg visitors reading the plaque and wondering where the church was.

She then met Cliff Fleet, who had just taken over as the president and chief executive of the Colonial Williamsburg Foundation.

“I said to him that I was embarrassed for him, because they were in the business of history and I didn’t see anything about the African American experience,” she said.

She and Fleet agreed to begin an investigation of the site with ground penetrating radar to see what was

beneath the parking lot, she said in a telephone interview. The project grew from there.

Once the excavation was underway, the brick outline of the old church was revealed.

Gary, the foundation’s director of archaeology, said he and his team also found the imprint of an even earlier building, referred to as “the Old Slab Church,” because of its construction of rough-hewed slabs of wood. That church may date to before 1818.

The known public record about the site did not mention a graveyard, and the radar did not detect one, Gary said.

But Gary said archaeologists suspected a cemetery might be there, partly because they had heard of a congregant who, in the 1950s, told church leaders building an annex that her great-grandfather was buried on the grounds.

When the graves were found, the project was paused, and the foundation sought advice from members of the church.

“We are very much guided by the descendant community,” Fleet said in a telephone interview. “We’re telling the history of America, but we’re also telling the history of their ancestors.”

Excavation Of Graves Begins At Historic Black Church In Virginia

Joseph Jones, a research associate at William & Mary’s Institute for Historical Biology, said the excavation coincides with increasing “introspection about how to ethically treat skeleton remains.”

This is “an excellent example of how we as researchers can go to a community, [and] say, ‘Here is our expertise, our tool kit, and we want to put these in your employ,’ ” he said. “What questions are important to you?”

Of the graves found so far, three have been excavated. Three skeletons have been found, along with several metal buttons and the outlines of three hexagonal coffins.

The broken bottle remains a mystery. It is not rubbish, and may denote a person of importance in the community, Gary said.

DNA On Ancient Tobacco Pipe Links Maryland Slave Site To West Africa

Bone samples have been taken from the skulls of each individual, in the hope that DNA might be extracted and eventually compared to the DNA of members of the community.

No community DNA has been donated for comparison yet, and some people would like all the graves excavated.

But Raquel Fleskes, a University of Connecticut specialist in colonial-era DNA and descendant communities, said the team must see whether DNA can be extracted from the first three sets of bones.

Sometimes DNA does not survive in an old burial, especially in the heavy, wet and acidic clay soil around Williamsburg, she said in a recent telephone interview. "Right now, we're kind of calling this the pilot phase," she said.

The bone samples have been taken to the University of Connecticut, where they will be ground into powder and undergo the complex attempt at DNA extraction, she said.

"Before undertaking a very large-scale project and disturbing all these burials, we wanted to make sure that it was not going to be for naught," she said.

Results are not expected for several months, she said.

'The Story Is Still Here'

Back at the church, Bobby Braxton, wearing a blue blazer and brown-rimmed glasses, sat in a pew by himself as the Rev. Juanita Graham, an associate minister, read from the Bible's Psalm 34: "I sought the Lord, and he heard me ..."

Above Braxton in the steeple was the 150-year-old bell, which was made in 1871 and was salvaged from the old church. (In 2016, the bell was rung in Washington, officially opening the Smithsonian Institution's National Museum of African American History and Culture.)

In the museum downstairs lay threadbare copies of the Baptist Hymnal, probably from the old church.

Around the corner on Braxton Court was the house where he grew up, and, beside that, his grandfather's house, which he renovated and now lives in.

Braxton, a dapper man, said that after being raised in Williamsburg, he moved to Columbia, Md., and worked as an engineer for Westinghouse for several decades.

He then came back, bought his grandfather's house and won a seat on the Williamsburg City Council.

"This is my home," he said.

"Some people have said, 'Oh yeah, [Colonial Williamsburg] took advantage of us,' " he said. "No they didn't. You go look at that church. You look at all the land that we have. ... And you make a decision yourself."

Still, Braxton visits the dig site almost daily to see what it has revealed. He is proud of his family's place in the Williamsburg story and says he has tried to preserve his links to the past.

When he had his grandfather's house renovated, he told the workmen not to alter the wood banister on the stairs going up to the second floor.

"My mother and father, my grandmother and grandfather, and my great grandmother all went up and down those stairs, holding on to that banister," he said in a recent interview on his front porch.

As the church service ended, the pastor, the Rev. Reginald F. Davis, gave thanks. The congregation sang, "Amen." And people began to file out through the white front doors.

Associate minister Grace paused to talk about the old Black Williamsburg she knew growing up.

Scotland Street, where the church stands, had numerous Black businesses, she said.

There was Mr. Webb's corner store, where, as a child, she would buy candy for a few pennies. There was a shoe store and a barber shop.

"To be able to walk this street and see nothing but African American progress when I was coming up, that's what gave me, helped me build, character," she said. "I was proud that I was a Black person."

She said she seldom left the Black community and was sheltered from racism. But when as a 14-year-old she started working at a Williamsburg hotel as a bus girl, she ran into it head-on.

“I noticed how White people treated me,” she said. “They were disrespectful, wouldn’t leave tips. The first week I was in tears. Because I had never experienced anything like that.”

She put up with it.

“But I always told my Momma, I said, ‘When I get of age, I am going to leave Williamsburg and I am never coming back,’” she said. “I didn’t realize, when [you leave] you run into the same thing.”

She said she left town in 1983, moved to Atlanta and lived there for 38 years. She was a procurement analyst and retired from the Centers for Disease Control and Prevention.

On a visit home a few years ago, she said she heard about two old tombstones that had recently been unearthed elsewhere in Williamsburg and were being presented to the church. She discovered that they bore the names of some of her ancestors.

She realized that her roots here were deeper than she knew.

“I made up my mind right then,” she said. “I said, ‘I’m coming back. ... This is my family. I’m coming back, and I’m going to stand up for my family.’” Five years ago, she returned to Williamsburg.

The tombstones are now in the church’s museum, along with pictures and artifacts from the 1856 First Baptist Church. One black-and-white photo shows the inside of the old church, crowded with people. An infant is held by a man in the front pew.

“That baby right there,” she said. “That’s me.”

Now graves are being unearthed where that picture was taken.

“We’re coming back,” she said. “You’re uncovering us. You have to pay attention. You can’t ignore us anymore.” ●

NEW SATELLITE MAPPING WITH AI CAN QUICKLY PINPOINT HURRICANE DAMAGE ACROSS AN ENTIRE STATE TO SPOT WHERE PEOPLE MAY BE TRAPPED

By Zhe Zhu and Su Ye

Hurricane Ian left an extraordinarily broad path of destruction across much of South Florida. That was evident in reports from the ground, but it also shows up in satellite data. Using a new method, our team of spatial and environmental analysts was able to quickly provide a rare big picture view of damage across the entire state.

State of Florida with red dots across a large swath of the state from Charlotte Harbor to the Space Coast and for large distances on either side showing likely damage

Satellite images and artificial intelligence reveal Hurricane Ian’s widespread damage. The dark areas have a high probability of damage. Su Ye

By using satellite images from before the storm and real-time images from four satellite sensors, together with artificial intelligence, we created a disaster monitoring system that can map damage in 30-meter resolution and continuously update the data.

It’s a snapshot of what faster, more targeted disaster monitoring can look like in the future – and something that could eventually be deployed nationwide.

How Artificial Intelligence Spots The Damage

Satellites are already used to identify high-risk areas for floods, wildfires, landslides and other disasters, and to pinpoint the damage after these disasters. But most satellite-based disaster management approaches rely on visually assessing the latest images, one neighborhood at a time.

Our technique automatically compares pre-storm images with current satellite images to spot anomalies quickly over large areas. Those anomalies might be sand or water where that sand or water shouldn't be, or heavily damaged roofs that don't match their pre-storm appearance. Each area with a significant anomaly is flagged in yellow.

Five days after Ian lashed Florida, the map showed yellow alert polygons all over South Florida. We found that it could spot patches of damage with about 84% accuracy.

A natural disaster like a hurricane or tornado often leaves behind large areas of spectral change at the surface, meaning changes in how light reflects off whatever is there, such as houses, ground or water. Our algorithm compares the reflectance in models based on pre-storm images with reflectance after the storm.

The system spots both changes in physical properties of natural areas, such as changes in wetness or brightness, and the overall intensity of the change. An increase in brightness often is related to exposed sand or bare land due to hurricane damage.

Using a machine-learning model, we can use those images to predict disturbance probabilities, which measures the influences of natural disaster on land surfaces. This approach allows us to automate disaster mapping and provide full coverage of an entire state as soon as the satellite data is released.

The system uses data from four satellites, Landsat 8 and Landsat 9, both operated by NASA and the U.S. Geological Survey, and Sentinel 2A and Sentinel 2B, launched as part of the European Commission's Copernicus program.

Real-Time Monitoring, Nationwide

Extreme storms with destructive flooding have been documented with increasing frequency over large parts of the globe in recent years.

While disaster response teams can rely on airplane surveillance and drones to pinpoint damage in small areas, it's much harder to see the big picture in a widespread disaster like hurricanes and other tropical cyclones, and time is of the essence. Our system provides a fast approach using free government-produced images to see the big picture. One current

drawback is the timing of those images, which often aren't released publicly until a few days after the disaster.

We are now working on developing near real-time monitoring of the whole conterminous United States to quickly provide the most up-to-date land information for the next natural disaster. ●

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HAZARDOUS MOLD OUTBREAK TRIGGERS ARMY ORDER TO INSPECT ALL BARRACKS, OFFICES

By Tom Vanden Brook

WASHINGTON – The Army has issued an order to inspect all its buildings around the world for mold after outbreaks at bases have left barracks uninhabitable, forcing soldiers into temporary housing.

The executive order issued by the Army headquarters at the Pentagon requires commanders to inspect 100% of barracks, family housing and offices for active duty soldiers by Nov. 18 for "unhealthy, unsafe, substandard living conditions."

More orders will be coming for the Army Reserve and National Guard, Rachel Jacobson, assistant Army secretary for installations, energy and environment, told USA TODAY on Monday. The Army considers mold, like other threats to soldiers' health and safety, to be an emergency, she said. Barracks, where soldiers sleep and live, are the top priority for inspection, she said.

Mold has become a widespread problem for the Army – and a potentially hazardous one. Mold can cause mild to severe health problems for sensitive people when enough spores are inhaled, according to the Occupational Safety and Health Administration.

A mold outbreak at Fort Bragg in North Carolina forced the Army last month to relocate more than 1,000

soldiers from their barracks into temporary housing. Fort Stewart in Georgia and Fort Meade in Maryland are among the other Army posts with mold problems.

Fort Bragg in Fayetteville, N.C., is named for Braxton Bragg, who led Confederate troops.

Mold outbreaks occur after flooding and around leaky pipes, roofs and windows. Mold can grow on wood, drywall, fabric and ceiling tiles, its smell becoming evident after it spreads. Mold can cause itchy eyes, sneezing and more severe reactions with allergies or asthma, according to the Centers for Disease Control and Prevention.

Some people living or working inside buildings with conditions that grow mold can become chronically ill with respiratory disease in as little as six months, said Paula Schenck, an environmental health specialist and expert on indoor environments at the University of Connecticut. Those with asthma are at risk from day one, she said.

Water damage, leaky pipes and high humidity indoors can create a "biological soup" of mold, dust mites, cockroach proteins and mice dander that can sicken people, she said. Fixing those problems promptly is essential, and the Army should be saluted for recognizing the issue, she said.

Infants, children, the elderly, those with asthma and other lung diseases and people with weakened immune systems are at greatest risk of harm from exposure to mold, according to the Occupational Health and Safety Administration.

Mold has long been a problem in barracks, mostly occupied by young, single soldiers, and in family housing, said a soldier at a base affected by mold. Mold is "caked" on walls and ceilings where soldiers are required to work, said the soldier, who spoke on condition of anonymity for fear of retaliation.

It's difficult to directly trace mold to illnesses, the soldier said. But it is suspected of sickening a dozen soldiers recently. The soldiers have respiratory infections and had been exposed to mold daily, he said.

Determining the extent of the Army's problem requires a massive undertaking, said Richard Shaughnessy, director of the University of Tulsa Indoor Air Program. Qualified inspectors will be need to assess the extent of

mold infestations. Judgements will need to be made on remediation, which can require gutting some buildings.

Shoddy, low-cost building leads to leaks and condensation that can accelerate old growth, he said. Flooding that isn't promptly addressed is another cause.

"It's not rocket science to figure out if you have moisture, condensation, or physical intrusion, like flooding," Shaughnessy said. "Depending on how that moisture is dealt with, you can have mold."

Name change: American 'heroes' nominated to replace Confederate officers' names on Army bases

If mold is found, commanders are instructed to submit requests for remediation, according to the order. The Army will use the inspections to determine buildings that require renovation or have to be razed and replaced because of mold damage, Jacobson said.

There are no cost estimates yet for repairing damage from mold, she said.

"The priority now is our people and taking care of our people, and making sure that our soldiers and families have a healthy and safe environment to live in," Jacobson said. ●

PBS DOCS DEPICT FREDERICK DOUGLASS' AND HARRIET TUBMAN'S PATHS OF FREEDOM, FAITH

'Religion for both Harriet Tubman and Frederick Douglass was the foundation in many ways of who they are,' said co-director Stanley Nelson.

By Adelle M. Banks

(RNS) — Frederick Douglass called the Bible one of his most important resources and was involved in Black church circles as he spent his life working to end what he called the “peculiar institution” of slavery.

Harriet Tubman sensed divine inspiration amid her actions to free herself and dozens of others who had been enslaved in the American South.

The two abolitionists are subjects of a twin set of documentaries, “Becoming Frederick Douglass” and “Harriet Tubman: Visions of Freedom,” co-productions of Maryland Public Television and Firelight Films and released by PBS this month (October).

“I think that the faith journey of both Harriet Tubman and Frederick Douglass were a huge part of their story,” Stanley Nelson, co-director with Nicole London of the two hourlong films, said in an interview with Religion News Service.

“Religion for both Harriet Tubman and Frederick Douglass was the foundation in many ways of who they are.”

The films, whose production took more than three years in part due to a COVID-19 hiatus, detail the horrors of slavery both Tubman and Douglass witnessed. Tubman saw her sister being sold to a new enslaver and torn away from her children. A young

Douglass hid in a closet as he watched his aunt being beaten. They each expressed beliefs in the providence of God playing a role in the gaining of their freedom.

Scholars in both films spoke of the faith of these “original abolitionists,” as University of Connecticut historian Manisha Sinha called people like Tubman, who took to pulpits and lecterns as they strove to end the ownership of members of their race and sought to convince white people to join their cause.

“The Bible was foundational to Douglass as a writer, orator, and activist,” Harvard University scholar John Stauffer told Religion News Service in an email, expanding on his comments in the film about the onetime lay preacher. “It influenced him probably more than any other single work.”

Stauffer said the holy book, which shaped Douglass’ talks and writings, was the subject of lessons at a Sunday school he organized to teach other slaves.

“It’s impossible to appreciate or understand Douglass without recognizing the enormous influence the Bible had on him and his extraordinary knowledge of it,” Stauffer added.

Actor Wendell Pierce provides the voice of Douglass in the films, quoting him saying in an autobiography that William Lloyd Garrison’s weekly abolitionist newspaper The Liberator “took a place in my heart second only to the Bible.”

The documentary notes that Douglass was part of Baltimore’s African Methodist Episcopal Church circles that included many free Black people. Scholars say he met his future wife Anna Murray, who encouraged him to pursue his own freedom, in that city.

“The AME Church was central in not only creating a space for African Americans to worship but creating a network of support for African Americans who were committed to anti-slavery,” said Georgetown University historian Marcia Chatelain, in the film.

The Douglass documentary is set to premiere Tuesday (Oct. 11) on PBS. It and the Tubman documentary, which first aired Oct. 4, will be available to stream for free for 30 days on PBS.org and the PBS video app after their initial air dates. After streaming on PBS’ website and other locations for a month, the films, which include footage from Maryland’s Eastern Shore where

both Douglass and Tubman were born, will then be available on PBS Passport.

The Tubman documentary opens with her words, spoken by actress Alfre Woodard.

“God’s time is always near,” she says, in words she told writer Ednah Dow Littlehale Cheney around 1850. “He set the North Star in the heavens. He gave me the strength in my limbs. He meant I should be free.”

Tubman, who early in life sustained a serious injury and experienced subsequent seizures and serious headaches, often had visions she interpreted as “signposts from God,” said Rutgers University historian Erica A. Dunbar in the film.

The woman known as “Moses” freed slaves by leading them through nighttime escapes and later as a scout for the Union Army in the Civil War.

“She never accepted praise or responsibility, even, for these great feats,” Dunbar said. “She always saw herself as a vessel of her God.”

But, nevertheless, praise for Tubman came from Douglass, who noted in an 1868 letter to her that while his work was often public, hers was primarily in secret, recognized only by the “heartfelt, ‘God bless you’” from people she had helped reach freedom.

Nelson, a religiously unaffiliated man who created films about the mission work of the United Methodist Church early in his career, said the documentary helps shed light on the importance faith held for Tubman.

“It’s something that most people don’t know and so many people who see the film for the first time are kind of surprised at that,” he said in an interview. “She felt she was guided by a divine spirit and the spirit told her what to do.” ●

OPINION: WHY I HOPE 2022 WILL BE ANOTHER 1866

By Manisha Sinha

CNN — Midterm elections are usually not history-making stuff. Few have been memorable. But in the 2022 midterms, as in the 1866 elections, the fate of American democracy hangs in the balance. If there is a moment from history that our current political moment most resembles, it is the 1866 midterm elections, held a year after the end of the Civil War.

The party in power has historically lost midterm elections with a few exceptions. Political pundits have repeated this conventional wisdom this year, with predictions of a November debacle for Democrats.

Things looked a bit different recently. The Biden administration’s considerable legislative successes, the tamping down of gas prices until the slowdown of oil production by Russia and OPEC countries, and the forgiveness of some student loans, combined with the Supreme Court’s unprecedented Dobbs decision, the never-ending saga of Trump’s legal troubles and extremists running on the Republican ticket have leveled the playing field somewhat despite Republicans blaming global inflation on the Biden-Harris administration and playing to fears about crime.

Though predictions of doom have been tempered, professional pollsters still give the GOP control of the House of Representatives in the midterms and now predict that the Republicans might yet take the Senate. A massive Democratic wave would also be needed to combat furious gerrymandering, proposed election meddling procedures and voter suppression laws in red states.

We must hope that the midterm elections of 2022 might engender that unusual political wave and resemble the 1866 midterms, when the party in power, the Republicans in this instance, won decisive majorities in both houses of Congress. (The two political parties have long since flipped political and ideological roles.)

In 1866, as now, the nation faced a rogue President, who incited and condoned political violence. Though in the present case, Trump, unlike Andrew Johnson, is no longer in office. While complaining of persecution, Trump recently signaled support for paranoid QAnon conspiracies.

Johnson called abolitionists and congressional Republicans rather than ex-Confederates “enemies” and “traitors” in his infamous “swing around the circle” midterm campaign tour in 1866. Republican Carl Schurz noted that he had “stimulated the most dangerous reactionary tendencies to more reckless and baneful activity.” These words ring true today.

Then, as now, armed paramilitary groups threatened the country. The Ku Klux Klan was founded after the Civil War and during the bloody summer of 1866, racists and ex-Confederates attacked freed people and Unionists in Memphis, Tennessee, and New Orleans. The January 6 insurrection by a violent mob of Trump supporters was as much a wake-up call for the nation as the Memphis and New Orleans massacres. Congressional investigations of these two riots — like the January 6 commission’s hearings — were eye-opening for many Americans.

During Reconstruction, the period when Congress tried to establish an interracial democracy in the South, the Democratic Party developed an armed wing for its campaign of domestic political terror. President Joe Biden has called out the philosophy of the MAGA wing of the Republican Party as “semi-fascism.” Sycophantic GOP Sen. Lindsey Graham of South Carolina has predicted bloodshed in the streets if Trump is held accountable for taking top secret national security documents. A fellow South Carolinian and Graham predecessor in the US Senate, Ben Tillman (who served from 1895 to 1918) went as far as personally committing acts of violence against Black people and his political opponents.

Then as now, the American republic had been saved from grave danger, the slaveholders’ rebellion in 1865 and Trump’s dangerous efforts to keep power in 2020. But instead of conceding defeat, both former Confederates then and Trump’s loyalists now doubled down on their folly. Some Republican candidates still aspire to overturn the results of the presidential election of 2020, just as unrepentant Confederates wanted to undo the results of the Civil War. A stolen

election is the new lost cause mythology for many Republicans.

During 1865-1866, ex-Confederate states passed “Black Codes” that sought to put former slaves to as close a state to slavery as possible, kidnapping Black children for their labor, denying African Americans the due process of the law and restricting their mobility and employment. In 2022, GOP state legislatures are passing draconian laws against abortion, at times with no exceptions for rape, incest or the mother’s life. To most Northerners, the Black Codes made a mockery of emancipation and challenged the results of a hard-fought war, just as anti-abortion laws are criminalizing women’s long held right to bodily autonomy.

It is highly likely that the massive reaction the Black Codes engendered in the North in 1866 will be replicated in 2022, especially among women voters who are out-registering men this election. It is an irony of history that the 14th Amendment ratified in 1868 to protect the rights of former slaves is the amendment from which we derive our modern rights, including the right to privacy that legalized abortion, same-sex marriage and the outlawing of gender-based discrimination.

Will 2022 replicate 1866? As a historian, as a woman and as a citizen, I can only hope that it does. On emancipation, Southern elites threatened that freed people would swarm the North. Today, Republican Govs. Ron DeSantis of Florida and Greg Abbott of Texas are using migrants as human pawns by transporting them to blue states in a sick political stunt.

Americans need history not just to understand the present but also as a guide to the future. In 1866, congressional Republicans passed the first federal civil rights law. A similar victory in 2022 could lead to federal laws protecting the right to vote and abortion if the Democrats can hold the House against all odds and a slightly bigger Democratic majority could get rid of the filibuster in the Senate. Then as now democracy is at stake. ●

THE KILLING OF DOM AND BRUNO

My friend Dom Phillips and activist Bruno Pereira were shot dead in the Amazon. I traveled deep into the forest to find out why.

By Terrence McCoy

ATALAIA DO NORTE, Brazil — There's nowhere to hide on the water. Looking out from stilt houses high atop the bluffs, the river dwellers have a clear view of everything that putters down the Itaquai. Nothing goes by unnoticed, not even the small aluminum motorboat that rounded the bend here early one Sunday in June.

The boat carried two men. One was Bruno Pereira, an activist investigating poachers in the nearby Indigenous territory. The other was Dom Phillips, a British journalist documenting his work. The men had left their Amazon rainforest encampment at dawn — early enough, they believed, to sneak past the river community where some of the poachers lived and make it back to town.

But a poacher known as Pelado was already awake. The wiry and hardened fisherman was standing outside his wood-plank house above the water filling a canister with gasoline, according to a confession he gave to police, when he spotted the boat.

He didn't know Dom. But he recognized the bearish man piloting the vessel. It was his nemesis, the man he'd allegedly told others he wanted to shoot: Bruno.

Pelado put down the canister. He went to fetch his gun.

"There he goes," he called to another fisherman, he later told police. "Let's go kill him."

Pelado and the other man headed down to the river, each carrying a 16-gauge shotgun. They climbed into Pelado's boat and took off after the two men, vanishing around the river bend and setting in motion a series of events that would shock the country, draw worldwide attention to the criminal dismantling of the Amazon, and grow grimmer by the day. First, the disappearances of Dom and Bruno. Then the frantic searches. Then days of taut uncertainty. And finally the arrests, confessions

and morbid revelations: Dom and Bruno had been shot dead, burned, dismembered and buried deep in the forest.

Prosecutors have filed murder charges against Pelado, who led investigators to the remains; his brother Oseney da Costa de Oliveira; and Jefferson da Silva Lima, the fisherman who accompanied Pelado. Five more inhabitants of the river community were accused by police of helping to hide the bodies. This was not an act committed by one solitary individual, police say. It was a community affair.

The details haunted me then, just as they haunt me now. I knew both of the men who were killed. Bruno, 41, had been a senior official at Funai, Brazil's Indigenous affairs agency. He had once overseen its operations in the remote Javari Valley region where he was killed. And Dom, 57, was a friend. I remember his warmth and kindness the first time I spoke to him in 2014, when he was a Brazil-based contract writer for The Washington Post and I'd just started as a reporter for the paper. He was one of the first people I contacted when I came here as The Post's new Rio de Janeiro bureau chief, and he immediately invited my wife, Emily, and me out to meet the other foreign journalists. I spoke with Dom just two weeks before his death.

For months, I couldn't stop thinking about their killings. Not only because I'd known the two men, and had frequently taken the same risks that led to Dom's death, but also because I couldn't make sense of what had happened.

What had fed Pelado's hatred? What had driven a fisherman deep in the rainforest to kill two people out in the open — and believe he could get away with it?

President Jair Bolsonaro, a longtime critic of Indigenous protections, sought to blame the men for their own deaths — what happens when an "adventure" goes wrong in a "completely wild" region. The country's vice president pinned the attack on alcohol, saying the killers had probably been drinking.

But a review of official records, interviews with dozens of people and a journey down the Itaquai show that such explanations serve only to obscure the government negligence that enabled the killings. In recent years, the government has reduced its presence in the region, leaving the Javari Valley Indigenous Territory and its 6,000 inhabitants more vulnerable to

outsiders. It then did little to address what followed: a surge in invasions by armed poachers, threats against the depleted security forces left behind, and the 2019 killing of a federal official investigating illegal fishing.

And then, when an Indigenous group moved to fill the void, enlisting Bruno to lead an Indigenous patrol team, authorities neither responded to threats made against the surveillance scouts nor dismantled the poaching network they exposed.

At its most basic interpretation, what led to the killings was the simple human motivations of hatred and greed. But the story of the deaths of Dom and Bruno also betrays the broader forces fueling the destruction of the Amazon.

Those elements — nearsighted government policies, weakened law enforcement institutions, criminal impunity — also propelled this story forward, until the end came and the lives of three very different men converged, out there along an isolated stretch of the Itaquai, where the river bends and no witnesses could be left living.

CHAPTER 2

The man known as Pelado was born Amarildo da Costa Oliveira and raised in a time of conflict along the northern crest of the vast Javari Valley, home to the world's largest concentration of uncontacted peoples. His community was at war with an isolated tribe just beyond the confluence of the Ituí and Itaquai rivers.

The river dwellers, lured by a government promise of jobs and wealth, had come to settle this distant part of the Amazon along the borders of Peru and Colombia. But much of it was already occupied. The isolated Korubo, a warrior people who carried long wooden clubs, were waging a failing resistance.

Terrence McCoy, The Washington Post's Rio de Janeiro bureau chief, interviewed 51 people with knowledge of the killings and region and traveled down the Amazon River to the remote location where Dom Phillips and Bruno Pereira were shot to death. Defense attorney Aldo Raphael Mota de Oliveira declined to make the men charged in the killings available for comment. He said that Amarildo da Costa Oliveira and Jefferson da Silva Lima have confessed to the killings but that Oseney da Costa de Oliveira denies the allegations. Neither Funai, the Brazilian Indigenous affairs agency,

nor the national security forces responded to requests for comment.

The years of Pelado's childhood were filled with reports of killings, attacks and counterattacks, men skinned and Indigenous people massacred — constant violence that molded his community's perception of the world. "We are civilized; we are not Indians," said Alzenira do Nascimento Gomes, Pelado's aunt, who helped raise him. "The Korubo are killers."

In 1989, when Pelado was 9, a relative named Sebastião Costa heard that four Korubo had been near his house. The community was "terrified," federal investigators wrote in a report on the incident. That night, Costa organized a group of 15 armed men to drive the Korubo off. They killed three, the investigators reported. One was shot in the chest. Two in the back. Fearful of reprisal, the river dwellers hid the evidence, throwing the bodies in a common grave. (Costa denied involvement in the killings. He has since died.)

The killings disturbed authorities. Funai had named the Javari Valley a protected reserve for its Indigenous population in 1985, drawing its first territorial lines. But the agency wasn't enforcing the boundaries. Settlers were still plundering the valley's resources freely, inciting more violence. A base for Funai agents was built at the confluence of the Ituí and Itaquai, closing off the main entry point into the valley in 1996. Federal forces then swept the territory. They removed any settlers living inside. Many had been there for years and ended up along the riverbanks just outside the reserve. Many were related to Pelado.

"Our fields, homes — we lost everything," said Pelado's brother-in-law, Manuel Vladimir Oliveira da Costa. "Whatever we had was inside."

Grievance over the valley's closure led about 300 settlers to go to the confluence and surround the Funai base in February 2000. Calling themselves "the riverless," they demanded the removal of the Funai forces and the authority to take what they wanted from the Indigenous territory, police reported at the time. Some held molotov cocktails. Others charged the base to retrieve confiscated fishing equipment.

It was a standoff, but some federal officials were sympathetic to the settlers. "We can't deny their poverty," Mauro Sposito, a detective with the federal police, wrote to his superiors. Prohibiting entry had left

“innumerable families ... with no alternatives for survival.” If nothing was done, he warned, “there will not be peace.”

But little help arrived. The territorial lines of the Javari Valley were made permanent in 2001. And a hatred began to grow in the river communities. Toward not just the Indigenous people with whom they had warred, but also their protectors in Funai.

CHAPTER 3

The uneasy new order was soon put to a test. In the summer of 2002, Funai needed the help of the river communities. The agency was plotting an expedition into the valley’s wilds to find an uncontacted people named the “flecheiros” — people of the arrow — and draw their territorial lines. It needed to recruit several master woodsmen to act as guides.

One was Pelado.

Paulo Welker, an expedition captain, looked along the Itaquaí for men who could withstand the mental and physical strain of three months in the jungle. He remembered Pelado — 21 years old, athletic, always smiling — as the perfect candidate. He could build canoes. Pilot tough river passages. Hunt and deftly wield an ax. Welker quickly hired him.

“Extremely agile and dedicated,” he said. “Anything you needed help with, he’d do.”

He paused.

“At the time,” he said, “I had no idea I had just arrested his uncle for illegal hunting inside the territory.”

Indigenous families living on the banks of the Javari River.

It was a potentially volatile mix. Indigenous people and government experts would be working with river dwellers — a group normally hostile to them — and journeying hundreds of miles into the jungle. “The river communities view the Indigenous experts with hostility,” author Leonencio Nossa wrote in a book about the mission. And few of the woodsmen, he wrote, would “refuse an invitation to hunt Indians.”

Pelado and the other river dwellers rarely spoke to the Indigenous people. At dusk, each group clustered in its own camp. One night, in the dense forest, Pelado

started to scream. He was dreaming that flecheiro warriors had infiltrated the camp, carrying axes and machetes. He yelled at them to drop their weapons.

“He woke up everyone,” Nossa recalled. “There was a fear there.”

Pelado kept that fear mostly hidden beneath smiles and an apparent desire to please. But one night around the fire, journalist Scott Wallace witnessed a different Pelado. The young man was talking about a frightful incident. Shortly before the journey, he’d been held up by bandits. Afterward, he’d wanted revenge, to “break” the men. Wallace asked what he meant. “ ‘Kill them,’ ” he said.

“That was when I began to think maybe Pelado isn’t the happy-go-lucky guy that I first thought,” said Wallace, now a journalism professor at the University of Connecticut.

As years went by, as Pelado married and had five children, the challenges of the river exacted their toll and the easy smiles of his youth largely disappeared, friends and family said. Many river dwellers were embittered by the territory’s closure. But Pelado particularly was. He started sneaking past the Funai base to fish in prohibited waters. There was money to be made.

In the past two decades, an illegal fishing industry had taken off. Restaurants and markets in Brazil, Peru and Colombia were selling protected fish and turtles. Fishermen believed the best catch was in the Javari Valley. Law enforcement officials say a local crime boss started buying equipment for river people to increase their haul and then sell to him. Pelado got a speedy fishing boat with a 60-horsepower motor, and soon built himself another house, in the nearby river town of Benjamin Constant.

One relative, speaking on the condition of anonymity out of fear for his safety, said Pelado’s ambitions were larger. The law enforcement presence was waning. The environmental agency Ibama had closed its regional base in 2018. Funai was cutting its patrol missions. In a territory nearly the size of Portugal, financial records show, the agency spent less than \$250,000 in 2020 on law enforcement. The government, which never had a large presence in the region, seemed vulnerable.

Pelado got his gun. At night, people who know him said, he started shooting at the Funai base. He cursed the agency. "He was very aggressive," the relative said. "Very."

One night, the relative watched him drink in a bar. Pelado said there was one last thing holding him back. A local Indigenous association, the Javari Valley Indigenous Peoples Union, had started patrolling the rivers. The effort was led by a man Pelado already knew: Bruno, the former regional director of Funai.

"He said, 'If we kill Bruno, we'll be the bosses of everything here.'"

Then: " 'I'm going to kill him.' "

CHAPTER 4

When I heard Dom and Bruno were missing, I called everyone I knew in the region. The announcement by the Indigenous union had been troubling. The patrol team that the two men were visiting had received threats shortly before Dom and Bruno failed to show up as expected in the city of Atalaia do Norte. But I tried to hope for the best. There's little cellphone service in the Amazon. It's not unusual for hours, even days, to pass without hearing from someone.

Then night fell. I messaged Eliesio Marubo, the attorney for the Indigenous union and a member of the Marubo people. I told him I was nervous. Dom was an experienced journalist who'd lived in Brazil for 15 years. He'd been all over the Amazon. But the region was swarming with drug traffickers and environmental criminals. Marubo himself rarely went anywhere without an armed guard. What did he think happened?

"They definitely suffered an attack," Marubo wrote back.

The next morning, I received a string of audio messages. They were from Orlando Possuelo, another activist who led the Indigenous patrol team with Bruno. The normally jovial Possuelo sounded exhausted, defeated. Bruno and Dom's disappearance had become a global news story. Possuelo said security forces were arriving from all over. But he wasn't optimistic. The first to report the men missing, he'd already scoured the Itaquaiá. One river dweller had told him he'd seen a large boat following Dom and Bruno — Pelado's boat.

Orlando Possuelo, 38, who led the Indigenous surveillance team alongside Bruno, has also received death threats.

"I just stood there, without hope," Possuelo said. It was Pelado who had threatened the surveillance team days before. Dom and Bruno, he said, were very likely dead.

None of this information was yet public. I planned to write a story. But first, I called Dom's wife, Alessandra Sampaio. I didn't know what to say, but knew she had to hear this from me rather than read it in the newspaper. As the phone rang, I thought about the last time I'd seen her. Dom loved soccer, and we'd gone to a hilltop bar in Rio to watch the Brazilian club Flamengo play Liverpool. Flamengo lost, 1-0, and other patrons were furious, but Alessandra didn't seem to care. She'd been vibrant that night, joking and laughing the entire time.

Now her voice was catching.

She was sitting in her apartment, waiting for news. I told her what I'd learned. People didn't think Dom and Bruno were coming home. She absorbed the information. But she wasn't ready to accept it, at least not yet. There was still this image in her head. It was Dom, and he was injured in the woods. Night was descending. And she couldn't get to him. She started to weep.

"This is anguishing," she said. "The river is full of traffickers and loggers. Life doesn't have any value to them. They kill for nothing."

"They need help. I need help."

CHAPTER 5

Few people knew the dangers and difficulties of the region better than Bruno. He had come to the valley in 2010 to work at the Funai regional office. It's not an easy posting. The remote city of Atalaia do Norte has limited medical facilities and school options. The internet rarely works. But Bruno requested the slot. He wanted to protect isolated Indigenous communities, and the Javari Valley was where they were particularly vulnerable.

“He kept saying we need to protect the isolated Indians,” said Danielle Moreira, a friend. “He was such an Indigenista that he could have only been born that way.”

Named Funai’s regional coordinator for the Javari Valley in April 2012, Bruno obsessed over territorial security. The vastness of the reserve belied its vulnerability. Many of the rivers that veined the land were unpatrolled. Invaders were exploiting the Curuçá River, so Bruno opened a base there. Then he increased law enforcement. Between 2012 and 2015, according to Funai records, his team stopped at least 45 boats and seized thousands of pounds of wildlife.

Threats followed, but Bruno didn’t stop. He instead bought a gun. From then on, he carried a chrome .380 Taurus.

If they come shooting, he told friends, at least I’ll be able to defend myself.

But in truth, few worried. At that time, the Funai office had security. The support of the armed forces. And a fiery leader in Bruno, who was uncowed, stringing together successes that would make him one of Brazil’s most renowned Indigenistas. He led daring expeditions to make contact with isolated groups. He helped negotiate a truce between the warring Korubo and Matis in 2014. And he learned to speak four Indigenous languages. Then came a promotion and a transfer to Brasília, where he became national director of the department for the isolated Indigenous.

“That was when more of the problems started,” said Beatriz Matos, his wife.

National politics were shifting. With the 2016 impeachment of President Dilma Rousseff, the leftists who had governed Brazil for 14 years were replaced by leaders who were more likely to see the rainforest as a resource to be tapped, not preserved.

Funai’s budget was slashed. The number of agents dropped to a 25-year low. And the country was soon in the thrall of Bolsonaro, who was promising to “take a scythe to Funai.” The bellicose rhetoric seemed to encourage invasions of the Indigenous territories, which surged all over the country, including in the Javari Valley. The prospect of violence against Funai workers, once remote, suddenly seemed likely.

“The reality has changed,” Funai officials in the valley wrote in a 2019 technical report.

Weeks after Bolsonaro’s election in 2018, poachers attacked the river base on the Ituí and Itaquai. The first assault came in the middle of the night, when the base was riddled with at least 17 shots. Then it happened again and again. Within a year, poachers had opened fire on the base at least eight times, instilling a “collective feeling of insecurity,” wrote 11 Funai agents, including Bruno. They said that they’d been forced to abandon many law enforcement duties out of fear of being killed and that they needed help.

“There have never been reports of such intense pressure against Funai,” the agents wrote. “But nothing has been even minimally altered, and no word has come as to additional support.

One agent who never stopped working was Maxciel Pereira. Set to take regional command over the river bases, Pereira continued to seize illegally caught fish on the Itaquai. Shortly after one apprehension, in September 2019, he returned home. That evening, he was sitting on his motorcycle when he was approached from behind and, in front of his wife and stepdaughter, shot twice in the back of the head.

“Killed like an animal,” said his mother, Noemia Pereira dos Santos. “Like he wasn’t even a person.”

Weeks after that killing, Bruno was removed from his leadership position and soon replaced by a former missionary who had proselytized in Indigenous communities. Bruno requested leave from the agency. Citing the death of his friend Pereira, the “climate of tension” and the “fragility of the entire Indigenista agency,” he wrote that he needed a break.

He was done with Funai. But not the mission.

Bruno had once overseen operations at the Funai base that guards the entrance to the Javari Valley Indigenous Territory.

CHAPTER 6

Paulo Marubo watched the rising violence, increasingly worried. In Atalaia do Norte, he was hearing that Funai was finished, and everything the director of the Javari Valley Indigenous union saw seemed to confirm the contention. Funai had failed to stop the attacks on its base, arresting not one person. Its new Bolsonaro-

appointed director was installing inexperienced loyalists throughout the agency. And it seemed powerless to stop the poaching incursions.

“So I thought, ‘Let’s do it ourselves,’ ” Marubo said.

Marubo toured other Indigenous territories to see how they defended themselves. From those visits rose the idea of a patrol team. It seemed simple: Perform the work that Funai wasn’t doing. Equip Indigenous scouts with cameras, drones and satellite trackers. Send them out to monitor the poachers, mark their locations and obtain identifying details. Then give the findings to authorities so they could make arrests.

One of Marubo’s first calls was to Bruno — “the only White person I’ve ever met who was really worried about the people of the Javari.” For Bruno, it was an opportunity to return to the field. His wife encouraged him to take the job.

“He was really unhappy in Brasília,” she said. “This was a chance to do what he most enjoyed: go into the forest with the Indigenous.”

With funding from the U.S.-based Indigenous advocacy organization Nia Tero, they prepared for months. The first mission came in August 2021. Directed by Bruno and Possuelo, a patrol team of 18 headed up the Ituí and Itaquai in three aluminum boats and took pictures. In the months that followed, the surveillance squad returned repeatedly to the rivers. They discovered the streams poachers navigated to breach the Indigenous territory, where they fished and hunted, which animals they caught — and how easy it all was.

“Evident impunity,” the team reported to authorities.

It was one of 10 letters team members sent to Funai, the local federal attorney’s office, the national security forces and the federal police between February and May — a detailed account of their work. They shared a list of alleged poachers, described the hierarchy of the illegal fishing trade and warned of the rivers’ mounting lawlessness. Federal attorneys met several times with the surveillance team and requested a police investigation. But few arrests were made, and no security was provided.

The team repeatedly cited Pelado in the correspondence. They said he led a team of six fishermen armed with 16-gauge shotguns. They alleged he entered the prohibited territory at night and

poached for days. He was seen as capable of violence. Once, when Bruno was passing his stilt house on the Itaquai, he fired a single shot over his head.

The threats intensified. Fishermen opened fire on the surveillance team in early April, the Indigenous scouts reported. Weeks later, on April 19, two poachers approached the squad’s leadership as they relaxed in Atalaia do Norte’s central plaza. According to a police report, a poacher tried to punch one of the men, and warned that he knew where he lived and would put a bullet “in his face.” Another fisherman told Possuelo that what had happened to Pereira — executed atop his motorcycle — would happen to them, too.

Possuelo was shaken. He messaged Bruno.

“It was expected that the tension would rise,” Bruno replied. “We have to be careful because the danger will escalate.”

Three days later, an anonymous letter was found under the door of Eliesio Marubo, the Indigenous union’s attorney. Its writer accused the union of persecuting “workers who fish to survive,” and pitting “the Indian against family workers.”

The letter cited Bruno by name.

“We know who you are, and we’ll find you and settle the score,” it said. “I’m only going to let you know this once, that if you continue in this way, it will be worse for you.”

Again, Bruno didn’t stop. He put in the paperwork to buy a 12-gauge pump-action shotgun.

CHAPTER 7

Early last year, Dom messaged me with news: “We’re leaving town.” After more than 10 years in Rio, he was moving to northern Brazil. He’d won a fellowship from the Alicia Patterson Foundation, which supports ambitious journalism, and was planning on writing a book on the Amazon.

Dom had spent years covering the crises besetting the forest, reporting for both The Post and the Guardian. But he was tired of writing about the problems. He wanted to understand the solutions. The book title he chose: “How to Save the Amazon.”

Months of reporting and many trips — to witness the cultivation of sustainable foods, to study how illegal goods could be tracked — culminated in another excited message from Dom. “I’m due to deliver the book at the end of the year,” he wrote me in late May. “After what will be 2 years of work.”

He needed to make just one last trip. He would soon depart for the Javari Valley. His old friend Bruno, whom Dom had once shadowed for an article, was helping to lead a team of Indigenous scouts trying to repel the poachers. He told Alessandra it would be a short trip. He’d follow Bruno down the Itaquai, meet the surveillance team, interview some fishermen and return home by the next week to finish his book.

When he reached Atalaia do Norte, he learned of troubling developments. Pelado, he heard, had sent the warning shot over Bruno’s head. Other fishermen had fired on the scouts. Bruno, apparently injured to the threats, seemed to brush them off. But before boarding the boat late that week, Dom brought up the warning shot again.

“He was worried about that,” said Possuelo, who saw the men off. “He was definitely worried.”

There wasn’t much time for second thoughts. The aluminum boat had only a 40-horsepower motor, slower than others on the Itaquai. It would be nearly four hours before they reached the distant surveillance team, patrolling the waters near the Funai base. They’d have to hurry to make it before nightfall.

“I probably won’t have signal again until Sunday,” Dom wrote Alessandra in Portuguese. “I love and miss you.”

The forest they entered was like something out of a history book, vast and impenetrable. This was not the Amazon of the devastated southeast — an unrecognizable wash of cattle pastures and smoky horizons — but an Amazon of wild sounds and vibrant greens. As they serpented down the murky Itaquai, signs of civilization receded. The only markings of humanity were three small enclaves of stilted homes: Cachoeira, São Rafael and São Gabriel, where Pelado lived. Up ahead they found the Funai base, the last vestige of state power before the Javari Valley, and the shack beside which the surveillance team had set up camp.

Soon after, just after dawn on Saturday, Dom spotted from the shore the man he’d heard so much about.

Pelado was going upriver toward the territory in his big boat, dragging three canoes. The surveillance scouts Dom had been shadowing set out to follow him and warn the Funai base. Pelado turned to face his pursuers. He lifted his shotgun above his head, the scouts said, in warning. Then he took a canoe to the stilted river house where Dom and Bruno were staying. Bruno was standing on the patio, watching him arrive.

Pelado was wearing a belt studded with shotgun cartridges.

“Take his photo,” Bruno called out.

Dom, witnesses said, hid behind a tree and snapped a picture.

That night, Bruno said he was concerned. To return home, they’d have to pass Pelado’s house again. He wanted several scouts to accompany them. But the next morning, he said he’d changed his mind. He was worried the Indigenous escorts would “go hungry” without a place to stay in the city, said one witness, who spoke on the condition of anonymity out of fear for his safety. Besides, Bruno said, Pelado would never expect them so early.

As the sun broke over the river, Bruno gathered the intelligence the team had collected, the photos and coordinates. Then he and Dom climbed back into the aluminum boat and embarked. The only protection they had was Bruno’s .380 Taurus. His shotgun hadn’t yet arrived.

CHAPTER 8

According to the confessions:

It didn’t take long for Pelado to catch up to Dom and Bruno. His boat, equipped with a 60-horsepower motor, gained rapidly: 300 feet, 200 feet, 100 feet. Bruno never turned around. When they were within 60 feet, Pelado and Jefferson opened fire. Bruno was hit in the back. The large man spun around and pulled his Taurus. He returned fire, letting off five or six rounds. None found their target. Bruno was struck again in the back. He started to faint, and to lose control of the boat. Then Dom was shot, in the ribs, on the right side. The boat collided into thick vegetation on the riverbank. Jefferson approached the boat. Dom was dead.

Jefferson shot Bruno once more in the face, Pelado told police, “to be sure.”

The boat was towed into the forest, down a nearby stream. The bodies were thrown into the water. Two of Pelado’s family members soon arrived

“What are you doing?” one asked, Pelado recalled in his confession.

“We killed them,” Pelado said.

“This is crazy,” the family member responded. “Why have you done this?”

They killed Bruno, Pelado told police, because the activist had called him an “invader” and had wanted Bruno’s picture to be taken. They killed Dom, according to a confidential witness interviewed by police, because they couldn’t leave any witnesses.

More river dwellers arrived to help conceal the killings. They submerged Dom’s backpack underwater and tied it to some branches. They loaded Bruno’s boat with six sacks of clay and sank it to a depth of 20 meters (65 feet). The bodies were set on fire. When the flames failed to destroy them, either Jefferson or Pelado — they each accused the other — dismembered the bodies with a machete. They dug a grave in the middle of the woods. Six people heaved the remains inside and closed the grave.

The burial took four hours.

CHAPTER 9

After Pelado led police to the remains, after the charges and confessions, I sat with the police reports. It took me three attempts to read them. One passage lodged in my mind: “Dismembered, segmented, burned and buried in the clay soil.” Such precise savagery in the words.

Walking up the wood-plank path from the Itaquá to São Gabriel, Pelado’s community, I again felt disbelief. It was completely silent. Nearly every house was deserted. No one wanted to live in São Gabriel anymore. The community school, its walls still papered with children’s drawings, was shuttered.

But Pelado’s door was open. Led into the house by a relative, I saw the shack was virtually empty, more noticeable for what was not there than what was. There was almost no furniture. Not a single family photo or

decoration. Nothing that didn’t attend to a bare need. Just a sheetless mattress, a bunched fishing net, a pile of dirty clothing, a solitary spoon on a banister. It was as if no one had ever really lived there at all, and never would again.

Pelado’s other house was in a working-class neighborhood in Benjamin Constant. I knocked on the door. A shirtless young man appeared. It was Pelado’s 18-year-old son, Amarilson de Freitas Oliveira. He was watching an American action movie dubbed into Portuguese. No one else seemed to be home. As he spoke, he couldn’t make eye contact.

Amarilson said a lot of people thought Bruno got what was coming to him. He’d been “persecuting” fishermen and gold miners, and particularly his father, for too long. Bruno’s killing was just what happens, he said, “when someone is being persecuted for a long time” and they react with a “hot head.” If it hadn’t been Pelado, he said, “another person would have done it.” He said he hadn’t lost any affection for his father. He went to visit him shortly after his arrest. He said Pelado hugged him and started to weep. “He said, ‘I couldn’t take it anymore, son. He was persecuting me.’”

Amarilson kept his eyes on the television screen.

“It seems all of this backlash happened only because of that journalist,” he said. “Wrong place at the wrong time.”

His indifference disturbed me. I thought of the men killed, men I had known.

Dismembered, segmented, burned and buried in the clay soil.

I had one more question. Did he have any sympathy for Dom’s family and all they had lost?

There was a long pause.

“Yes,” he said, but added no more.

CHAPTER 10

There’s a day I think of often. It was a Sunday in November 2020. The weather was dreary and chilly. Rain was coming. I messaged Dom to see if he wanted to get an afternoon beer. But he had other, bolder plans: hitting the water. Did I want to go to the beach?

WHY AMBITIOUS TREE PLANTING AND CARBON OFFSET PROJECTS ARE FAILING

“A complete disaster;” “a giant ponzi scheme;”
“essentially no regulatory requirements.”

By Fred Pear

It was perhaps the most spectacular failed tree planting project ever. Certainly the fastest. On March 8, 2012, teams of village volunteers in Camarines Sur province on the Filipino island of Luzon sunk over a million mangrove seedlings into coastal mud in just an hour of frenzied activity. The governor declared it a resounding success for his continuing efforts to green the province. At a hasty ceremony on dry land, an official adjudicator from Guinness World Records declared that nobody had ever planted so many trees in such a short time and handed the governor a certificate proclaiming the world record. Plenty of headlines followed.

“The survivors only managed to cling on because they were sheltered behind a sandbank at the mouth of a river. Everything else disappeared.”

But look today at the coastline where most of the trees were planted. There is no sign of the mangroves that, after a decade of growth, should be close to maturity. An on-the-ground study published in 2020 by British mangrove restoration researcher Dominic Wodehouse, then of Bangor University in Wales, found that fewer than 2 percent of them had survived. The other 98 percent had died or were washed away.

“I walked, boated, and swam through this entire site. The survivors only managed to cling on because they were sheltered behind a sandbank at the mouth of a river. Everything else disappeared,” one mangrove rehabilitation expert wrote in a letter to the Guinness

I went down to Copacabana to wait for him. Within a few minutes Dom arrived on his bike, smiling and relaxed. This part of Copacabana beach — where the waves are calm and the horizon full of mountains — was Dom’s favorite place on the water. He said everyone in Rio needs a sport. His was stand-up paddle boarding. “Nice, light exercise,” he called it. He was already dragging his board into the water.

I’d never done it before and was a little nervous. But Dom gave me instructions that made me feel good, confident in myself. He had a way of doing that.

“Coach Dom,” a friend who’d come along called him.

Dom eased out into the waves and started paddling, heading into deep waters.

Once, a few months after the coronavirus infiltrated Brazil, when it felt as if the world was going mad and anything was possible, I messaged Dom. The Rio hospital system was on the brink of collapse. There weren’t enough hospital beds for everyone. Bolsonaro was dismissing the severity of the disease, and Brazil was on its way to registering one of the world’s highest death tolls.

Some foreigners I knew had already fled the country. I had asked him if he had considered going back to Britain.

He answered without hesitation: No, he said. “This is my home.”

Dom loved every bit of Brazil, from the northeastern city of Salvador, where he would move with Alessandra, to the Amazon rainforest where he would be killed, to this view now extending out before him. He was sitting on his board, facing the beach. No sight better captured for him life in Rio — the water, the mountains, the city and favelas beyond.

He stood up and turned.

He paddled some more — out past the tip of the Copacabana military fort, farther than I had the courage to go.

I remember him out there: skies darkening behind, rains coming, and Dom paddling farther and farther out, turning back to smile, blue eyes alight. ●

inspectors this year, which he shared with Yale Environment 360 on the condition of anonymity. The outcome was “entirely predictable,” he wrote. The muddy planting sites were washed by storms and waves and were otherwise “ecologically unsuited to mangrove establishment, because they are too waterlogged and there is no oxygen for them to breathe.”

“It was a complete disaster,” agrees Jim Enright, former Asia coordinator of the US-based nonprofit Mangrove Action Project. “But no one that we know of from Guinness or the record-planting proponents have carried out follow-up monitoring.” Guinness has not responded to requests for comment.

Such debacles are not unusual. Forest scientists say they are surprisingly frequent, and they warn that failed afforestation projects around the world threaten to undermine efforts to make planting a credible means of countering climate change by reducing carbon dioxide in the atmosphere or generating carbon credits for sale to companies to offset their emissions.

In another high-profile case, in November 2019, the Turkish government claimed to have planted more trees on dry land than anyone else in a single hour—300,000, in the central province of Çorum. It beat a record, also confirmed by Guinness inspectors, set four years before in the Himalayan state of Bhutan. The Çorum planting was part of a National Afforestation Day, when volunteers planted 11 million trees at 2,000 sites across Turkey. President Recep Tayyip Erdoğan was among those wielding a spade.

Ministers imposed unachievable targets, resulting in planting “without...survey, mapping and planning.”

But two months later, the head of the country’s union of forestry workers reported that a survey by its members had found that as many as 90 percent of the national plantings had died. The government denies this, but experts said its counter-claim that 95 percent of the trees had survived and continued to grow was improbably high. No independent audit has yet been carried out.

In an investigation published last year into extensive government-organized tree planting over several decades in the northern Indian state of Himachal Pradesh, Eric Coleman of Florida State University and colleagues found little evidence that it had resulted in more tree cover, carbon uptake, or community benefits.

Typically, tree species growing on common land that were useful to local people for animal fodder and firewood had been replaced by plantations of fast-growing but less useful trees, often fenced off from local communities.

Another study, published last year by the nonprofit World Resources Institute in Mexico, called into question the benefits from a billion-dollar government-funded environmental recovery program. Sembrando Vida pays farmers to plant trees across the country to help Mexico meet its climate targets under the Paris Agreement. But WRI found the program has no effective audit of outcomes, and that rates of forest loss were currently greater in states implementing the plan than in others. It concluded that the program “could have had a negative impact on forest cover and compliance with the country’s carbon mitigation goals.”

Tree planting in the Philippines under its National Greening Program has also been a widespread failure, according to a 2019 study by the government’s own Commission on Audit. Ministers imposed unachievable planting targets, it said, resulting in planting “without...survey, mapping and planning.” The actual increase in forest cover achieved was little more than a tenth of that planned.

The causes of failure vary but include planting single species of trees that become vulnerable to disease; competing demands for the land; changing climate; planting in areas not previously forested; and a lack of aftercare such as watering saplings.

Everybody likes trees. There is no anti-tree lobby. A global push to go beyond conservation of existing forests and start creating new ones goes back to 2011, when many of the world’s governments, including the United States, signed up to the Bonn Challenge, which set a goal of restoring some 860 million acres of forest globally by 2030. That is an area bigger than India, and enough to soak up 1.7 billion tons of carbon dioxide annually, adding almost a quarter to the current estimated forest carbon sink.

In 2020, at its annual meeting in Davos, Switzerland, the World Economic Forum launched One Trillion Trees, an initiative aimed at adding a third to the world’s current estimated inventory of around 3 trillion trees. Even Donald Trump got behind the push, promising to plant a billion trees across the U.S.

It the very unanimity of support for tree planting may reduce the impetus for detailed audits or critical analysis of what is actually achieved at each project. The paucity of follow-up thus far has resulted in a great deal of wasted effort—and money.

“With success rates ranging between 15 and 20 percent, a lot of conservation funding has gone to waste.”

Every year, “millions of dollars” are spent on reforesting landscapes, according to Lalisa Duguma of World Agroforestry, an international research agency in Nairobi, Kenya. Yet “there are few success stories.” Typically only a minority of seedlings survive, he says, because the wrong trees are planted in the wrong places, and many are left untended, in part because ownership and management of trees is not handed over to local communities.

Such failures often go unnoticed, believes Duguma, because performance indicators measure planting rates not survival rates, and long-term oversight is minimal because projects typically last three years or less. The result is “phantom forests.”

The record for restoring mangroves along coastlines, often in an effort to hold back coastal erosion from storms and rising tides, is especially bad. An analysis last year by the Netherlands-based NGO Wetlands International, which had previously sponsored mangrove planting, concluded that “while many tens of millions of euros have been spent on mangrove restoration in recent years, the majority of these restoration projects has failed. With success rates ranging between 15 and 20 percent, a lot of conservation funding has gone to waste.” It blamed poor planting methods and the wrong species planted in the wrong places.

Most planting across Southeast Asia has been of *Rhizophora* red mangroves. Their cuttings are easy to harvest from existing trees and to plant. Typically, they are planted in tidal mudflats, which ensures no competing land uses, but most are starved of oxygen or washed away by constant inundation at high tide, according to an analysis by Shing Yip Lee of the Chinese University of Hong Kong.

The government of Sri Lanka launched a mass mangrove planting program around its shores to help prevent a repeat of the disastrous loss of life there during the 2004 Indian Ocean tsunami. But the program has

turned out to be an abysmal failure. “Nine out of 23 project sites...showed no surviving plants,” according to a 2017 study by Sunanda Kodikara of the University of Ruhuna. “Only three sites showed a level of survival higher than 50 percent.”

Too often, argues Duguma, tree planting is “greenwashing” aimed at grabbing headlines and promoting an image of governments or corporations as environmentally friendly. Tiina Vahanen, deputy director of forestry at the UN’s Food and Agriculture Organization, noted recently that many projects end up being little more than “promotional events, with no follow-up action.”

Cynical PR is one thing, but phantom forests are also increasingly sabotaging efforts to rein in climate change. This happens when planters claim the presumed take-up of carbon by growing forests as carbon credits. If certified by reputable bodies, these credits can count toward governments meeting their national emissions targets or be sold to industrial polluters to offset their emissions. Many corporations plan to use their purchase of carbon credits as a means of fulfilling promises to attain “net-zero” emissions. So the stakes are rising. But even the best-planned and best-audited planting projects can come undone, leaving behind non-existent forests and uncaptured carbon.

The California Air Resources Board is a major certifier of carbon-offset forests across the American West. It approves the carbon credits generated by the forests, which are then sold to industrial polluters in California who want to offset their emissions in line with state regulations. But climate change is leaving the western United States increasingly vulnerable to wildfires—raising serious questions about the viability of the forests and the credibility of their carbon credits. To meet this challenge, CARB requires offset developers to hold back from sale a proportion of the credits, which they put into a central buffer fund as insurance against a variety of potential mishaps during the 100-year planned lifetime of the offsets.

Up to 4 percent of credits insure against wildfires. That buffer fund picked up the tab, for instance, when 99 percent of the carbon in a forest offset project on Eddie Ranch in Northern California burned in a fire in 2018.

But the CARB certification system is running out of buffer carbon, according to an analysis published in August by ecologist Grayson Badgley at CarbonPlan, a nonprofit climate solutions database.

“Allowing nature to choose which species predominate...allows for local adaptation and higher functional diversity.”

Badgley found that just seven years into its supposed century-long insurance, 95 percent of the wildfire buffer has been consumed by just six fires across the West. CARB says that certifying more forests will grow the buffer account and prevent a default. But Danny Cullenward, an environmental lawyer at American University in Washington, DC, and co-author of the CarbonPlan analysis, calls this “a giant Ponzi scheme.”

He says the problem of undercapitalized buffer accounts for carbon is widespread among the hundreds of markets set up internationally to certify and trade carbon offsets for corporate clients. They have “essentially no regulatory requirements and operate instead on loose private standards,” he says.

Those private standards are likely to be increasingly inadequate, says forest ecologist William Anderegg of the University of Utah, who estimated recently that climate change will make wildfires four times more likely across the American West by the end of the century, raising “serious questions about the integrity of [offset] programs.”

Besides climate change and wildfires, another major problem for forest planters is bad relations with locals. In a global survey of organizations involved in forest restoration, Markus Höhl of the University of Gottingen found widespread concern about a lack of buy-in from forest communities. Project promoters did not ask the local people what trees they wanted, or where they should be planted.

Not surprisingly, those locals often reacted badly. For example, in northern Malawi, they broke fences and burned a growing forest to get back the common grazing land on which the trees had been planted. In two Nigerian projects, villagers cut all the planted non-fruit trees for firewood, while protecting those that

bore fruit. Forest planting can work if the social and environmental conditions are right, and if planting is followed by long-term monitoring and aftercare of the trees. There has been substantial regrowth of the Brazil’s Atlantic Forest following a joint initiative of the government and private sector. But even here progress has been haphazard and much of the increase has been a result of natural regeneration rather than planting.

In fact, many forest ecologists say creating space to allow nature to do its thing is usually a better approach to restoring forests than planting. “Allowing nature to choose which species predominate...allows for local adaptation and higher functional diversity,” argues one advocate, Robin Chazdon of the University of Connecticut, in her book *Second Growth*. For mangroves, Wetlands International now recommends abandoning widespread planting and instead creating areas of slack water along coastlines, where mangroves can naturally reseed and grow. Ashwini Chhatre, an expert in forest governance at the Indian School of Business in Hyderabad, is not alone in saying that “after three decades of walking through planted forests...it is surprising any are successful at all.” ●

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MICHIGAN AG RACE EMBODIES ‘UNIQUELY AWFUL’ MOMENT FOR CAMPAIGN INCIVILITY

By Ben Orner

Political campaigns aren’t races to be nice, but common ground isn’t always impossible. Unless you’re running for Michigan attorney general.

In that case, this year is a matchup between “a fundamentally flawed human being” and “the most corrupt attorney general in the country,” according to the two candidates.

MLive recently interviewed Democratic AG Dana Nessel and her Republican opponent, Matthew DePerno, and

asked if there is anything the two candidates – currently engaged in a testy statewide race – may agree on or like about each other.

“No,” DePerno said when asked if he liked anything about his opponent. “I think Dana Nessel is a liar.”

Does he agree with her on anything?

“I think if she’s telling the truth, she would agree that she’s the most corrupt attorney general in the country right now,” DePerno said. “She is a coward, and she’s entirely incompetent.”

Nessel chuckled when asked if there’s anything she likes about DePerno, saying “it’s hard for me to view him in that light.”

“I find him to be so unworthy of this position, that it pains me to have to struggle to think of something that we can agree on,” Nessel said.

She had disagreements with her 2018 opponent, Tom Leonard, “but I did not find him to be such a fundamentally flawed human being the way that I do with Matthew DePerno.”

A Worsening National Trend

“They are very reflective of what’s going on across the country, in statewide races and even local races,” said Susan Herbst, political science professor and president emeritus at the University of Connecticut.

Political incivility has existed since America’s founding, she told MLive, reaching rock-bottom in the 1850s.

There were bench-clearing brawls in Congress, a senator was beaten nearly to death for criticizing slaveholders, and the country hurtled toward civil war.

But things have gotten a lot worse since Herbst wrote her book, “Rude Democracy,” exploring politicians’ growing nastiness out of the 2008 election. Social media, she said, has changed the character of incivility and accelerated heated partisanship.

“It’s uniquely awful here in 2022,” Herbst said.

Political arguments have grown crueler especially since the 2016 election, she said. State and local campaigns are also grabbing national discourse styles and approaches, which fuels arguments and drowns out important issues.

And instead of just disagreeing, opposing sides now see each other as evil.

“Americans would like to see themselves, I thought, as kind of neighborly and at the end of the day good-natured,” Herbst said. “And I don’t know that that’s valued anymore. Now, it’s about winning for your team.”

An Inventory Of Insults

DePerno earlier this month protested with a small crowd outside a Nessel fundraiser in Saginaw, complaining she won’t debate him.

Nessel has argued DePerno would use a debate for “hateful and dangerous rhetoric.” And she’s cited American Bar Association rules advising her against making comments that could increase public condemnation of DePerno, who her office investigated for voting machine crimes.

Inside the Saginaw event, Nessel called DePerno “that sad, pathetic man outside who is so needy for attention and so unable to capture the interest of voters in the regular way,” per The Detroit News.

DePerno has repeatedly called Nessel – Michigan’s first openly gay statewide elected official – a “groomer,” someone who befriends a child to lure them into sexual abuse.

The Republican was taking seriously a joke Nessel made in June that there should be “a drag queen in every school.” In full context, her comment was about “wedge issues” Republicans use to “divide us.”

Every time he calls her a groomer, Nessel said, “I think about all the LGBTQ kids out there that are taunted and harassed when they hear statements like that, and honestly, the ones that take their own lives, as many LGBTQ kids are prone to do unfortunately.”

Herbst said it used to be OK for a candidate to go slightly over the line with a joke, because voters could put it in context. But now, “People are just going to jump on everything now and explode it.”

DePerno, while speaking to MLive, also insulted two Detroit News journalists, “Creepy Craig Mauer” and “Lyin’ Chad Livengood,” for their reporting on DePerno’s legal fight in Antrim County after the 2020 election.

Former President Donald Trump has used those same insults for political opponents, an example of nationalizing campaign speak.

“We used to think states had different cultures and different values or issues that were top of mind,” Herbst said. “That still is the case, but the discourse doesn’t represent that. And it’s a shame that the candidates can’t just focus on the issues of the state.”

Holding Them To A Higher Standard

“We don’t have time to hate each other,” said Gleaves Whitney, executive director of the Gerald R. Ford Presidential Foundation in Grand Rapids.

With critical issues like inflation, crime and climate change affecting both Democrats and Republicans, he told MLive, “We don’t have time to hurl insults at each other for clickbait.”

That’s why the Ford foundation this election cycle joined the Carter Center – former President Jimmy Carter’s legacy nonprofit – to promote a set of basic standards for candidates to sign.

Candidate Principles for Trusted Elections are five key pillars that reflect democracy and nonviolence. They include running a “civil campaign,” which asks candidates for “a peaceful election atmosphere during the pre-election, polling, counting and post-election periods.”

“This should be a tool for accountability that reflects the values that I think most Americans still hold dear,” said Nathan Stock, an associate director in the Carter Center’s conflict resolution department.

He said the principles come from strategies his organization has used to promote democracy abroad. But after seeing violence and other “warning signs in the U.S. of democratic backsliding” in 2020, Stock told MLive, it felt necessary to get candidates to agree on certain red lines.

“People can demand this,” he said. “People can, I think, express legitimate concern about dehumanizing rhetoric lobbied by one side or the other.”

Worse Before It Gets Better

Whitney sees public discourse as a tall bell curve, where extreme viewpoints occupy the small ends and a constructive debate anchors a large middle.

But social media has flattened that curve, lengthening the tails and robbing the middle of its oxygen. Extreme voices on the left and right, Whitney said, are now amplified more than “any extremists in human history.”

“America is better than that,” he said.

Herbst thinks incivility will get a little worse before it gets better, because “we do keep getting surprised” when candidates and elected officials cross lines. Academics, she said, aren’t sure what rock-bottom for our time looks like short of a civil war, but she noted the 2020 plot to kidnap Gov. Gretchen Whitmer.

Candidates nationwide are also agreeing to fewer debates. Whitmer and Republican challenger Tudor Dixon scheduled two debates, but Michigan’s AG and Secretary of State candidates will have none.

The Republican National Committee this spring even pulled out of the bipartisan commission that facilitates presidential debates, ending a three-decade commitment.

Gubernatorial Debate

Herbst said having at least two debates tends to tire candidates out of insults and into talking about issues. Debates are key for voters, Whitney noted, to evaluate candidates in a “pressure cooker” environment that’s civil and intellectually rigorous.

“When the candidates don’t debate, they rip off the voters,” he said. “The voters are entitled to understand the issues as articulated through the candidates’ voice.”

Some Paths Forward

Herbst suggested instilling democratic principles and “the real work of citizenship” into students in middle school or earlier: How to debate civilly with evidence, how to critically analyze media and how to weed through a complex world of nasty public discourse.

But the most important work for adults, she said, is “self-regulation.” People have been busy building

families and careers but haven't been thinking before they write or speak.

"We're not so far gone as Americans that we don't feel some pain of empathy or agreement when someone actually shows some regret," Herbst said. "I think as human beings we still like that, we still appreciate that. I think we can still forgive people."

Stock recommends people sign up to be poll workers, which are paid positions in Michigan. He said his own rewarding experience as an election volunteer was a personal "antidote" to extreme rhetoric.

Michigan General Election 2021

"Most Americans don't want violence," Stock said. "Most Americans want to live in a democracy, take their kids to school and go to work."

To Whitney, who has a front-row seat to Michigan political fights, candidates have a responsibility to respect voters by talking about the issues. Voters, he said, can't be spending their time "breaking up food fights."

"As President Ford used to say, we should be able to disagree without being disagreeable. "The executive order issued." ●

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MOST VOTERS SKIPPED 'IN PERSON ON ELECTION DAY' WHEN OFFERED A CHOICE OF HOW AND WHEN TO VOTE

By Paul Herrnson

When the COVID-19 pandemic hit in early 2020, state lawmakers, election administrators and others realized they had to move quickly. A presidential election was coming in just a few months, along with elections for every seat in the U.S. House of Representatives, one-

third of the U.S. Senate, and all sorts of state and local positions. Primary season was already underway. And nobody was sure how safe it would be to vote in person at polling places.

Ultimately, the collective efforts of these public servants delivered an election with a turnout rate higher than any in the past century. Almost 67% of eligible voters cast a ballot. This happened even as the pandemic swept the nation – and the globe.

A key factor in that success was adaptability – of elected officials, election administrators and voters themselves. Officials knew they had to make changes so people could vote safely, and they had to find ways to protect the integrity of the process.

Partisan politics played a role, too.

Many Democrats support a range of options for voting, such as early in-person voting and voting by mail. Many Republicans oppose these options. President Donald Trump especially objected to mail voting, tweeting, "Mail boxes will be robbed, ballots will be forged & even illegally printed out & fraudulently signed." Numerous GOP leaders followed his lead, though no fraud sufficient to change the election results was ever found.

Research my colleagues and I have conducted has found that when it came down to the people's choice, there was a clear outcome: Alternatives to traditional in-person gathering at a polling place on Election Day are becoming more common, and more popular. Of the 158.4 million votes cast in the 2020 election according to the Federal Election Commission, at least 101.2 million – 64% of them – were cast by mail or by early in-person voting. A similar trend is underway for the 2022 midterms.

Options For Voting

Even before the pandemic, most states offered one or more of what are sometimes called "convenience voting" options – alternatives to showing up in person on the Tuesday after the first Monday in November.

Early in-person voting lets someone come to a government office, school, shopping mall or other designated site and cast a ballot in the days or weeks before Election Day.

With mail voting, election officials use the U.S. mail to send ballots to voters, who fill out their ballots at home and either mail them back or drop them off at a designated location.

Before 2020, 16 states required a voter to provide a specific reason, such as age or disability, to receive a ballot by mail. Twenty-nine states and the District of Columbia required no excuse. And the five states where elections were conducted by mail automatically sent a ballot to each registered voter.

Before the 2020 election and afterward, Trump and many of his allies questioned the integrity of mail voting. They filed court cases, called for recounts, and even conducted a partisan review of votes cast in Arizona, which was widely discredited. Despite the news coverage devoted to their efforts, little evidence of fraud in mail voting – or in any other type of voting – was uncovered. Even U.S. Attorney General William Barr, a Trump appointee, conceded there was insufficient evidence to cast doubt on the election outcome.

Instead of injecting fraud, mail ballots have made it easier for people to cast a ballot and play a role in charting the course of our nation's future.

States Made Changes

Data my colleagues and I collected from states' websites and other sources shows 16 states introduced new mail ballot policies in 2020. The result was that registered voters in nine states and the District of Columbia were automatically mailed a ballot. In 36 states, voters could successfully apply for a mail ballot without providing an excuse or listing COVID-19 as an excuse.

Voters in the remaining five states qualified for a mail ballot only if their application included a sanctioned excuse, such as out-of-town travel on Election Day, that did not include concerns about contracting COVID-19.

Our analysis found that partisanship played a role in which voters had which options. States with Democratic governors and Democratic-controlled legislatures were the most likely to adopt mail voting, followed by states where party control was divided. Republican-controlled states were the least likely to make changes. Indiana and three of the four conservative Southern states that continued to require a non-COVID excuse for a mail

ballot were under Republican control. Louisiana, the other state maintaining an excuse requirement, had a Democratic governor and a GOP-controlled legislature.

How Americans Voted

State policies affected how people voted, we found.

Most voters in the 2020 election cast ballots in other ways than showing up on Election Day 2020.

Voters' familiarity with the options affected their choices. In the 25 states that had a history of no-excuse mail voting (excluding the five that switched to automatically mailing registered voters a ballot), voters were about 22 percentage points more likely to use a mail ballot in 2020 than voters first given a no-excuse option that year.

And voters in these same 25 no-excuse states were almost 27 points more likely to vote by mail than voters in the five states that continued to require an excuse.

We also found that partisanship played a role in what methods people chose to vote. Democratic voters were 13 points more likely to vote by mail than independents, and a whopping 26 points more likely to vote by mail than Republicans.

GOP voters vastly preferred going to the polls on Election Day, and more of them voted early in-person than by mail. In addition to selecting a president, the 2020 election made clear that many Americans – all across the nation and of all political stripes – prefer to cast their ballots by methods other than showing up on Election Day itself." ●

SKULL OF MUTILATED 'VAMPIRE' FROM 1800S REVEALS WHAT HE REALLY LOOKED LIKE

By Rebecca Flood

The face of a Connecticut "vampire" whose body was found mutilated in 1990 has been brought to life using modern technology.

Research suggests the man was named John Barber, and he died in the 1800s at 55 years old from tuberculosis, also known as consumption.

With no cure for tuberculosis in the 19th century, it was one of the biggest killers in America. The appearance of its victims, along with the protracted nature of the disease, and the choice of victims, fueled the belief in the undead.

So real was the fear, it became known as the "The Great New England Vampire Panic," according to Smithsonian.

3D Reconstruction Of 1800s 'Vampire.'

Scientists have rendered a 3D reconstruction (R) of a skull exhumed in 1990. The man, thought to be named John Barber, died in the 1800s and was considered a "vampire," according to archaeologists.

"Typically, a rural family contracted the wasting illness, and even though they often received the standard medical diagnosis the survivors blamed early victims as 'vampires,' responsible for preying upon family members who subsequently fell sick," the magazine said. "Often an exhumation was called for, to stop the vampire's predations."

And that's the fate that probably befell Barber, buried in Griswold. After Barber died, his body was dug up and his bones rearranged in a typical skull and crossbones configuration.

Nicholas Bellantoni, emeritus Connecticut state archaeologist and anthropology professor at the University of Connecticut, helped excavate Barber in

1990, after a child reportedly found a skull, leading authorities to the colonial-era burial ground.

"[Barber's] remains were unusually rearranged in his coffin and searching for an explanation led us to the concept of the New England Vampire Folk Belief," Bellantoni told Newsweek. "Of course, J.B. was not a vampire, but he was believed to be undead in his grave, capable of leaving the housing of his grave, and [feeding] on living family members spreading consumption/tuberculosis.

"This was a public health issue. Consumption was an epidemic in 19th-century New England. They knew nothing about germ theory and didn't understand how the disease was spread," Bellantoni said. "By going back into his grave and rearranging his skeletal remains they hoped to stop the disease from killing [his] family. Hence, this is not what we think of as 'vampirism' but done out of fear and love."

The appearance of tuberculosis sufferers lent weight to vampire theory, with Smithsonian quoting an 18th-century description of a victim, saying: "The emaciated figure strikes one with terror. The forehead covered with drops of sweat; the cheeks painted with a livid crimson, the eyes sunk..."

Furthermore, decomposition caused the skin around the nails and gums to recede, giving the appearance they had grown when exhumed.

"Historical documents indicated that we were rescuing the Walton family's burying ground but found J.B.'s initials patterned by brass tacks on the lid of his coffin suggesting that another family was using the cemetery after the Walton family left the area for Ohio in the early 1800s," he said.

JB55 Skeleton On Display.

The Connecticut "vampire" skeleton on display at the National Museum of Health and Medicine in Silver Spring, Maryland on July 23, 2019. "JB-55" is thought to be a man named John Barber who died of tuberculosis.

"So, back in 1990, we were searching for the 'B' family. However, none of the local historical documents were fruitful and the family name remained a mystery," he added.

An article published by the National Library of Medicine in 2019 revealed that the coffin of "the 19th century Connecticut vampire" had brass tacks that spelled "JB55."

"JB55 had evidence of chronic pulmonary infection, perhaps tuberculosis. It is possible that JB55 was deemed a vampire due to his disease, and therefore had to be 'killed' by mutilating his corpse," the article said.

Advancements in technology, particularly in the field of DNA, gave researchers a viable name and identity—John Barber. After Barber was exhumed for the second time, his remains were sent to the National Museum of Health and Medicine in Silver Spring, Maryland.

Parabon NanoLabs and the Armed Forces DNA Identification Laboratory (AFDIL), revealed Barber's face at the International Symposium on Human Identification (ISHI) conference in Washington, D.C., this week.

"Old bone samples are challenging for DNA analysis both because the human DNA can be highly degraded and because a large majority of the sample may consist of non-human DNA from the environment," Parabon said in a press release.

They used three approaches to extract information: shotgun sequencing, targeting the whole human genome, and targeting 850,000 custom single nucleotide polymorphisms (SNPs).

"JB55 was predicted to have Very Fair / Fair skin (92.2% confidence), Brown / Hazel eyes (99.8% confidence), Brown / Black hair (97.7% confidence), and Few / Some freckles (50.0% confidence)," Parabon said. "Using the phenotypic trait predictions and a digital 3D image of the skull, Thom Shaw, an IAI-certified forensic artist at Parabon, reconstructed JB's likely appearance."

Parabon looked at a second grave, as well.

"A search of historical records led to an obituary for another individual buried in the same cemetery that mentioned a man named John Barber, but no other records were found for him," the press release said.

Parabon's Fx Forensic Analysis Platform determined the second grave, NB13, thought to be a man named Nathan buried in 1826, was a first cousin of John Barber.

Both NB and JB's skeletons showed that "high-quality genome-wide data needed for investigative genetic genealogy can be generated from highly degraded bones."

Decades after the New England vampire scare, tuberculosis is the 13th leading cause of death worldwide and the second deadliest infectious disease after COVID-19, killing 1.6 million people last year, according to the World Health Organization (WHO).

The WHO explained on its website that one aspect of tuberculosis led communities in the 19th century to fear their loved ones were infecting others from beyond the grave:

"When a person develops active TB disease, the symptoms (such as cough, fever, night sweats, or weight loss) may be mild for many months. This can lead to delays in seeking care, and results in transmission of the bacteria to others." ●

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A GEOLOGIST LOOKS AT HOW CONNECTICUT'S NATURAL LANDSCAPE HAS SHAPED OUR STATE

Robert M. Thorson

My first glimpse of Connecticut was through the scratched plastic window of a jet airliner descending to Bradley International Airport. Curving over the verdant Connecticut River Valley, I remember seeing Long Island Sound shimmering in the distance. Only decades later did I learn that our state is the happy marriage of these two special places — river and shore.

Outsiders sometimes assert that Connecticut lacks a unique state identity because we're stretched too thin by the powerful cultural gravity of New York City and Boston. But if I were asked to describe our identity, I would gush lovingly about how our physical landscape lies at the taproot of our historic statehood and

invigorates culture today. If physical geography is the house where regional culture makes its home, then geology is the foundation, plumbing, wiring and internet service that makes that old house a home.

What follows are 10 essays that trace our state identity back into deep time. Some are about the whole state. Some are about its unique places. Collectively, they reveal that the bones of the landscape have greater influence over our daily lives than most of us realize.

Our Land

In June 1984, I flew nearly 5,000 miles from my home in Fairbanks, Alaska, for a job interview at the University of Connecticut in Storrs. I'm still here after nearly four decades of living in Mansfield, raising a family, and working as a professor, scientist, author and journalist in what is now called the Department of Earth Sciences.

As the years passed, I became more interested in what my colleagues call scholarly engagement - the giving back to the community that supports us with tax dollars and that sends its children to us to teach. I've served on various state committees ranging from the highly technical Low Level Radioactive Waste Advisory Committee to the highly literary Connecticut Center for the Book. For the last two decades, I've managed the Stone Wall Initiative and given hundreds of talks on Connecticut's heritage landscape. From 2003-18 I was a regular essayist and columnist for the Hartford Courant. I've since dialed back to writing book reviews for The Wall Street Journal.

Connecticut is the merger of river, shore and their adjacent uplands.

We have two things that neither New York City nor the rest of New England has — the region's broadest and most fertile bedrock basin and its largest and richest saltwater sound. The pairing of these two oval-shaped lowlands guided Indigenous lifeways for at least 12 millennia, Euro-American history for four centuries, and the built environment of modern Connecticut.

In 1614, the Dutch explorer Adriaen Block claimed this land as New Nederland. Its principal port would become New Amsterdam on the Hudson River, later renamed New York. Simultaneously, English Captain John Smith claimed the land as New England, whose principal port would become Boston on Massachusetts Bay.

Connecticut was pioneered for European settlement in 1633 when the Dutch and English established competing trading posts near present-day Hartford. Three years later, the Rev. Thomas Hooker planted the Connecticut Colony in the broad river valley above modern Middletown, an oval-shaped tectonic rift basin protected by volcanic ridges, mantled by stone-free soils, and bisected by fertile floodplain meadows. Four centuries later, the result is a beaded string of river cities and towns from Suffield-Enfield on the north to Middletown-Portland on the south.

In 1638, the New Haven Colony claimed the northern shore of New England's broadest marine sound: an oval-shaped, glacier-dug, saltwater basin later named for Long Island. Fairfield, Stamford and Greenwich were its satellite colonies. Each maritime village was a touching point where freshwater streams flowed southward over ancient rock to reach safe harbors. Four centuries later, the result is a beaded string of shoreline cities and towns from Greenwich to Stonington.

Normally, the confluence of river and shore gives rise to large port cities like New York and Boston. This didn't happen at Old Saybrook, because the Connecticut River joins the Sound with shifting sandy shoals that rendered navigation by large ships impossible.

Lacking a unifying port city, the Connecticut and New Haven colonies joined forces to drive the Dutch away by 1664. This union explains why, for the next two centuries until 1875, our capital alternated annually between New Haven and Hartford.

The bond between these formerly separate colonies strengthened as settlers moved inland and upward into the forested interior. There, the combination of flowing hydropower streams and fertile hillsides nucleated hundreds of rural villages, each with a patchwork quilt of farms seamed by stone walls.

Connecticut is the marriage of river and shore, and all the blessings in between.

The Straits

The Connecticut River acts like an hourglass flowing through a nexus at Middletown.

Every sink has its drain. Every hourglass has its nexus. The Connecticut River has its Straits, a bedrock narrows

between Middletown and Portland that links river and shore.

South of the Straits lies the most extensive and pristine tidal marshes in New England: they broaden toward the river's mouth at Old Saybrook. To the north lies the richest alluvial lowland in New England: it broadens northward toward Hartford.

At a first approximation, the Straits occur where the river crosses a major geological fault in the Earth's crust. There, the river veers eastward away from a broad lowland underlain by younger, softer, sedimentary rock into a narrow valley underlain by older, harder metamorphic rocks. At closer inspection, the bottleneck lies above a band of a very hard rock called amphibolite within a zone of merely hard rock called schist. There, in a narrows less than 800 feet wide, New England's longest river is trapped between a proverbial rock and a hard place.

Flowing upriver toward this narrows during flood tide is an unseen wedge of saltwater traveling upstream beneath the south-flowing freshwater. After being constrained at the Straits, the rising tide continues northward to lift the river at Hartford by about a foot, and to finally dissipate at Windsor Locks.

Flowing downriver through this narrows is the returning tide and the much larger freshwater flow of the Connecticut River. Under normal conditions, the Straits are wide enough to allow easy passage of this combined flow. But during times of flood, the river backs up like a bathtub with a too-small drain and the faucets wide open. The record flood of 1936 had a discharge about 15 times greater than its average flow.

The backup of water at the Straits, called a hydraulic dam, has been in operation for about 7,000 years. Before then, sea level in Long Island Sound was so low that south-flowing freshwater could easily pass through the Straits. Before then, the Connecticut River north of Middletown was much narrower and deeper, less rich, and only sparsely visited by human beings. But since the time when backup began, the river's flood plain has thickened and risen at least 20 feet, causing the valley to widen into a beautiful, stone-free meadowland with permanent human settlements.

Without the Straits, the Connecticut River's tidal marshes to the south and its alluvial meadow to the north would be diminished. This bottleneck is the nexus

of our historic state identity, the physical place linking river and shore.

The Shore

The northern edge of Long Island Sound is intimately and uniquely ours.

The charm of the Connecticut shore emerges from its intimacy.

At the largest scale, we face a protected saltwater sound, rather than the open sea. It's symmetry — a lozenge-shaped basin tapering at both ends — offers a comforting sense of enclosure.

Zooming in from sound to shore, we discover an assemblage of landforms: rocky headland, pocket beach, low dune, tawny salt marsh, quiet lagoon, tidal inlet and freshwater stream — that is repeated dozens of times between Stonington on the east and Greenwich on the west. The result is a shoreline fugue with variations extending nearly 100 miles that controlled the locations of Indigenous and Colonial settlements. I count 78 public beaches along our shore, nearly one for every mile. The smaller scale of these shoreline mosaics relative to their counterparts on the open sea, combined with locally higher tides, enriches the amount and diversity of estuarine habitat.

Zooming in for the third and final time, we find the gentle curvature of our crescent-shaped, pocket beaches. Each is a deposit of sand trapped between hard-rock headlands that is curved by the refraction of incoming waves. Each curve acts like a lens, calling our attention to a common offshore focal point, creating a sense of unity.

All three scales of intimacy trace back to the geology, which continues to give rise to the physical setting, which gives rise to the ecology, which gives rise to the human community.

Long Island Sound is effectively a saltwater lake. In size, shape, orientation and genesis, it resembles a scaled-down version of Lake Erie, which is about twice as long and wide. Both are natural bedrock basins that were enlarged and deepened by glacial erosion beneath the same Laurentide ice sheet. Both are rimmed to the south by a broadly curved moraine created by the thrusting and deposition of marginal glacial sediments. As the ice sheet receded northward, staggering

quantities of gravel, sand and mud poured into turbid, gray, glacial lakes dammed up by the moraines.

Only at this point in time does the history of the two basins diverge. Lake Erie remains with us today at a lower level. In contrast, Glacial Lake Connecticut drained completely, exposing its former bottom as a dusty, dry, vegetated and inhabited plain before it was re-flooded by the rising sea to create a marine sound. During the last 7,000 years, the slow global rise of sea level shoaled glacial sand into the mouths of bedrock valleys, partially plugging them. Finally, the refraction of waves between headlands shaped that sand into curved pocket beaches, allowing dunes and marshes to form behind them.

The charm of the Connecticut shore is the grand sum of these three nested scales of landscape process: sound, shoreline mosaic, and crescent beach. The result is an intimacy unmatched anywhere else in the world.

Diamond Pixels

Our finely textured hilly landscape is a crisscross of bedrock ridges and glacial flow.

When I moved to Connecticut from Alaska, my biggest adjustment was the compression of spatial scales. Connecticut is 120 times smaller than Alaska. My new town government was 164 times smaller than my old one. Why, I wondered, did this small state have 169 towns, one for every 20,000 residents?

Only later did I figure this out. The texture of the landscape is much more finely woven than in big-sky country. Borrowing from Dr. Seuss's *Cat in the Hat*, I realized that two things worked together to pixelate the upland landscape.

Thing 1 is the bedrock grain of harder and softer rocks generally aligned from north-northeast to south-southwest. The result is a corrugation of small parallel valleys with sluggish streams, stretched-out swamps, and rock ledges, most clearly expressed in Union, Eastford and Ashford.

Thing 2 is the glacial grain of the Laurentide ice sheet that flowed down from Canada to rake the landscape from north-northwest to south-southeast. Over time, a glacial grain of elongated hills called drumlins, intervening troughs, and rocky streams was

superimposed diagonally across the bedrock grain. This can be seen in Litchfield and Woodstock.

Ultimately, these two landscape grains have a common origin. The northwest-directed tectonic collision that created the bedrock grain also indirectly created the southeast regional slope, down which the ice sheets flowed.

When the bedrock and glacial grains are combined, the result is a crudely diamond-shaped pixelated landscape of local uplands surrounded by edging streams. During the 17th, 18th and 19th centuries, these topographic pixels determined the layout of roads at the village and town scales. For example, the boundaries of the state's southwesterly towns most closely align with the glacial grain, whereas its northwesterly towns align best with the bedrock grain.

In short, Connecticut's finely textured history is guided by the finely textured lay of the land. More players in tighter spaces make for a more detailed story.

With each year of residency, I grow fonder of our highly pixelated landscape. The losses I felt after leaving Alaska's majestic, large-scale landscape are more than compensated by the tighter weave of our local communities.

The Hills

Connecticut is more hardscrabble than gently rolling. Blame the glacier.

The verdant image of inland Connecticut is of gently rolling hills. Picture smooth slopes curving up and down the landscape like waves on water. Of bucolic pastures, productive farms, and smiling children.

The hardscrabble image of Connecticut is equally evocative. Picture some tough old Yankee in a rocky pasture hefting stone to a massive boundary wall, cursing as he works.

Both images are part of the Connecticut identity. Which resonates most with you? Which comes closest to earthly truth?

The two largest patches of truly rolling hills in the state are centered on Litchfield in the western highlands, and on Woodstock in the eastern highlands. These are swarms of drumlins, the anglicized version of *druim*, a Gaelic word for a rounded hill.

The soils of drumlins have special properties that, historically, made them exceptionally productive for grass in the form of pasture, hay or grain. In the early 19th century, the Rev. Timothy Dwight gushed about their fertility in his opus *Travels in New England and New York*. “I attribute the peculiar moisture of these grounds to the stratum lying immediately under the soil, which throughout a great part of this country is what is here called the hardpan.”

This is what geologists call lodgment till, a Scottish word for a “kind of coarse and obdurate land.” This variety of till is a stiff paste of pulverized rock that was crushed by glacier motion before being pressed and smeared onto the bedrock beneath the great pressure of passing ice. It was soft enough to be shaped into drumlins, but hard enough to hold up as hills. Being loamy and fertile, it made a wonderful agricultural soil, despite the presence of stone usually moved outward into well-built and widely spaced walls.

The alternative image of hardscrabble terrain — rocky hillsides, bedrock ledge, bouldery gravel, swamp and bog — is widespread in every town except for those in the Connecticut River Lowland. Such terrain is underlain by a melt-out (rather than lodgment) till composed of uncrushed debris that was let down on the land like a stony shroud from stagnant ice. Though seldom cultivated, these stonier landscapes were productively pastured, timbered, sugared and cut for fuelwood. Stone walls abound, and are commonly massive, closely spaced, and crudely stacked.

Melt-out till is the terrain Ezra Stiles described when he penned his poem about Cornwall, Connecticut: “Nature / Out of her boundless store, / Threw rocks together / And did no more.”

Which terrain is more common? Estimating aerial coverage from the state’s official surface materials map, the rolling hills of lodgment till make up less than 20 percent of the state’s geographic area. Conversely, the hardscrabble terrain of melt-out till covers approximately 70 percent.

Despite the overwhelming dominance of hardscrabble terrain in our state, the more bucolic picture of rolling hills usually graces our state’s marketing materials. Why? Perhaps the stony soils and irregular topography of most of our hillsides is hidden by forest. Or perhaps

because our smoothest hills provide most of our farm skyline views.

I’m fine with our bias for rolling hills. It’s a case of putting our best type of till forward.

Rock Stars

Let our state rock symbolize the great energy of our land and culture.

Ecologically, Connecticut has a state tree, flower, bird, animal and insect — the white oak, mountain laurel, robin, sperm whale and praying mantis, respectively.

Geologically, we have a state mineral, almandine garnet, the dark, ruby-red crystals that speckle mica-rich rock and color our beach sand. Almandine is ubiquitous statewide except for patches here and there. We also have a state fossil, a large, three-toed dinosaur footprint called *Eubrontes*, made by some fast, carnivorous predator. It’s featured at Dinosaur State Park, a world-class dinosaur trackway site in Rocky Hill.

Alas, there’s no state rock, perhaps because we’ve got too many excellent choices. There’s maroon brownstone from the sandstone quarries in Portland. Pink granite from Stony Creek in Branford. Greenish-black basalt from the traprock ridges of the Central Valley. Creamy marble from the Housatonic Valley in Kent. Sparkling quartz from Lantern Hill in North Stonington. Rusty bog iron from everywhere. Which to choose?

I say none of the above. My nomination is the barite breccia of Connecticut’s central valley. Not because it’s most representative or because it was once important to our economy, but because it’s most symbolic of the great energy responsible for creating our land and culture.

Barite is a discrete mineral: a naturally occurring, usually milky white, crystalline solid with a fairly fixed chemical composition, in this case a barium sulfate. It’s unusually heavy for a non-metallic mineral and unusually soft, making it diggable with a pick or chisel.

Breccia is a rock that’s been broken into jagged fragments that were later fused back together. One common type originates along fault planes where colossal masses of brittle rock shear past one another, crushing the contact between them.

These two phenomena came together in central Connecticut about 200 million years ago during the late Triassic Period. At the time, the land was being torn apart along great faults to create a rift basin not unlike that of east Africa today. Crustal blocks slid downward past one another, fracturing and fragmenting the contacts between them and opening up void space. Simultaneously, steaming-hot volcanic fluids circulated through these voids before precipitating as veins and clots of barite breccia.

Between 1838 and 1878, two prominent veins of barite ore on Jinny Hill and Peck Mountain in Cheshire were dug by hundreds of native Yankee and immigrant Cornish miners. Using hand tools, they picked apart a labyrinth of underground tunnels and shafts up to 4 miles in length, reaching a depth of 600 feet. The result was New England's most extensive and deepest mine, the abandoned diggings of which pose a modern collapse hazard. More than 160,000 tons of ore was hauled up to the surface, crushed, washed, loaded on barges, floated to New Haven for processing, and sold, mainly as a thickener for the white paint that still covers so many architecturally significant frame buildings.

In 1937, a gorgeous slab of barite ore was chosen to represent Connecticut in a small structure of specimen stones from all 48 states in the U.S. at that time. Long known as the "Little Stone House" at UConn, and soon to be designated the "Stone Pavilion," it saw the addition of stones from Alaska and Hawaii in the 1960s.

Whenever I see our state specimen in that exhibit, I try to imagine the tectonic dynamism associated with this fascinating rock, and the cultural dynamism associated with its use as a natural resource. That's the kind of energy that made Connecticut what it is today.

Lakes Lost and Found

Our thousands of inland wetlands were once a myriad of clear blue lakes and ponds.

Connecticut is speckled with thousands of inland wetlands. Dozens, if not hundreds, occur in every town. They are gorgeous in their autumnal tints and vernal greens, and are ecologically fascinating in every season.

I've spent dozens of career days standing knee-deep in peaty muck, trying to find out what lies beneath these swamps, bogs, marshes and fens. After building a platform of planks to stand on, we push down on our

stainless-steel sampling tubes, or we vibrate them down beneath a heavy weight, until we can go no further. At the bottom of nearly every sediment core is a gray stratum of inorganic silt and clay.

The significance of this stratum is not widely appreciated. Its texture was tight enough to cup rain and snowmelt. Its layering indicates standing water. Its gray color indicates it was never oxidized to the familiar browns and yellows of our soils. The absence of dark organic muck or of flecks of fossil plant tissue suggest a near-absence of living things.

These features combine to tell a story. The Connecticut landscape was once speckled by thousands of crystal clear, azure-blue ponds and small lakes. Henry David Thoreau described a similar landscape of the interior Maine in the 1850s as "a mirror broken into a thousand fragments ... reflecting the full blaze of the sun."

It's fun for me to imagine the colder, windier, drier, clearer and treeless wilderness left in the wake of the retreating Laurentide ice sheet about 20,000 years ago, yet before an abrupt warming about 15,000 years ago. For at least two millennia, the land was only sparsely vegetated, an interval at least five times longer than the whole of Connecticut history since Adriaen Block's 1614 voyage. That austere world was decorated with a nearly continuous labyrinth of elongated blue lakes and ponds, most of them the size of our present inland wetlands. Though ice-covered for much of each year, these gems were pure enough to drink from whenever and wherever they were unfrozen.

The Connecticut we know and love today is a much warmer and more verdant place. We have a long warming period to thank for that. A world warmed up enough to support luxurious life. This began when our hillslopes were painted green with a carpet of tundra, our pond shorelines were rimmed by grass, sedge, reeds and shrubs, and the standing water was enriched enough to support an abundance of aquatic plankton.

Connecticut's most famous fossil of this transition from glacial to nonglacial life is the Pope mastodon, a nearly complete skeleton discovered in 1913 at Hill-Stead in Farmington. Perhaps it came for a drink.

As the warmth kept coming, so too did the biological richness. Ever so gradually, our small lakes and ponds filled in with organic matter produced mainly by the aquatic ecosystem and less by sediment washing in. The

result was the mélange of swamps, marshes and bogs we call inland wetlands.

Humans are responsible for the last three phases of wetland history. Those that were not ditched and drained for settlement agriculture were often impounded to create the reservoirs that powered industry in the era before fossil fuels. In the 20th century, we opted to protect wetlands vigilantly. In the 21st century, we will watch them change as a consequence of our human-altered climate.

The ultimate fate of our inland wetlands is to fill in, dry out, and become more terrestrial than at present. Thankfully, that will be a long time from now.

Crushing Insights

There's nothing magical about the audible seismic vibrations called the Moodus Noises.

Connecticut experiences thousands of small earthquakes each year because the brittle bedrock beneath our feet is being squeezed by the steady vise of tectonic pressure. Nearly all are too small to feel or hear.

Not so in Moodus, a village in the town of East Haddam. There, the rumbling, rattling and roaring of micro-earthquakes is sometimes audible.

Moodus is short for Machimoodus or Mackimoodus, which means "place of bad noises" in the Algonquian dialects spoken in the region. The earliest English colonists also heard these growling noises when they settled in the late 17th century, interpreting them as a divine warning to heed the Lord's power and reject sin.

There's a perfectly straightforward scientific explanation for these "bad noises." They result from unusually shallow seismic displacements within an unusually strong crust that are acoustically focused by rock fractures and topography. These conclusions were proven by a major geotechnical study done in the late 1980s in response to the potential threat posed by the nearby Haddam Neck Nuclear Power Plant, now decommissioned.

The study began with an analysis of micro-earthquake swarms from 1981, 1982 and 1986, with magnitudes up to 3 and with some events accompanied by noises. Next, they drilled a mile-deep borehole to examine the

solid crust directly. At the bottom of their originally cylindrical hole, the hard, rigid, granitic rock had been squeezed into an ellipse by steady easterly pressure exceeding 800 atmospheres. Finally, they carefully instrumented a 1987 swarm of 170 quakes, confirming that they were caused by east-directed compressional movements on small geological faults.

Beyond its curious noises, Moodus does pose a seismic threat. The state's largest known earthquake happened there on May 16, 1791. The Middletown Gazette reported two strong shocks, the first lasting 12 seconds, eight aftershocks and hundreds of tremors that day. Chimneys were wrecked, stone walls thrown down, and fish jumped out of the water. Boston, New York and our whole state felt its booms and shakes. These historic descriptions yield a magnitude of 4.3.

Smaller quakes continued at Haddam through 1794, when things went quiet for a while. Since then, the noises have returned at irregular intervals to haunt those who like to be haunted and fascinate those who enjoy investigating Earth's power.

Revealing Climate's Story

An off-limits pond in Branford helped launch the study of climate change.

Colonial winters were colder winters in New England.

In 1607, a bitterly cold winter at Popham Point, Maine, changed the course of U.S. history. Olde England's first pioneering attempt to create a New England colony failed after one year, delaying pioneering settlement for 13 years. In February–March 1717, the legendary Great Snow buried fences and houses for days. In December 1777, George Washington's Continental Army froze at Valley Forge, Pennsylvania. In 1810, an Arctic blast named Cold Friday blew in from the north to plunge overnight winter temperatures down more than 60 degrees Fahrenheit.

New England's "Year without Summer" in 1816 was a cold year made colder by the eruption of Tambora on the island of Sumbawa in present-day Indonesia. Every month had at least one hard frost. More than a half-foot of snow fell in June. Daylight skies were a gray haze. Sunsets deepened with crimson red.

These climatic stories are anecdotal. All predate 1850, when quantitative measurements of temperature,

precipitation and other parameters became reliable enough and global enough to serve as a baseline for more recent climate change. The Intergovernmental Panel on Climate Change, for example, uses the interval 1850–1900 as their oldest standard. For Connecticut’s official analysis, the starting year is 1895.

So how do we know what the Connecticut climate was like before these recent measurements?

One answer is lowly Linsley Pond in Branford. It’s a perfectly ordinary small lake with a wooded shoreline, an area of only about 23 acres, and no public access. The small size, crude symmetry, limited inflow-outflow, and lack of disturbance of this glacial kettle lake made it the perfect place to pioneer the backstory of climate change in Connecticut.

The pioneer was Edward Deevey Jr., an enthusiastic and creative Ph.D. student of G. Evelyn Hutchinson at Yale University. Deevey’s 1938 dissertation, *Studies of Connecticut Lake Sediments*, investigated the bottom sediments of Linsley Pond as an undisturbed archive of pollen, fossils and chemical markers linked to environmental history and climate change. From this and other nearby lakes we’ve since extracted the deep-time history of Connecticut climate change dating back to about 20,000 years. This narrative moves from the tundra of early postglacial time to drier boreal conditions, to the richer deciduous forest of peak interglacial warmth, and to the Little Ice Age cooling within the last few millennia. Near the top of each sediment core, the human and environmental histories become entangled, and the trend is toward warmth.

Also emerging from Linsley Pond was a new discipline called limnology, aka lake science. There, in the 1940s and 1950s, Hutchinson and his students explored the quantitative links between climate, hydrology, geochemistry, botany and zoology to help pioneer a new discipline called ecology.

When lake sediments are used to rewind ecology back in time, the result is called paleoecology. This seamless narrative puts the present in context and helps us understand future impacts from climate change.

Land of Steady Habits

The origin of our land makes it strong, stable and steady against most natural hazards.

Our unofficial state motto, “The Land of Steady Habits,” has stuck like a patch of Velcro. In a recent essay, state historian emeritus Walter Woodward explained when this moniker originated and why it endures. First used in the early 1800s, it describes the “ancient tradition of assuring political stability through repeatedly electing the same officials to high office.” The phrase has lasted, he continues, because it’s “remarkably elastic, capable of changing with the times.”

But what about the physical landscape that gave rise to the historic culture that gave rise to the saying? Could the steadiness of our landscape be partly responsible for our steady habits at a deeper level? My answer is a partial yes.

We live on what we geologists call a “passive continental margin.” This is our way of saying that nothing dramatic has happened tectonically in the last 200 million years. Before that, the land we call Connecticut experienced plenty of action, for example the collision of continents responsible for creating mountains as high as the Himalayas, and the tearing apart of those mountains to make room for a new ocean, the Atlantic.

But since then, the geothermal power supply has been unplugged. The result is half an eon of steady erosion that has leveled our formerly rugged peaks and exhumed the deep crystalline roots of those ancient mountains. Our crust is cool, thick, hard and resistant to change, with no need to worry about catastrophic earthquakes, volcanic eruptions, major landslides, sinkholes, or land subsidence, except when caused by human error.

Slow and steady motion of the North American plate is responsible for Connecticut’s moderate climate. As our land mass drifted northward from equatorial- to mid-latitudes, the nearby ocean widened. Average and extreme temperatures are moderate relative to continental interiors. Precipitation falls all year long, with no less than about 3 inches in February and 4 or 5 in May. Our moderate climate minimizes the danger from the wildfires and droughts which typically plague other climes.

Connecticut used to have the reddish-yellow, clay-rich soils responsible for serious flooding south of the glacial border. During glaciation, the last of these gooey ancient soils were stripped away and replaced with

sandier soils that allow rain and snowmelt to infiltrate downward to aquifers, rather than run off in torrents, yet loamy enough to hold moisture. And except for floodplains and coastal marshes, most of our land has gentle to moderate slopes, allowing it to shed rain efficiently.

Near the shore and large streams, we remain vulnerable to sea level rise, hurricanes and nor'easters. Fortunately, the vast bulk of the land lies well above any projected flood or shoreline submergence.

By and large, we live in a land of steady habits relative to most other places: tectonically, gravitationally, climatically and ecologically.

Alas, the atmosphere above us is less steady than the terrain. Within the past century, our habit of burning copious fossil fuels has made our meteorology more volatile than before. It's time to return the atmosphere back to its older, steadier habits. ●

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ON THE HUNT FOR THE OLDEST TREE IN CONNECTICUT

By Erik Ofgang

At least 83 years before Columbus set sail for the New World and nearly 200 years before Shakespeare published his first play, a tree began growing in what would several centuries later be known as Goshen, Connecticut.

The black gum species took root in a boreal swamp, which protected the tree from the farmers, settlers and loggers who would clear most of Connecticut's forests by the 1800s. More recently it bore silent witness as this out-of-breath journalist followed 24-year-old theology student Jack Ruddat through an ancient forest teeming with life and hiking obstacles.

"It's almost like the plants want to guide you away from your destination," Ruddat said as he doubled back

slightly, trying to forge a path through the old forest's vegetation. Ruddat was joking, but it was still not a comforting thing to hear nearly an hour into a hard, off-trail hike that had taken us far outside cellphone range, and left me thoroughly disoriented and unsure of which direction led back to where we'd parked. However, at that point I had no choice but to follow Ruddat deeper into the ever-darkening woods.

What Is The Oldest Tree In Connecticut?

Simsbury's Pinchot Sycamore is often — incorrectly — given this title; it's thought to be about 200–300 years old. But when I began researching the question for this story, no one seemed to know the answer. Trees in Connecticut tend to be younger than ones you'd find out west such as the sequoias which can live more than 3,000 years, and bristlecone pines which can live more than 4,000 years, possibly as long as 5,000 years.

I was close to letting my editor know this story was not going to work out when Beth Bernard, director of the Connecticut Forest & Park Association, told me about Ruddat. In his spare time, the West Hartford resident has, for many years, trekked into the woods hunting for the state's oldest trees.

In a 2017 issue of the Connecticut Forest & Park Association's magazine for members, Ruddat wrote about finding what he then believed to be the oldest tree in the state, an eastern red cedar growing on a cliff at Talcott Mountain State Park in Simsbury.

Discovered by theology student Jack Ruddat, the oldest known tree in Connecticut so far is an unremarkable-looking black gum in the Northwest Corner.

Discovered by theology student Jack Ruddat, the oldest known tree in Connecticut so far is an unremarkable-looking black gum in the Northwest Corner.

Scientists and enthusiasts such as Ruddat are able to determine the age of a living tree with a tree borer — a tool that allows one to remove a small sample about the width of a pencil from a tree and then count its tree rings under a microscope.

Ruddat became obsessed with this process at a young age. "I have a certain fascination for old things, particularly living things," says Ruddat, who is a graduate of Worcester Polytechnic Institute and is pursuing his master's in theology at Holy Apostles

College & Seminary in Cromwell while working for the Colonial Bronze Co. in Torrington. “I’m pretty sure I’m the only kid who cored trees for fun.”

To find old trees, Ruddat begins by using Google Maps and other mapping tools to look for old-growth forests in hard-to-develop areas of the state including swamps, steep ravines, rocky slopes, and cliffs. The precise definition of old-growth forests is debated, but Ruddat and many others define them as forests in which the majority of canopy trees are at least 150 years old.

Once Ruddat visits an old-growth area, he can usually tell just by looking at the trees which ones are quite old based on subtle signs that vary depending on the tree species. He then tries to core a few of the oldest-looking trees he can find and pins their location in a GPS app that works even when his phone doesn’t have reception.

In 2016, Ruddat ventured onto the cliff face to gather a core of the red cedar at Talcott Mountain State Park. From that core, he counted about 530 tree rings. But he hadn’t gotten a complete sample, and some rings couldn’t be counted due to fire damage the tree had sustained much earlier in its life. Ruddat’s conservative estimate for the tree was more than 600 years old, though he said it could be younger or older.

Because Ruddat was a hobbyist, and one still in high school at that, he didn’t think anyone would believe he’d found the oldest tree. So he turned to Thomas Worthley, a professor in the University of Connecticut’s Department of Natural Resources and the Environment. Worthley examined the core and counted a similar number of tree rings as Ruddat had. “I feel like his estimate of the age of that particular tree was pretty darn good,” says Worthley, adding that he was equally struck by Ruddat’s passion for the hunt. “I was impressed with his perseverance in searching for these very old, old trees.”

When I contacted Ruddat in September and asked him to show me the Talcott Mountain State Park tree, he told me we couldn’t hike there because it was too dangerous, but he had found an even older tree, or at least one with more tree rings visible. This tree was at least 617 years old and located in Wildcat Swamp, which is divided between Goshen and Norfolk. I asked him to take me to it.

As the afternoon shadows lengthened and my tiredness increased, Ruddat paused a few feet in front of me. “That’s the oldest tree in Connecticut,” he said.

The tree he pointed at was tall and slender, but at first glance little set it apart from the trees around it. However, Ruddat pointed out details that hint at its age. It has patches of very blocky, thick bark, similar to that of an alligator hide. It also has numerous knobs and bumps where branches previously grew and a “stag-headed crown” where most branches are clustered near the top of the tree. ●

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ITAEWON HALLOWEEN TRAGEDY CONJURES GHOSTS OF 1995 SEOUL STORE COLLAPSE

By Andrew Jeong

SEOUL — Built in 1989, the Sampoong Department Store was a sprawling nine-story structure that proudly stood in Seoul’s luxurious Gangnam district. It symbolized South Korea’s economic rise from a poor nation ravaged by the Korean War to a developed country that was now producing Samsung TVs and Hyundai sedans.

But on a hot, humid summer day in June 1995, the store came tumbling down, crushing more than 500 people to death — and along with them, South Korea’s image as a newly affluent country. The collapse remains the deadliest peacetime disaster to hit South Korea and its capital, Seoul.

Minutes after the collapse, footage showed bloodied people walking away from the debris in shock. Rescuers recalled finding the limbs and bodies of the dead, while survivors feebly called out for help, stuck under layers of cement and twisted iron.

South Korean officials blamed the department store’s management and the construction company that had

built the building, saying it had sidestepped safety rules to illegally expand the structures and increase profits. Executives also ignored signs of trouble: Staffers told investigators that they had reported cracks in the walls to higher-ups, hours before the collapse.

In the years and months leading up to the disaster, local government officials looked the other way, prosecutors said, after receiving bribes from the department store's top brass.

The Sampoong disaster "raised questions about whether South Korea's zeal to modernize has caused contractors and government officials to cut corners on safety," The Washington Post reported in 1995. A man who lost his wife said that Sampoong should be a "wake-up call."

"We want to remind people of how large this accident was, and that we have to prevent things like this from happening in the future," he said, almost six months after the tragedy.

More than 27 years later, a crowd crush killed more than 150 people in Seoul's Itaewon neighborhood last week — the single-bloodiest incident in Seoul since Sampoong's collapse. On the Saturday before Halloween, tens of thousands of partygoers gathered in the area for Halloween festivities. Some people, caught in a narrow alley as people tried to move in different directions, got pressed into one another and suffocated.

The episode has led some to question whether the country has learned anything in the three decades since Sampoong.

Author and journalist Lee Sun-min, a survivor of the Sampoong disaster, is one of those people. In 1995, she was a recent high school graduate working part time at Sampoong. She oversaw a group of lockers on the department store's basement floor, where shoppers would leave their belongings while they went shopping.

"Someone called for me from the other side [of the hall], so I said 'yes' and was about to walk over to where I heard my name," she said in a recent interview. "That's when the building collapsed." Debris and shrapnel from the collapsing building that were flying "as fast as bullets" hit her in the back and head, she said. "Blood was pumping out of me everywhere," she said. "I remember I didn't even know where I was injured. I don't remember feeling any pain."

On Thursday, angered by the tragedy in Itaewon, she wrote a statement on Twitter, saying it was hard to understand how that many people in the middle of Seoul could die in a single incident, in peacetime. "I just don't understand. How? Why? Again?"

"I've said this before: It feels like the entire country is playing Squid Game," she added, referring to the hit Netflix drama series that depicts a fictional life-or-death survival game.

"Disasters do not discriminate," she said. "It was just pure luck it wasn't you."

The abrupt loss of hundreds of people in 1995 shook South Korea, forcing it to confront what it had tolerated during its swift economic ascension — safety shortcuts, neglect and greed. In the aftermath, South Korea tightened government oversight of building safety and strengthened penalties for unintentional manslaughter, according to local reports at the time.

The tragedy in Itaewon is forcing the country to confront familiar ghosts.

Preliminary police investigations showed that emergency calls started coming in several hours before the crowd crush turned deadly. Those calls went ignored and unheeded, police said. Police officials have also been criticized for deploying 137 officers to the area, despite expectations that around 100,000 people would be spilling into the narrow alleyways of Itaewon.

In a news conference this week, South Korean police admitted lapses that may have contributed to the high death toll. Top South Korean officials have also apologized, pledging once more that this will never happen again, as their predecessors did in 1995.

Just as the Sampoong disaster was a wake-up call for a fast-rising economic power, the Itaewon tragedy came at another moment of ascendance for Korea, this time as a global cultural beacon, thanks to the Oscar-winning film "Parasite" and global pop stars like BTS.

"It's just simply so sad and arguably infuriating, especially to the victims' families, to realize how preventable all these tragedies are," said Alexis Dudden, a professor of history focusing on East Asia at the University of Connecticut.

Both tragedies show a pattern of “people in charge presuming a level of untouchability and unaccountability” at the cost of human lives, she added.

But one striking part of the Itaewon disaster is that people from more than two dozen countries — including the United States, Japan, China, Russia and Iran — got killed, Dudden said. “That’s what makes South Korea great. People from countries that don’t get along, get along when they’re in Korea.”

She added, “There’s something about Korea right now, which makes it this global magnet for cool. And to still not have squared the responsibility that goes along with that ... is just sad.” ●

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IS ALGAE THE NEW KALE?

As the global population inches toward 10 billion and climate change threatens existing food security, versatile, nutritious algae is entering the stage.

By Sarah Gibbens

“It tastes like bacon. It’s crispy, and then you get this big flavor bomb,” says Beth Zotter, the CEO of Umarm Foods. The San Francisco-based start-up is making bacon from an unlikely source—seaweed.

Zotter is one of many entrepreneurs tapping into the potential of algae, a category that encompasses thousands of different marine species, ranging from floating clumps made of green-tinted plankton to long ribbons of kelp.

It’s a booming industry that needs to keep growing, say the scientists who think algae has potential to help feed the world’s growing population. The global population is now hovering around eight billion; by 2050, it will reach nearly 10 billion, according to the United Nations.

To feed that many people, global food production would need to grow by 50 percent, an increase that would require 1.4 billion acres of land, according to one

study. Cultivating that much land would make it harder to fight climate change and protect species from extinction because ecosystems such as forests sequester carbon pollution and foster biodiversity. But algae in its various forms may help fill those nutritional gaps.

“This crop doesn’t require freshwater. Doesn’t require land. Doesn’t require fertilizer,” says Charles Yarish, a professor emeritus at the University of Connecticut. “What it requires is ocean water and light.”

Already, businesses are cashing in on seaweed’s potential. Seaweed is the fastest growing aquaculture sector in the U.S. By 2027, the global seaweed market could be worth \$95 billion, up from \$40 billion in 2020. Here’s what you need to know about algae—and the innovative ways in which it may appear on your dinner plate.

What Is Algae?

There may be as many as one million different species of algae. They can broadly be assigned to two different categories.

There’s the macro algae—think large towers of kelp forming forests underwater and sargassum wrapping around the ankles of swimmers at the beach. And there’s the micro version—microscopic organisms like phytoplankton that form the basis of the world’s marine food chains.

Algae’s biological makeup—the way they grow and the nutrients they contain—are what makes them attractive to entrepreneurs, scientists, and farmers.

Like plants on land, they use photosynthesis to grow, converting energy from the sun and carbon dioxide in the sea and atmosphere into new plant matter. But unlike plants on land, algae don’t need to produce support structures.

“The reason algae grows so much faster [than land plants] is they’re suspended in the water. They don’t need structural materials to hold them up,” says Charles Greene, an ocean scientist at the University of Washington.

Some species of kelp can grow as fast as two to three feet per day.

This fast growth comes in handy when trying to absorb carbon dioxide, the world's most ubiquitous greenhouse gas. Too much carbon dioxide pollution not only warms the planet, but it also makes the ocean more acidic and ultimately inhospitable to sea creatures like shellfish and corals—a process called ocean acidification. In the Pacific Northwest, scientists are experimenting with growing kelp to treat acidic waters.

Why Is Algae So Good For Our Diets?

But the real climate benefit, says Greene, comes from algae's ability to feed the world while taking up less space than land-based crops. Algae proponents note that the U.S. alone has 4.3 million square miles of national waters that could be used for algae farming without affecting ecosystems on land.

Studies have shown seaweed has major potential as a health food. It's full of protein, fiber, rich with micronutrients like iron, and full of vitamins. And while scientists are just beginning to study the potential health benefits of microalgae, they're finding many species are high in protein and amino acids. Both sustainable and nutritious, seaweed was described as "revolutionary" at a recent U.N. ocean conference.

In an analysis published last month, Greene and his coauthors hypothesized that algae farms could produce all the protein the world will need in 2050.

"We don't think the whole world will necessarily get protein from algae, but we recognize that we must look for alternatives," he says. "Microalgae in the next decade is going to take off in the human food supply."

An Evolving Industry

Seaweed has been used in cuisines around the world for thousands of years. Nori, the dark casing wrapped around sushi, was popularized by Japan when they began farming it 400 years ago.. In Hawaii, a type of seaweed called limu is an essential part of traditional diets, and Irish sea moss has been used to make pudding and beer. Today, China farms the most seaweed in the world, primarily for consumption.

But in the U.S., Greene says algae began to generate interest during the 1970s, when gas shortages prompted scientists to look for other sources of fuel.

Like corn, algae can be turned into ethanol and used as a gas substitute. Compared to an acre of corn, algae grown in the same amount of space can produce 10 to 100 times more fuel.

"We figured out how to grow these algae pretty well. But they're fairly expensive to grow, and petroleum is pretty cheap," which is why algae never took off as a fuel source, says Greene.

But microalgae grown for human consumption has taken off with the meat alternatives market, as companies like Impossible Burger and Beyond Meat use plants to mimic the taste, look, and feel of meat.

"I was excited by things like Impossible Foods," says Greene. "These plant-based meat substitutes use things like soy and pea in their production, and I tell people algae is so much more nutritious. Those things are like cardboard compared to algae."

As the alternative meat market grows—one projection predicts it will be worth \$12 billion by 2029—algae is poised to become a popular ingredient in bacon and burgers.

Algae is being used as a valuable ingredient to improve fake meat products, including the color pigments in red algae that can mimic the color of beef, the umami flavors of algae that make fake seafood taste like the real thing, and nutrients like Omega-3 fatty acids that make food healthier.

A Food Of The Future?

But while using algae to feed a hungry world may add up on paper, there are still challenges to growing microalgae at a large scale, says Liz Specht, the vice president of science and technology at the Good Food Institute, a nonprofit that promotes alternative meat products.

Say you grow algae in an inexpensive container like a human-made pond, she says at some point that algae will grow so quickly and become so dense that light will no longer penetrate the pond, and growth will stall.

"You can overcome those challenges with more sophisticated bioreactors with LEDs, or if you're piping algae through tubes with more surface area," says Specht—but at that point production becomes expensive.

New methods to continuously harvest microalgae are being developed, she notes, but not yet effective enough for a large scale.

Their macro genetic cousins, however, are quickly finding room to grow. Unlike microalgae, which need more direct access to sunlight, macroalgae can grow vertically, as deep as eight feet below the surface. In Maine, the largest seaweed producing state in the U.S., seaweed production is projected to double by 2025.

Maine is where Zotter sources the seaweed for her plant-based bacon— and other yet-to-be-announced meat-like products.

“There’s a huge opportunity there that has been completely overlooked,” Zotter says. “Seaweed should supply the world’s future protein.” ●

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WHY MAGICAL THINKING IS SO WIDESPREAD – A LOOK AT THE PSYCHOLOGICAL ROOTS OF COMMON SUPERSTITIONS

By Dimitris Xygalatas

Growing up in Greece, I spent my summers at my grandparents’ home in a small coastal village in the region of Chalkidiki. It was warm and sunny, and I passed most of my time playing in the streets with my cousins. But occasionally, the summer storms brought torrential rain. You could see them coming from far away, with black clouds looming over the horizon, lit up by lightning.

As I rushed home, I was intrigued to see my grandparents prepare for the thunderstorm. Grandma would cover a large mirror on the living room wall with a dark cloth and throw a blanket over the TV. Meanwhile, Grandpa would climb a ladder to remove

the light bulb over the patio door. Then they switched off all the lights in the house and waited the storm out.

I never understood why they did all this. When I asked, they said that light attracts lightning. At least that was what people said, so better to be on the safe side.

Where do these kinds of beliefs come from?

My fascination with seemingly bizarre cultural beliefs and practices eventually led me to become an anthropologist. I have come across similar superstitions around the world, and although one may marvel at their variety, they share some common features.

The Principles Of Magical Thinking

At the core of most superstitions are certain intuitive notions about how the world works. Early anthropologists described these intuitions in terms of principles such as “similarity” and “contagion.”

According to the principle of similarity, things that look alike may share some deeper connection, just as the members of a family tend to resemble each other both in appearance and in other traits. Of course, this is not always the case. But this inference feels natural, so we often abuse it.

Case in point: The light reflected on the surface of a mirror is not related to the light resulting from the electrical discharges produced during a thunderstorm. But because they both seem to give off light, a connection between the two was plausible enough to become folk wisdom in many parts of the world. Likewise, because our reflection on the mirror closely resembles our own image, many cultures hold that breaking a mirror brings bad luck, as if damage to that reflection would also mean damage to ourselves.

The principle of contagion is based on the idea that things have internal properties that can be transmitted through contact. The heat of a fire is transferred to anything it touches, and some illnesses can spread from one organism to another. Whether consciously or unconsciously, people in all cultures often expect that other kinds of essences can also be transferred through contact.

For example, people often believe that certain essences can “rub off” on someone, which is why casino players sometimes touch someone who is on a winning streak. It is also why, in 2014, a statue of Juliet, the

Shakespearean character who fell madly in love with Romeo, had to be replaced due to excessive wear caused by visitors touching it to find love.

A Search For Patterns

These kinds of superstitions betray something more general about the way people think. To make sense of our world, we look for patterns in nature. When two things occur at around the same time, they may be related. For instance, black clouds are associated with rain.

But the world is far too complex. Most of the time, correlation does not mean causation, although it may feel like it does.

If you wear a new shirt to the stadium and your team wins, you might wear it again. If another victory comes, you begin to see a pattern. This now becomes your lucky shirt. In reality, myriad other things have changed since the last game, but you do not have access to all those things. What you know for sure is that you wore the lucky shirt, and the result was favorable.

Superstitions Are Comforting

People really want their lucky charms to work. So when they don't, we are less motivated to remember them, or we may attribute our luck to some other factor. If their team loses, they might blame the referee. But when their team wins, they are more likely to notice the lucky shirt, and more likely to declare to others that it worked, which helps spread the idea.

As a social species, so much of what we know about the world comes from common wisdom. It would therefore seem safe to assume that if other people believe in the utility of a particular action, there might be something to it. If people around you say you should not eat those mushrooms, it's probably a good idea to avoid them.

This "better safe than sorry" strategy is one of the main reasons superstitions are so widespread. Another reason is that they simply feel good.

Research shows that rituals and superstitions spike during times of uncertainty, and performing them can help reduce anxiety and boost performance. When people feel powerless, turning to familiar actions provides a sense of control, which, even if illusory, can still be comforting.

Thanks to these psychological effects, superstitions have been around for ages, and will likely be around for ages to come. ●

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ROBERT MILLER: LONG ISLAND SOUND IS A 'RESTAURANT' FOR BIRDS AND OTHERS BECAUSE OF ONE TYPE OF FISH

By Robert Miller

Cormorants and gannets and ospreys now dive with abandon into Long Island Sound. Harbor seals sun themselves on the Sound's beaches and rocky outcroppings. Dolphins — even, occasionally whales — hang a left from the Atlantic Ocean and swim in for a visit.

And what do we have to thank for this growing abundance in the state's most important and most complex natural resource?

Menhaden, aka bunker — the most important little fish that feeds everyone else.

And also, plankton, which, in turn, feeds the menhaden.

Those are two of the points made last week during the Connecticut Ornithological Association's second annual science conference.

A video recording of the all-day conference, entitled "Long Island Sound; Restaurant for Birds" is on the association's website at www.ctbirding.org.

The conference gave an overview of the different habitat of the Sound, the huge variety of species that live there and the ways that climate change is altering it.

"Long Island Sound is changing and its bird are changing," said Tom Robben, the association's president and one of the conference's moderators.

“Some species are increasing, some are declining and we don’t always know why.”

The Sound is a big estuary, running 110 miles west to east, with salt water from the Atlantic mixing continually with fresh water from Connecticut’s rivers — primarily the Connecticut, the Housatonic and the Thames.

Miraculously, it is thriving in one of the most densely-populated parts of the United States. About 4 million people live along its coastline and about 8 million in its watershed which stretches north to the Quebec border.

Researchers now know the Sound’s waters are getting warmer. Sea levels are rising as well.

That’s changing the Sound’s fish life, said John Waldman, professor of earth and environmental sciences at Queen’s College and one of the conference’s speakers.

Waldman said lobsters and winter flounder — once common in the Sound — are now hard to come by. Others, like blackfish, summer flounder and porgy, are filling up its waters.

“Porgy used to be rare,” Waldman said. “Now, you can’t drip a baited hook in the Sound and not catch one.”

Mary Beth Decker, a research scientist at Yale University’s Department of Ecology and Environmental Biology, explained at the conference that the Sound is a place of many habitats — salt marshes, mud flats, rocky cobbles, open water and estuarine bays — each with its own plants and food supply, each favored by different species of birds.

In turn, George McManus, professor of marine sciences at the University of Connecticut, talked about the Sound’s rich stew of microscopic plankton and zooplankton, with their populations blooming in the spring to replenish the Sound with food.

“Plankton is the foundation of the world,” said Robben of the ornithological association. “Without it, you don’t have anything.”

Menhaden, rich in oil, growing to about 8 to 10 inches long, are the keystone species, the bridge from zooplankton to osprey and striped bass.

They are filter fish. They school together in huge numbers, swimming with their mouths open, feeding on plankton and zooplankton..

And because there are so many of them, other, larger fish eat them. So do seabirds. So do seabound mammals.

Mary Ellen Mateleska, director of education at Mystic Aquarium, said that as the Sound’s water quality has improved, menhaden are becoming more common.

As a result, she said, more creatures come to feed in the Sound. There are now four seal species that live there.

“Twenty years ago, you might have found three,” she said.

And, she said, people now see Atlantic white-sided dolphins plying the Sound’s waters.

And on rare occasions, they’ve seen whales, including humpback whales, fin whales and minke whales.

“They might be swimming up the coast and they follow the fish,” Matelska said.

Humans don’t eat menhaden. But they catch them to hook on their lines as bait fish.

Native Americans used them as fertilizer. Menhaden may have been the fish the Pilgrim Fathers used to feed their hills of squash and corn.

Because they’re oily little fish, they’re also netted in great numbers and turned into fish oil supplements. Those Omega-3 supplements people pop may be menhaden-based.

They also netted in great numbers, ground up and fed to animals. Poultry farms use fish food to feed their chickens.

Which, said Waldman of Queens College, leaves us with a choice.

“Society has to decide whether it wants a healthy environment,” he said, “Or KFC.” ●

JAMES O'DONNELL: A DECADE OF CHANGE FOR CONNECTICUT AND CLIMATE CHANGE

By James O'Donnell

Connecticut has always been a leader in climate change research and policy. In 1862 professors from Yale published the results of their analysis of temperature measurements in New Haven. They compared data from 1779-1820 to data from 1820-1865 and found that there was no significant difference. There was no warming.

Unfortunately, data now shows significant warming and higher sea levels, and scientists attribute this to greenhouse gas, or GHG, emissions and expect these trends to continue.

Connecticut recognized this problem in 1990, and since then has aimed to reduce emissions. In 2008 the target reduction of 80 percent below 2001 levels by 2050 was established. To achieve this, Connecticut joined the Regional Greenhouse Gas Initiative to incentivize generation by sources that reduce GHG emissions and created the Connecticut Green Bank to accelerate the growth of solar generation. More recently, there have been contracts to purchase electricity from wind and nuclear sources.

In 2015 then-Gov. Dannel Malloy formed a Council on Climate Change to assess progress toward the emissions reduction targets, and to assess the practicality and economic impacts of implementation strategies. The report concluded that almost all transportation, heating and cooling would need to be made more efficient and powered by electricity generated by non-carbon sources. Further, consultants showed that this could be accomplished without damaging the economy of the state.

A decade ago, on Oct. 29, 2012, Super Storm Sandy prompted wide concern about our vulnerability to the consequences of climate change and severe weather, marking the beginning of a rapid expansion across

Connecticut of planning informed by climate change. Sandy was an unusual combination of weakening late-season hurricane and fall storm. It created strong and persistent northeasterly winds, very high-water levels and extensive coastal flooding in many shoreline towns. In combination with Hurricane Irene and the Halloween Nor'easter (Storm Alfred) of the previous year, Sandy solidified awareness of the impact that climate change can have on the risks of severe weather.

The legislature acted quickly to require municipalities to include climate change in their planning, and the Department of Energy and Environmental Protection and the University of Connecticut created the Connecticut Institute for Resilience and Climate Adaptation to assist them. CIRCA, in collaboration with state agencies, won a \$54 million grant to protect the South End neighborhood of Bridgeport from flooding, foster economic redevelopment in the area, and to develop similar plans for other areas in New Haven and Fairfield counties. These projects are ongoing and, with additional funds from the legislature, the approach extended to other parts of the state.

Gov. Ned Lamont re-established the GC3 in 2019 and expanded the charge to consider adaptation and resilience, with particular emphasis on the impacts of the energy transition and adaptation strategies on low-income, Black, Indigenous, Latinx people, and people of color (Environmental Justice, or EJ, communities). Last year's report of the GC3 led to many government actions. An assessment of the vulnerability of the state infrastructure is underway; several state agencies created new staff positions to coordinate action and planning on climate issues; a substantial grant fund was authorized to assist towns to plan and execute projects, and to ensure that EJ community groups could participate in planning and share in the benefits. Since most federal programs require that a fraction of the costs associated with projects (typically 20-30 percent) be borne locally, legislation to help municipalities generate revenue in an equitable way has been adopted.

Much has been done since Super Storm Sandy, but we are at best only at the end of the beginning. The transition to a resilient and equitable society and economy with net-zero GHG emissions will require at least three or four more decades of creative planning and investment. Sustaining and accelerating the change that we have started will require citizens to support

political leaders prepared to do difficult things, and to modify some behaviors that have become entrenched.

Connecticut has demonstrated the capacity to develop the innovations in science and engineering that are necessary. But we now need to scale up implementation rates through entrepreneurship, workforce training, and a combination of effective regulation and incentives. Other parts of the world are facing similar challenges. It is likely that the economies in areas that are most effective in preparing their infrastructure for the future will have substantial advantages.

A safe and vibrant future for Connecticut depends on GHG emissions reductions to limit climate change and its impact, and locally appropriate adaptation and resilience actions to enhance public safety and the societal infrastructure that can sustain economic competitiveness. ●

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HOW COOKING FOOD AND GATHERING FOR FEASTS MADE US HUMAN

By Maddie Burakoff

NEW YORK (AP) — If you're cooking a meal for Thanksgiving or just showing up to feast, you're part of a long human history — one that's older than our own species.

Some scientists estimate our early human cousins may have been using fire to cook their food almost 2 million years ago, long before *Homo sapiens* showed up.

And a recent study found what could be the earliest known evidence of this rudimentary cooking: the leftovers of a roasted carp dinner from 780,000 years ago.

Cooking food marked more than just a lifestyle change for our ancestors. It helped fuel our evolution, give us bigger brains — and later down the line, would become

the centerpiece of the feasting rituals that brought communities together.

"The story of human evolution has appeared to be the story of what we eat," said Matt Sponheimer, an anthropologist at the University of Colorado at Boulder who has studied the diets of early human ancestors.

The new study, published in the journal *Nature Ecology and Evolution*, is based on material from Geshar Benot Ya'aqov in Israel — a watery site on the shores of an ancient lake.

Artifacts from the area suggest it was home to a community of *Homo erectus*, an extinct species of early humans that walked upright, explained lead author Irit Zohar of Tel Aviv University.

Over years of "digging in mud" at the site, researchers examined a curious catch of fish remains, especially teeth, said Naama Goren-Inbar, an archaeologist at the Hebrew University of Jerusalem who led the excavations.

Many were from a couple of species of big carp, and they were clustered around certain spots at the site — places where researchers also found signs of fire. Testing revealed the teeth had been exposed to temperatures that were hot, but not super-hot. This suggests the fish were cooked low and slow, rather than tossed right onto a fire, Zohar explained.

With all of this evidence together, the authors concluded that these human cousins had harnessed fire for cooking more than three quarters of a million years ago. That's much earlier than the next oldest evidence for cooking, which showed Stone Age humans ate charred roots in South Africa.

The researchers — like many of their colleagues — believe cooking started long before this, though physical evidence has been hard to come by.

"I am sure that in the near future an earlier case will be reported," study author Israel Hershkovitz of Tel Aviv University said in an email.

That's in part because harnessing fire for food was a key step for human evolution.

Cooking food makes it easier for the body to digest and get nutrients, explained David Braun, an archaeologist at George Washington University who was not involved with the study. So, when early humans figured out how

to cook, they got access to more energy, which they could use to fuel bigger brains.

Based on how human ancestors' brains and bodies developed, scientists estimate that cooking skills would have had to emerge nearly 2 million years ago.

"If we're out there eating raw items, it is very difficult to make it as a large-bodied primate," Braun said.

Those first cooked meals were a far cry from today's turkey dinners. And in the many, many years in between, humans started not just eating for fuel, but for community.

In a 2010 study, researchers described the earliest evidence of a feast — a specially prepared meal that brought people together for an occasion 12,000 years ago in a cave in Israel.

The cave, which served as a burial site, included the remains of one special woman who seemed to be a shaman for her community, said Natalie Munro, a University of Connecticut anthropologist who led the study.

It seems her people held a feast to honor her death. Munro and her team found large numbers of animal remains at the site — including enough tortoises and wild cattle to create a hearty spread.

This "first feast" came from another important transition point in human history, right as hunter-gatherers were starting to settle into more permanent living situations, Munro said. Gathering for special meals may have been a way to build community and smooth tensions now that people were more or less stuck with each other, she said.

And while the typical feast may no longer involve munching on tortoise meat in burial caves, Munro said she still sees a lot of the same roles — exchanging information, making connections, vying for status — happening at our modern gatherings.

"This is something that's just quintessentially human," Munro said. "And to see the first evidence of it is exciting." ●

KELP FARMING COULD HELP CLEAN UP POLLUTED WATERS

An Indigenous-run business is using regenerative ocean farming to clean up the waters off the eastern end of Long Island and create local jobs.

By Iris M. Crawford

For most of the Shinnecock Nation's history, the waters off the eastern end of Long Island were a place of abundance. Expert fishermen, whalers and farmers, the Shinnecock people lived for centuries off the clams, striped bass, flounder, bluefish and fruit native to the area.

Today, the area is best known as a playground for the rich, where mansions sell for tens of millions of dollars. The Shinnecock community no longer lives off the water as it once did — rapid development, pollution and warming waters have led to losses in fish, shellfish and plants that were once central to the Shinnecock diet and culture.

That's why Tela Troge, an attorney and member of the federally recognized tribe, started planting kelp.

Farming Kelp

Kelp is a large, fast-growing brown seaweed that sequesters carbon and harmful pollutants. It's also full of nutrients and is used in foods, pharmaceuticals and fertilizers — making it a big business.

The global commercial seaweed market is valued at around \$15 billion and is projected to reach \$25 billion by 2028. In the United States, the kelp market is expected to quadruple by 2035, according to the Island Institute.

For the estimated 800 residents of the Shinnecock Reservation, where Troge says some families live on just \$6,000 a year, kelp farming could be an economic lifeline. On one side of Shinnecock Hills, "you have billionaire's row where some of the wealthiest people in America have homes," Troge says. "Then, on the other

side, you have Shinnecock territory, where 60 percent of us are living in complete poverty.”

In 2019, Troge, an attorney who has represented the Shinnecock Nation in federal land rights cases, was looking for a way to create jobs and clean up Shinnecock Bay. That’s when GreenWave, a nonprofit that promotes regenerative ocean farming, approached the community about starting a kelp hatchery.

Troge and five other women from her community formed the Shinnecock Kelp Farm, the first Indigenous-run farm of its kind on the East Coast.

Greenwave’s model “so closely matched our skills, our expertise, our traditional ecological knowledge,” Troge says. The Shinnecock practiced regenerative ocean farming long before the term existed; they farmed scallops, mollusks, oysters and clams — all natural water purifiers — together with seaweed.

This system of kelp removing nitrogen near the surface while shellfish do the same down below creates powerful water filtration, says Charles Yarish, an emeritus marine evolutionary biologist at the University of Connecticut. It’s an ancient model. “If you go into Chinese literature, even to ancient Egypt, you will see examples of those cultures having integrated aquaculture,” he says.

Kelp feeds off excess carbon dioxide, nitrogen and phosphorus. The last two are pollutants responsible for harmful algal blooms that have killed off plants and animals in Shinnecock Bay, says Christopher Gobler, a marine scientist at Stony Brook University on Long Island. Kelp blades are lined with cells containing sulfated polysaccharides, essentially chains of sugar molecules that give kelp its slimy texture. These polysaccharides bind with nitrogen and phosphorus, pulling both out of the water and dissolving the nitrogen into a compound called nitrate. The dissolved nitrogen is what makes kelp a potent natural fertilizer.

These kelp forests promote biodiversity, lessen ocean acidification and remove dissolved carbon dioxide from the water. One meta-analysis by researchers at the National Oceanic and Atmospheric Administration found that, on average, these farms remove 575 pounds of nitrogen per acre. (Projections based on another study, from Stony Brook University, put that figure at 200 pounds of nitrogen per acre.) Seaweed aquaculture could absorb nearly 240 million tons by 2050, equal to

the annual emissions from more than 50 million fossil fuel-powered cars, according to a 2021 study published in *Nature*.

Growing Business

Compared to land-based crops, kelp requires very few resources — just spores, sea, and sunlight — and far less labor and harvesting equipment, says Halley Froehlich, a marine biologist at the University of California, Santa Barbara. But, Froehlich added, kelp’s real superpower is that it grows quickly — faster than almost any other plant on the planet.

In December of 2021, Troge and her business partners started planting 20 spools of kelp off the shore of St. Joseph Villa, a retreat space just across the bay from the reservation. The villa, which offers easy access to the water, had once belonged to the Shinnecock nation. Today, it is run by a Catholic ministry known for its environmental and social justice work.

Troge and her fellow farmers ran the business out of a cabin donated by the ministry and encountered their share of challenges. It took longer than they had expected to find the right species of kelp — one that they deemed hearty enough for the hatchery.

“We got out later than we had hoped, as December is quite late,” says Danielle Hopson-Begun, who co-founded the Shinnecock Kelp Farm. Sugar kelp is normally planted in the mid-fall, in time for a January growth spurt.

Then they suffered outbreaks of slip gut — a type of algae that grows on sugar kelp and suffocates it.

But by the spring of 2022, the Shinnecock women harvested 100 pounds of kelp, most of which they dried and sold as organic fertilizer. They donated their excess spores back to GreenWave, which distributed the excess to other growers. This was a small harvest compared to established kelp farms. Gobler, the marine scientist, estimated that a one-acre ocean farm could generate 70,000 pounds of kelp.

This year, the farmers plan to expand from 20 spools of kelp to 200. They are expecting a significantly larger yield and are exploring different uses for the crop, like food and cosmetics. They’re also talking with other hatcheries about exchanging spools of kelp to experiment with different species of seaweed. The farm

is already cleaning up the area, Hopson-Begun says; since operations began she said the water appears clearer and more birds fly overhead.

As Troge and her colleagues plan ahead, they're also looking to bring on additional staff to help manage the harvests. They plan to hire from within the Shinnecock community.

"I'm just really excited about building up to the point to offer people living-wage jobs," Troge says. ●

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THE SOCIAL LIVES OF BIRDS: TURKEYS ARE VIOLENT, BACK-STABBY, AND CLASS-OBSSESSED

The concept of a "pecking order" isn't just a fowl myth

By Matthew Rozsa

American Thanksgiving and turkeys are forever, inextricably linked together. Turkey may very well have been served at the first Thanksgiving in Plymouth more than 400 years ago, and today the delicious bird is so ubiquitous that consumers fret over turkey prices and whether its meat makes you sleepy. Yet in addition to being a food, turkeys are also birds — intelligent birds, at that.

Indeed, turkeys are so intelligent that just like another intelligent animal (humans), turkeys will form complex social hierarchies. There is even a popular colloquial term for those hierarchies: A pecking order, which is used as a metonym for any social hierarchy, particularly workplace ones. The phrase isn't just used for turkeys, but for most birds (and especially those renowned for pecking, like chickens).

As the phrase suggests, turkeys establish their pecking order by pecking at each other. The show is a lot more colorful than that, however. As a pair of turkeys fight

each other to establish dominance, their wings will flap and reveal their massive wingspans. Their heads and necks will bob up and down, more closely resembling lances drawn and thrust in a medieval battle than silly birds comically bumbling around. The absurd "gobble gobble" that warbles from their throats is menacing because, to those turkeys, they have a lot at stake. Humans compete in business or run for political office against each other. Turkeys, by contrast, establish their pecking order.

"The dominance hierarchy is hugely important in whether [toms] can get close to females and display without being interrupted."

And just as humans try to assert dominance to pursue sex, so too do their Thanksgiving dinners when they are in the wild. Wild turkeys do not always display the same behaviors as their domesticated counterparts.

"The big impact is on breeding, especially for toms," Dr. Alan Krakauer, a biologist and photographer living in Northern California, told Salon by email. "Here the dominance hierarchy is hugely important in whether they can get close to females and display without being interrupted. Males can sometimes even form teams to help them compete in the hierarchy, but these males still have to fight for position within these teams. These teams are composed of relatives (brothers), but that's another story."

That dominance hierarchy scheme only applies to the male turkeys, though. What about the females?

Intriguingly, female turkeys (hens) don't seem to be as violently obsessed with hierarchies. "Hens have more frequent but less violent interactions and we understand a lot less about what's at stake for them," Krakauer explained.

Dr. Chris Elphick, a biologist at the University of Connecticut, elaborated on the other possible reasons why turkeys establish pecking orders.

"There can also be advantages in terms of access to food and other resources — for instance, early studies on pecking orders arose from observations of feeding chickens," Elphick wrote to Salon.

Yet turkeys are uniquely social even compared with many other birds, as Krakauer noted when he wrote that "turkeys have a pretty intricate social life compared with most. A lot of bird species, including most of our

typical songbirds, spread out into individual territories in the breeding season." While other birds will interact with neighbors, ornithologists usually do not regard those as literal pecking orders. And oddly, some species shift between being hierarchical and non-hierarchical; Krakauer noted the "Golden-crowned Sparrow" in California as one example of a bird with a pecking order in winter flocks, but not otherwise.

Elphick elaborated on the extent to which other birds establish pecking orders.

"They occur in other birds, and were first described in chickens a century ago," Elphick explained. "They've also been found in various other types of birds. For example, ravens have been shown to form hierarchies in foraging group both in the wild and in captivity, and there are studies of hierarchies in zoo penguins. Usually, these hierarchies are found in species that live in groups that are stable over time – as these are situations where the formation of clear relationships between individuals can form."

"Human societies can have rules for who, if anyone, has preferred status in these cases. For the most part, turkeys don't have these, with the exception that one-year old males are almost always lower ranked than older males."

Indeed, a somewhat serious argument could be made that humans are not entirely dissimilar from turkeys. After all, how often do people engage in seemingly meaningless arguments to assert dominance over each other? How often are those arguments less than meaningless?

"I'm not a sociologist so I don't necessarily have the best answer for human applications except to say our hierarchies aren't typically 'pecking orders' meaning determined by aggression and combat," Krakauer told Salon. "Most of us probably belong to groups that are hierarchies and other ones that are more free-for-all or democratic. We live in societies that are so large that we are often interacting with strangers and there are no existing social ties to guide us. Human societies can have rules for who, if anyone, has preferred status in these cases. For the most part, turkeys don't have these

with the exception that one-year old males are almost always lower ranked than older males."

Of course, one is more likely to see turkeys fight over pecking order if you encounter them in the wild rather than in a domesticated environment. This means that the chances are you are not going to encounter that experience while purchasing a live bird for your meal. Yet what should a human do if they are lucky enough to stumble across such a battle in the wild?

"If it were me, I would settle in and watch the spectacle!" Elphick told Salon. "I'd certainly discourage people from trying to interfere as it's a perfectly normal part of the birds' behavior. And there's probably little effect people can have anyway – most likely, the birds will just move elsewhere and return to what they were doing before the interference began." ●

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FOR 40 YEARS, THIS UCONN GROUP HAS BEEN READING AND DISSECTING YIDDISH TEXT

By Jordan Nathaniel Fenster

For 40 years now, a group of academics at UConn have gathered to read and dissect texts in their original Yiddish.

Yiddish, spoken by Jews of Eastern European origin is, as Avinoam Patt explained, is something of a composite language. Patt, director of UConn's Center for Judaic Studies and Contemporary Jewish Life, called it "a fusion language."

"It's a very, very colorful language. It's very expressive. It has amazing idioms, proverbs that you can't say in other languages," Patt said.

About 1,000 years old, Yiddish uses some Hebrew words, often referred to as “lashon kodesh,” or “holy language.” Many Yiddish words stem from middle German, but there are also Slavic influences.

Aaron Lansky, founder of the Yiddish Book Center in Amherst, Mass., said that for native Yiddish speakers in Eastern Europe, “Hebrew was like Latin, it was the language of scholarship and prayer, whereas Yiddish was the language of everyday life.”

“Something like 20 percent of all the vocabulary in Yiddish comes from Hebrew and Aramaic,” Lansky said. “So that definitely gives a very Jewish quality to the language.”

Much of the structure of the language is Germanic but when writing Yiddish, you use Hebrew letters regardless of the word’s origin, and the language varies from region to region. Those regional differences and the composite nature of the language is what makes Yiddish difficult to dissect.

“With any language, it reflects socio-cultural experiences,” said UConn sociology professor Arnold Dashefsky.

Dashefsky was part of the group, 40 years ago, that started what they call the “Yiddish tish,” literally Yiddish “table.”

“In the spring of 1979, the Board of Trustees created the Center for Judaic Studies and Contemporary Jewish life,” Dashefsky said. In an attempt to increase the visibility of the new center, “We started something called a faculty forum where we had different faculty members make presentations a couple of times a semester.”

One of those faculty forums focused on Yiddish and, in 1982, the Yiddish tish began regularly gathering to read and interpret Yiddish classical literature.

Over the years, the group has read many Yiddish authors, including the famed humorist Sholem Aleichem, Yud Lamed Peretz and Isaac Bashevis Singer. They’ve even read the Yiddish translation of “Harry Potter and the Sorcerer’s Stone.”

“We’ve been going strong for 40 years, usually having an average attendance of eight to 10 people, which I must confess hasn’t changed that much over the years,”

Dashefsky said. “Although the group has gotten younger.”

At its peak prior to World War II, there were about 11 million Yiddish speakers worldwide. That number dwindled during and after the war but Lansky said with the language remaining the primary mode of communication for Orthodox Jews of Eastern European origin, use of Yiddish has increased as those communities have grown.

There are, it is estimated, about 600,000 Yiddish speakers around the world, about 250,000 of them in the United States.

There is no shortage of Yiddish language texts, however. Lansky said the Yiddish Book Center has grown to comprise about 1.5 million volumes since it was founded in 1980.

Jews were often considered and treated as outsiders in Europe and Yiddish, Patt said, provides the “sociological function” of “maintaining difference and separation from the non-Jewish world.”

“We didn’t have a country of our own for much of our history, and that shaped the Jewish character as well,” Lansky said. “So there is a kind of marginal quality to that culture that’s very much present within the language.”

But it’s also associated with humor and, as such, a means of binding a community closer together.

“We associate Yiddish with humor and I think it’s an important vehicle for Jewish humor, but also, the Jewish humor is very often the humor of the outsider,” Patt said. “Either it was an insight or humor, you could tell jokes that only your fellow Jews would understand.”

Lansky said some Yiddish words “sound funny” to English-speaking ears. He recalled a professor at Columbia who used as an example the Yiddish word “farblunget,” which literally means “lost.”

“He said, ‘I don’t understand why people laugh at Yiddish words. People say farblunget, and they think that’s funny. That’s a perfectly solid Yiddish word. It has a very clearly established etymology. I don’t understand why people find this funny,’” Lansky said.

But Lansky believes that the humor in the language and in many of the published stories examined by UConn’s Yiddish group goes deeper than the sound of any word.

"I'd say the characteristic of Yiddish culture is marginality. We were people who lived on the outside for a very long time," he said. "There's humor in that. It's often a sad humor, a poignant humor, tragic humor, but there is humor." ●

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MICROBES COULD POTENTIALLY SURVIVE ON MARS FOR 280 MILLION YEARS

New research suggests a tough bacteria called *D. Radiodurans* could long withstand harsh martian radiation in a state of stasis under the surface.

By Elise Cutts

It's not the freezing cold or lack of water that fundamentally limits life on Mars; it's the radiation. While many bacteria have no problem reviving themselves after enduring centuries or even millennia as freeze-dried microbial mummies, radiation damage adds up over time.

However, new results published Oct. 31 in the journal *Astrobiology* show that when freeze-dried under Mars-like conditions, the toughest microbes — a species of bacteria called *Deinococcus radiodurans* — can withstand so much radiation that they could survive in stasis for up to 280 million years in the subsurface layers of the Red Planet.

This finding has important implications for future sample return missions. According to the study's authors, their results suggest that if martian life ever existed, it could potentially persist to this day. The researchers also note that contamination by Earth microbes accidentally brought to Mars aboard spacecraft could likewise linger on the Red Planet for a very long time.

"I would assume that if life ever existed there, it would still be there," Michael Daly, a biologist at Uniformed Services University (USU) and coauthor of the study, tells *Astronomy*. "I can't imagine that if life evolved on Mars, that somehow it would just all disappear."

Radiation Is A Ticking Clock

Mars isn't a friendly place. The Red Planet is a bone-dry, freezing cold desert with hardly any atmosphere to speak of. And it's been that way for billions of years. But while stepping out unprotected onto the martian surface wouldn't end well for you, it wouldn't be particularly concerning for many microbes.

That's because, even though all organisms need water to grow and multiply, many microbes have no problem waiting out dry spells in a dormant state. Some can last centuries, millennia, or even millions of years if need be. In fact, freeze-drying can actually help dormant microbes survive longer than usual.

"A lot of bacteria can survive desiccation — loads of them can. Spores of *Bacillus* can survive desiccation with a giggle and a laugh," Peter Setlow, a microbiologist at the University of Connecticut and coauthor of the study, tells *Astronomy*.

Freezing temperatures aren't much of a threat either, Setlow added, especially in extremely dry environments like Mars. "The damage usually comes because you have water, you freeze it, and you get ice crystals and it does damage. So that's going to be a minimal problem."

Radiation, meanwhile, is different. For cells, it's a ticking clock.

That's because radiation shreds DNA. And after enough radiation exposure, a cell dies. Even ultra-tough *D. radiodurans* can't survive infinite radiation. Furthermore, because dormant cells can't actively repair themselves, radiation exposure places a hard limit on their survival time. Even for organisms buried deep enough below the martian surface, where they would escape the harsh radiation at the planet's surface, a low dose of inescapable background gamma radiation would still slowly but inevitably degrade their DNA.

"At some point, the damage is such that even when they come back to life," Setlow says, "there can be so much damage that it's irreparable."

Pushing The Limits Of Life

The researchers wanted to know how much radiation *D. radiodurans* (nicknamed “Conan the Bacterium”) can handle under Mars-like conditions for a while now. The problem wasn’t the will — it was the way.

These stubborn bacteria (especially when freeze-dried) can handle so much radiation that most labs simply can’t produce enough deadly rays over a long enough period of time to kill them, according to coauthor Michael Daly of USU.

“Radiation is dangerous, it’s highly controlled, it’s highly secure,” says Daly. “We can’t say what our dose rate is, but it took days... the world’s most powerful radiation facilities had great trouble getting them dead.”

For the new study, the research team used the facilities at USU and Cornell University to irradiate microbes kept under Mars-like condition until they died.

D. radiodurans, which was the most radiation-resistant, only died after receiving 140,000 grays of radiation. That’s enough to kill a human more than 25,000 times over, and about as much radiation as a microbe would be exposed to if it sat in the martian subsurface for 280 million years.

“It’s such a big number, I use the word astronomical,” said Daly, “You know, five grays will kill you and me.”

Protecting Mars from Earthly microbes

If the new study’s results are confirmed, the extremely long potential survival time of *D. radiodurans* suggests that DNA-based life on Mars — if it ever evolved there — could still exist on the Red Planet today.

“You would figure that anything that *Deinococcus radiodurans* can do could be done by a Mars organism that once lived on the surface and is now living subsurface,” John Rummel, senior scientist at SETI institute and former NASA Planetary Protection Officer, who was not involved in the study, tells Astronomy.

And while the Red Planet has been a frozen desert for at least 2 billion years, meteorite impacts can and do disturb subsurface ice, which could create short-lived local oases where dormant cells could revive. Substantial impacts don’t happen every day. But 280 million years — more than four times the amount of

time it’s been since the dinosaurs went extinct — gives microbes a long window of opportunity.

This means we can’t assume samples returned from Mars will be sterile, Daly says. “There is the issue of backward contamination: the possibility that if life ever evolved on Mars, and if it is still there, that there is certainly, we believe, a risk of transporting martian microbes back to Earth,” he says.

There’s also the issue of forward contamination. “We live with a lot of extremely ionizing-radiation-resistant organisms on Earth, many of which are also part of the human microbiome,” Daly says. The new results show that if we contaminate the martian subsurface with microbes from Earth, that contamination will probably stick around and potentially complicate life-seeking missions for a long time to come.

Up until now, our rovers have quite literally only scratched the surface of Mars, so it’s quite unlikely we’ve caused any long-lasting contamination yet. But the ExoMars rover planned by the European Space Agency will be able to drill some 6.6 feet (2 meters) deep.

Still, Daly says that while the results underscore the need to think carefully about planetary protection, there’s no need to worry about ruining the Red Planet just yet. And any contamination that does occur will most likely stay local.

“The reality is that terrestrial microorganisms will not proliferate on Mars,” he says. “In a desiccated frozen state, which is not metabolically active, they won’t proliferate. They do not represent a big threat to Mars.”

Still, it never hurts to plan ahead. ●

TEENAGE BRAINS PREMATURELY AGED BY PANDEMIC, STANFORD STUDY FINDS

By Nick Morrison

Adolescent brains have been prematurely aged as a result of the stress of the Covid-19 pandemic, according to a study from Stanford University.

Scans taken before and after the pandemic showed the sort of impact on the brain normally only seen in children who have experienced serious adversity, such as domestic violence or neglect.

Now scientists warn that their findings suggest the pandemic could have serious consequences for an entire generation of adolescents later in life.

And the possibility of permanent brain damage comes on top of fears over the impact of the pandemic on adolescent mental health.

As well as disruption to their education and routines, many teenagers also experienced social isolation during lockdowns, when they were cut off from their friends at a time when friends are becoming increasingly important.

Scans revealed areas of the brain that control access to memories and regulate emotions - the hippocampus and amygdala respectively, were enlarged, and tissues in the cortex - involved in executive functioning - had become thinner.

This made their brain structures appear several years older than the brains of comparable peers before the pandemic.

"We already know from global research that the pandemic has adversely affected mental health in youth, but we didn't know what, if anything, it was doing physically to their brains," said Ian Gotlib, the David Starr Jordan Professor of Psychology in Stanford's School of Humanities and Sciences and lead author of

the study, published in the journal *Biological Psychiatry: Global Open Science*.

"Compared to adolescents assessed before the pandemic, adolescents assessed after the pandemic shutdowns not only had more severe internalizing mental health problems, but also had...more advanced brain age."

Scientists came upon the findings almost by accident. Researchers had started scanning adolescents' brains as part of a study looking at depression during puberty, but once the pandemic struck the scheduled scans had to be abandoned.

When the team resumed scanning once lockdowns eased, scans of 163 adolescents revealed major differences in the brains of 16-year-olds compared to the 16-year-olds scanned pre-pandemic.

These changes suggest that pandemic-related stressors accelerated developmental changes in the brain, changes previously only seen in children who have suffered chronic adversity.

These experiences - such as childhood neglect, violence and family dysfunction - are associated with poor mental health outcomes later in life, although it is not clear if the same is true of the changes in the brain structure observed by the Stanford team.

It is also unclear if the changes are permanent, said Gotlib, who is also director of the Stanford Neurodevelopment, Affect, and Psychopathology (SNAP) Laboratory.

"Will their chronological age eventually catch up to their 'brain age'?" he said. "If their brain remains permanently older than their chronological age, it's unclear what the outcomes will be in the future."

"For a 70- or 80-year-old, you'd expect some cognitive and memory problems based on changes in the brain, but what does it mean for a 16-year-old if their brains are aging prematurely?"

The results could have serious consequences for a generation of teenagers, added Jonas Miller, postdoctoral fellow in Gotlib's lab during the study and now an assistant professor of psychological sciences at the University of Connecticut.

"Adolescence is already a period of rapid reorganization in the brain, and it's already linked to increased rates of

mental health problems, depression, and risk-taking behavior,” Miller said.

“Now you have this global event that’s happening, where everyone is experiencing some kind of adversity in the form of disruption to their daily routines – so it might be the case that the brains of kids who are 16 or 17 today are not comparable to those of their counterparts just a few years ago.” ●

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‘ZOMBIE’ VIRUSES ARE THAWING IN MELTING PERMAFROST BECAUSE OF CLIMATE CHANGE

Ancient viruses are locked in Russia’s permafrost. We may soon get a peek.

By Michael Birnbaum and Ellen Francis

The thawing of the permafrost due to climate change may expose a vast store of ancient viruses, according to a team of European researchers, who say they have found 13 previously unknown pathogens that had been trapped in the previously frozen ground of Russia’s vast Siberian region.

Want to know how your actions can help make a difference for our planet? Sign up for the Climate Coach newsletter, in your inbox every Tuesday and Thursday.

The scientists found one virus that they estimated had been stranded under a lake more than 48,500 years ago, they said, highlighting a potential new danger from a warming planet: what they called “zombie” viruses.

The same team of French, Russian and German researchers previously isolated ancient viruses from the permafrost and published their findings in 2015. This concentration of fresh viruses suggests that such pathogens are probably more common in the tundra than previously believed, they suggest in a preprint

study they published last month on the BioRxiv website, a portal where many scientists circulate their research before it is accepted in a scientific journal.

“Every time we look, we will find a virus,” said Jean-Michel Claverie, a co-author of the study and an emeritus professor of virology at Aix-Marseille Université in France, in a phone interview. “It’s a done deal. We know that every time we’re going to look for viruses, infectious viruses in permafrost, we are going to find some.”

Although the ones they studied were infectious only to amoebas, the researchers said that there was a risk that other viruses trapped in the permafrost for millennia could spread to humans and other animals.

Virologists who were not involved in the research said the specter of future pandemics being unleashed from the Siberian steppe ranks low on the list of current public health threats. Most new — or ancient — viruses are not dangerous, and the ones that survive the deep freeze for thousands of years tend not to be in the category of coronaviruses and other highly infectious viruses that lead to pandemics, they said.

The European team’s findings have not yet been peer-reviewed. But independent virologists said that their findings seemed plausible, and relied on the same techniques that have produced other, vetted results.

The risks from viruses pent up in the Arctic are worth monitoring, several scientists said. Smallpox, for example, has a genetic structure that can hold up under long-term freezing, and if people stumble upon the defrosted corpses of smallpox victims, there is a chance they could be infected anew. Other categories of virus — such as the coronaviruses that cause covid-19 — are more fragile and less likely to survive the deep freeze.

“In nature we have a big natural freezer, which is the Siberian permafrost,” said Paulo Verardi, a virologist who is the head of the Department of Pathobiology and Veterinary Science at the University of Connecticut. “And that can be a little bit concerning,” especially if pathogens are frozen inside animals or people, he said.

But, he said, “if you do the risk assessment, this is very low,” he added. “We have many more things to worry about right now.”

For the most recent research, the European team took samples from several sites in Siberia over a series of

years starting in 2015. The viruses they found — of an unusually large type that infects amoebas — were last active thousands, and in some cases, tens of thousands of years ago. Some of the samples were in soil or rivers, although one of the amoeba-targeting viruses was found in the frozen intestinal remains of a Siberian wolf from at least 27,000 years ago, the team said.

The researchers used amoebas as “virus bait,” they said, because they thought it would be a good way to search for viruses without propagating ones that could spread to animals or humans. But they said that didn’t mean these viruses didn’t exist in the frozen tundra.

Radical Warming Leaves Millions On Unstable Ground

Siberia is warming at one of the fastest rates on Earth, about four times the global average. For many recent summers it has been plagued by wildfires and temperatures reaching 100 degrees Fahrenheit. And its permafrost — soil that is so thoroughly cold that it remains frozen even through the summer — is rapidly thawing. That means that organisms that have been locked away for thousands of years are now being exposed, as longer periods of defrosting at the soil surface enables objects that had been trapped below to rise upward.

Researchers say the chance of humans stumbling upon the carcasses of humans or animals is increasing, especially in Russia, whose far-north reaches are more densely settled than Arctic regions in other countries. The team gathered some of their samples in Yakutsk, a regional capital and one of Russia’s fastest-growing cities due to a mining boom.

The warming permafrost has been blamed for outbreaks of infectious disease before. A 2016 outbreak of anthrax hit a remote Siberian village and was linked to a 75-year-old reindeer carcass that had emerged from the frozen ground. But anthrax, which is not a virus, isn’t unique to Siberia and is unlikely to cause widespread pandemics.

Many virologists say they are more worried by viruses that are currently circulating among humans than the risk of unusual ones from the permafrost.

New microbes emerge or reemerge all the time, Anthony S. Fauci, the director of the National Institute

of Allergy and Infectious Diseases, told The Washington Post in 2015, when the permafrost researchers’ first findings came out.

“This is a fact of our planet and our existence,” he said. “The finding of new viruses in permafrost is not much different from all of this. Its relevance will be dependent on a sequence of unlikely events: The permafrost virus must be able to infect humans, it must then [cause disease], and it must be able to spread efficiently from human to human. This can happen, but it is very unlikely.”

More problematic, many virologists say, are modern-day viruses that infect people and lead to diseases that are sometimes hard to control, such as Ebola, cholera, Dengue and even the ordinary flu. Viruses that cause disease in humans are unlikely to survive the repeated defrosting and freezing cycle that happens at the surface level of the permafrost. And the spread in mosquitoes and ticks that has been linked to global warming is more likely to infect humans with pathogens, some experts say.

An extinct virus “seems like a low risk compared to the large numbers of viruses that are circulating among vertebrates around the world, and that have proven to be real threats in the past, and where similar events could happen in the future, as we still lack a framework for recognizing those ahead of time,” said Colin Parrish, a virologist at Cornell University who is also the president of the American Society for Virology. ●

SHOPPING FOR A NEW CHURCH? YOUR POLITICS MAY DETERMINE WHICH PEW FITS

A new study examines the role that politics plays in how Americans choose a new church.

By Bob Smietana

(RNS) — When Andre Audette first arrived at Notre Dame for grad school, he got a brochure about living in South Bend, Indiana.

That brochure included a section on churches and advice on which Catholic parish to attend if you were conservative and which to attend if you were liberal.

While Audette ignored the brochure's advice — choosing a different parish altogether — the link between church shopping and politics stuck with him.

"I found that kind of fascinating," said Audette, now an assistant professor of political science at Monmouth College in Central Illinois.

Audette is co-author of a new study on the role politics plays in finding a church, published in "Religion and Politics," a journal of the American Political Science Association. The study — based on a survey of 2,000 Americans — found about half of those surveyed said they had gone shopping for a new church. The survey also found about 1 in 10 Americans (11.1%) said they'd left a church for political reasons, with another 7% saying they'd "seriously considered" leaving their church over politics.

Evangelical Christians (81%) were most likely to have shopped for a new church.

Mainline Protestants (30%) and atheists (32%) were most likely to say they'd left a church or thought about leaving over politics. Atheists (16%) were least likely to have shopped for a new church, while Black Protestants (13%) were least likely to have left a church due to politics.

When it comes to politics, Mainline Protestant churches are in a difficult spot, because they are more politically diverse than either evangelical churches or Black Protestant churches. In the 2020 election, 91% of Black Protestant voters supported Democratic candidate Joe Biden, while 84% of white evangelical voters voted for Republican candidate Donald Trump, according to analysis by Pew Research.

Mainline Protestants, which Pew described as "white, non-evangelical" Christians, were split — with 43% voting for Biden, 57% for Trump.

When they are shopping for a new church, evangelicals go looking for another conservative evangelical church like the one they left, where most people vote Republican, said Audette.

"Democrats are mostly just leaving the more liberal denominations," he said. "It's a hard time to be a mainline Protestant right now."

The study in "Religion and Politics" was based on survey data collected in 2017. Audette suspects that political polarization has gotten worse since then, especially due to the COVID-19 pandemic, which likely intensified the role politics plays in congregations.

Audette, who is Catholic, said he's seen polarization affect both Catholic parishes and Protestant churches, turning congregations into the same kind of echo chambers that can be found in other parts of American culture.

"We are starting to see churches that are really formulating their identity around these political ideals," he said. "That's really harmful, because it used to be the case that when you'd go to church, you'd sit next to someone who's a Republican, someone who's Democrat, and you'd get a little bit of cross-cutting discussion going," he said. "That's not happening anymore."

Scholars such as Ruth Braunstein at the University of Connecticut have argued that the rise of partisan politics, especially by the religious right, has helped fuel the decline of organized religion and the rise of the nones — Americans who claim no religious identity. About 3 in 10 Americans now would be considered nones, according to Pew Research. In the book "Secular Surge," which looks at the nation's growing secular

population, the authors argue that conservative politics has made some Americans “allergic to religion.”

A recent survey from Lifeway Research, an evangelical research group, found that half of Protestant churchgoers agreed with the statement, “I prefer to attend a church where people share my political beliefs.” That same survey found that 55% of Protestant churchgoers said people in their congregation shared their political beliefs, while only 23% said people in their church held different beliefs.

Pew Research found in 2016 that about half (49%) of Americans have looked for a new congregation at some point in their life. The most common reason was that they moved (34%), got married or divorced (11%) or disagreed with clergy (11%). That study found that the quality of sermons (83%), a warm welcome (79%), the style of worship (74%) and location (70%) had the most impact when choosing a new house of worship.

Audette, who co-authored the study with Shay R. Hafner, one of his students at Monmouth, has argued in the past that politics may be good for some churches, driving up attendance, but can be bad for religion. In a 2016 article, based on a previous study, he and co-author Christopher Weaver compared the mix of religion and politics to American fast food — which tastes good but is not good for you.

“Although the overall number of fast food consumers continues to shrink, the most successful chains can gain more of the remaining consumers by doubling down on the very practices that are shrinking the market,” they wrote. “Similarly, a church’s political activities may do little to change the public image of religion in the U.S., but they do make the church more appealing to those who still attend church.”

The appeal of politics to churchgoers puts pastors in a difficult spot, he said, something he hopes to study in the future. The very things that may help their church grow could turn away those outside the church.

“Do you double down on the people that are interested in conservative religion and politics and just try to appeal to them?” he said. “Or do you try to open it up, engage some topics that might be uncomfortable for people? That’s a really hard decision to make.” ●

SCIENTISTS OVERLOOKED THE SNAKE CLITORIS, UNTIL NOW

Missed for decades, this anatomical revelation opens the door to seduction and female stimulation potentially playing roles in snake mating.

By Alex Fox

You’ve probably seen a snake’s forked tongue, but it’s not the slithering animal’s only forked body part. Male snakes sport forked genitals called hemipenes that look a bit like pink cactuses and often have spines to match.

What’s good enough for him is good enough for her in the suborder Serpentes. In a paper published Wednesday in the Proceedings of the Royal Society B, scientists provide the first proper scientific description of the hemiclitoris, or a bifurcated clitoris in female snakes. The study also challenges a longstanding bias in biology — linked to cultural attitudes and a dearth of women in the field — that has left female sexual anatomy woefully understudied in many species.

Not only do snakes have hemiclitoris, the study’s authors report, but the organs also contain nerves and erectile tissue, suggesting they serve a reproductive function and are not merely vestigial.

If subsequent research confirms the presence of a functional clitoris, it could challenge the assumption that snake sex is coercive.

“Now we can consider whether mating in snakes is not about coercion but instead about stimulation and seduction,” said Megan Folwell, a doctoral candidate at the University of Adelaide in Australia and an author of the study. “Maybe there is something the males are doing that makes the females more inclined to participate.”

Ms. Folwell’s study of the hemiclitoris began when she noticed there were reams of publications describing the many shapes and sizes of snake hemipenes, but only scant mentions of female sex organs. That includes the

clitoris, a structure present in all mammals, all lizards and some birds. The few papers she did find either offered no anatomical description or provided incorrect ones.

To investigate, Ms. Folwell set about dissecting the tail of a female death adder. Once she cleared away the muscle and connective tissue covering the snake's genitals, the hemiclitores stared her in the face.

When Ms. Folwell showed her findings to Patricia Brennan, who studies genital morphology at Mount Holyoke College and is a co-author of the paper, Dr. Brennan said the find was so shockingly obvious that she almost fell out of her chair.

To confirm their initial observations and learn more, the researchers used multiple techniques to examine the anatomy of eight other species of snakes from four families.

Together, these analyses established the snake hemiclitores' bona fides.

"I had never heard of snake hemiclitores, but it's completely logical that they would be there and even be functional," said Kurt Schwenk, a herpetologist at the University of Connecticut who didn't participate in the research.

Ms. Folwell and her co-authors also encountered substantial variation in size and shape among the nine species tested, with the cantil viper having the largest hemiclitores at 1.2 inches long and 0.7 inches wide and the Guatemalan milk snake at just 0.1 inches long and 0.06 inches wide.

"If the hemiclitores were nonfunctional then there is no evolutionary reason for them to be different across species," Dr. Brennan said.

Marvalee Wake, an evolutionary morphologist at the University of California, Berkeley, who was not involved in the study, said the inference that the hemiclitores were functional seemed reasonable but added that "now they have to demonstrate it experimentally."

Ms. Folwell said the next steps for this research would include investigating the types and locations of nerves present in the hemiclitores and then trying to establish what roles the structures may play during mating. Many

snakes engage in sensual-looking courtship behaviors such as wrapping and rubbing their tails together.

"This discovery could really change how we understand mating in snakes," Dr. Brennan said, "and it just shows how much we've been missing by largely ignoring female anatomy."

Even in other groups of animals where the existence of a clitoris is not in question, such as lizards, investigations of its function have been hemmed in by cultural attitudes.

"Darwin described females as coy and passive participants in sexual selection," said Malin Ah-King, an evolutionary biologist and gender researcher at Stockholm University in Sweden who was not involved in the study. "These Victorian gender notions influenced Darwin and have been with us in evolutionary biology ever since."

In an extreme example of a male-centric point of view, Dr. Brennan said one study of lizard hemiclitores went so far as to suggest their function might be to stimulate the male during mating.

"Now that more researchers are exploring the female side of things we get to know more of the details of what's really there," Dr. Ah-King said. "Each person's perspective has limits, and this research shows how bringing in more perspectives can give us a more complete picture." ●

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OPINION: SANDY HOOK WAS THE START OF MISINFORMATION RUNNING AMOK

By Amanda J. Crawford

In the decade since a troubled young man turned his mother's AR-15-style rifle on first graders at Sandy Hook Elementary School, nearly every mass shooting and

high-profile crime has been followed by misinformation and conspiracy theories that re-victimize those affected by tragedy, subjecting them to online torment and obfuscating public discourse on ways to prevent similar tragedies.

The December 14, 2012 massacre of 20 children and six adults in Newtown, Connecticut was the deadliest school shooting in US history. It was also a pivot point that marked the start of a new era in misinformation and political polarization.

The harassment that some Sandy Hook families and others endured lasted for years and led to real-world confrontations and threats.

Robbie Parker, a father whose public statement after his daughter's death was mocked by Alex Jones repeatedly, testified in the conspiracy theorist's recent Connecticut trial about a run-in with a man on the other side of the country who followed him through city streets, yelling that his daughter's murder had been a hoax.

Another Sandy Hook father, Lenny Pozner, whose civil case against Jones in Texas is still pending, is among the relatives who has faced death threats. In 2017, a Florida woman was sentenced to five months in federal prison after a series of threatening emails and phone calls to Pozner.

In the Boston Globe in August, I told the story of the Pozner family's victimization by those spreading misinformation about Sandy Hook, and I've written about the effort to hold Alex Jones accountable for his conspiracy theories.

Even the young survivors of the Sandy Hook tragedy were not spared the cruelty of these conspiracy theories. Recently, I met with a college student who survived the shooting and has been harassed for years by people who believe some survivors are the murdered children, living out their lives under assumed identities.

This year's multiple mass shooting tragedies in Uvalde, Buffalo, Highland Park and Colorado Springs were eerily reminiscent of the spate of high-profile, mass casualty gun attacks in public places that rocked the US in 2012. Five months before Sandy Hook, another troubled young man fired upon dozens of movie-goers in an

Aurora, Colorado, theater. Then an Army veteran shot up a Sikh temple in Oak Creek, Wisconsin.

In the aftermath of the Sandy Hook shooting, the outcry for federal gun policy reform swelled – and the forces of denial quickly struck back. Before the shooting, the National Rifle Association and other gun rights groups had stoked paranoia about guns, floating the notion of a Democratic conspiracy to disarm Americans or get rid of the Second Amendment entirely.

After that horrific attack, Alex Jones of Infowars and other right wing conspiracy theorists immediately began speculating that the massacre had been staged as part of a broader conspiracy to take away guns from the public. Two things helped make the US fertile ground for those lies to spread: by 2012, most Americans were on social media and their trust in mainstream media had fallen sharply.

Initial breaking news coverage of the shooting was riddled with errors – and those mistakes were cited as “proof” of a coverup by conspiracy theorists. Some videos and blogs that spliced together conflicting news reports and critiqued media appearances by victims' relatives went viral, gaining enormous reach thanks to social media algorithms designed to reward controversial content without regard to its veracity.

Expressions of grief by family members and others were callously picked apart online – as well as by Jones for his audience of millions. Grieving parents, relatives, survivors, neighbors, religious leaders and others publicly connected to the shooting were falsely accused of being “crisis actors” in a deep-state plot to take away guns.

Though the implications were horrendous, some of the videos were widely shared, including by establishment figures in media and politics – an indication of how politicians would increasingly boost misinformation in the years to come. By the one-month anniversary of the Sandy Hook Elementary shooting, one popular conspiracy video on YouTube had been viewed more than 10 million times.

As doubts about the Sandy Hook shooting were spread, some of the people most impacted by the tragedy were targeted by online trolling and vicious cruelty. Relatives were told their murdered loved ones were still alive or had never existed, or they were accused of being complicit in their deaths. There were even heinous

allegations of a politically connected child sex cult – a theme that would later emerge in the Pizzagate and QAnon conspiracy theories.

Conspiracy theorist Alex Jones attempts to answer questions about his emails asked by Mark Bankston, lawyer for Neil Heslin and Scarlett Lewis, during trial at the Travis County Courthouse in Austin, Wednesday Aug. 3, 2022. Jones testified Wednesday that he now understands it was irresponsible of him to declare the Sandy Hook Elementary School massacre a hoax and that he now believes it was "100% real." (Briana Sanchez/Austin American-Statesman via AP, Pool)

Within four months of the Sandy Hook shooting, the push for gun policy reform died an ignoble death when a modest bipartisan measure to expand criminal background checks failed in an increasingly polarized US Congress. By then, doubts about the Sandy Hook massacre were widespread. A Fairleigh Dickinson University poll in April 2013 found that 1 in 4 Americans believed the truth about the shooting was being hidden to advance a political agenda. That same month, survivors of the Boston Marathon bombing faced allegations they were part of a hoax, too.

Before Sandy Hook, popular American conspiracy theories focused on shadowy elites or veiled forces within the government. So-called 9/11 "truthers," for example, blamed the government for the attacks, but they generally left victims' families alone.

After Sandy Hook, crime victims and other ordinary Americans became targets in politically motivated misinformation campaigns like never before. Similar conspiracy theories have surrounded nearly every mass shooting and many other high-profile crimes since then – including after this year's mass shootings. The US Department of Homeland Security warned earlier this year that conspiracy theories about the shootings could lead to more violence.

The targeting of ordinary Americans has gone far beyond those associated with crimes and tragedies. Conspiracy theories about the Covid-19 pandemic and the safety of vaccines led to the harassment of nurses and other hospital workers. And election workers across the country have found themselves targeted by mainstream politicians and others pushing false claims of fraud in the 2020 election.

We have also seen a direct connection between conspiracy theories and violence. The mob that stormed the US Capitol on January 6, 2021 was motivated by the bizarre QAnon conspiracy theory and a disinformation campaign shouted from the White House.

Not only are outrageous false beliefs no longer disqualifying for national politicians, they have become a litmus test in some Republican contests. One recently re-elected member of the US Congress, Rep. Marjorie Taylor Greene (R-GA) – who promoted QAnon as a candidate – verbally attacked a teenage survivor of the 2018 school shooting in Parkland, Florida and has stoked doubts about Sandy Hook and other tragedies.

Conspiracy theories and disinformation campaigns have become a tool regularly wielded in political disputes, including in the debate over guns. President Biden's nomination to lead the Bureau of Alcohol, Tobacco, Firearms & Explosives – an important Justice Department agency to keep Americans safe that has been without a permanent head since 2015 – was undone last year in part by a campaign of nasty memes and disinformation about the nominee and his family.

Mass shootings, though statistically rare, have become more common in the US since Sandy Hook – but national politicians have not done nearly enough to address them.

After 19 students and two adults were killed at Robb Elementary School in Uvalde, Texas in May – a shooting redolent of the tragedy at Sandy Hook – Biden signed the first gun safety law to pass Congress in decades. The bipartisan measure provided funding to states for crisis intervention programs and expanded domestic violence protection, but it did nothing to address the availability of deadly assault weapons and high-capacity magazines or close the many loopholes in federal law that advocates have pushed for since Sandy Hook.

Americans have been made more vulnerable not just to gun violence in the decade since Sandy Hook, but to rampant misinformation and denial. ●

THE ISLAND OF PUERTO RICO BECOMING A STATE MIGHT NOT LEAD TO DEMOCRATS

House votes in favor of resolving Puerto Rico's territorial status

By Nicole Acevedo

The House voted Thursday in favor of the Puerto Rico Status Act, which seeks to resolve the U.S. territory's status and its relationship to the U.S. through a binding plebiscite.

In a 232-191 vote, the bill was passed by 216 Democrats and 16 Republicans. All votes against the bill came from Republicans.

The Puerto Rico Status Act was a compromise between members of Congress who previously sponsored competing bills "to end the colonial status of the island," said Rep. Raul Grijalva, D-Ariz., who sponsored the bill.

It combined elements of two bills: the pro-statehood bill introduced by Rep. Darren Soto, D-Fla., and Rep. Jenniffer Gonzalez, a Republican nonvoting member of Congress representing Puerto Rico; and the Puerto Rico Self-Determination Act from Reps. Alexandria Ocasio-Cortez and Nydia Velázquez, both New York Democrats.

Among the key compromise elements are defining nonterritorial statuses as statehood, independence and sovereignty in free association with the U.S., and providing for a transition to and the implementation of the new status.

Places such as Micronesia, Palau and the Marshall Islands have a sovereignty with free association with the U.S. These are technically independent nations bound to the U.S. by a treaty governing diplomatic, military and economic relations.

The Puerto Rico Status Act also lays out terms for a November 2023 binding plebiscite including all three nonterritorial status options.

Lawmakers from both sides debated the merits of the Puerto Rico Status Act on the House floor Thursday. While Democrats insisted the legislation is a significant step toward Puerto Rico's decolonization, Republicans worried over the economic implications of changing Puerto Rico's status.

Rep. Bruce Westerman, R-Ark., also voiced concerns over the lack of formal Congress hearings to thoroughly discuss the bill.

Puerto Rico has been under U.S. control since 1898, following the Spanish-American War. Congress and the federal government have since been allowed to treat Puerto Rico as foreign for domestic purposes and a state for international purposes.

This became evident in 2015, when Puerto Rico said it was unable to pay its \$70 billion public debt, prompting Congress to create the 2016 Promesa law during the Obama administration because U.S. laws exclude Puerto Rico from the federal bankruptcy code. Promesa put in place the federal financial oversight board and created a mechanism for the territory to restructure its debt in federal court.

Puerto Ricans living on the island have been U.S. citizens for over a century. They can be drafted and serve in the U.S. military but are unable to vote for president. They don't pay federal income taxes, since they don't have voting representation in Congress. But they do pay payroll taxes, helping fund federal programs such as Medicaid, Supplemental Security Income, the Supplemental Nutrition Assistance Program and the Earned Income Tax Credit. Puerto Rico has limited or no access to these federal programs with the potential to serve as lifelines in a territory where more than 40% of the population lives in poverty.

A series of Supreme Court rulings from the early 1900s known as the Insular Cases, which were written by most of the justices who legalized racial segregation under *Plessy v. Ferguson*, has continued to uphold the unequal treatment as legal.

More than 2,000 dead as two massive earthquakes rock Turkey and Syria

The rulings have continuously given Congress "the power to decide when the U.S. Constitution applies to the territories," according to Charles Venator-Santiago,

director of the Puerto Rican Studies Initiative at the University of Connecticut.

Venator- Santiago, who has been tracking Puerto Rico legislation in Congress for years, said this is the first time since 2010 that the House votes in favor of legislation dealing with changes to Puerto Rico's territorial status.

The most notable difference this time around is the inclusion of a binding plebiscite. All the referendums that have previously been held in Puerto Rico have been nonbinding.

According to Venator- Santiago's research, 145 pieces of legislation dealing with changes to Puerto Rico's territorial status have been debated in Congress over the past several decades.

None of them have ever been approved in the Senate, he said.

The Puerto Rico Status Act now needs 60 votes in the closely divided Senate before it can ever be signed into law by President Biden.

With just one day left of the Democratic-controlled Congress, the status debate has never been on the Senate's agenda, meaning the process to ensure the bill becomes law will essentially restart next year with the newly elected Congress.

In January, Republicans will have control of the House.

In a statement ahead of Thursday's hearing, President Biden expressed his support of the Puerto Rico Status Act, calling on Congress "to act swiftly to put the future of Puerto Rico's political status in the hands of Puerto Ricans, where it belongs." ●

PUERTO RICO STATEHOOD MIGHT NOT BE A GOP DISASTER WAITING TO HAPPEN

By James Lynch

The island of Puerto Rico becoming a state might not lead to Democrats obtaining two additional senate seats, despite the party's high hopes.

The U.S. House passed a bipartisan bill to put Puerto Rico's territorial status up for a vote with three potential options: statehood, full independence, or sovereignty will full U.S. association. In a symbolic 2012 referendum, statehood received over 60% of the vote with the other two options included.

New York Democratic Reps. Nydia Velazquez and Alexandria Ocasio-Cortez have led the push for Puerto Rican self determination, which was included in the party's 2020 election platform. Democratic proposals for Puerto Rico include large economic, education and climate plans for the island funded by the federal government.

In contrast, South Carolina GOP Sen. Lindsey Graham said Puerto Rican statehood "dilutes our power," referring to a Republican senate majority. Graham's statement came during a Nov. 7 rally for GOP candidate Herschel Walker before the 2022 midterm elections. (RELATED: Congress' Defense Bill Was A Huge Win For The GOP, Conservatives Say)

"We assume that Puerto Ricans are democrats given the historical relationship between Puerto Ricans living in different States and the Democratic Party. But this is not necessarily true for Puerto Ricans on the Island. There's never been a high-quality survey that measures Puerto Ricans' ideology or their position on different issues so we can gauge what ideology they will lean toward once a state," Mayra Velez Sarrano, a political scientist at the University of Puerto Rico told the Daily Caller.

"We suspect Puerto Ricans are socially conservative, and some even are fiscally conservative. This population

may become republican if Puerto Rico ever becomes a State. I suspect Puerto Rico may become a purple state, unfortunately we don't have data to sustain this suspi[c]ion," Velez Sarrano added.

Charles Venator Santiago, a political scientist at the University of Connecticut, told the Daily Caller "based on local electoral data, would be apportioned 2 Senators and probably 4 reps (maybe 5), which would mostly align with the Democratic Party (a no go for Republicans)," echoing Republican fears.

Puerto Rico's nonvoting member of Congress, Jenniffer Gonzalez-Colon, is a lifelong Republican activist and a member of the island's conservative leaning New Progressive Party (NPP), her bio says. Puerto Rico's Governor is an NPP member and a Democrat, and the island's legislative chambers are controlled by liberal leaning Popular Democratic Party (PDP).

Statehood would impose income taxes on Puerto Ricans, whose median income is \$21,967 according to Census Data. It would lead to a tax increase on most companies and higher income individuals, but not working class residents, Velez Sarrano told the Daily Caller.

The island passed legislation in June banning abortion after 22 weeks, and bills have been proposed to further restrict abortion following the Supreme Court decision to overturn Roe v. Wade. Separate action was taken in 2020 to give rights to unborn children and restrict legal expressions of gender identity.

Additionally, Puerto Rican women were unknowingly used as guinea pigs in birth control pill trials conducted in the late 1950s, PBS documented. A study led by biologist Gregory Pincus told women they were being given a pill to prevent pregnancy, without indicating they were part of a human trial, PBS found. His team was later accused of deceit and colonialism according to PBS.

The majority of Puerto Rico's island residents identify as Catholic and 33% identify as protestants, with half of the protestants identifying as Born Again Christians, Pew Research observed in 2017.

Puerto Ricans living in the mainland U.S. have similar religiosity and more liberal social views, Pew Research found. A plurality of mainland Puerto Ricans are not

committed to either party, according to a 2019 Politico poll of the Florida diaspora.

An exit poll on election night 2022 showed 55% of Puerto Ricans voted for Florida GOP Gov. Ron DeSantis, who narrowly won the heavily Puerto Rican Osceola County.

Abortion access played a central role in Democratic messaging during the 2022 midterms, where the party performed better than expected and added a seat to their senate majority. ●

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JAN. 6 COMMITTEE JUST MADE HISTORY. HOW WILL HISTORY JUDGE IT?

By Peter Grier, Noah Robertson, and Sophie Hills

The congressional Select Committee to Investigate the January 6th Attack on the United States Capitol, which held its final public meeting Monday, was in many ways a pathbreaking legislative effort.

Its slick production raised the standard for hearing presentations. Its investigations produced volumes of evidence implicating former President Donald Trump and his allies. It kept the issue of culpability for the attacks in the media glare.

Its vote to refer Mr. Trump to the Department of Justice for possible prosecution of inciting insurrection and other federal crimes was historic: For the first time, Congress has urged criminal prosecution against a former or current U.S. chief executive.

The Jan. 6 committee seems to have aimed its work at history, rather than the short-term political cycle. On Monday, it made some of its own, for the first time recommending that a former president be prosecuted on criminal charges.

But the panel's most lasting legacy may be its story. After all this time, it is still shocking to hear the details

of the attempt to overturn the 2020 presidential election, and its culmination in a mob smashing its way into the U.S. Capitol.

Brick by brick, the Jan. 6 panel has constructed an epic tale, from the former president, seemingly off-the-cuff, claiming he had actually won on the night of the election, to shouting matches in the Oval Office over false claims of election fraud, to Mr. Trump's nonresponsiveness as the Capitol riot commenced.

We don't know what history will say about this period of American politics. But the Jan. 6 documentation appears to be the kind of evidence on which history is based.

In that sense the hearings were reminiscent of other noteworthy efforts, such as the Senate Watergate committee or the Army-McCarthy hearings of 1954, says Joanne Freeman, professor of American history at Yale University and author of "The Field of Blood: Violence in Congress and the Road to Civil War."

Why Diversity Hasn't Changed Policing

"What resonates again and again and again in these public moments ... [is] if there's a way to get a broad sweep of the public to see what's happening, to think about what's happening, and to watch at least some people stand up and say, 'That crossed the line,' that's really important," says Professor Freeman.

"No One Should Get A Pass"

Still, the vote to recommend that Attorney General Merrick Garland prosecute Mr. Trump was the emphatic ending point to the Jan. 6 committee's work. Possible charges listed were inciting insurrection, conspiracy to defraud the United States, obstruction of Congress, and conspiracy to make a false statement.

The panel also referred for possible prosecution five allies of Mr. Trump: chief of staff Mark Meadows, and lawyers Rudolph Giuliani, John Eastman, Jeffrey Clark, and Kenneth Chesebro.

The committee believes there is evidence Mr. Trump committed serious crimes, and if the Justice Department concurs then he should be charged as other Americans would be, said Rep. Adam Schiff, Democrat of California, in a hallway interview with reporters following the hearing.

"No one should get a pass. The day we start giving passes to presidents or former presidents or people in power ... is the day we can say that this was the beginning of the end of our democracy," said Representative Schiff.

Jonathan Ernst/Reuters

Democratic Rep. Jamie Raskin of Maryland announces criminal referrals against former U.S. President Donald Trump being sent to the U.S. Justice Department during a final meeting of the U.S. House select committee investigating the Jan. 6 attack on the U.S. Capitol, on Capitol Hill in Washington, Dec. 19, 2022.

The referrals are purely advisory, however. The Department of Justice has been carrying out its own parallel investigation of the Jan. 6, 2021, events. Newly appointed special counsel Jack Smith has taken over that investigation as it relates to higher-level officials. His timeline is unknown – any indictment could be months away.

Stanley Brand, former general counsel to the U.S. House of Representatives and distinguished fellow in law and government at Pennsylvania State University, says he believes the committee's actions Monday raise questions of impartiality. They could allow possible prosecutorial targets to request evidence they think is exculpatory from the panel, says Mr. Brand, whose law firm has represented Trump administration officials.

"From a separation of powers standpoint, the committee has pushed the envelope way beyond what have been previous limits to congressional power, especially by wading into this whole area of so-called criminal referrals, which have no legal binding effect and which, in my judgment, taint any subsequent Department of Justice action," says Mr. Brand.

The Question Of Political Accountability

The focus on Mr. Trump at the final Jan. 6 panel public hearing has certainly fleshed out a committee-drawn portrait of the former president as the center of the so-called "Stop the Steal" effort, says Sarah Binder, a professor of political science at George Washington University.

But the purpose of the hearings has always seemed to be not just legal accountability, but political

accountability as well, says Professor Binder. In that sense, its work can be seen more broadly as an attempt to understand the network that was involved in the attempt to overturn the 2020 vote.

The panel's work is "also focused on the myriad ways in which he seemed to have been aided and abetted by members of Congress, by connections to these white nationalist groups and the connections of his campaign and insiders, [and] on the question of security at the Capitol and what went wrong there," she says.

Still, the whole point of the broader effort was about getting a narrow result: blocking the peaceful transition of power.

"That is a core element of what it means to live in an electoral democracy. It's still shocking to students, like myself, of our political system," says Professor Binder.

No Smoking Gun

One thing the committee did not produce was a smoking gun – clear evidence of wrongdoing that summarized a conspiracy. In the Watergate investigation, for instance, the release of a White House tape that showed President Richard Nixon and his chief of staff admitting that they had tried to block the FBI's investigation of the Watergate burglary proved that Nixon had long been lying to the American public.

But what the committee did do was amass a large amount of material from interviews, emails, texts, and documents, and present it in an easily understandable narrative.

"They revealed behind-the-scenes conversations and put those into the big picture," says Barbara Perry, director of presidential studies at the University of Virginia's Miller Center.

For instance, the just-released executive summary of the Jan. 6 panel's report contains a section that juxtaposes quotes from officials talking about debunking particular claims of voter fraud, against quotes from Mr. Trump continuing to use those same claims later in public.

On Dec. 15, 2020, then-Deputy Assistant Attorney General Jeffrey Rosen told Mr. Trump he had looked into allegations that "suitcases of ballots" had been delivered to polls in Georgia, and it hadn't happened. "It was benign," he said.

A week later, Mr. Trump said publicly that in Georgia officials were "pulling suitcases of ballots out from under the tables."

Later, Georgia Secretary of State Brad Raffensperger spoke bluntly to the then-president about his continued Georgia claims.

"Well, Mr. President, the challenge you have is the data you have is wrong," Mr. Raffensperger said.

Historical Parallels

It's not the norm in U.S. history for presidents or ex-presidents to be seriously linked to sedition charges. The closest might be John Tyler – but he had been out of office for years before he joined his native state of Virginia in seceding from the country he had once led.

Mr. Tyler served in a secession commission and was elected to the Confederate House of Representatives, but died before he could take his seat. (Coincidentally, he was also the first president against whom impeachment charges were brought.)

In the modern era, Watergate was "pretty bad – or at least that's what we thought then," says Manisha Sinha, professor of American history at the University of Connecticut.

But the number and seriousness of the offenses surrounding the aftermath of the 2020 election surpass even those of Watergate, says Professor Sinha.

They involved blocking the peaceful transfer of power, and included the storming of the Capitol.

"Even though we've had instances of political violence in this country, especially in the South after the Civil War ... [Jan. 6] was still, for many Americans, something they hadn't seen in their lifetimes," says Professor Sinha.

Many Republicans have criticized the Jan. 6 panel for being biased. While it included two GOP members, they were not authorized to participate by Minority Leader Kevin McCarthy.

Video clips of testimony were at times edited to manipulate conclusions, according to some Republican House members. The very smoothness of the presentations, edited as if they were a documentary,

could cause some people to distrust the information, says Professor Freeman of Yale.

But she says the committee did establish a line by holding the hearings, holding them publicly, presenting evidence in an understandable narrative, and relying mostly on testimony from Republicans.

The line drawn is “not necessarily a wall against misinformation, but it’s at least a stumbling block. And for the historical record and for the present, I think that’s really important,” she says. ●

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WHY SOME COLLEGE WRITING PROFESSORS ARE DITCHING TRADITIONAL GRADING

Labor-based grading aims to reduce stress and increase equity, particularly for first-year students in writing courses.

By Elizabeth Stone

When Avery Nixon started college in fall 2021 at Montclair State University in New Jersey, she was anxious about her writing proficiency after struggling academically in high school.

But on her first day of a freshman composition course in college, her professor explained he would not be grading on grammar, spelling, punctuation, vocabulary or even the quality of the work. Instead, grades would focus on tasks like regular attendance and getting work in on time. Students meeting such requirements would get a B.

“At that moment, I don’t think I had ever been so relieved in my life,” Nixon later wrote in her campus student newspaper, “The Montclarion.” “Without having to worry about getting a perfect grade, I worked harder on my writing than ever before.”

The professor called his approach “labor-based grading.”

What Is Labor-Based Grading?

Labor-based grading, also known as contract grading, is largely based on the ideas of Asao B. Inoue, a professor of rhetoric and composition at Arizona State University who has written books on the subject.

Inoue says the democratic approach of labor-based grading, which rests on a set of agreements formulated by the instructor and students, empowers students because their grade is based on their effort – which they control – rather than a teacher’s preferences, which may include linguistic and cultural biases. Labor-based approaches aim to remove the focus from grades without removing the focus on quality, he says.

Labor-based grading is among newer alternative-grading approaches designed to encourage students to engage with ideas instead of stressing over trying to achieve a certain grade. It’s largely used in freshman composition courses but can also be used in creative writing, philosophy, history, sociology and other courses in the humanities and social sciences.

Writing expert Peter Elbow, an emeritus professor of English and former director of the writing program at the University of Massachusetts—Amherst, encouraged Inoue to prioritize effort in grading. In the early 1970s, Elbow was a pioneer in the practice of “freewriting” – writing nonstop for 10 minutes or so without editing or self-censoring as a way to relieve anxiety and generate ideas.

How Does Labor-Based Grading Work?

In a sample grading contract Inoue posted online, he tells students that “conventional grading may cause you to be reluctant to take risks with your writing or ideas.”

In his writing classes, grades will be lower than a B if students only partially meet expectations and higher if they contribute more labor, such as revisions or creating handouts of use to the class. Students are guaranteed a B if they meet the following requirements:

- Miss no more than two classes out of 15 per semester.
- Come to class on time.
- Work in groups “cooperatively and collegially.”

- Turn in writing assignments on time, other than for exceptions spelled out on the syllabus.

In “hybrid” classes, the quality of additional writing is evaluated for students pursuing an A beyond labor-based criteria that guarantees a B.

Inoue encourages teachers to adapt the criteria of labor-based writing to suit their curriculum and the needs of their students.

In Nixon’s case, her freshman composition professor required three drafts of each paper plus reading a textbook that spelled out how to do citations and formatting.

“No writing is ever perfect, so he would give notes on every single draft,” she says, “and there were also quick 15-minute Zoom conferences.”

How Common Is Labor-Based Grading?

It's unclear how many college professors use labor-based grading or a variation of it. Reliance on grading loosened during the COVID-19 pandemic at many schools, and an interest in Inoue’s approach is increasingly common – particularly among instructors of first-year students – at community colleges and institutions such as Middlebury College in Vermont, Boston University in Massachusetts and the University of California system.

Inoue says he is routinely contacted about labor-based grading and has spoken on the topic at colleges across the country. In Washington State, home to 34 technical and community colleges, Inoue was hired to train interested writing instructors.

"We estimate that about half of our community and technical colleges are either offering, or in the process of implementing, an English class based on labor-based grading," says Laura McDowell, director of communications for the Washington State Board for Community and Technical Colleges.

“Labor-based grading is trending, even if everyone isn’t sold on it,” says Staci Perryman-Clark, chair of the Conference on College Composition and Communication and director of intercultural and anthropological studies at Western Michigan University.

Cultural Considerations Of Labor-Based Grading

McDowell says the goal is to help college faculty “transform their instruction and assessment practices to eliminate racial bias.” She adds that more than half of the students at Washington State's technical and community colleges are students of color.

Many proponents of labor-based grading say it has a social justice dimension, and that insistence on Standard English as the way students should express themselves in writing has an inherent cultural bias.

Inoue, who is of Japanese descent, says he grew up in poor, predominantly Black neighborhoods in North Las Vegas where Black English was primarily spoken “and where I first came to my English languaging.” He received remedial English instruction in college, which contributed to his interest in equity, linguistic bias and what he calls “antiracist assessment work.”

Inoue has written that “race is connected to the judging of English” and says he hopes to help spare his students from the self-doubt he felt in college. He was required to take remedial English not because of the quality of his ideas, he says, but because of judgment about how he wrote.

“A student from a marginalized community could say, ‘I want to learn the dominant code,’” also known as Standard English, “and I want to be successful at that,’” says Inoue. That student may also recognize that variants of all languages have a grammar and that the designation of one as better than another is political, he says.

Is Labor-Based Grading Effective?

Information is scant on the success of students who have completed a class that employs labor-based grading as they move on to other classes that require writing. Complicating such an assessment is that research repeatedly shows that different professors may grade the same paper differently.

Perryman-Clark says labor-based grading is effective “because it empowers students to be more active in the choices they make about the kind of language education they want.”

"Having students understand that there are multiple linguistic systems, and the ones they used at home are equally valid, tells students that their merit and cognitive language abilities are no less sophisticated than others with more privilege, and that they have choices to learn and use the dominant codes associated with Standard English or not," she says. "It is empowering to students to pick and choose how they use language as opposed to telling them what they should or should not do. Labor-based grading opens up these possibilities."

Inoue's work has generated interest and critique, particularly among college faculty who have become discontent with grading as a form of evaluation.

Ellen Carillo, an English professor at the University of Connecticut and author of "The Hidden Inequities in Labor-Based Contract Grading," says Inoue's approach is important, "but he doesn't go far enough. He looks to 'labor' as a substitute for 'quality,' as if 'labor' were neutral. Each assignment is broken down on the amount of time it's expected to take."

"But who says how long it's supposed to take someone – especially with a disability – to finish something?" Carillo asks.

Carillo, whose academic specialties include writing studies and rhetoric and composition, has instituted what she calls "engagement grading," where students are offered a range of ways to produce knowledge – from writing to video to infographics – and flexible deadlines.

Other critics suggest that labor-based grading lowers or eliminates standards and academic rigor – that "somehow standards and rigor have been thrown out the door, and that in such a class students don't have to learn anything," Inoue says. He contends that students in those classes work harder and "have a critical insight into institutional practices like grading that harm them."

Nixon, who has ADHD, says labor-based grading works for her.

"Most people would probably think grading solely based on participation and just turning in the work would be a gateway for students being lazy in their writing," Nixon wrote in her student newspaper article, "but for me, it's been the complete opposite."

While still a freshman, she was chosen as an assistant opinion editor of the paper.

"They chose me because I wrote so much," Nixon, now a sophomore, says, "and I was writing so much because of my professor's class and my new confidence in writing." ●

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WHY A GROUP OF CHRISTIANS IS FIGHTING THE GROWING THREAT OF CHRISTIAN NATIONALISM

By Vera Bergengruen

On Jan. 6, 2021, Amanda Tyler watched the attack on the U.S. Capitol unfold with a growing sense of dread—and recognition.

Like many Christian leaders, Tyler, the executive director of the Baptist Joint Committee for Religious Liberty, immediately noticed the presence of religious symbols in the crowd. Large crosses were everywhere, carried by protestors marching to the Capitol and depicted on flags, clothing, and necklaces.

Demonstrators held up Bibles and banners reading, "In God We Trust," "An Appeal to Heaven," and "Jesus is my savior, Trump is my President."

Many of the people there that day cast the attack on the Capitol to stop the certification of the 2020 election as a biblical battle of good versus evil. Christian nationalism, a resurgent ideology that views the U.S. as a Christian country and whose proponents largely define American identity as exclusively white and Christian "helped fuel the attack on the U.S. Capitol on Jan. 6, uniting disparate actors and infusing their political cause with religious fervor," Tyler testified on Dec. 13 at a House Oversight subcommittee hearing.

The hearing was the first time in recent memory that someone had been asked to testify publicly on Capitol Hill about the threat posed by Christian nationalism, indicating the growing alarm about an ideology that has become more pervasive and more mainstream since Jan. 6. Its influence was evident in several violent events since, including in the manifesto of the 18-year-old who murdered 10 Black shoppers in a supermarket in Buffalo, New York earlier this year.

"I'm really grateful that members of Congress are paying attention to how Christian nationalism overlaps with and provides cover for white supremacy, and how some of these extremists are being fueled by Christian nationalism, using it to try to justify their violence as being done in God's name," Tyler told TIME in a Dec. 15 interview.

Tyler, who says she sees Christian nationalism as a perversion of her faith, launched a grassroots effort called Christians Against Christian Nationalism in 2019 under the Baptist Joint Committee for Religious Liberty, a national advocacy group she runs focused on religious freedom. She says she was inspired to start the campaign after a series of alarming events during the Trump era: she watched marchers at the 2017 white supremacist rally in Charlottesville, Va. shout "Jews will not replace us," and then saw the ideology amplified by conservative television pundits and some lawmakers who echoed the language of religious war and professed the need to "take back" the country from those who threaten a white Christian nation. Christian nationalism also influenced the deadly violence at the Mother Emanuel AME Church in Charleston, South Carolina in 2015; the Tree of Life Synagogue in Pittsburgh, Pennsylvania in 2018; and Chabad of Poway near San Diego, California in 2019, Tyler told lawmakers.

Tyler is aiming to bring together Christians from every congressional district in the country to help educate their communities to spot the ideology, which they see as a horrifying distortion of their beliefs, and give their communities the language to denounce and dismantle it. "We started it mostly in response to the increasingly violent iterations of Christian nationalism that we were seeing at houses of worship," says Tyler, adding that Christians have a special responsibility to take action. But with the online conspiracies that motivated the racist Buffalo supermarket shooting, growing parallels in some corners of American political speech, and the

deadly Capitol riot on Jan. 6, the problem has become more widespread: "We also felt the need to bring awareness to this larger ideology and how it was being promoted in maybe less violent ways," she says, "so that everyone could understand how perpetuating these myths was contributing to violence."

'A High-Tide Moment For Christian Nationalism'

The notion of restoring the country to greatness as a Christian nation has a long history in America. "Christian nationalism often overlaps with and provides cover for white supremacy and racial subjugation," Tyler told lawmakers on Dec. 13. "It creates and perpetuates a sense of cultural belonging that is limited to certain people associated with the founding of the United States, namely native-born white Christians."

While the ideology has deep roots in the country, the rhetoric fusing American and Christian identities has become increasingly popular in young far-right nationalist groups, which declare that "real" Americans are white Christians and hold a particular set of right-wing political beliefs. In recent years, this version of Christian nationalism has incorporated the language of the "Great Replacement Theory," which claims that there is a vast conspiracy to replace white Americans of European heritage with non-white people.

Christian nationalism has gained steam among young right-wing personalities who have grown large followings. At a conference in March 2021, Nick Fuentes, 24-year-old white nationalist commentator, told an audience that America will cease to be America "if it loses its white demographic core and if it loses its faith in Jesus Christ," emphasizing its role as a "Christian country." Last month, he had dinner with former President Donald Trump at Mar-A-Lago, further raising his national profile.

Some of this language has recently been embraced by prominent politicians, adding urgency to Tyler's sense that Christian nationalism is embedding itself into more Americans' political identity. "I say it proudly, we should be Christian nationalists," Rep. Marjorie Taylor Greene, a Republican from Georgia, declared this summer. Greene, who had previously come under fire for sharing a video in 2018 alleging that "Zionist supremacists" were conspiring to wipe out white people, doubled down by selling "Christian Nationalist" t-shirts. While

politicians—particularly Republicans—have long made biblical references in stump speeches, Florida Gov. Ron DeSantis has been criticized for using language that seems to echo Christian nationalist ideas. He used a Bible verse to suggest conservatives should “put on the full armor of God” in November, casting the midterm elections as a fight of God against the devil: “Stand firm against the left’s schemes,” he said. “You will face flaming arrows, but if you have the shield of faith, you will overcome them, and in Florida we walk the line here.”

Leaders who are flirting with the language of Christian nationalism “have merged their political authority with religious authority, and are using this language of Christian nationalism to justify political stances they’re taking,” says Tyler, calling this “a high-tide moment for Christian nationalism in our time.”

Signage and merchandise for sale is seen at the ReAwaken America Tour event, held in Manheim, Pa. on Oct. 22, 2022. ReAwaken America, founded by Clay Clark, and whose events often feature Michael Flynn, is a right-wing political movement connected to Christian nationalism. (Mark Peterson—Redux)

Signage and merchandise for sale is seen at the ReAwaken America Tour event, held in Manheim, Pa. on Oct. 22, 2022. ReAwaken America, founded by Clay Clark, and whose events often feature Michael Flynn, is a right-wing political movement connected to Christian nationalism. Mark Peterson—Redux

Christian Nationalist Violence

January 6 cast a bright national spotlight on Christian nationalism, as the movement’s rhetoric and imagery featured prominently in the crowd of people participating in the worst attack on the U.S. Capitol on two centuries.

News photos from that day showed people draped in Trump flags worshipping next to large wooden crosses; one cross with the words “Jesus Saves” written on it was paraded to the Capitol as the building’s defenses were breached. “It was clear the terrorists perceived themselves to be Christians,” D.C. Metropolitan Police

Officer Daniel Hodges testified to a House Select Committee last year.

This level of religious fervor in service of a political—and ultimately violent—cause was shocking to many Americans, though experts argue it shouldn’t have been. “The riot was a pitch perfect performance of the kind of white Christian nationalism that has ebbed and flowed throughout American history,” Ruth Braunstein, a sociologist at the University of Connecticut who studies the movement, wrote in February 2021.

That same rhetoric has also led to deadly violence in other incidents over the past few years. The shooter who murdered 10 Black people in a grocery store in Buffalo, New York in May this year cited the broader language of Christian nationalism as justification for his actions. While he said he didn’t consider himself a Christian, he said he lived by “Christian values” and echoed the language of prominent white Christian nationalists espousing the “Great Replacement Theory.” He denounced people as “anti-Christian,” expressed concern for “Christian Europeans” being ethnically displaced by “traitors,” and defined “white culture” he said he was fighting to preserve as “based on Christianity.”

Tyler says she has been “overwhelmed” by the response to her recent congressional testimony, and believes there’s a growing group of American Christians who want to join her cause. “Someone responded saying, ‘This should be shown in every church this Sunday.’ And this is exactly how I feel as a Christian,” she says of her testimony being widely shared on social media. “So I think that there is a large segment of this population who are Christian who are horrified by the use of Christian nationalism to galvanize and justify violence.”

In the coming year, Tyler is hoping to use the focus on the issue to grow the grassroots national network to help other Christian organizations learn to notice the signs of Christian nationalism “in order not to be complicit with its spread,” and learn to address it. “To dismantle an ideology that’s so deeply seated will be a generational project,” she says.

“But it’s one that’s urgent for our democracy and for the safety of the country. “the Growing Threat of Christian Nationalism.” ●

School of Engineering

BIDEN'S CLIMATE PROMISES CHALLENGED BY HIGHWAY MONEY INFLUX

By Lillianna Byington

- Biden's Climate Promises Challenged by Highway Money Influx (1)
- Republicans concerned about guidance against road expansion
- Roundabouts, low-carbon construction priorities in some states

The Biden administration wants federal infrastructure money used to fix crumbling roads and bridges before being spent to build new ones, in part to limit climate change. Even so, the White House may have little say in how hundreds of billions of dollars are deployed.

Republicans are bashing as federal overreach administration directives on how to spread the infrastructure funds, and the back-and-forth has become contentious in recent weeks as money from the new law starts to flow to states.

"The administration put out guidance saying, 'We'd really like you to take care of what you built before you build new things,'" Beth Osborne, director of the advocacy group Transportation for America, said referring to the recent guidance. "And they said: 'Maybe so, but make me.'"

Over the next five years, the \$1 trillion infrastructure package (Public Law 117-58) that Congress enacted in November will send hundreds of billions of dollars for roads to states, where expansion projects and highway building have contributed to the transportation sector generating the largest share of the nation's greenhouse gas emissions.

States are getting \$52.5 billion this fiscal year for federal-aid highway formula funding, a 20% boost, according to the administration's infrastructure guidebook out last week.

Some Democrats want tighter emission limits on road spending, and a focus on projects that decrease fossil fuel consumption. Republicans generally favor a federal hands-off approach to how states and localities spend the funds.

"Our largest single investment was in highways," said Sen. Mitt Romney (R-Utah), part of the bipartisan group that negotiated the infrastructure bill for months. "You can imagine our surprise when we see the Department of Transportation indicating that the highway money can't be used for increasing capacity of highways. This direction flies in the face of our intent and our needs."

Despite letters from Republican-led states complaining about the instructions, the guidance isn't binding. Governors have the power to dole out formula funds—the larger pot of money—where they want.

Still, the Transportation Department retains control over other discretionary money in the bill, including billions of dollars in grants, signaling years of political wrangling ahead over what the White House declared a "once-in-a-generation investment in our nation's infrastructure and competitiveness."

Resistance and Road Expansion

In "most cases" highway money through the infrastructure law should be used to repair and maintain existing infrastructure before spending on "expansions for additional general purpose capacity," Federal Highway Administration Deputy Administrator Stephanie Pollack said in the guidance memo dated Dec. 16.

That direction was "bolder than what I've seen before," said Osborne. The White House reiterated its position last month when Infrastructure Implementation Coordinator Mitch Landrieu wrote governors, stressing that the \$52.5 billion apportioned to states this year be used "to repair" roads and bridges.

The language raised some red flags.

"Excessive consideration of equity, union memberships, or climate as lenses to view suitable projects would be counterproductive," 16 governors said in a letter to President Joe Biden. "A clear example of federal overreach would be an attempt by the Federal Highway Administration to limit state widening projects," they

said, adding that it would penalize rural states and those with growing populations.

“Send us the money. Give us flexibility,” Arkansas Gov. Asa Hutchinson, a Republican, said at the White House last week. “We will spend it and you can audit us.”

Rep. Sam Graves (R-Mo.), ranking member on the Transportation and Infrastructure Committee, said the Transportation Department “may not be following congressional intent,” and asked Landrieu to brief the panel. A White House spokesperson didn’t respond to requests for comment.

While Tennessee operates under a “fix it first philosophy,” a spokesperson for Gov. Bill Lee (R), who signed the governors’ letter, said states need autonomy in how to spend the federal funds. Lee’s recently proposed budget includes road widening and repair projects.

Sen. Shelley Moore Capito (R-W.Va.), who helped write the infrastructure law, raised similar concerns in a letter to governors with Senate Minority Leader Mitch McConnell (R-Ky.) Wednesday. The senators said the law doesn’t discourage specific projects like added highway capacity, adding that the FHWA memo “has no effect of law, and states should treat it as such.”

Although states hold the purse strings on their formula dollars, the Transportation Department is starting to roll out discretionary programs that will factor in climate change and equity for applicants. But many new provisions, such as the carbon reduction program authorized in the law, can’t move forward until lawmakers agree on a year-long appropriations bill.

Greener Ways

Some states are starting to explore greener projects that could further separate how transportation spending looks based on region of the country.

The Colorado Transportation Commission’s new rule requires state and local planning organizations to evaluate transportation projects’ possible effects on climate emissions.

The state is relying on modeling to help meet new targets. If a project falls short, the agency could recommend adding capacity for bus rapid transit into a highway project, said Shoshana Lew, executive director of Colorado’s Department of Transportation.

“It doesn’t do much good to have a policy that’s about models in the abstract if the day-to-day projects don’t actually comport with those values,” Lew said.

Michigan is building a road that will charge electric vehicles as they drive. Other areas are exploring low-carbon cement, roundabouts, and diverting highway funds to transit projects.

Jim Brainard, Republican mayor of Carmel, Ind., has overseen the construction of more than 100 roundabouts in his city, noting that they move 50% more cars per hour than a stoplight, save fuel, and cut carbon emissions. The congestion mitigation portions of federal highway law include incentives to build roundabouts, said Brainard, who called fighting climate change “a nonpartisan issue.”

The infrastructure law’s massive road and bridge spending will be a boon to the construction material market. Climate activist groups, such as the Natural Resources Defense Council, have said whether the spending hurts or helps climate goals will depend on the type of projects funded and the types of materials used.

Concrete Still A Barrier To Climate-Friendly Infrastructure Plan

Buying lower-carbon cements with infrastructure dollars would save energy and cut greenhouse gases emitted, said Sean O’Neill, senior vice president for government affairs at the Portland Cement Association, which represents cement manufacturers. Traditional concrete accounts for at least 7% of climate-change-fueling carbon dioxide emissions globally, according to BloombergNEF.

‘Extremely Hard’

Transportation has largely been built around facilitating the movement of vehicles in traditional ways, and most states have bought into that paradigm, said Norman Garrick, professor emeritus of civil and environmental engineering at the University of Connecticut. Changing the way states think about spending federal transportation money is “extremely hard,” he said.

In Georgia, Republican Gov. Brian Kemp raised concerns about not being able to deploy expansion projects, while its Democratic delegation asked the state’s Transportation Department for plans on how officials

can flex Federal Highway Administration money to support public transit over the next five years.

A planned expansion of the I-20 and I-285 interchange east of Atlanta has raised environmental justice concerns, Rep. Hank Johnson (D-Ga.), told the Georgia Department of Transportation and U.S. Transportation Secretary Pete Buttigieg in a Feb. 4 letter.

“A project that worsens pollution, fails to remove congestion, and makes it more difficult to build proposed transit expansion projects in the corridor seems like a particularly ineffective use of federal transportation funds,” he wrote.

Even states that prioritize repair can't ignore the political boon that can accompany the unveiling of a new highway or bridge, said Osborne.

“Lots of times governors want to build new things because, I mean, frankly, you get a lot better press building new things than repairing,” she said.

“Just think about the press that comes with a major rehab of a bridge: Traffic will be backed up,” she noted. “But you build a brand new bridge, while not repairing things: Ribbon-cutting, great press. There's a lot of political push to do what gets you credit.” ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE STAMFORD
ADVOCATE ON FEBRUARY 11, 2022

UCONN PROFESSOR DEVELOPS ELECTRIC MASKS. HERE'S HOW THEY WORK.

By Jordon Nathaniel Fenster

Connecticut schools may soon allow students to take off their masks, but that's not stopping Thanh Nguyen.

Nguyen is an assistant professor at the University of Connecticut, specializing in mechanical and biomedical engineering, and material science. He's taken a not-so-new idea and adapted it for a new purpose.

It's been a few years since piezoelectric materials were developed. Pierre and Jacques Curie first demonstrated in 1880 that some materials, like quartz, would generate a tiny electrical charge in response to pressure.

Piezoelectric fabrics use a tiny amount of energy — the movement of the body, perhaps — to generate that electrical charge.

“Piezoelectric material is considered a smart material, because when you apply a force on it, when you bend or twist or deform it, it generates an electrical pulse, electrical charge on the surface,” Nguyen explained. “This has been used extensively in a lot of industrial applications, including sensors, transducers and actuators.”

For example, the first sonars were based on piezoelectric technology. Now, Nguyen has applied that century-old principle to masks.

Within the masks Nguyen has designed, there is a piezoelectric filter and, in this case, “the force that applies on the filter is your breathing air,” he said.

“As you breathe, the filter moves back and forward, and that vibration creates a very small surface charge on the filter, and that surface charge is extremely useful to trap water droplets,” he said.

Other masks, such as N95s, prevent transmission of viruses and bacteria through mechanical means — the space between the fibers in the filter allow air to flow, but are too small for the water droplets that carry diseases like the coronavirus from person to person.

Nguyen's masks do that, too, about as well as an N95, he said. But his masks have the added benefit of the piezoelectric effect, which makes them more effective at stopping disease-bearing water droplets, he said.

They have the added benefit of being biodegradable. N95 masks are primarily plastic, “it's a polyethylene,” Nguyen said, “just like a plastic bag.”

By contrast, Nguyen's masks are reusable. They can be sterilized in a commonly available “ultrasonic water bath, something like a jewelry cleaner,” he said. And, in a landfill, they should degrade in about a year.

Nguyen is scaling up, planning to begin manufacturing within months. His masks should cost a bit more than

an N95. Right now, he expects his masks to retail for about \$10 each.

“If the demand is really high then then we might be able to reduce the cost by half or maybe one-third of it,” he said.

The process is scalable in both size and quantity. Right now, each mask is made by hand, but Nguyen believes that he can create larger filters, suitable for a room, and mass produce the sizes that he needs. The fabric is produced by interweaving microscopic piezoelectric fibers using an “electrospinning” machine he said is commercially available.

“We can make it automatic so that we can produce a lot of this material at the same time,” he said.

That’s still a lot more expensive than a \$3 N95, but Nguyen believes the additional cost is worth it, considering they are reusable. Though there are ways to sterilize and reuse an N95, they are technically single-use, disposable masks.

“If you think about it, you buy one mask but you can use it for a long time, the efficiency is really good and it's very stable,” he said. “Economically, you buy one thing, you can reuse it 10 times, you buy the other thing, it's a little bit cheaper, but then you only can use it two times. Of course, you would buy the one that you could use a lot more.” ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE STAMFORD
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UCONN PROFESSOR ADAPTS CANCER TEST TO DETECT COVID-19 AT HOME.

By Jordon Nathaniel Fenster

Changchun Liu was developing a point-of-care cancer screen when the COVID crisis began.

The University of Connecticut associate professor of biomedical engineering developed a molecular test for

HPV, the human papillomavirus, which he said can be used to test for certain cancers.

“The HPV virus is identified as a very reliable biomarker for cervical cancer,” he said.

It’s a point-of-care test, which means a patient would be able to get tested for cervical cancer almost anywhere, and within a short time frame.

“You can run a test at a small clinic or doctor's office, and you can get the results within maybe one hour,” he said.

That technology has now been adapted for COVID. Liu’s lab took that cancer screen and altered the process to look for the coronavirus instead of HPV.

The result, he said, is a highly sensitive, cheap, at-home test that could tell the difference between COVID variants.

It’s so sensitive, in fact, that it rivals the PCR tests done at hospitals and clinics, but without the day-long delay, and with no need to wait in line.

Ana Fidantsef, industry liaison at UConn’s division of Technology Commercialization Services, explained that current at-home COVID tests use antigen levels to verify an infection.

“They're based on the antigen that your immune system responds to the virus. So they depend on that,” she said. “The innovation here is that this test is a point-of-care test that you can do at home, that can detect the nucleic acid of the viruses, like detecting the virus itself.”

Liu’s COVID test does not require a specifically designed machine like PCR tests to analyze the sample.

The test begins, like others, with a swab or a saliva sample from a patient. Liu explained that the test uses pH paper, which extracts the virus’ nucleic acid from the sample, which is then inserted into a specially designed “smart cup.”

The sample is then chemically heated and the pH paper displays a colorized result.

“We get instrument free-detections,” Liu said. “The test result can be visualized, without any complex equipment.”

As of now, Liu's test takes about 50 minutes, but he and his colleagues believe they can shorten that time frame. And since the test uses common pH paper, Liu said the materials cost \$3 to produce each test.

That means if and when it comes to market, Liu's test could be considerably cheaper than the \$25 antigen tests that are now for sale.

Most guidelines for antigen-based tests also say a patient should wait at least three days to test after a COVID exposure. But Liu's test looks for the presence of the virus itself instead of antigen levels.

"The nucleic acid-based molecular detection, they have the high sensitivity and specificity because they detect the virus itself instead of the antigen," Liu said. "This is why they have better sensitivity and specificity, and they can do early detection compared to antigen detection."

Fidantsef and her colleague Amit Kumar see a lot of potential for Liu's research. Their office files patents on behalf of UConn researchers, and works to find industry partners that can help mass produce and market devices like Liu's COVID test

"Once the technology is developed, we protect the technology through intellectual property protection patents and other things," said Kumar, director of licensing and venture development and technology commercialization service at UConn. "Once we have that in place, we reach out to the companies outside, we identify them, we reach out to the company, present what we have to offer with regards to the technology, and see if it aligns with their business interests."

If a company's interests align with the researcher and the university, the technology is licensed and the company brings it to market.

Liu's lab has developed several technologies that are going through that process, which Kumar said can take two to three years. In the case of his COVID test, Liu said he believes the market to be at-home testing and smaller clinics, which might not have a PCR machine.

But Kumar said the technology has a wide potential. The technology was initially developed to identify HPV and, through it, cervical cancer. But it could be adapted to detect flu at home.

"COVID is just one of the indications that he has chosen given the current need for the society in the world," Kumar said. "But then there are other applications where his technology can be used for detecting other viruses." Connecticut schools may soon allow students to take off. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE NEW YORK TIMES
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VEHICLE CRASHES, SURGING

Traffic deaths are surging during the pandemic. By Jordon

By David Leonhardt

The United States is enduring its most severe increase in traffic deaths since the 1940s.

It is a sharp change from the recent norm, too. Deaths from vehicle crashes have generally been falling since the late 1960s, thanks to vehicle improvements, lower speed limits and declines in drunken driving, among other factors. By 2019, the annual death rate from crashes was near its lowest level since cars became a mass item in the 1920s.

But then came the Covid-19 pandemic.

Crashes — and deaths — began surging in the summer of 2020, surprising traffic experts who had hoped that relatively empty roads would cause accidents to decline. Instead, an increase in aggressive driving more than made up for the decline in driving. And crashes continued to increase when people returned to the roads, later in the pandemic.

Per capita vehicle deaths rose 17.5 percent from the summer of 2019 to last summer, according to a Times analysis of federal data. It is the largest two-year increase since just after World War II.

U.S. Traffic Deaths Per Capita

Annual percent change ending in September of each year.

This grim trend is another way that two years of isolation and disruption have damaged life, as this story — by my colleague Simon Romero, who’s a national correspondent — explains. People are frustrated and angry, and those feelings are fueling increases in violent crime, customer abuse of workers, student misbehavior in school and vehicle crashes.

‘Erratic Behavior’

In his story, Simon profiles one of the victims, a 7-year-old boy in Albuquerque named Pronoy Bhattacharya. Like Pronoy, many other victims of vehicles crashes are young and healthy and would have had decades of life ahead of them if only they had not been at the wrong place at the wrong time.

Pronoy was killed as he crossed the street with his family in December, after visiting a holiday lights display. The driver had run a red light.

“We’re seeing erratic behavior in the way people are acting and their patience levels,” Albuquerque’s police chief, Harold Medina, told Simon. “Everybody’s been pushed. This is one of the most stressful times in memory.”

Art Markman, a cognitive scientist at the University of Texas at Austin, said that the emotions partly reflected “two years of having to stop ourselves from doing things that we’d like to do.” He added: “When you get angry in the car, it generates energy — and how do you dissipate that energy? Well, one way is to put your foot down a little bit more on the accelerator.”

Rising drug abuse during the pandemic seems to play an important role, as well. The U.S. Department of Transportation has reported that “the proportion of drivers testing positive for opioids nearly doubled after mid-March 2020, compared to the previous 6 months, while marijuana prevalence increased by about 50 percent.” (Mid-March 2020 is when major Covid mitigations began.)

Other factors besides the pandemic also affect traffic deaths, of course. But those other factors tend to change slowly — and often counteract each other.

Improving technology and safety features reduce traffic deaths, while the growing size of vehicles and the rise of distracted driving lead to more deaths. The only plausible explanation for most of the recent surge is the pandemic.

Rising Inequality

Vehicle crashes might seem like an equal-opportunity public health problem, spanning racial and economic groups. Americans use the same highways, after all, and everybody is vulnerable to serious accidents. But they are not equally vulnerable.

Traffic fatalities are much more common in low-income neighborhoods and among Native and Black Americans, government data shows. Fatalities are less common among Asian Americans. (The evidence about Latinos is mixed.) There are multiple reasons, including socioeconomic differences in vehicle quality, road conditions, substance abuse and availability of crosswalks.

These patterns mean that the rise in vehicle crashes over the past two years has widened racial and class disparities in health. In 2020, overall U.S. traffic deaths rose 7.2 percent. Among Black Americans, the increase was 23 percent.

One factor: Essential workers, who could not stay home and work remotely, are disproportionately Black, Destiny Thomas, an urban planner, told ABC News.

Another factor: Pedestrians are disproportionately Black, Norman Garrick of the University of Connecticut noted. “This is not by choice,” Garrick told NBC News. “In many cases, Black folks cannot afford motor vehicles.” As Simon’s story notes, recent increases in pedestrian deaths have been especially sharp.

The increasing inequality of traffic deaths is also part of a larger Covid pattern in the U.S.: Much of the burden from the pandemic’s disruptions has fallen on historically disadvantaged groups. (Deaths from Covid itself have also been somewhat higher among people of color.)

Learning losses have been largest for Black and Latino children, as well as children who attend high-poverty schools. Drug overdoses have soared, and they are heavily concentrated among working-class and poor Americans.

As I've written before, there are few easy answers on Covid. Continuing the behavior restrictions and disruptions of the past two years does have potential benefits: It can reduce the spread of the virus. But those same restrictions and disruptions have large downsides.

Many workplaces remain closed. Schools aren't operating close to normally (as my colleague Erica Green has described). Millions of adults and children must wear masks all day long. These changes have created widespread frustration and anxiety — and the burdens of them do not fall equally across society.

Dr. David Spiegel, who runs Stanford Medical School's Center on Stress and Health, has a clarifying way of describing the problem. People are coping with what he calls "social disengagement" — a lack of contact with other people that in normal times provides pleasure, support and comfort. Instead, Spiegel said, "There's the feeling that the rules are suspended and all bets are off." ●

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MICROSCOPE ALTERATION ON PATH TO ENHANCING BIOIMAGING

Coded ptychography could enable novel optical instruments with inherent quantitative nature and metrological versatility.

By Justine Murphy

A new microscope prototype is taking standard ptychography to new depths, achieving the highest-ever numerical aperture and imaging throughput that is orders of magnitude greater than others previously demonstrated.

"This will enable novel optical instruments with inherent quantitative nature and metrological versatility," says Guoan Zheng, the UTC associate professor in the University of Connecticut's (UConn) Department of Biomedical Engineering.

The new technique, "coded ptychography," was developed by Zheng's team and builds upon ptychographic microscopy—a method of microscopic imaging in which a computer algorithm inverts an extensive data set (comprising numerous inference patterns obtained as an object's position is shifted) into an image. Standard ptychographic microscopy is a coherent diffraction imaging technique for both fundamental and applied sciences, but is currently not as well suited for optical microscopy. According to the UConn team's study, published in ACS Photonics, its applications in optical microscopy fall short due to the low imaging throughput and limited resolution.

In a conventional microscope setup, the objective lens is large and bulky. Also, looking at a sample with a regular objective lens often means a tradeoff between the resolution and imaging field of view.

"The motivation for us to develop this device is to try to get both," Zheng says. "So now, we get high resolution and ultra-large field of view at the same time."

For the coded ptychography prototype platform, the researchers essentially created their own imaging system by replacing the bulky objective lens by a very thin scattering layer. This allowed them to translate samples across disorder-engineered surfaces for lensless diffraction data acquisition.

This surface consists of chemically etched, micron-level phase scatters and printed subwavelength intensity absorbers "for achieving the highest numerical aperture among all existing ptychographic systems."

The coded ptychography prototype, where the cover glass of the image sensor is replaced by the disorder-engineered surface. The engineered surface redirects large-angle diffracted light into smaller angles for detection. Therefore, the otherwise inaccessible object details can now be acquired using the pixel array.

According to the study, the resolution and numerical aperture the team has achieved is at least two times higher than current lensless ptychographic systems. "The unique fabrication process also differs from that of the conventional metasurface," Zheng says, "allowing cost-effective manufacturing without involving optical or electron lithography."

The engineered surface is fabricated on a microscope coverslip. When attached to the image sensor, the

engineered facet faces the pixel array of the sensor. This arrangement avoids direct contact between external objects and the scattered layer. It also addresses the stability and alignment issues of a conventional scattering lens.

Zheng notes there is a computational objective lens, not a physical one, establishing a “resolution-enhanced parallel coded ptychography technique.” The researchers say their prototype is “designed to unlock an optical space with spatial extent and frequency content that is inaccessible using conventional lens-based optics.”

Lens-based systems often endure demanding requirements of mechanical stability. Images can be easily defocused due to misalignment or environmental vibrations. In the new ptychography device, the team overcomes this by encoding an empty region on the engineered surface for positional tracking. The device can operate without feedback from the mechanical stage, enabling open-loop optical acquisition. Figure 2 shows the prototype device developed by the UConn team.

The researchers have been working on the coherent diffraction imaging model by considering both the spatial and angular responses of the pixel readouts. “Our low-cost prototype can directly resolve a 308 nm line width on the resolution target without aperture synthesizing. Gigapixel high-resolution microscopic images with a 240 mm² effective field of view can be acquired in 15 seconds,” Zheng says.

They also demonstrated the ability to recover slow-varying 3D phase objects with many 2π wraps, including an optical prism, a convex lens, and bacterial colonies. “The low-frequency phase contents of these objects are challenging to obtain using other existing lensless techniques,” he adds.

Coded Ptychographic Microscopy In Action

The technology is useful for several biomedical applications—among them, digital pathology. Coded ptychography can acquire high-resolution, whole-slide images of tissue sections for diagnosis.

“Typically, in the hospital, we take the biopsy sample, smear it on top of a glass slide, and then look at it under the microscope,” Zheng says. “We need to scan this sample at different positions to understand its overall

structure. Our device, with its very large field of view, allows us to image the entire sample at once.”

Different from the conventional whole-slide scanner, Zheng says his team can perform post-acquisition digital refocusing of 3D thick samples. This capability also allows them to measure the profile of the lens and monitor the 3D shape of bacterial colonies on the Petri dish.

For regular light microscope, it’s challenging to set up 8 microscopes for parallel operation. “In our case, we don’t have any objective lens, we only have 8 coded image sensors. In our study, we operate 8 sensors all at the same time. By using our platform, we can have 8 times higher throughput than whatever you can do using a single sensor,” Zheng says.

Blood screening is another potential application for coded ptychographic microscopy. For example, a gigapixel image acquired via this technique can be used for differential white blood cell counting, and in resource-limited settings, the new platform can be used to locate malaria parasites in blood smears. Figure 3a shows the recovered gigapixel image of a blood smear using the prototype platform. Figure 3b shows the zoomed-in views of the recovered phase and intensity images of white blood cells.

For culture-based experiments in research or clinical laboratories, the new technology can quantify the cell cultures over the entire Petri dish. Mammalian cell lines at different wells can be monitored, and drug screening can be performed. Clinicians can also monitor bacterial growth in response to different concentrations or different types of antibiotics.

“We try to look at the bacteria’s image in response to different types of antibiotic drugs,” he says. “If you have the correct antibiotic shot, you can see immediately the bacteria’s cells quit dividing. But you’ll see growth of bacteria over time if that shot is not effective. So, we use this coded ptychography for drug screening to determine which antibiotic is the most effective.”

Currently, this can be done in a hospital by looking at the size of the bacterial colony in a Petri dish. But because Zheng’s team has been able to detect single-cell bacteria, they can quickly determine which cell is dividing and which is not.

Zheng notes the team is continuing to study such applications, alongside UConn John Dempsey Hospital, before the new technology can be used in clinical settings.

Outside of the bio industry, coded ptychography could also find applications in optical metrology, because the 3D shapes and surface profiles of various optical elements can be precisely measured.

What's Ahead?

The UConn team previously studied other super-resolution imaging techniques such as Fourier ptychography, where they illuminated a sample with different incident angles for resolution improvement.

“Our ongoing effort is to perform angle-varied illumination on this coded ptychography platform. By doing so we can further improve the resolution via aperture synthesizing and perform tomographic imaging of thick specimens,” Zheng says. “We will report these results soon.”

Ptychography is an enabling technique that has become an indispensable imaging tool in most synchrotron laboratories worldwide. Its application in high-throughput optical imaging, currently in its early stage, will continue to grow and expand. The UConn team's research and findings are among the first steps in this direction. ●

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KAZEROUNIAN: TO SUPPORT IRAN'S PEOPLE, ENGAGE WITH THE IRANIAN RESISTANCE

Dr. Kazem Kazerounian

In his recent trip to Albania, former Vice President Mike Pence showed world leaders and politicians how they can play a leading role in supporting the people of Iran in their struggle for freedom and democracy. Mr. Pence

visited Ashraf 3, the main headquarters of the People's Mojahedin Organization of Iran (PMOI/MEK), the longest-standing and most organized opposition to the tyrannical regime ruling Iran.

The visit comes as Iran is on the verge of a monumental change. People from all walks of life are in the streets every day, protesting economic woes, government corruption and suppression of freedoms. Teachers, workers, pensioners, government employees, oil and gas sector workers and many other segments of society are regularly holding protest rallies. The protests are marked with slogans that call for the ouster of regime supreme leader Ali Khamenei and his appointed president Ebrahim Raisi.

These protests, which are taking place despite severe security measures by the regime, symbolize what the Iranian nation has gone through in the past four decades. After the 1979 revolution, Ruhollah Khomeini seized control and established a tyrannical theocracy that brutally massacred dissidents, squandered the country's wealth on developing weapons of mass destruction and waging war on neighboring countries, and exported terrorism across the globe.

For the people of Iran, who had overthrown the Shah dictatorship to live in freedom and prosperity, the mullahs' rule was a betrayal of their aspirations and the sacrifices they made in the 1979 revolution. Today, the mullahs' regime is the greatest enemy of the Iranian people and one of the biggest global threats.

During their reign of terror, the mullahs have executed more than 120,000 MEK members and supporters, including 30,000 political prisoners who were mass-executed in 1988. Raisi, who is now the regime's president, was one of the key players in that brutal massacre of political prisoners.

I was one of the MEK supporters who managed to escape the regime's security apparatus and find refuge in the U.S., where I am currently a professor and dean of the School of Engineering at the University of Connecticut.

Despite the regime's brutal crackdown, the MEK has stood against the dictatorship of the mullahs and defended the rights of the Iranian people.

Its sources inside the country were the first to expose the regime's nuclear weapons program in 2002. The MEK has consistently provided information about the regime's illicit nuclear sites, its terrorist network and its human rights abuses. The Resistance Units, a network affiliated with the MEK, is the most expansive network of organized anti-regime activists inside Iran and they are constantly carrying out activities to prevent the regime's repression from snuffing the fire of protests inside Iran.

Today, the confrontation between the Iranian people and the regime is at its highest point. On the one side is a regime symbolized by Ebrahim Raisi, whom the Iranian people have nicknamed "the butcher of 1988," and on the other are 80 million people who want to enjoy basic freedoms and live decent lives.

In the past, U.S. administrations have mostly stood on the sidelines, remained silent, or sided with the regime when the people held nationwide protests. This is the time to stand with the people of Iran.

Mr. Pence showed how the international community could do this. In his visit to Ashraf 3, Mr. Pence also met with Mrs. Maryam Rajavi, president-elect of the National Council of Resistance of Iran, a coalition of opposition forces that includes the MEK. The NCRI has a platform that calls for the establishment of a democratic state, which gives equal opportunities to all Iranians regardless of their gender, ethnicity and religion; which denounces terrorism and is at peace with its neighbors; which does not need a nuclear weapons program; and which is a contributor to peace and security across the globe. This is what the people of Iran and the world want.

As Mr. Pence said in his speech to MEK members in Ashraf 3, "One of the biggest lies the ruling regime has sold the world is that there is no alternative to the status quo. But there is an alternative – a well-organized, fully prepared, perfectly qualified and popularly supported alternative. ... Your Resistance Units, commitment to democracy, human rights and freedom for every citizen of Iran. Maryam Rajavi's Ten Point Plan for the future of Iran will ensure freedom of expression, freedom of assembly and the freedom for every Iranian to choose their elected leaders. It's a foundation on which to build the future of Iran." ●

HERE'S WHY CITIES ACROSS AMERICA ARE SPENDING A FORTUNE TO TEAR DOWN THEIR PUBLIC HIGHWAYS

The highway boom of the 1950s and '60s destroyed communities across the country instead of helping them.

Dr. Saul Zimet

A growing movement of local governments and communities across the United States is beginning to grapple with an unfortunate realization: The highway boom of the 1950s and '60s produced a massive amount of infrastructure that seems to have done more harm than good.

"Highways radically reshaped cities, destroying dense downtown neighborhoods, dividing many Black communities and increasing car dependence."

Nadja Popovich, Josh Williams, and Denise Lu wrote in a recent New York Times article.

Many cities "basically destroyed themselves" in order to accommodate motorists, said University of Connecticut professor Norman Garrick, who is studying the effects of transportation infrastructure on American cities.

Destruction And Regrowth In Rochester

Rochester's Inner Loop, completed in 1965, is one prominent example. This freeway destroyed hundreds of businesses and homes while separating downtown from the rest of the city, the New York Times reports. And in recent years, local officials have been trying to undo the damage.

In 2013, Rochester spent roughly \$25 million to take out an eastern segment of the freeway. Apartment buildings have since been built in its place, and smaller roads once separated by the Inner Loop have now been reconnected, facilitating the easy transportation of walkers and bikers in the area. Following the \$25 million removal project, over \$300 million of private investment was brought into the city, according to a Rochester City Newspaper article.

Now, Commissioner Norman Jones and other city officials are pushing for the rest of the Inner Loop to be removed. Jones estimates that the removal project would cost between \$70 million and \$250 million. This likely would be a worthwhile investment for the growth of the local economy, judging by the success of the previous removal project.

Similarly, according to the Times, “Nearly 30 cities nationwide are currently discussing some form of removal.”

Detroit, New Haven, Somerville, and Syracuse have all committed to some form of highway removal. And in the enormous infrastructure plan released at the end of March, President Biden proposed allocating \$20 billion to reconnect neighborhoods divided by the ill-conceived highways.

Unseen Costs

These damages to communities and neighborhoods are often irreversible. Once you’ve severed relationships between local businesses and institutions, they can’t necessarily be reconnected. And due to the compounding nature of cumulative economic growth, losing a few decades between the installation of a problematic highway and its eventual removal is not just a problem during those decades. It is a problem for every subsequent decade, during which the locals could have been building on a more robust economy, but instead may forever be stuck a few steps behind where they would have been.

But perhaps the most significant unseen cost of such expenditures is the loss for whatever projects those resources should have gone to. The millions of dollars spent building a highway, and then the millions more to remove it, could have been spent improving people’s lives instead of devastating their communities. If the money were left in the hands of individuals to spend as

they saw fit, instead of taxed away from them and spent at the discretion of bureaucrats and policymakers who have little insight into their lives, the money would almost certainly have gone to much more beneficial uses.

Such alternate uses are rarely even considered when it comes to public works like Rochester’s Inner Loop, as Henry Hazlitt explained in his seminal 1946 book *Economics in One Lesson*. For this, Hazlitt blames economic illiteracy and a lack of imagination. Proponents have the public construction clearly in view, but what they fail to see is all the things that go uncreated for the sake of it: “...the unbuilt homes, the unmade cars and radios, the unmade dresses and coats, perhaps the unsold and ungrown foodstuffs. To see these uncreated things requires a kind of imagination that not many people have. We can think of these non-existent objects once, perhaps, but we cannot keep them before our minds as we can the bridge that we pass every working day. What has happened is merely that one thing has been created instead of others.”

And private spending tends to have far better results for the community than government spending. The strong incentive to improve one’s own life, and the specific knowledge of one’s own needs and desires, position private institutions and individuals much better than any government bureaucracy to invest their own private capital. Therefore, tax-funded investments like those made during the highway boom of the 1950s and ’60s are usually destined to be worse than whatever potential private investments they have inevitably replaced.

Infrastructure Of A Free Society

Given the countless beneficial uses of a few million dollars, or a few billion, building a bridge or a highway is probably not usually the best possible investment. But sometimes it undoubtedly is, in which case private people and institutions can be left to invest in it on their own, if the money is left in their hands instead of taxed away from them. (And if regulatory measures don’t prevent them from making such decisions.)

Basic infrastructure such as roads and bridges are often listed as examples of things that simply can’t be left to the private sector. But if private individuals and institutions are left free to spend their resources as they see fit, there is nothing preventing them from making

whatever investments they deem most beneficial, which history suggests has often included basic infrastructure when regulatory forces didn't get in the way.

Private sector road building was common throughout much of American history until, as University of Georgia historian Stephen Mihm has written, "Private roads went out of fashion in the late 19th century, as reformers sought to bring everything from utilities to roads under centralized control and regulation."

These private ventures were funded partially by toll revenue (despite price control legislation making them less profitable). However, private investors were also motivated to fund hundreds of roads for reasons other than direct profit. "They sought the indirect benefits of having a road run through their communities, which helped increase trade and also the stature of the road's pioneers," Mihm writes.

If something is truly valuable, people will generally be motivated to invest in it without being forced to through taxation. And free individuals, companies, and communities, knowing their own wants and needs in infinitely greater detail than any centralized authority, are in a far better position than government officials to make such decisions.

The ignorance and corruptibility of anyone given power over the private capital of others is a recipe for needless waste and destruction. Rochester, and the dozens of other American cities that are rethinking the highway mistakes of the past, have learned this the hard way. If we learn from their example, we won't have to. ●

PROMINENT US ACADEMICS URGE BIDEN TO DO MORE TO HELP ANTI-GOVERNMENT PROTESTERS IN IRAN

By Alex Marquardt

More than 2,000 academics from universities across the United States have written to President Joe Biden urging him to do more to support the anti-government protesters in Iran, many of whom are coming out of Iranian universities and schools as young Iranians take to the streets and face off against the country's brutal security services.

The letter sent to Biden Tuesday evening, which was obtained by CNN, was signed by 10 Nobel laureates, among many others. It calls for "urgent attention to a dire situation in Iranian universities," and beseeches Biden to take "further tangible actions," including an end to negotiations with Iran and no sanctions relief.

Iranian students have declared sit-ins and strikes in some of the biggest anti-government demonstrations to grip the country since the 1979 revolution. The movement has largely been inspired and energized by women following the death of 22-year-old Masah Amini after being detained by Iran's morality police in mid-September.

Until the protests erupted after Amini's death, the Biden administration had been focused on resurrecting the nuclear deal with Iran, an effort that has now been paused. The administration imposed more sanctions on Iran and has been meeting with prominent activists and weighing how to support the protesters. CNN previously reported that the White House has spoken with Elon Musk about how his Starlink satellite internet system could work in Iran.

But the signatories feel the US hasn't gone far enough.

Violent clashes break out between students and security forces across Iran, rights groups say.

“This administration must make the regime pay the price for every person it has killed or injured or jailed,” said Professor Kazem Kazerounian, the dean of engineering at the University of Connecticut who helped spearhead the letter to Biden.

Kazerounian said he and his wife protested against the Shah of Iran during the 1979 revolution and then left to the US after universities were closed. Many who put their names on the letter are part of the Iranian diaspora in the US.

“Everyone is moved with the news that is coming from Iran, the bravery of women and girls in nonstop protests, day and night,” added Kazerounian. “It’s very natural for our academic colleagues come together in solidarity with the academic community in Iran.”

Calling university campuses “sacred ground,” the letter highlighted the violent crackdown on Tehran’s prestigious Sharif University of Technology last month. Students were fired on and trapped in a parking lot by Iran’s Islamic Revolutionary Guard Corps, according to videos CNN verified from social media.

“There was blood everywhere,” an eyewitness told CNN.

Several hundred protesters are believed to have been killed and thousands arrested, observers and activists say. Around 1,000 have been indicted for their involvement and will be tried, the chief justice of Tehran province said on Monday, according to state-run IRNA.

“This is really painful for my conscience,” said Morteza Gharib, a professor of aeronautics at Caltech who signed the letter. “I cannot be quiet and not express my dissatisfaction with this and also the expectation as a US citizen I have from our president.”

“We need more, not just words,” he added.

Over the weekend, students at another university in the capital, the University of Tehran, were seen in a video obtained by CNN marching and chanting: “It’s not the time for mourning. It’s time for anger.”

“With the continuation of nationwide protests, Islamic Republic armed plainclothes forces have entered university campuses to violently crush and arrest protesting students,” Iran Human Rights, an NGO based in Norway, said.

The head of Iran’s Revolutionary Guards Hossein Salami warned at a funeral on Saturday that it would be the last day protesters would take to the streets.

“Don’t turn the university into a battlefield of America against the nation,” Salami said, accusing the US, UK, Saudi Arabia and Israel of fomenting the unrest.

Aside from demanding that Biden stop negotiations with Iran’s theocratic regime, the academics asked that there be no sanctions relief “until all violators of human rights in Iran are held accountable.”

“We also ask you to recognize the universally accepted right of the Iranian people to self-defense as they seek to attain sovereignty and self-determination,” the letter concluded. ●

**School of
Fine Arts**

GERTRUDIS RIVALTA EXHIBITS IMAGES OF AFRO-CUBAN LIFE

By Karen Juanita Carillo

The works of multidisciplinary artist Gertrudis Rivalta are on exhibit for this, her first solo art show in New York City.

Five large canvas paintings and seven smaller dioramas are showcased as part of “Selected Pages,” an art show curated by University of Connecticut Professor Jacqueline Loss. The exhibit is on view at the Thomas Nickles Project gallery (47 Orchard St., Manhattan) until April 24.

The works on display are meditations on Afro Cuban life, from past to present, and demonstrate Rivalta’s interpretations of the extent to which Black Cubans have been incorporated into the local social fabric.

“To me we are living an illusion. We are not really free,” Rivalta explained in a recent interview. “I see Black people here, Black people in Cuba—we don’t have power. And when I say power, I mean presence. Power is to have presence. Other people don’t see us, they only see us from the same angle: we are never the intellectuals, the scientists. Instead, we are the dancers, we are the musicians, we do less consequential jobs.

“I don’t want that illusion, I want our reality—I want this, our reality, to be true.”

In works such as “Cheerleaders, 2009” Rivalta depicts one of the many busts of the Cuban national hero, José Martí, which remain dotted in towns and cities throughout the island nation. On this canvas, the Martí bust is encircled by young, mostly white Cuban admirers who offer flowers to the famed independence hero. But Rivalta places the overbearing image of a muscular, virile Black woman in the foreground of the painting—it nearly obscures the adoration of Martí in the back.

The very name of Rivalta’s “Cimarrona, 2022” painting evokes the formidable image of self-liberated descendants of Africans in the Americas. A cimarrona

was specifically a female who had freed herself from enslavement—think Harriet Tubman, Jamaica’s Queen Nanny of the Windward Maroons, or Haiti’s Cecile Fattime—Rivalta draws the image of this militant figure with sequins and paints her as a coquettish, sweet, bright, rainbow color-infused Black woman, a cimarrona, who is free and inspiring.

Rivalta likes to juxtapose language and imagery so that they sometimes work together but at other times contrast to tell the viewer different messages.

“You know, we are surrounded by images and even when we have images in our heads, we have to describe the image when we want to talk about it,” said Rivalta. The seven dioramas in her show focus on Black people living their everyday lives amidst the images and words that surround them. “I didn’t want to only show our Cuban reality by only working with images, there are all those layers and, I wanted to talk about the way we talk about reality, because it’s made of layers and layers and layers of conversations.

“Sometimes coquita—you know this main character in the dioramas—she’s thinking, she’s not talking, but you can see what she’s saying. That is very important because what exists only in the mind of a person, now you have access to see that or to read that or to understand that. And that’s very important because many of us from Cuba, we couldn’t talk. The conversation about Afrodescendant people was not an open conversation; it was not an open issue. Most of the time, all of us, we were talking behind the scenes. All we could do was just present images: it was acting. So when you come to read my dioramas, at the same time all [of what you are seeing] is an act: it’s a scene, a theater. All of those layers where you have one thing in the background, but it can sometimes move to the front and you know there is an angle on another side—it all becomes a game. It’s a game with the language, it’s a game with the images and it’s a game with the positioning of the language and the images.”

Rivalta’s “Selected Pages” exhibit is an attempt to spotlight the depths of Afro Cuban lives and the impact the Black community has had on Cuba. “Racism persists in Cuba. I mean institutionally you can think that it was eliminated, but it wasn’t. It remains among the people because of our colonialist past. And that is some of what is behind my dioramas,” Rivalta added. “There is more in them, because there are some symbols that

you can find there and if people know Cuban history, they can understand those symbols. But I made the dioramas as works for people to return to. You're not finished when you see them only once: I want you to return to read them for as many times as you need to read and understand them." ●

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IN ONE FIRST-GRADE CLASSROOM, PUPPETS TEACH CHILDREN TO 'SHAKE OUT THE YUCK'

By Cory Turner

Teacher Leticia Denoya stands at the front of her classroom, at Natchaug Elementary in Windham, Conn. Her first-graders sit criss-cross applesauce on the reading rug.

"Do you remember last week, we worked with our puppets and we learned a new strategy?"

One little girl raises her hand: "Belly-breathing."

That's right, Denoya responds, to help with "heavy" feelings. She asks the students to name a few.

One child offers "angry." Another: "sad, because someone took something away from you."

For many children, it was the pandemic that took something away. Most at Natchaug come from working-class families and qualify for free or reduced-price meals. Some lost loved ones to COVID. Many saw parents lose work. And, in schools across the country last year, that kind of stress followed kids back to class and has led to all kinds of disruptive behaviors.

That's the bad news. The good news is kids can be incredibly resilient, especially when they've got help –

like the kind Denoya's first-graders are about to get from a research-backed group of puppeteers.

A happy-faced puppet comes alive; Just add hand! The sock is part of a build-your-own puppet kit provided to the students.

"Today, we are gonna learn how to change our feelings when you might be feeling heavy," Denoya says, "and we want to make ourselves feel lighter."

The children are quiet. They love this part, when they get to watch a video — with puppets.

Last week, it was about belly-breathing, and today's strategy sounds even more fun:

Something about trying to "shake out the yuck." The reading rug thrums with excitement.

"Yuck is all those heavy feelings. Like when I'm nervous or scared or both, I imagine those feelings are stuck all over me," one puppet says. "And then I shake them off, like this..."

She playfully shakes her body like a wet dog, spluttering nonsense words.

The kids can barely contain their excitement. Denoya invites them to shake it out.

Do they ever.

There's science behind teaching kids to 'Push The Clouds' of heavy feelings

The five-minute video Denoya's students watch is part of a series produced through a new pilot program called Feel Your Best Self, or FYBS. Each video is built around a simple strategy to help kids recognize and manage their feelings – or to help friends who are struggling.

"It's taking what we know works," says Emily Iovino, a trained school psychologist who is part of the FYBS team.

What works, Iovino says, is something called cognitive behavioral therapy, which involves all sorts of practical skill-building, including learning to change negative thinking patterns, better understand others' motivations and face fears that may fuel unhealthy avoidance behaviors.

For example, in one video, called "Push The Clouds," children are encouraged to visualize their sad, heavy

feelings as dark storm clouds and to imagine pushing those clouds away.

It may sound simple, but lovino says, it's a strategy known as "cognitive restructuring, which is teaching someone how to recognize an emotion, name that emotion, and then be able to work to shift thoughts – to feel something different."

While the videos may be steeped in research, they sport kid-friendly names like "Float Your Boat" and "Chillax In My Head," and spotlight puppet heroes CJ, Mena and Nico, who are rendered in warm purples and reds, with emotive smiles and saucer eyes reminiscent of "Sesame Street."

"The puppets took hours and hours to create," laughs Emily Wicks, a co-creator of Feel Your Best Self and interim co-director at the University of Connecticut's Ballard Institute and Museum of Puppetry.

After the pandemic, a group of puppeteers saw an opportunity to help

During the pandemic, Wicks sent emails to researchers at the University of Connecticut's Neag School of Education, fishing for collaborators. She'd been wanting to put more of their work online.

Her pitch: You want to help kids right now, and we have puppets.

Co-founders Emily Wicks and Sandra Chafouleas, with associate director Emily lovino, developed the Feel Your Best Self program, which uses puppets Nico, CJ and Mena to help students better manage their emotions.

One of those emails went to Sandy Chafouleas, a UConn professor and trained school psychologist. Chafouleas was worried about all that extra stress on kids returning from the pandemic and that schools wouldn't be able to help them.

"Teachers were stressed. Systems were stressed. Nobody had time to do professional learning to do something complex. That's just ridiculous to think that they could've," Chafouleas says.

Denoya, the first-grade teacher at Natchaug Elementary, has seen it firsthand: Kids returned from the pandemic with missing or rusty social and emotional skills. They had trouble sharing, learning how to take turns and dealing with disappointment.

"There's just things that they missed out on with not having that socialization, and so we need to find a place to teach it at school too," Denoya says.

Anticipating this need, Chafouleas and Wicks cooked up Feel Your Best Self.

The idea was, these scripted puppet videos would be easy — and free — for schools to use, even if they don't have a trained mental health specialist on-hand. Which many don't. Or they have one, spread across hundreds and hundreds of kids.

That includes Natchaug, where Principal Eben Jones has been unable to fill a vacant school psychologist position for the past two years. Jones says that hasn't stopped him and his staff from prioritizing this kind of emotional and social skill-building.

"It is embedded daily," Jones says. "Every teacher has time in the morning to have a morning meeting. And in that morning meeting they build community, share a morning message, you know, play a team-building game and make sure kids are connected to each other."

This school year, Denoya and her students are doing one FYBS lesson each week.

"There's just things that they missed out on with not having that socialization, and so we need to find a place to teach it at school too," first-grade teacher Leticia Denoya says.

The FYBS program has exploded over the past year, thanks in part to a flood of grant funding. What began last year at Natchaug with a small team performing virtually – and live, not recorded – in one classroom at a time, became a Herculean effort to script, cast and shoot not one but 12 unique videos, with multiple puppets and performers, that teachers and caregivers can access anytime online, at no cost – in both English and Spanish.

"Emily and I often feel like we're hanging on to the end of the caboose right now. This has scaled in ways that are unimaginable," says Chafouleas.

Teaching Students To Manage Their Emotions Can Have A School-Wide Impact

For this current pilot at Natchaug, Denoya's first-graders also get to make their own puppets.

The FYBS team has given every child a brown paper sack, with a brightly-colored sock and all kinds of add-ons, including bug-eyes, sticker stars and yarn hair.

The kit, like the videos themselves, has been a work in progress, says Wicks.

"The hardest thing for me has been how to make this bag as self-contained as possible so that teachers do not have to provide any material. This kit, right now, it doesn't need scissors, doesn't need glue, doesn't need markers."

What's more, each sock comes with a cardboard mouth that, early on, Wicks and her collaborators were hand-cutting and gluing themselves. Wicks says they've worked with UConn's Proof of Concept Center to make the effort more scalable: The cardboard is now laser cut in bulk with adhesive already applied, the eyeballs now styrofoam instead of Ping-Pong balls.

Denoya invites the children to slide their puppets onto their hands and asks how the puppets are feeling. One little girl exclaims, "Excited!"

A boy, sitting nearby, adds: "My puppet's feeling calm."

One little girl — Navayah — raises her hand and tells Denoya that, when she showed up to school this morning, "I was sad and nervous." It turns out, this was Navayah's first day at Natchaug. Good thing it started with learning how to shake out the yuck.

"And are you feeling a little bit better now?" Denoya asks.

"Yeah!" Navayah says she's already made two friends and, back at her desk, one of them, Galilea, is helping her apply hair to her new puppet.

This kind of harmony is showing up schoolwide, says Jones, the principal. As of late October, teachers here had yet to write up even one serious behavior problem, he said.

Chafouleas says she and Wicks have been getting incredible thank you cards from kids and teachers, "just saying, 'This is exactly what we needed. This was so

much fun. We had indoor recess today, and so the kids decided to put their desks together in makeshift puppet theaters and do their own skits. It's just been such a lifesaver."

Still, Chafouleas is adamant: She doesn't see this work as a pandemic fix-all. Far from it.

What it is, Chafouleas says, is one little thing schools can do to help kids manage in a world that, even to grown-ups, can sometimes feel so unmanageable. Five large canvas paintings and seven smaller dioramas are showcased as part of "Selected ●

School of Law

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JUDGE NOTORIOUS FOR ANTI-OBAMACARE RULINGS HAS ANOTHER CRACK

By Tierney Sneed

A Texas-based judge who has become notorious for his rulings against the Affordable Care Act under the Trump and Obama administrations now has a chance to take another whack at the law.

In several different cases spanning the last half-decade, US District Judge Reed O'Connor -- an appointee of President George W. Bush -- has issued opinions that would dismantle key Obamacare provisions.

On Friday, President Joe Biden's Justice Department will join the administrations of his predecessors in asking O'Connor to reject the latest legal attack against the landmark 2010 health care law.

The case targets the law's requirements that insurers cover certain preventive care services, like STD testing, vaccines and PreP drugs for HIV. The challengers are making religious freedom claims as well as constitutional separation-of-powers arguments -- both issues known to be of interest to the Supreme Court's conservative majority.

The lawsuit doesn't pose the existential threat to the Affordable Care Act that previous anti-Obamacare cases presented. But it is still an example of "never-ending litigation" around the Affordable Care Act, said John Cogan, a health law professor at University of Connecticut School of Law.

"There are plaintiffs who simply will not give up, despite years of defeats," Cogan said. "They've had some successes, but years of defeats, and there's just no lack of an appetite for continuing litigation."

Where the challengers have been successful, it's often been in O'Connor's courtroom.

"The whole approach to challenging the ACA ... he's their guy," Cogan said.

A judge with a history of ruling against the Affordable Care Act

Judge O'Connor presided over the last major Obamacare challenge to land on the Supreme Court's doorstep. In that case, he signed on to an aggressive argument -- scoffed at even by legal commentators on the right -- that was ultimately rejected by four of the Supreme Court's conservatives in addition to its three liberals.

His ruling was handed down on a Friday evening a week and a half before Christmas in 2018.

The Supreme Court in an opinion written by Justice Stephen Breyer disagreed with O'Connor's conclusion that by reducing the ACA's individual mandate penalty to zero, Republicans in Congress had made the mandate -- and therefore the rest of the law -- unconstitutional. Breyer is now retiring, and if this latest case makes it before the Supreme Court, among the justices who will likely be hearing it is Biden's nominee for the vacancy.

In addition to the individual mandate case, O'Connor also sided with Obamacare challengers who took aim at the law's non-discrimination provisions, its contraceptive coverage requirement, and at insurance provider fees imposed on states through the law.

That he's been a go-to judge for Obamacare's legal opponents appears to be a product of how federal courts in Texas divvy up their cases.

Though the Northern District of Texas has a dozen active judges, O'Connor is just one of two active judges (plus a third judge who is on senior status) tasked to hear cases that are filed in the Fort Worth Division. That means filing a case there gives plaintiffs a very decent shot of their case going to him.

He also recently ruled against the military's Covid-19 vaccine mandate and has in the past issued decisions against policies that expanded LGBT rights.

"He is bold," said Joshua Blackman, a professor at the South Texas College of Law Houston and an adjunct scholar at the libertarian Cato Institute. "He doesn't blanch at a suggestion that a major law is

unconstitutional. If he thinks something's valid, he'll stop it."

The case before O'Connor now was filed in March 2020. It was brought by several Texas individuals and two employers, including a company linked to a well-known GOP activist in the state.

The lawyer for the plaintiffs is Jonathan Mitchell, a conservative attorney who has been in the spotlight recently for his role in designing Texas' six-week abortion ban. A legal group led by former Trump White House aide Stephen Miller and other allies of the former President is also now involved in the case.

Under the Trump administration, the Justice Department put up a full defense of the challenged provisions and unsuccessfully sought to get the case dismissed. The Justice Department filing due Friday will mark the first time that the Biden administration gets to make its comprehensive legal arguments against the claims brought in the case.

A Case With The 'Potential To Really Limit Or Unwind Agency Power'

The lawsuit lobs several different arguments at the preventive services coverage mandate.

Perhaps the most novel assertion is a claim that the bureaucratic advisers who decide which services are covered under the law lack the authority to do so. The lawsuit argues that because those officials weren't appointed by the President and confirmed by the Senate, their determinations violate the Appointments Clause.

The lawsuit singles out coverage mandates for STD testing and HIV treatments as the challengers say those treatments are not ones they or their families will ever want or need.

But the services designated under ACA's preventive care requirement cover a whole host of treatments, including colonoscopies, mammograms, cholesterol checks, vision screening for kids, well-woman and well-child visits and lots of other non-controversial screenings and immunizations.

Additionally, the challengers claim that, under the so-called nondelegation doctrine, the law violates the

Constitution by delegating those decisions to a task force of experts selected by the US Department of Health and Human Services, because Congress allegedly lacked specificity in its instruction.

"So much of our health care system is built around agency determinations -- this case has the potential to really limit or unwind agency power," Zack Buck, a University of Tennessee College of Law professor who specializes in health law.

The lawsuit also appears poised to push conservative judges like O'Connor on how far they'll go in the wake of the Supreme Court's Hobby Lobby ruling, a 2014 decision that sanctioned a carveout from contraceptive coverage requirements for religious objectors.

The challengers in the current case claim that ACA preventive care mandates violate a religious freedom law called the Religious Freedom Restoration Act. They allege the coverage mandates are requiring individuals and employers to subsidize insurance for treatments that HIV drugs and STD testing that "facilitate and encourage homosexual behavior, prostitution, sexual promiscuity, and intravenous drug use."

The combination of arguments about religious freedom and executive branch authority is a "double-whammy," Blackman said. He predicted the lawsuit will get a "lot of traction" both with O'Connor and the conservative 5th US Circuit Court of Appeals, which would be next to hear the case if it's appealed.

The stakes are big for the questions around agency power and administrative law. They're smaller for the Affordable Care Act, legal experts said. But a win for the challengers, if upheld by higher courts, may cause some disruption to the health care markets. How much the markets are undermined would depend on whether -- without the mandates -- insurers would actually offer skimpier policies that don't cover those services.

"In terms of long-term stability of the Affordable Care Act, I don't see this as a major threat," Buck said. "But of course, it matters individuals who depend upon this care." ●

ANALYSIS: PALIN'S LEGAL FIGHT WITH THE NEW YORK TIMES IS FAR FROM OVER

By Jan Wolfe

WASHINGTON, Feb 15 (Reuters) - A surprising and unusual ruling against Sarah Palin in her defamation case against the New York Times (NYT.N) has narrowed the former Alaska governor's route to victory but the high-profile suit is far from over, legal experts said.

In an abrupt twist in a trial seen as a test of longstanding protections for American media, U.S. District Judge Jed Rakoff on Monday announced plans to throw out the lawsuit - even as jurors were still deliberating. The judge did not inform the jurors of his plan.

Rakoff said Palin, the 2008 Republican U.S. vice presidential candidate who for years has been a leading conservative political figure, had failed to prove the Times defamed her in a 2017 editorial that erroneously linked her political rhetoric to a mass shooting.

The judge allowed jurors to keep deliberating as he announced his plans from the bench and said he would enter a formal dismissal only after they reached their own verdict.

Media law experts said it is not unprecedented for judges to issue so-called directed verdicts in defamation cases but called the timing of Rakoff's announcement highly unusual.

The U.S. Supreme Court has said that, given the importance of protecting freedom of the press, it can be appropriate for judges to take defamation cases out of the hands of jurors, said David Logan, a law professor at Roger Williams University in Rhode Island.

Logan said this procedural rule was created by New York Times v. Sullivan, a landmark 1964 Supreme Court ruling known for ushering in the "actual malice" standard for public figures to prove defamation.

In that decision, the Supreme Court held that the U.S. Constitution requires a reviewing court to independently examine the facts in a defamation case for itself to determine that a jury verdict does not amount to "a forbidden intrusion on the field of free expression."

"The trial judge has an independent role to play in evaluating actual malice," Logan said.

"Actual malice" required a showing that the Times knew its editorial was false or had reckless disregard for the truth.

It has been more common for a judge to issue a directed verdict either before jurors begin deliberations or after they have reached a verdict.

"The dispute isn't about what he (Rakoff) is doing," said Alexandra Lahav, a University of Connecticut law professor. "It is that he communicated his thinking at this stage of the case."

Rakoff said while the Times had engaged in "unfortunate editorializing," the newspaper did not act with "actual malice."

The judge added that the jury verdict could still help the parties and the appellate courts resolve the case.

The New York Times will be in a stronger position if the jury also rules in its favor, said Eric David, a media lawyer at the firm Brooks Pierce. In general, appeals courts are reluctant to second-guess factual determinations by jurors, David said.

"A jury verdict for the New York Times would be much more appeal-proof than a directed verdict," David said.

If the jury rules in favor of Palin, the case would become more complicated. If Palin appeals as expected, the New York-based 2nd U.S. Circuit Court of Appeals would then review Rakoff's directed verdict and decide whether it agrees with him that she failed to prove "actual malice." If not, it could reinstate the jury verdict.

Palin is expected to argue on appeal that she presented strong evidence of "actual malice," but in any event the "actual malice" standard needs to be revisited by the U.S. Supreme Court.

Conservative Supreme Court Justices Clarence Thomas and Neil Gorsuch last year wrote dissenting opinions making clear they think the "actual malice" framework

is outdated, but it is unclear if other justices would join them. The Supreme Court has a 6-3 conservative majority.

While the timing of Rakoff's directed verdict was unusual, Lahav said there was a certain efficiency to it given that jurors took time out of their lives to hear the case and lawyers were paid a lot of money to argue it.

"You don't want all those costs to go to waste," Lahav said, adding that it is worthwhile to "make sure the jury verdict is preserved so they don't have to do it all again."

One potential issue with Rakoff's approach that Palin's lawyers could raise on appeal is that there is a risk of jurors learning Rakoff's views on the case, said Benjamin Zipursky, a law professor at Fordham University in New York.

The jurors have been instructed to not read about the case when they go home at night. But in the digital era it can be difficult to avoid news reports and social media posts about a high-profile trial, Zipursky said. ●

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DAIRY IN THE AMERICAS: HOW COLONIALISM LEFT ITS MARK ON THE CONTINENT

By Matilde Nuñez del Prado Alanes

The Americas have a long, strange history with milk. While the domestication of animals was a widespread practice in several pre-Columbian cultures, the introduction of milk to the diet on the continent began only in the 16th century as part of the process of territorial occupation and colonial domination. Today, milk production continues to occupy large amounts of land, polluting water and damaging vital ecosystems around the world, and its consumption leads to serious health problems in more than two-thirds of the world's population.

The introduction of animals to the "New World" was one of the most effective strategies for consolidating the European colonial agenda. The first cows arrived on the continent with Columbus on his second voyage in 1493 and spread throughout the continent in a short time. The introduction and expansion of cattle to the Americas helped the conquerors to occupy territories, destroy native environments, introduce European crops, and support various extractive activities that favored the empire. As anthropologist Rosa E. Ficek writes, "Conquest worked indirectly through bodies of cattle taking up more and more space." The native inhabitants—animals and humans—were invaded not only by the settlers but also by their animals, who helped transform the Americas' environments to suit European ends.

Take Action And Make A Difference

The importation of animals also had an ideological background bathed in racism and a superiority complex. According to Rebecca Earle, author of *The Body of the Conquistador*, for Europeans, food made their bodies different from those of the natives. "Without the right foods Europeans would either die, as Columbus feared, or, equally alarmingly, they might turn into Amerindians," she writes. In addition, the conquerors considered that their methods of agriculture, mostly based on cattle, were better than the local forms. In the eyes of the colonists, the exercise of human dominance over other creatures considered "lesser" was a demonstration of cultural superiority. Imposing their livestock system, transforming human-animal relations, and changing the feeding patterns of the natives was a way of "civilizing" them, which was one of the main objectives of colonization. Thus, food colonialism was not a consequence of the conquest, but an integral part of the imperial project.

Despite the early expansion of cows after the arrival of Europeans, milk consumption did not spread so quickly across the continent. For much of the colonial period, milk production remained at a subsistence level and was consumed mostly by the families of the hacendados, and by their workers when there was a surplus. Only towards the end of the 18th century, the growing need for labor led to concerns about the fertility, birth rate, and breastfeeding practices of female workers, and the imposition of cow's milk as a necessary food group. The long breastfeeding period to

which Indigenous and Black slaves were accustomed seemed to negatively impact fertility and reduce the amount of work for the lactating mother. In addition, the milk from these mothers was considered poor quality compared to that of European cows. For Mathilde Cohen, Professor of Law at the University of Connecticut, milk colonialism and breast-feeding colonialism are part of what she calls “animal colonialism.” “Improving or modernizing maternity meant replacing the human breast by cow’s milk,” so “lactating animals were conscripted in a colonial reproductive politics aimed at reforming maternity,” she writes.

Most colonies in the Americas achieved their independence from Europe between the 18th and 19th centuries, however, milk continued to be imposed throughout the region as a form of neo-colonialism linked to the interests of capital. As Merisa S. Thompson, Lecturer in Gender and Development at the University of Birmingham, writes, “Both the milk of humans and milk from animals is increasingly manipulated for economic means, with the latter increasingly coming under the purview of the law.” During the 20th century, the mass consumption of milk was the result of state policies, first in the United States and then in the rest of the continent. According to Vox.com, during World War I many American farmers left grain farming to concentrate on milk due to state demand for this food for soldiers. With the end of the war, the demand for milk dropped significantly, but its production didn’t cease, rather campaigns were implemented to encourage its consumption. Milk was advertised as essential for growing children and strengthening bones, it was introduced in school breakfasts, restaurants were encouraged to create high-dairy menus, and leftovers were sent to other countries as aid food.

In Latin America and the Caribbean, milk production quickly became an essential part of the desired economic development. Governments of the region not only created campaigns to promote milk consumption but also facilitated the importation of milking equipment and dairy processing infrastructure by large landowners, and invested in training and breeding programs. The United States also intervened through development-oriented credits that, according to Ficek, “encouraged fences, improved pasture grass, vaccination, sanitation, and other interventions that

helped turn cattle into profit.” This meant the expansion of a standardized capitalist model that implies the importation of special grasses, antibiotics, herbicides, new breeds, and the introduction of new foods in the diets of the cows to improve their productivity. “As with other nation-state-building techniques, milk production has produced new forms of domination,” Veronica Pacini-Ketchabaw, Cristina Vintimilla, and Alex Berry, researchers on the issue in the Andean region, state.

The Colonial Footprint Of The Dairy Industry

Today, the colonial legacy of milk continues to affect the region. Although Latin America represents only 8 percent of the world’s population, it produces 11 percent of the world’s milk. Almost a quarter of the bovine cattle are used for milk production in Brazil, which has the second-largest dairy herd in the world and is the first producer of milk in the region. In other countries, the percentage can be even higher, as in Colombia, where 41 percent of the cows work for the dairy industry. In South America alone, milk production reached 64 million tonnes in 2018, and at the Latin American level, it increased by around 3.3 percent between 2020 and 2021. All this has negative consequences for the environment, ranging from the pollution of rivers, high emissions of greenhouse gases, excessive use of water, and, probably the most serious, the destruction of the Amazon.

It is estimated that between 1985 and 2018, the Amazon rainforest lost 72.4 million hectares of forest and vegetation cover, of which 70 percent is used for pasture and much of the rest for forage crops. Of course, local milk production contributes to some part of this catastrophe, but in this case, it shares the responsibility with the international dairy industry. According to a recent investigation by the Bureau, Greenpeace Unearthed, ITV News, and the Daily Mirror, “UK farms supplying milk and dairy products for Cathedral City Cheddar, Anchor butter and Cadbury chocolate are feeding their cattle soya from a controversial agribusiness accused of contributing to widespread deforestation in Brazil.” This affects not only millions of animals that are diminished by the loss of their territory, but also the entire ecosystem of South America, which depends on the Amazon, and the more than 100 Indigenous peoples who live there.

In addition to environmental devastation, dairy production and consumption in the Americas come with various health problems. According to a study published in *The Lancet*, approximately 68 percent of the world's population suffers from lactose malabsorption. This means that once they pass early childhood they stop producing lactase and cannot digest milk sugars. However, despite the fact that in the United States lactase non-persistence occurs in a majority of African-, Asian-, Hispanic-, and Native-American individuals, the Dietary Guidelines for Americans recommends two to three daily servings of dairy products, which could be described as racial bias, according to a paper in this regard.

Lactose intolerance can present symptoms such as acne, bloating, cramps, or diarrhea, among others, and yet it is not the worst consequence of milk for health. Dairy consumption has been associated with an increased risk of breast, ovarian, and prostate cancers, autoimmune diseases, and Parkinson's. According to the Physicians Committee for Responsible Medicine, saturated fat in milk and other dairy products contributes to heart disease, type 2 diabetes, and Alzheimer's disease. In addition, studies show that the consumption of milk has higher risks of total mortality and, contrary to popular belief, bone fracture rates tend to be higher in countries that consume milk, compared to those that don't. Despite all this, in most countries of the region, the Dietary Guidelines for Americans are taken as a reference, and programs to promote dairy consumption are carried out based on it—for example, in Bolivia, Ecuador, Paraguay, and Colombia—which proves that colonialism has transcended until today to the detriment of the population health.

Imagining A World Without Dairy

As writer and activist Zane McNeill explains, the dominance exercised by nations and corporations from the Global North over previously colonized nations in the Global South, through international capitalism, is a form of neo-colonialism. And that is precisely what is currently happening with the dairy industry in the Americas. But what would happen if the entire region decided to leave the cow's milk for the calves? Can we imagine another future?

Ecologically, a measure like this would contribute to considerably reducing the carbon footprint, the use of

water and land, and the pollution of rivers. The use of antibiotics and pesticides would also be reduced. Deforestation of the Amazon rainforest would be much less, leading to the recovery of local flora and fauna, and allowing a greater capture of greenhouse gases. Population health would improve in many ways, helping to reduce the current overload of the health system and saving money that the States could invest in improving hospital care. It would also reduce the risk of zoonotic diseases associated with dairy production, such as tuberculosis, brucellosis, leptospirosis, salmonellosis and listeriosis.

Latin America and the Caribbean are full of nutritious plants that are perfect for preparing plant-based milks, such as amaranth, tarwi, quinoa, Amazonian nuts, peanuts, and potatoes, among many others. Changing animal milk for milk based on local plants would not only be an act of cultural and territorial vindication, but also a full exercise of food sovereignty. Workers from the old dairy sector could find employment in the native plant-based industry.

Above all, abandoning the colonial legacy of dairy would free millions of cows, bulls, and calves from the system of exploitation to which they are currently subjected, eliminate the suffering of mothers and babies that are prematurely separated every day, avoid painful diseases to hundreds of sentient animals and would allow them to enjoy the grass, the sun, and their loved ones. For humans, such an act of compassion would bring as a reward a healthier life, with a lower risk of invasive diseases and, probably, a longer life span.

So, what are we waiting for? ●

COSTS MOUNT FOR 3M AS EARPLUG TRIALS DRAG ON

Former and active military members have claimed six victories in product liability suits against 3M, while the company has won five in the largest mass tort in U.S. history.

By Mike Hughlett Star

After nearly a year and 11 trials, 3M's courtroom battle over its military earplugs still rages on with no end in sight — and Wall Street is increasingly worried about a potential multibillion-dollar threat to the company.

Former or active military members, who claim 3M knowingly made defective earplugs that damaged their hearing, have won six trials. The Maplewood-based company, which claims the earplugs are safe, has won five.

Without a settlement, thousands more cases will go to trial in what has become the largest U.S. mass tort ever. Two stock analysts recently estimated total payouts to plaintiffs could be around \$15 billion.

"Right now, it looks like a 50-50 shot the plaintiffs will win," said Alexandra Lahav, a professor at the University of Connecticut School of Law. Their ratio of victories shows "there is merit to their cases. ... The plaintiffs right now have a lot of leverage, and 3M is thinking, how can we turn the tide?"

3M says it is "confident" in its case and has begun appealing jury verdicts it lost.

Recently filed appellate court documents show that 3M is reasserting the "government contractor" defense. A potentially powerful tool, the defense shields companies from tort liability for defects in products designed and developed for the federal government.

3M has claimed its earplugs were designed in close collaboration with the military. But Casey Rodgers, the U.S. District judge in Florida presiding over the earplug

case, rejected 3M's government contractor plea in 2020.

The lawsuit avalanche centers on the Combat Arms or CAEv2 earplug, which a company called Aearo Technologies began selling to the U.S. Army in the late 1990s. 3M bought Aearo in 2008 and continued sell the CAEv3 until 2015, dominating the military earplug market.

About 280,000 military earplug claims are pending against 3M. They have been roped together in a multidistrict litigation, or MDL, case in U.S. District Court of northern Florida.

MDLs are used in the federal court system for complex product liability matters with many separate claims. They commonly feature bellwether trials, which set a tone for settling all claims.

Between the end of March 2021 and late January, 11 earplug bellwether trials were held. Five more are scheduled from mid-March through May.

If there's no settlement after those trials, Rodgers has ruled that active cases be remanded back to the various federal courts from which they came. They would be tried in waves of 500 cases.

University of Southampton Professor of Computer Science Wendy Hall, who was also Co-Chair of the UK government's AI Review published in 2017, joins Caroline Hyde and Ed Ludlow to discuss the risks associated with the rapid rise of generative AI.

Theoretically, the close win-loss ratio should play well for a settlement since neither 3M or the plaintiffs would have overwhelming leverage in negotiations. However, judgments for plaintiffs have been wide-ranging, complicating the value for any settlement.

In the plaintiffs' first four wins, awards tallied \$7.1 million (split among three U.S. Army veterans); \$1.05 million; \$8.2 million; and \$13 million. But in the last two plaintiffs' victories — one each in December and January — the awards were \$22.5 million and \$110 million (split by two Army veterans)

Beyond the 11 trials, eight other cases have been dismissed. If that dismissal pattern holds, about 80,400 cases could be thrown out before or during discovery, Rodgers wrote in a February order.

Still, as thousands of cases play out, J.P. Morgan stock analyst Stephen Tusa wrote in a January report that 3M's earplug liabilities could realistically be \$15 billion to \$25 billion — with \$1 billion as the "low-end of possibilities."

"It would appear that the potential liabilities could be significant, currently underappreciated by investors as far as our investor conversations suggest," he wrote.

Joshua Pokrzywinski, a stock analyst at Morgan Stanley, sees a "base case" of \$14 billion in earplug litigation liabilities for 3M, with a range of outcomes from \$2 billion to \$53 billion. The market has only recently begun pricing earplug litigation risk into 3M's stock, he wrote in a mid-February report.

The company's shares are already burdened by an even bigger legal war over PFAS, a class of chemicals that 3M manufactured for decades. Hundreds of cities, states and individuals have sued 3M for allegedly contaminating water and soil with PFAS.

"3M shares have underperformed multi-industry peers by [about] 80% over the past three years based on challenged fundamentals and as PFAS has become notable," Pokrzywinski wrote.

Each earplug bellwether trial — with a fleet of lawyers involved — could easily be costing 3M \$1 million, swelling its overall litigation expenses and providing another incentive to settle. Plaintiffs and their lawyers — who work on contingency — also have an incentive: The longer the trials drag on, the longer they'll wait for a payoff.

Still, 3M could aim for a "silver bullet" to get lost cases thrown out or retried, said Lahav, the Connecticut law professor. Reasserting the government contractor defense in the 11th Circuit Court of Appeals appears to be such a strategy.

Because Rodgers ruled that 3M could not use the government contractor defense in the bellwether trials, jurors "heard a distorted version of reality largely scrubbed of the government's pervasive involvement [in the earplug's development]," the company argued in a court filing.

Plaintiffs' attorneys, in a statement, called the appeal "yet another attempt by 3M to blame the military for its misconduct."

Of the roughly 280,000 military earplug claims against 3M, 42,337 are active and being readied for trial, court records show.

The rest sit on what's called an administrative docket — which is essentially a placeholder, said Lahav, an expert in tort law and complex litigation. "Some are good claims — people who are really injured — but not all of them."

3M said in a statement that the number of claims on the administrative docket "is highly misleading."

"Plaintiffs' counsel were able to file thousands of claims, generated through advertising and other solicitation efforts, without having to comply with the typical, threshold vetting process customary in any lawsuit filed in civil courts."

Bryan Aylstock, a lead plaintiffs attorney in Pensacola, Fla., countered that "the vast majority of the cases on the administrative docket are indeed cases."

Rodgers has so far ordered that around 75,000 cases be "transitioned" from the administrative docket to active status — or be dismissed. About 25,000 cases were covered by Rodgers' two orders last fall, and about 84 % have moved to the active docket, court records show.

The other 50,000 cases are included in orders that Rodgers issued in just the past five weeks. ●

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IRS PLANS TO HIRE 10,000 WORKERS TO RELIEVE MASSIVE BACKLOG

By Fatima Hussein

WASHINGTON (AP) — The IRS said Thursday it plans to hire 10,000 new workers to help reduce a massive backlog that the government says will make this tax season the most challenging in history.

The agency released a plan to work down the tens of millions of filings that includes speeding up the

traditionally slow hiring process, relying more on automated processes and bringing on more contract workers to help with mailroom and paper processing.

Getting it done will be the big challenge, tax experts say.

The agency faces a backlog of around 20 million pieces of correspondence, which is more than 15 times as large as in a normal filing season, according to the agency. And the IRS workforce is the same size it was in 1970, though the U.S. population has grown exponentially and the U.S. tax code has become increasingly complicated.

Additionally, the need to administer pandemic-related programs has imposed an entirely new workload on the agency.

White House officials have said the agency is not equipped to serve taxpayers even in non-pandemic years. A senior administration official, speaking on condition of anonymity Thursday to preview the new IRS plan, said processing returns will continue to be a massive challenge so long as the agency operates on 1960s infrastructure.

The IRS' latest plan to combat the current backlog includes creating a 700-person surge team to process new returns, adding 2,000 contractors to respond to taxpayer questions about stimulus and child tax credit payments and developing new automated voice and chat bots to answer taxpayer questions.

The plan also calls for several upcoming hiring fairs in Austin, Texas; Kansas City, Missouri; and Ogden, Utah, where the IRS will be able to use "direct-hire authority" to allow new hires to begin work within 30 to 45 days of their job offer.

There is no plan to extend the current April 18 filing deadline, the senior official said. Lawmakers have asked IRS Commissioner Chuck Rettig for that deadline to be extended, citing taxpayers' economic challenges due to the pandemic.

The new IRS plan comes as lawmakers have made persistent calls for additional federal funding for the agency.

Congress' mammoth \$1.5 trillion omnibus package, released early Wednesday, would provide \$14.3 billion to the Treasury Department, including \$12.6 billion

devoted to the IRS. That would be the largest funding increase for the tax agency since 2001.

However, Republicans have questioned the need for additional funding. Florida Sen. Rick Scott's "11 Point Plan to Rescue America," unveiled in February, proposes a 50% cut in funding and workforce at the IRS.

The White House and Senate Minority Leader Mitch McConnell have roundly rejected Scott's idea.

Caroline Bruckner, a tax professor at the American University Kogod School of Business, said the agency is "at a competitive disadvantage" for finding new staff based on its reputation for employees being wholly overworked. She said she based this on her own survey of tax students she teaches.

Bruckner said, "It's absurd we have put so much work on the IRS" without giving it the necessary resources to help Americans in the way that is expected.

Bruckner says along with increased funding, the IRS also "really has to change its narrative and the way it talks about its mission to one of service and being one of the most important anti-poverty systems that we have in the U.S."

During the 2020 budget year, the IRS processed more than 240 million tax returns and issued roughly \$736 billion in refunds, including \$268 billion in stimulus payments, according to the latest IRS data. In that same time frame, 59.5 million people called or visited an IRS office.

Another barrier to hiring is the pay structure of many IRS positions.

In February, National Taxpayer Advocate Erin Collins, who serves as an IRS ombudsman, told a Senate Finance subcommittee that the current base pay for some IRS employees is \$24,749.

"In this economy, it is not surprising that the IRS is having difficulty finding enough suitable job applicants," Collins said.

Lisa Perkins, director of the Tax Clinic at the University of Connecticut School of Law, says the agency should bring in as many workers as possible to reduce the backlog, as it hurts low-income individuals who need their tax refunds quickly.

“This rush to hire 10,000 workers, it’s really not going to be effective until the next filing season,” she said, “but it is necessary.” ●

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THE MEMO WRITER

Jennifer Abruzzo, general counsel of the National Labor Relations Board, has outlined an agenda that would transform the American workplace.

By Harold Meyerson

One gap between American public opinion and American public policy has been growing steadily wider over the past dozen years. Public support for unions rose to a high point of 68 percent last year, while the actual rate of membership in unions, continuing its 70-year descent, hit a new low last year of a bare 6 percent of private-sector employees.

In democracies, the common response to realities so at odds with public sentiment is something like “there ought to be a law.”

In this case, there is. The National Labor Relations Act (NLRA), enacted in 1935, gave workers a legal right to form unions and bargain collectively. For a decade, it worked as intended, as a previously moribund union movement grew to encompass fully one-third of the nation’s workforce. For the next decade, despite a Republican Congress limiting the law’s scope with the Taft-Hartley Act in 1947, unions held their own. Thereafter, membership percentages began a slow but relentless decline, as court decisions and the ferocious opposition of American business to worker rights turned the NLRA on its head. Though the Act remained on the books, the penalties employers faced for violating its terms—by intimidating or even firing workers seeking to unionize—were so minimal that employer lawbreaking became common practice and successful unionization campaigns became rarer and rarer.

Eventually, Democrats became aware that the weakness of federal labor law not only triggered deunionization and hollowed out the middle class, but also reduced workers’ support for the Democratic Party. But Republicans are implacably opposed to unions, and a critical mass of Democrats are implacably opposed to abolishing the filibuster and restoring majority rule in the Senate. So while you can write a bill like the PRO Act, which would patch many of the holes in the NLRA, you can’t get it passed, and consequently, you can’t reverse labor’s decline.

Or can you?

Last summer, on a party-line vote, the Senate confirmed the nomination of Jennifer Abruzzo as general counsel of the National Labor Relations Board (NLRB), which oversees union recognition contests and investigates and adjudicates disputes over violations of the NLRA. While not a member of the Board itself (which by custom consists of three appointees from the president’s party and two from the opposition’s), the general counsel functions as the NLRB’s chief prosecutor, directing its roughly 500 attorneys across the nation on what kind of cases to bring and what remedies to seek. It’s a powerful position, but no previous general counsel had used that power quite like Abruzzo has.

Just two weeks after she was confirmed in late July, Abruzzo sent out her first memo to staff attorneys, a common practice for new general counsels, laying out the kind of cases attorneys should file. Her stated intention was to reverse the Trump-appointed-dominated Board’s anti-worker rulings that, she wrote, had “overruled legal precedent.” But she added that she also wanted to pursue other cases “not necessarily the subject of a more recent Board decision, [that] are nevertheless ones I would like to carefully examine,” because they, too, ran counter to the NLRA. For example, in cases where employers refused to recognize a union even though a majority of workers had indicated through signing affiliation cards that they wished to form one, she advised the Board attorneys to consult the Joy Silk Mills case for the appropriate remedy.

“Even labor lawyers had forgotten about Joy Silk,” says Catherine Fisk, a professor of labor law at the University of California, Berkeley. And no wonder: The Joy Silk ruling, which was promulgated in 1949 by a Board

dominated by Harry Truman's appointees, was substantially overturned in 1969 in a Supreme Court case known as *Gissel*, and the NLRB, dominated by Richard Nixon's appointees at the time, wasn't inclined to defend the Truman Board's remedies.

One former NLRB special counsel called Abruzzo's appointment "the most impactful action that the Biden administration took for working people."

Under Joy Silk, employers who refused to recognize a union's legitimate majority status had been compelled to recognize the union and to enter into bargaining with it, except in rare instances. Under *Gissel*, employers who refused to recognize a union's legitimate majority status were compelled merely to run or rerun an election among their employees to determine union status, except in rare instances. That enabled employers to delay recognition and bargaining, in some cases for years, and to intimidate workers from voting in a union in a much-delayed election.

The abandonment of Joy Silk made a huge difference in employer behavior. As a 2017 article in the *Santa Clara Law Review* documented, eliminating Joy Silk's standard for the remedy when employers refused to recognize their workers' pro-union preference led to an immediate increase in employer violations of the NLRA's letter and spirit. In the five years before Joy Silk was struck down, charges of employer intimidation totaled about 1,000 cases a year. Once the softball remedies of *Gissel* became the standard, charges exploded to a peak of 6,493 in 1981, after which they fell along with unionization efforts generally. Under *Gissel*, intimidation became the norm.

Abruzzo believed it would take going back to Joy Silk to make workers' right to form unions—a right ensured by the NLRA—real again. Many employers, Abruzzo told me, are "abusing [the law's] processes in order to coerce employees to change their minds and vote against the union, where it obviously enjoys majority support." When Joy Silk was the standard, "there were many more elections that were untainted" by employer intimidation. And if the company, under a revived Joy Silk, enters into a bargaining process that it prolongs by stalling and refusing to reach an agreement, Abruzzo further believes the NLRB should compel it to compensate workers for what they would have made under a promptly negotiated contract, "if the employer had bargained in good faith from the start."

Nothing in the PRO Act, or any labor law proposal over the past few decades, even touches on reviving Joy Silk. As one union official puts it, "we have a general counsel that's pushing the envelope beyond what unions themselves have been pushing for."

THE JOY SILK MEMO was just the beginning for Abruzzo. In short order, a flurry of other memos followed.

She called for increasing employers' "back pay" payments to employees that they've illegally fired to include payments for the financial sacrifices the employees made due to the firing, such as withdrawals from 401(k)s or taking out loans. Her new standards also required employers to compensate unions for the expenses they incurred in fighting their employer's illegal behavior. She proposed treating employers' "captive audience" meetings, in which workers are invariably compelled to hear management's case against unionizing, as an unfair labor practice, for which an appropriate remedy would be allowing the union to hold meetings with workers at their worksite as well. She recommended that costs to workers and unions be paid in full in any settlement agreements, while eliminating any "non-admission of guilt" language from such settlements to establish a pattern of violations if such were to exist. She recognized student athletes in lucrative college sports as employees under the NLRA. She ensured rights, protections, and remedies for immigrant workers under the NLRA.

And she instructed attorneys to hasten remedies under the NLRA's 10(j) section by more frequently seeking cease-and-desist injunctions against offending employers. Abruzzo encouraged filing these injunctions not only when a worker in an organizing drive was illegally fired, but when an employer threatened to fire such workers, or to shut down the worksite if the workers go union. Both of those actions are also illegal under the NLRA. Abruzzo's goal is to make sure that efforts to unlawfully thwart employees' rights to form a union can "be nipped in the bud" while the organizing drive is still proceeding.

Abruzzo's priorities at NLRB are pushing the envelope even beyond what unions themselves have been pushing for.

The Biden administration is clearly the most pro-union administration in American history, with its backing of the PRO Act, its recommendations for greater worker

rights in the federal government, its extension of higher wage standards on federally funded projects, its preference for unionized companies in its domestic production bill, its groundbreaking demand for a fair union affiliation vote in a Mexican factory under the terms of the revised NAFTA, and the president's own pro-worker message to the employees at Amazon's Alabama warehouse. Even without Abruzzo's efforts, this would be a significant step forward in the posture of a presidency toward the labor movement.

But few observers would dispute the assessment of Celine McNicholas, a former NLRB special counsel who is now the general counsel and director of policy and government affairs at the Economic Policy Institute, who tells me, "Installing Jennifer Abruzzo as the NLRB's general counsel will be the most impactful action that the Biden administration took in its first term for working people."

JENNIFER ABRUZZO HAS SPENT 23 of her 58 years as an attorney at the NLRB, starting out as a field attorney in the Miami office, rising to the position of deputy attorney for the Florida region, then moving at the Board's request to its Washington, D.C., headquarters, where she rose to be deputy general counsel during the Obama administration. During the Trump years, she rotated out of government to the Communications Workers of America (CWA), where she served as special counsel until the Senate confirmed her nomination last summer.

Abruzzo grew up in a working-class family in the (then as now) working-class neighborhood of Jackson Heights, Queens. Her father was an electrical engineer at ConEd; her mother was an X-ray technician at Columbia Presbyterian Hospital. Both were union members. Jennifer, her parents, and her siblings (she's the eldest of four) lived in a three-room apartment. "Not three bedrooms," she clarified. "Three rooms. But I had a roof over my head and food on the table, and having those union benefits definitely helped us."

She attended parochial schools, then went to college at New York state colleges: SUNY Binghamton and SUNY Stony Brook. An early marriage brought her to Miami, where she had her son, divorced, and went to work in the human resources department of a South American-oriented branch of Deutsche Bank.

"I was divorced with a young child and needed to support us both," she said, "so I ended up going to law school, the University of Miami Law School, at night," while working at the bank during the day. No labor law classes were available at night, but Abruzzo took an evidence class with Michael Fischl, a former NLRB attorney who taught labor law in the daytime.

Fischl, now a law professor at the University of Connecticut, recalls that he taught that evidence class "with a heavy labor and employment law emphasis." In a class of roughly 100 students, he says, Abruzzo "stood out for her thoughtfulness and the depth of her engagement," so much so that she was invited to join a social justice and legal theory book group with other faculty members and students.

"It's hard enough to work and go to law school at the same time," Fischl says. "Add to that being a single mom. I'm reminded of that line about Ginger Rogers, that she did everything Fred Astaire did, but backwards and in heels."

When an attorney's position came open in the NLRB's Miami office, Fischl recommended Abruzzo for the job, though she'd had just a year in private practice. At the NLRB, she spent a good deal of her time representing immigrants from both Central and South America, as well as Haiti.

"What drew me to the NLRB?" Abruzzo says. "Coming from a union household helped, but what that instilled in me was a very strong work ethic, and also being empathetic towards others who might not have as much as we did ... I just wanted to ensure that I did everything I could to ensure that people were treated equitably."

"I WOULD DESCRIBE JENNIFER as the master mechanic of the NLRB," says Jody Calemine, the general counsel and chief of staff at CWA. "She's worked there at every level, she knows what works, what doesn't work. She has encyclopedic knowledge of the case law, knows all the arguments inside and out, and she truly believes in the Act."

When McNicholas worked as an NLRB special counsel while Abruzzo was deputy general counsel during Obama's presidency, "she helped me figure out how the agency worked," McNicholas says. "All the regional offices are overseen by general counsel's division of operations. She brought a field perspective to the job."

Abruzzo's attentiveness to the concerns of the Board's far-flung staff is already the stuff of legend. Her zeal to make the NLRA work again has won her a particular following among the many young attorneys who work there.

"I've seen her with her young attorneys," says Julie Gutman Dickinson, an attorney in private practice who represents unions and workers who are misclassified by their employers as independent contractors rather than employees. "They see this general counsel who is brilliant, who believes in the Act, who articulates their beliefs so eloquently and who works so hard."

One of those young attorneys is Aaron Samsel, who works in the Board's Washington headquarters. After going to work for the Board right out of law school, he left during the Trump presidency, but when Biden nominated Abruzzo for the general counsel's post, he decided to go back. "Among all my colleagues, both staff attorneys and supervisory attorneys, there's this feeling of profound relief to have a general counsel who they feel has their back," Samsel says. "She really listens when people bring concerns to her, and she understands it all. She can get into the minutiae of handling a case."

That understanding of how workers and employers actually interact in an organizing campaign underpins many of Abruzzo's directions to her staff. Her directive on filing 10(j) injunctions against employers threatening their workers during organizing campaigns is based on her knowledge that the long-established practice of winning back-pay settlements for illegally fired workers years after they've been fired does nothing to stop such conduct when it's being used to thwart a unionization campaign. "10(j) injunctions are the teeth of the Act," says Gutman Dickinson, who under its terms has won a number of such cease-and-desist orders and orders to reinstate fired workers, "and Jennifer completely understands that."

The understanding of how workers and employers actually interact in an organizing campaign underpins many of Abruzzo's directions to staff.

Abruzzo's memos take aim not just at the timing but also at the insufficiency of the penalties the NLRB has commonly assessed against employers—chiefly, offering back pay to illegally fired workers and posting a notice somewhere in the worksite that the employer

has been found in violation of the NLRA and made such a payment. Abruzzo points out that the Act doesn't allow for punitive damages, so that truly enforcing it requires that fired workers be made financially whole. That means making the employer cover all loans, credit card fees, and withdrawals from savings and retirement funds that the worker has been compelled to make.

The NLRB should be looking, Abruzzo told me, at "how can we put people back to the way it was before all this unlawful activity occurred, at whether there's been emotional distress that can be particularly linked to an unlawful discharge, in much the way our sister agencies [like, for instance, the Equal Employment Opportunity Commission] seek such compensation."

Harvard labor law professor Ben Sachs explains, "For decades, the lament of labor lawyers and organizers has been that the NLRA remedies are like a bad joke, so weak that it's economically rational for employers to violate the law. Now, she's done something that really wasn't in the collective legal imagination: figured out how to increase remedies without congressional action. She's found a number of ways to do exactly that."

"Making employers who've broken the law pay the union back for its organizing expenses could be of major importance," Sachs says. "She's been imaginative in an arena where many of us were just lamenting."

Another remedy that wasn't in the collective legal imagination is Abruzzo's proposal to declare captive audience meetings an unfair labor practice, the remedy for which should be enabling unions to hold their own meetings with workers, at the worksite. She also has called for making employers provide unions with the home addresses of workers during organizing campaigns, a remedy that's particularly important at a time when an unprecedented number of employees are working from home.

In her memos, Abruzzo has said Board attorneys should file cases based on the argument that the misclassification of workers as independent contractors when they are actually employees is in itself an unfair labor practice under the NLRA, for which the Board can provide a remedy that states the workers are employees and thus eligible to unionize. The Trump-dominated Board had ruled that such misclassifications were not an unfair labor practice. That's one of the Trump rulings, Abruzzo has stated, that violates the

NLRA and should be overturned. And on March 17th, following Abruzzo's memos, NLRB attorneys filed a complaint against a port trucking company at the Los Angeles harbor for the unfair labor practice of misclassifying its drivers, which, if upheld by an administrative law judge, would compel the firm to compensate them for lost wages and expenses and to provide a union with access to the drivers in an organizing campaign.

Misclassification is at the heart of the gig economy and, increasingly, the economy at large. Depending on the "common sense" standard of whether, say, a driver of a company's trucks is an employee or a contractor, such a ruling could affect such mega-companies as FedEx, Amazon, Uber, and Lyft, not to mention countless smaller employers.

Abruzzo is taking on worker misclassification, a critical issue for port truckers.

As labor historian Nelson Lichtenstein points out, due to the need to win support from Southern senators, the NLRA initially excluded farm and domestic workers (that is, Black workers) from the law's guarantees. As a result of the civil rights and kindred movements, some New Deal measures, like the minimum wage, were finally extended to some of those workers in recent decades. This triggered a new tactic from employers, Lichtenstein says. "The guarantees of labor law have been chipped away to exempt other people: managers, and now 'independent contractors.' That exempts more and more people from New Deal standards and rights. It's been a Republican project."

Making misclassification a violation of the NLRA would go a long way, then, to revive not just the NLRA, but an entire suite of legal obligations—like the minimum wage and payments into the Social Security and unemployment insurance systems—that companies now evade by refusing to acknowledge their workers actually work for them.

BOTH THE QUALITY AND the quantity of Abruzzo's directives have dazzled the labor and legal communities, while alarming management-side attorneys. At a recent American Bar Association meeting that Abruzzo addressed, one corporate lawyer was overheard remarking, "We may have to find a different country."

Abruzzo's suggested reforms certainly mark a departure from previous practices under Democratic as well as Republican administrations. In the assessment of one longtime union official, "the Board under Bill Clinton viewed the Act largely as they received it, accepting as precedents the interpretations that had watered it down. The Board under Obama sought to update the law to meet new developments in the economy, as they did in their joint employer ruling saying that the parent company shared in the liability of its franchisers if they violated the Act, a ruling that the courts subsequently struck down. With Abruzzo under Biden, the agenda is now to get rid of all the erosions of the Act that have essentially ended the worker rights the Act created and secured."

NLRB veterans generally believe the Democratic majority on the current Board will establish rulings that are based on Abruzzo's arguments. "The majority will likely be sympathetic to all her proposals," says Wilma Liebman, who chaired the Board during Obama's presidency. Liebman is concerned, however, that the Board may be stretched by the sheer number of precedent-challenging cases that Abruzzo brings before it.

Some labor attorneys are concerned for a different reason: that Abruzzo's agenda is both too ambitious and too well publicized. "I'm surprised at how public she's been about it all, putting out her theories step by step," says one. "Does the publicity heighten the possibility that rulings will be challenged more quickly in the courts? She may be giving employers an unnecessary head start."

The courts, after all, can overturn NLRB rulings, and no court since the 1920s has been as anti-labor as the Supreme Court is today. Every attorney and union official I've spoken with for this piece has been gloomy about the prospects of some of Abruzzo's policies passing muster with such avowed union-haters as the Supreme Court's Sam Alito and his five Republican colleagues. They point out, however, that it normally takes many years for NLRB rulings to reach the Supreme Court ("They're too busy right now outlawing abortion," one lawyer said), and that during that interval, Abruzzo's suggested policies can make it significantly easier for workers to prevail, particularly the generation of young workers at universities and Starbucks and tech companies, who in growing numbers are moving to win a voice at work. A case in point: Shortly after she sent

out her memo calling captive audience meetings an unfair labor practice, the union seeking to organize Amazon's warehouse workers in Bessemer, Alabama, put out a press release alleging just such violations, quoting her memo to bolster their case.

That may be one more reason, in addition to her determination to restore the worker rights encoded in the NLRA, and her general sense of justice, why Abruzzo looks to be in such a blessed hurry." ●

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TWITTER DEAL COULD BOLSTER LAWSUIT OVER MUSK'S TESLA PAY PACKAGE

By Tom Hals

April 29 (Reuters) - Elon Musk's \$44 billion takeover of Twitter is helping provide ammunition for an upcoming trial where an investor will argue the CEO's \$56 billion pay package from Tesla Inc (TSLA.O) is a waste of money that failed to secure his full-time services.

The deal for Twitter Inc (TWTR.N) and its potential to distract Musk from Tesla will play an important part of the trial in October, according to one of the shareholder's attorneys.

The lawsuit alleges Musk created the 10-year package and Tesla's board rubber-stamped it in 2018 without requiring the celebrity CEO devote himself to the electric vehicle maker.

"Look at most CEO contracts. The first line, it says 'you're going to be a full-time CEO and devote substantially full time to the business and affairs of the company.' That's standard," said Greg Varallo of Bernstein Litowitz Berger & Grossmann, the firm that is leading the case against the pay deal.

Samsung loses bid to pause Caltech patent lawsuit over wireless chips

Musk and Tesla did not respond to requests for comment. In court papers, the defendants said the plan was properly crafted by independent directors, approved by stockholders and has generated unprecedented gains for investors.

In addition to Twitter, the multitasking entrepreneur is already chairman of rocket company SpaceX, founder of tunneling venture The Boring Company and owns Neuralink, a brain-chip startup. His stated ambitions include colonizing Mars.

The 2018 Tesla pay package grants stock options as the company meets escalating financial goals, which the company said would incentivize his continued leadership. If Tesla met all targets, described as "stretch" goals, the plan would be worth a minimum \$56 billion, although as Tesla's stock rises so does the plan's value. [read more](#)

Currently, Musk's stock vested under the plan is worth around \$75 billion, according to Amit Batish of research firm Equilar. He estimated that is about 35 times the combined value of the 100 highest CEO pay packages from 2021. [read more](#)

The lawsuit in Delaware's Court of Chancery by shareholder Richard Tornetta alleges the package was unnecessary, since Musk at the time owned 22% of Tesla, giving him plenty of incentive to make the company a success.

Tornetta seeks to cancel the plan, including stock options already granted.

Musk is using his Tesla stock as collateral for loans to buy Twitter.

Musk and Tesla's directors argued in court filings that the pay package did what it set out to do -- align Musk's incentives with shareholders and create value.

"Since it was implemented, Tesla's value has increased by more than 1,800% from about \$53 billion to over \$1 trillion," the filing said. They noted that despite the enormous growth in value, Musk has not reached all the milestones.

Shareholders in March 2018 approved the package, which in securities filings were called "challenging."

The lawsuit said shareholders should have been informed before the vote that management knew some

milestones were likely to be achieved, which was described as a materially misleading omission.

Tesla countered in court papers that the internal projections were "stretch" targets.

"Nothing that Elon touches or does is not bold and super stretched and aggressive," Tesla's former chief financial officer, Deepak Ahuja, testified in a deposition in the case, according to a court filing.

Despite the outlandish size of the pay, the trial will likely turn on the thinking of directors in negotiating the package and what the board told shareholders before the vote.

"No one could have looked in the crystal ball and seen the Twitter situation," said Minor Myers, a professor at University of Connecticut School of Law. "But they could have negotiated for some measure of Musk's time at Tesla."

The trial is scheduled to begin Oct. 24 in Wilmington, Delaware and last five days. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE CT POST
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WITH ROE IN JEOPARDY, CONNECTICUT IS POISED TO BECOME 'SAFE HARBOR' FOR ABORTION PATIENTS

By John Moritz and Alex Putterman

Once the first state in America to enact an explicit ban on abortions, Connecticut is now poised to become a safe haven for patients seeking abortion services should the Supreme Court follow through on a reported draft decision to overturn the right to choose, experts said Tuesday.

A decision to overturn the half-century-old precedent set by *Roe v. Wade* — reflected in the draft opinion published by Politico — would have far reaching

consequences for abortion access in the United States, where roughly two dozen states are expected to curtail legal abortions in nearly all instances.

Connecticut, however, is one of a handful of states that have codified abortion rights in state law, having done so in 1990. Lawmakers went even further this year, passing legislation to thwart attempts by other states to investigate patients who travel to Connecticut seeking access to safe and legal abortions.

"We will be one of the states that continue to protect the right of people to make their own private health care decisions," said Dr. Nancy Stanwood, the section chief of Family Planning at the Yale School of Medicine. "I think that we can be assured that for the people who live in Connecticut, that if they should need abortion care it's available."

Connecticut saw 9,202 abortions performed in 2019, the latest year for which data is available from the Centers for Disease Control and Prevention. The percentage of abortion patients who traveled from other states to Connecticut that year, 3.6 percent, was among the lowest the nation.

Part of the reason for low number of patients traveling from out of state is likely that neighboring states like New York and Massachusetts already have robust access to abortion services through clinics and hospitals. The advent of new laws limiting abortion access in far-flung states, however, has already forced some patients to travel farther to seek services, providers say.

"We're already seeing patients from other states, particularly Texas, seeking care in Connecticut now that they're unable to obtain that care in their own states," Amanda Skinner, CEO of Planned Parenthood of Southern New England, said Tuesday.

*"And we're preparing for the
possibility of an influx."*

Skinner said she was "furious" about the leaked opinion but that Connecticut remains positioned to be a safe haven for abortion patients. She said the state legislature's bill passed last week, which awaits a signature from Gov.

Ned Lamont, expands the categories of medical professionals who can perform abortions, allowing Connecticut to meet any increased demand.

“The passage of this bill couldn’t have come soon enough, because we need to do everything we can in a state like Connecticut to expand access to abortion care for our patients and for patients who might come in from other states,” she said.

Leaders of the legislature’s Reproductive Rights Caucus responded to the news of the leaked opinion with a promise to protect Connecticut’s status as a “safe harbor” for patients and doctors who are forced to leave their home states due to laws that criminalize abortion services.

“People who come here for care, we will protect them. Providers who come here and provide care, we will protect them. People who assist others in obtaining care, we will protect them,” said State Rep. Matt Blumenthal, D- Stamford, a co-chairman of the caucus.

Pro-Choice Sentiments Prevail In Connecticut

As officials in more conservative states eagerly await the chance to restrict or ban abortion in the event *Roe v. Wade* is overturned, top lawmakers in Connecticut on Tuesday restated their commitment to abortion access.

In a statement Tuesday, Lamont’s campaign reaffirmed his support for the newly passed legislation to blunt the impact of anti-abortion laws in other states, saying he intends to sign the bill when it reaches his desk.

“Governor Lamont is incredibly proud of the progress Connecticut has made in protecting a woman’s right to receive safe abortion care,” the campaign said in a statement. “The governor will continue to do anything in his power to defend those rights, which includes using his office and platform to advocate and fight for a woman’s right to choose.”

Whereas nationally abortion is often a sharply partisan issue, in Connecticut at least some key Republicans have taken pro-choice stances, indicating they would not seek to limit abortion access if they gained control of the state legislature. Last week’s abortion legislation passed with support from a handful of Republicans, as well as most Democrats.

Bob Stefanowski, the presumed Republican nominee in this year’s gubernatorial election, said in a statement Tuesday that “the leaked Supreme Court opinion doesn’t change anything here in Connecticut.”

“In Connecticut, a woman’s right to choose is fully protected under state law,” Stefanowski said.

A Stefanowski spokesperson did not respond to a question about whether the candidate would veto anti-abortion legislation if it were presented to him as governor.

In an interview Tuesday morning, Rep. Laura Devlin, a Fairfield Republican and Stefanowski’s running mate, offered a similar view.

“[The pending Supreme Court decision] doesn’t affect anything in the state of Connecticut,” she said. “*Roe v. Wade* is codified in state law, so whatever the Supreme Court does, it doesn’t affect the state of Connecticut.”

House Minority Leader Vincent Candelora, R-North Branford, said he supported states having the right to set their own abortion laws, but he considered the issue settled in Connecticut.

“What we’re seeing in states like Texas is something that I think Connecticut residents would take issue with,” he said. “And it’s why part of that legislation was trying to protect Connecticut residents, which Republicans did support that concept.”

Connecticut’s abortion laws date back more than two centuries when, in 1821, the state became the first in the nation to pass an explicit prohibition on induced abortions after “quickening,” or the point at which the fetus begins to move in the womb. The state’s abortion ban remained in effect until 1973, when the Supreme Court issued its landmark ruling in *Roe v. Wade*.

More recently, Connecticut has become one the most firmly abortion-rights states in the country, with a majority of both Democrats and Republicans supporting legal abortion, according to a 2014 Pew poll.

A Nationwide Shift

Though abortion protections are enshrined in Connecticut law, experts warned that any decision to overturn *Roe v. Wade* would have immediate consequences for millions of Americans who live in

states that are ripe for a crackdown on abortion access, particularly those in the South and Midwest.

According to the Guttmacher Institute, at least 13 states have so-called “trigger laws” curtailing abortion access that go into effect immediately upon the court’s decision to overturn its precedent.

States like Texas and Missouri have sought to get ahead of such a ruling, drafting legislation that would allow any resident to sue a doctor or patient for participating in an abortion.

After Texas Gov. Greg Abbott signed such a law last year, Stanwood said she began to see patients showing up from Texas to receive abortion services at clinics in Connecticut.

“Those are people who have the resources to travel,” Stanwood said, adding, “banning abortion doesn’t make people’s need for abortion go away, and when it becomes incredibly difficult to obtain that leaves behind people who are in poverty, it leaves behind communities who historically have been disenfranchised from medicine such as people of color and communities of color.”

While the leaked opinion written by Justice Samuel Alito and confirmed by Chief Justice John Roberts openly suggests that the court’s decision would turn the issue of abortion back to the state legislatures, nothing in the decision would prohibit Congress from taking a more national approach.

Already on Tuesday, Senate Majority Leader Chuck Schumer, D-New York, promised to hold a vote on legislation that would codify abortion rights in federal law, though Democrats do not appear to have enough votes to eliminate the filibuster to bypass Republican opposition.

If Republicans take control of the federal government in this year’s midterms and the subsequent 2024 presidential election, they could attempt to enforce a single nationwide policy on abortion.

“Without a constitutional right, Congress is fully free to pass a statute that makes abortion a crime or just outlaws abortion in all the states,” said University of Connecticut Law Professor Anne Dailey. “Even liberal states are in danger, if we were in the future to have a Republican Congress and a Republican president. It’s not out of the question that a ban on abortion might

take place on a national level or at least there would be efforts on that score.”

Though Chief Justice John Roberts confirmed the authenticity of the leaked opinion Tuesday afternoon, the court cautioned that it was not a final decision and the opinion could still be subject to revisions or even a switch in the way one or more of the justices votes.

No ruling from the Supreme Court is official until it is handed down in public by the court, typically before the end of its annual session in late June or early July. ●

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SHE PIONEERED THE SALE OF BREAST MILK, THEN LOST EVERYTHING

What the rise and fall of entrepreneur Elena Medo reveal about how we value women’s labor

By Sushma Subramanian

About a week before Christmas in 2014, Elena Medo received the opening salvo against her latest breast milk company. She was at her new office in Lake Oswego, a suburb of Portland, Ore., when she got a cease-and-desist letter. Prolacta Bioscience, the breast milk product company she founded in 1999 and then parted ways with in 2009, was instructing her new company, Medolac, to stop using its trade secrets.

Medo, then 61, was used to dealing with adversity. As the veritable founding mother of the breast milk industry, she had spent her life charting a controversial path to selling breast milk to hospitals. Medo had been accused of exploiting women to make money and of creating inequalities that hurt babies from poor families. But the products that she’d sold have also been credited with improving the outcomes for tens of thousands of premature babies in hospital neonatal intensive care units.

The irony of this latest challenge was that it wasn't coming from Medo's traditional detractors, the nonprofit milk banks. Instead, it was from her former company, which under the stewardship of a new CEO had sidelined her, she claimed, and taken an even more commercial tack to profiting from the sale of breast milk. The timing couldn't have been worse: Medolac, which Medo had founded just five years earlier, had recently gotten its first couple of hospital accounts and was working on new products.

Medo figured that Prolacta was just trying to scare away the competition, and she was confident that if her former company took further legal action, she would be vindicated. Still, the letter was a damper on holiday celebrations that year. Medolac was a family enterprise; Medo's daughter Adrienne Weir managed its affiliated milk bank, and other relatives performed various company roles. The adults tried to put on a happy face for the children, and they mostly succeeded. But the lawsuit came up enough times that Medo's grandchildren began to yell out, "No-lacta!"

The potential end of Roe won't stop this abortion provider-in-training

Activist Reshma Saujani: 'Women are in the worst state that we've ever been'

Medo didn't respond to the letter, hoping the issue would just go away. She had no idea what trade secrets she could have stolen. But a few weeks later, it was clear that Prolacta was serious. In January 2015, Prolacta filed a lawsuit against Medolac. Rather than being quickly resolved the legal case has dragged on for more than seven years; according to Prolacta, the next motions are set for June and July. In the meantime, Medolac went bankrupt last year, which Medo says was fallout from the battle.

"Of course the company was losing money when you have a lawsuit that's sucking the blood out of the organization," she told me, in an exasperated tone.

Medo blames the lawsuit for blocking her from her lifelong dream: serving sick babies by supplying them with nature's best nutrition, breast milk. But her story is more complicated than that. Medo's efforts to commodify breast milk raise numerous interesting questions about how we value the work of women, both as providers of income and unpaid caregivers. Even the terminology of her trade — "human milk

products" or "therapeutics" is how both Prolacta and Medolac refer to what they sell — hints at the uneasy relationship between women's bodily labor and commerce. Medo's vacillation between moneymaking and altruism has profoundly shaped this new industry. It also reflects a struggle at the heart of being a woman today.

Breast milk is revered as the ideal food for newborns and a sign of motherly nurture. It's one of the first forms of communication between a mother and her child, between a mother's body and the child's developmental, nutritional and immunological needs. The composition of the milk changes depending on the time of day, over the course of a feeding and over periods of time. Years of scientific research and medical promotion of breastfeeding have led us to term it "liquid gold."

But producing milk is also a sizable investment in time and energy. A nursing woman should consume more calories than a pregnant one, and nursing a newborn infant can typically take up to four hours each day in about eight to 12 sessions. It's real time and effort that's not always treated as such because it's so intimately connected with societal expectations of women to be innate nurturers.

"It's sort of gendered work that women are expected to do based on altruism. And as a way of being a good woman and a good mother ... you give up yourself and you give and you keep giving and you find joy in giving," says Shannon K. Carter, co-author of "Sharing Milk: Intimacy, Materiality and Bio-Communities of Practice."

Medo's story begins at the intersection of this expectation to nurture and her own professional ambition. In 1982, three weeks after the birth of her third child, she returned to her job at the Vancouver Stock Exchange with a hospital-grade breast pump that weighed nearly 30 pounds. On her commute, she lugged it in a cardboard box labeled "breast pump rental," first on a bus, then a ferry, finally on a roughly 10-block walk. Even worse, the pump didn't effectively

remove milk from her breasts, so she started to lose supply.

“Many are aware of the aggressive way [Medo] used legal action to silence her critics,” says breastfeeding advocate Jodine Chase.

Medo grew up in Garden Grove, Calif., the daughter of a machinist father and homemaker mother. She’d always had an entrepreneurial streak; in her freshman year at the University of California at Irvine, she saw a flier on a kiosk for a book called “The Lazy Man’s Way to Riches” and ordered it. One of the book’s main messages — that, even if you were working for a boss, you should try to build something of your own — hit home.

“I remember the example they gave: It doesn’t have to be a cure for cancer,” she says. “You can buy little hair barrettes and paint them.”

She went on to sell crocheted purses, hiring classmates to make them, and earning enough to limit her waitressing hours and travel during a semester abroad. Medo left college early to start a family, graduating years later (she would eventually have four children). But her daily struggle with the breast pump made her start thinking about how to build a lighter one that could imitate a baby’s suck to stimulate milk production. In college, she had briefly been an art minor, and had learned to cast metal and different polymers. So she developed a flexible funnel to replace the hard appendage on her pump. Using parts from other medical products, she produced a pump that was only five pounds. It was crude-looking, but it worked.

Some of her colleagues at the stock exchange saw her pumping in the bathroom and asked if they could have one too. She made a few more to rent out. Eventually, she started providing them through local home health-care dealers and planned to keep her pump business as a side job. But a couple of years later, in 1984, she filled out forms from the Food and Drug Administration to reach a wider market and developed new models for her company, which would eventually be called White River Concepts. At its peak, White River made about \$4 million in sales per year, Medo says.

Not everyone was a fan of her pumps, however. Lactation consultants at La Leche League International, a nonprofit breastfeeding advocacy organization, preferred competing ones because some mothers reported that the White River pumps caused

discomfort. When Medo heard they were disparaging her product, she sent individual consultants letters threatening legal action to get them to stop and accused some of being involved with her competitor Medela. “We tried to avoid [lawsuits],” Medo tells me, but the episode gave her a reputation as a ruthless businessperson.

“Many are aware of the aggressive way she used legal action to silence her critics,” says Jodine Chase, a longtime breastfeeding advocate based in Edmonton, Alberta, who runs the blog Human Milk News. “I think this contributed to the lack of public debate when she started commercializing breast milk, though many privately expressed concern that it was inappropriate.”

It was through her work with breast pumps that Medo came up with the idea of selling breast milk as its own product. In the mid-1990s, while visiting hospitals that used her devices, she learned from doctors about the need for breast milk for premature babies. A perfect storm of events was causing an extreme shortage at the time. The HIV crisis had prompted the closure of many milk banks in the 1980s because people were afraid of the spread of infection through bodily fluid. As neonatology improved, babies could be saved at earlier and earlier stages of prematurity, and new research showed the value of an exclusive breast milk diet, especially for these babies.

Typically at that time, for the smallest and most vulnerable preemies, a cow’s-milk-based fortifier was used in addition to their mother’s milk or donor milk to help them gain weight. But it came with severe risks. It has been correlated with an increased chance of developing an intestinal infection called necrotizing enterocolitis that can destroy intestinal tissue and, in the most severe cases, cause death.

In 1999, Medo started a new company, Prolacta, to develop a breast-milk-based fortifier. At various points while she was developing her product, she met with a doctor from Sweden who had made a small amount of breast milk concentrates for his research, and another in Italy, who made freeze-dried breast milk protein concentrate for his patients. The processes they used were standard in the dairy industry, but they had never been used on a large scale for breast milk. Medo started making presentations to investors, who were interested in her idea. In 2002, she got her first infusion of venture capital, which helped her to build the company’s first

15,000-square-foot processing plant, in Monrovia, Calif. By 2005, the company was collecting breast milk.

Medo developed milk depots, collection sites with freezers for storing milk, in some cases partnering with midwifery clinics and hospital lactation departments. These sites raised awareness for milk donation, screened donors and sold milk to Prolacta, which would test and process it, then sell the resulting fortifier to hospitals. At the time, Prolacta charged as much as \$45 an ounce for a liquid concentrate that arrived at a hospital frozen until ready to be used, at which time a mother's own pumped breast milk or donor milk was added. (Today, Prolacta's product is not sold by the ounce, the company says. Instead, cost varies by gestational age and weight, and averages \$120 per day.)

Prolacta funded and administered research that showed that use of the fortifier significantly reduced the risk of necrotizing enterocolitis in extremely premature infants, and the product took off. NICUs increasingly adopted breast-milk-based fortifiers. A 2016 study published in the *Journal of Perinatology* found 4.5 fewer days of hospitalization for infants with very low birth weights receiving Prolacta's products, along with donor milk, as part of an exclusive breast milk diet, compared with those receiving cow's-milk-based fortifiers. Currently, nearly 40 percent of all Level 3 and 4 NICUs, which treat the sickest babies, use Prolacta's fortifiers.

But in some circles, there remains suspicion about whether fortifiers are as beneficial as reported. "That body of evidence, while there's some strong randomized controlled trials, is colored by the fact that much of that research has been industry sponsored," says Diane Spatz, professor of perinatal nursing at the University of Pennsylvania.

In addition, nonprofit milk banks worried that a for-profit company would funnel the limited supply of breast milk toward those who could pay more, as opposed to those with the greatest need. "They are saddened by the idea that this product that they believe in very strongly and think would benefit a lot of babies would be less accessible if allocated on the basis of company profit rather than patient need," says Kara Swanson, a law professor at Northeastern University and the author of "Banking on the Body." "In the history of U.S. medicine, there has never been enough banked breast milk for all the babies that might benefit."

There was also controversy over the fact that women were encouraged to become "donors" to Prolacta, language that suggested that they were supplying milk to a nonprofit when, in reality, their raw product was being processed and sold at a markup to hospitals. After news reports about this emerged, detractors — including those in the milk bank community — criticized the company for not properly informing women, and Prolacta's first public relations crisis erupted.

Wet nurses have existed throughout history, but in the past, whenever there's been a transaction for these services, the commercial advantage has been to employers. Early wet nursing in the United States relied on enslaved labor or on poor, unwed mothers who often had to abandon their own babies to nurse those of wealthier women. Later, in the early 1900s, a new model of "mother's milk stations" developed that tried to maximize the benefit for both the milk supplier and recipient, by providing a decent wage to the supplier and a sliding scale to the recipient.

But over time, the widespread use of formula reduced the value of women's milk, and women's work opportunities increased. By the 1970s, most milk banks in America began operating on a system in which women gave their breast milk to the banks as a donation. For some, it was empowering, a form of resistance against formula companies and anti-capitalist support that women could give one another. But it limited the population of women supplying milk and perpetuated the gendered idea of women's altruism as more noble than financial compensation.

Medo's failure to disclose the sale of donor breast milk caused an uproar because she was asking mothers to donate milk, piggybacking off the nonprofit milk-banking model, while also seeking corporate profit. In response, Medo quickly revised some of the wording on the company's website and consent forms. Looking back, she feels she could have done better. "That was a mistake in hindsight. That should have been made a lot more clear that the company was for-profit," she says. "We were far from perfect."

"As a woman entrepreneur, I was very distraught when they brought a man in to run the company," says Elena Medo.

But soon enough, Medo found herself bemoaning corporate forces. According to a written statement

Prolacta sent me, by the end of 2005 the board was having concerns about Medo's ability to raise funding and run the company. With her agreement, they decided to transition to a new CEO. Medo disputes that she had trouble fundraising but acknowledges that she agreed to give up some control. She was replaced and demoted to chief strategic officer, and in October 2006, a new CEO stepped in. "As a woman entrepreneur, I was very distraught when they brought a man in to run the company," she says. "But I decided that I would just muscle through it."

The new CEO, Scott Elster, came from the company Baxter, which sells human blood products. What has made blood different from milk, business-wise, is that certain proteins in blood plasma, when separated from blood, are used as lifesaving therapeutics, and paid donation helps to keep up with the demand. As in the blood industry, Elster saw a parallel long-term symbiotic relationship between the nonprofit milk banks and Prolacta's for-profit venture.

But Medo felt that Elster didn't understand some of the sensitivities of the breast milk business. For example, she says he asked about placing minimum ounce limits on women who were milk suppliers, which Medo deemed unfair because sometimes unforeseen incidents caused women to lose supply. "I said, 'You know how it is when you have little kids: Maybe the toddler and the school-aged kids have gotten chickenpox, and Mom's not pumping and/or Dad lost his job,'" Medo says. "You can't mandate a certain amount of milk production."

Prolacta wrote me in response, "When Prolacta was a struggling startup with serious cash flow issues, a myriad of options were discussed in the pursuit of a sustainable milk bank operation, given the high cost to qualify donors."

Medo's professional concerns were intensified by the degree to which she felt Elster was sidelining her. After returning from a business trip, she says, she found he'd essentially cut her office in half and she had no air conditioning or light switch. Prolacta counters that Medo was aware that the space was being allocated to better accommodate the growing workforce and all errors were addressed before the project was completed. "Needing an antagonist for her narrative, and with none of her prior board members still active, Medo has pinned her ire on the CEO who was

appointed more than six months after Medo willingly stepped down from the role," Marjorie Guymon, one of Prolacta's attorneys, wrote me.

Medo quit her job in the summer of 2008 and agreed to stay on as a consultant. At a February 2009 meeting, she ended her working relationship with Prolacta.

Shortly after, Medo started the company that would become Medolac. She decided not to sell another fortifier because she suspected hospitals weren't going to switch from Prolacta, so she decided to create something new: a breast milk that, thanks to a process called retort sterilization that is used by brands like Capri-Sun to make their products shelf stable, didn't need to be frozen. Eliminating refrigeration costs, she believed, could help make her product more affordable and waste less milk.

Once she had a product, Medo needed to figure out how to bring in a supply of milk. This time, instead of partnering with or creating milk depots, on Mother's Day 2013, her daughter Adrienne started a co-op milk bank called Mothers Milk Cooperative. The milk suppliers had a larger stake in the organization. They were members who could vote, sit on the board, and receive one share of stock and dividend payments in profitable years. Most notably, the women could either choose to donate or receive \$1 an ounce in return.

Medo had come to the conclusion that if she or anyone else was going to make money off women's bodily products, then paying the women was the way to show them they were valued. Women were already selling their own milk online, a practice that many clinicians say is unsafe. In a 2013 article published in the journal *Breastfeeding Medicine*, Medo asked why "should women be expected to give freely of an increasingly valuable substance they independently produce, own, and control when the present system allows others to profit from their generosity?"

Once again, Medo's practice became the norm among for-profit companies. Although Elster said in a 2011 *Wired* article that "We have to make it altruistic. ... Otherwise, there'll be a picture of a mom on the front page of the *New York Times* saying, 'I sold my milk for crack,'" Prolacta started paying milk suppliers in 2014. In response to a question about why the company changed course, Elster credited changes in science. "At that point in time (2011), testing wasn't available to

ensure the safety of the milk for the fragile infants who rely on this nutrition for their health and development,” he wrote me.

But this payment model eventually led to Medolac’s next big public scandal. In partnership with the Clinton Global Initiative, the company attempted to launch a program to expand its milk donation program in Detroit. In its marketing materials it said that paid donation would extend breastfeeding in African American communities and encourage women to maintain a healthy lifestyle since the milk would be screened.

Breastfeeding advocacy groups attacked Medolac’s message as being patronizing and insensitive to Black women. They criticized Medolac products’ high cost for hospitals and wrote about the importance of feeding Detroit’s own children. Facebook and Instagram posts used the hashtag #StopMedolac. “A lot of people were outraged that she was targeting this specific population, with high infant mortality rates and all sorts of social issues, to try to take milk out of their community,” says Summer Kelly, president-elect of the Human Milk Banking Association of North America. “I think it’s obvious how problematic that is.”

Though Medo’s approach in Detroit angered the community, some scholars, such as Linda Fentiman, an emeritus law professor at Pace University, also advocated paying milk providers. As Fentiman noted in a journal article, breast milk was already being commodified, so it was only fair that the women who provided it should also benefit, and it would give them a way to earn money without having to leave their baby. “To me, the question really is: Is \$1 an ounce enough?” she told me recently.

Medolac continued its existing payment system, but in January 2015 Prolacta filed suit, arguing Medo stole important customer lists. Because of the costs of the company’s litigation with Prolacta, Medo posted a message on Medolac’s website, saying that payments to suppliers would be delayed. Critics from many of the same organizations that questioned her paid donation model now criticized her for withholding payment to those it was promised to.

Medolac eventually made it into about 85 hospitals and was earning nearly \$2 million a year in sales, according to court documents, but the allegations from Prolacta continued to mount. The company said that Medo had

co-opted standard operating procedures that Prolacta had spent years perfecting, but Medo argues that much of the information Prolacta considers proprietary is well known in the industry.

“These are really important precedent-setting kinds of cases: What do we do with human milk and this kind of tissue?” says Queen’s University geographer and political economist Carolyn Prouse.

Unable to raise the necessary operating capital while paying legal fees that, according to Medo’s attorney, Joseph Bakhos, would eventually reach at least \$5 million, the company began falling behind with vendors. Many of them sued, and it was hard to raise more money. In March 2021, Medolac filed for bankruptcy. Because it couldn’t pay employees to manage its freezer, ounces and ounces of breast milk spoiled, enough for 5,000 feeds, according to her daughter Adrienne.

“Absolutely heartbreaking,” Medo says tearfully about the episode. “I can’t even talk about it.”

Chris Kroes, another of Prolacta’s attorneys, argues that Medolac was never a viable company to begin with and the lawsuit wasn’t the reason for these financial problems. “Elena Medo and [her daughter] constantly attempt to present themselves as victims who are being pushed around by a bigger company. ... The facts demonstrate the opposite,” he wrote me.

Prolacta, meanwhile, sued another new breast milk product company, Ni-Q, for patent infringement; the case was dismissed. Ni-Q later filed suit, asking a court to hold Prolacta’s patent invalid, which the judge agreed to do. Ni-Q added an antitrust claim, saying the company used a fraudulent patent to maintain a monopoly over the breast milk industry. An Oregon judge gave the claim a green light, but Ni-Q did not pursue it. (Prolacta maintains it was a baseless claim.)

Prolacta seems “to have been quite tenacious in going after different companies,” says Carolyn Prouse, a Queen’s University geographer and political economist. “These are really important precedent-setting kinds of cases: What do we do with human milk and this kind of tissue? How do we regulate it, and how do we regulate patents around it?”

As the leadership of Prolacta and Medolac await trial, other players have shown up at the scene, including

international, for-profit breast milk companies that are raising new ethical questions such as whether women in developing countries should be allowed to sell their milk to American women. Prolacta recently announced that it had begun a clinical trial in Japan, a precursor to introducing its fortifier to hospitals there.

In this country, where federal law did not require employers to give workers unpaid breaks to pump until 2010, lactation advocates and other stakeholders have been pushing for more government support for breastfeeding. Tellingly, however, progress on social and legal protections for nursing women has been slow. In the meantime, profitable new milk products have emerged in a largely unregulated market. “Donor human milk is great when babies don’t have milk,” says Mathilde Cohen, a professor at the University of Connecticut School of Law. “But the fundamental problem in our culture is that most people don’t even have the ability to provide milk for their own baby because of how messed up the system is.”

As Medo, 68, sees it, the woman without whom commercial milk banking wouldn’t exist has been edged out of it, at least for now. But she is still committed to finding a way back in the game. Prolacta, she says, feeds only a minority of babies in NICUs, which means there’s a large market, and more competition is needed to drive down prices. Currently, she is raising money to pay back the milk suppliers and explore new options for reopening the milk co-op.

She’s had time to think about what the best model is and has concluded that it wouldn’t be possible to create products like hers at a nonprofit because of the quantity of investment needed. On the other hand, a for-profit model involves high salaries and other limitations that mean not all of the money goes to babies. A for-profit model could work, she’s convinced, if it has the right stewardship with a clear mission of social responsibility.

In many ways, the challenges she has faced in her business are the same as those faced by many women: trying to make the best of a market economy while being expected to give freely of their emotional and bodily labor when the system isn’t built to value it. Modern motherhood, with its expectation of endless unpaid giving, is nearly impossible to balance with the bottom-line-driven culture of the American workplace. Women often end up in the uncomfortable position of delaying professional advancement — and losing out to

men — or relying on less-privileged women to fulfill caretaking needs.

Medo sees herself as someone trying to do good. Her aim, she told me again and again, is to serve babies by stepping up to meet a growing demand for breast milk. And yet, as her critics have repeatedly asked: Does capitalizing on other women’s labor distort that aim and increase the chance for exploitation? Medo doesn’t deny the danger, but she blames the system, not herself, for the difficulty navigating the competing demands of altruism and the marketplace.

“I guess it’s more of an issue with capitalism than anything else,” she says. ●

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WORKPLACE BIAS CASES TEST WHAT MAKES A VALID DISCRIMINATION CLAIM

By Robert Iafolla

Federal appeals courts are grappling with the question of what kinds of workplace disparities rise to the level of illegal discrimination, creating the potential for judges to broaden employee protections under federal anti-bias laws.

Last week, a federal appeals court heard oral argument in a female construction worker’s bid to revive her lawsuit accusing a company of unlawfully denying her the same work opportunities as men. A district judge threw out the case because that denial wasn’t an “ultimate employment decision.”

Another court is considering cases on the legal requirements for “adverse employment actions” when workers sue companies after not getting requested disability or religious accommodations.

What types of biased employer actions are necessary to bring a discrimination claim has been a frequently

litigated issue. The result is a complicated, sometimes-inconsistent set of standards that vary by law and circuit.

But federal courts are turning more towards interpreting anti-bias laws according to their actual text—exemplified in the US Supreme Court’s landmark 2020 ruling that expanded job protections to LGBT workers. That shift could cause judges to rethink the judicial doctrine for adverse employment actions, legal scholars say.

“The doctrine is simply inconsistent with the statutory text,” said Katie Eyer, a discrimination law professor at Rutgers University who’s written on judicial interpretive theories. “It is also a very common way that plaintiffs with strong, even uncontroverted, evidence of discrimination see their cases get dismissed.”

A June decision by the full US Court of Appeals for the District of Columbia Circuit may be a harbinger for what’s to come.

That court overturned its 22-year-old precedent demanding that workers who challenge discriminatory transfers or transfer denials also show they suffered an “objectively tangible harm.”

The ruling—which conflicts with other circuits’ decisions on the issue—hinged on the court’s parsing of the text in Title VII of the 1964 Civil Rights Act.

“Once it has been established that an employer has discriminated against an employee with respect to that employee’s ‘terms, conditions, or privileges of employment’ because of a protected characteristic, the analysis is complete,” the D.C. Circuit said. “The plain text of Title VII requires no more.”

Judge-Created Doctrine

Courts initially used “adverse action”—which doesn’t appear in the text of Title VII or other federal anti-bias laws—as a summary term to describe the negative outcomes resulting from workplace discrimination, said Sandra Sperino, a law professor at the University of Missouri who’s written extensively on discrimination law.

Different courts over time have imbued that term with their own specific meanings, which have acted as screening mechanisms to filter out certain claims, Sperino said. Some judges seem concerned that not

every potentially discriminatory thing that happens at work should be a federal case, she said.

“That’s resulted in all of these unsatisfying cases that seem at odds with how workers experience discrimination,” she said.

“Cases where courts say that even if something negative happened based on a worker’s protected trait, it’s not discrimination unless it reaches a culmination point or a certain level of seriousness.”

Some courts have ruled that allegedly biased performance evaluations, excessively scrutinizing job performance, threatening discipline or termination, and assigning additional or more difficult work don’t meet the adverse employment action threshold, according to Sperino’s research.

But the body of law that’s developed is confusing and inconsistent, she said, as other courts have held that the same or similar conduct does qualify as unlawful bias.

“It’s quite surprising that, at this point, what constitutes discrimination is still so up in the air and varies by circuit and context,” said Michael Selmi, a law professor at Arizona State University who’s written on employment discrimination. “It’s certainly ripe for the Supreme Court to tackle one of these cases, or maybe more.”

Ultimate Decisions

The Fifth Circuit uses the most restrictive version of the adverse employment doctrine, requiring that a worker must be fired, not hired, or experience a similar “ultimate” employment decision to support a job discrimination claim.

That threshold is out of step with Supreme Court opinions on the scope of Title VII, such as the declaration in *Harris v. Forklift Systems* that the law goes beyond economic or tangible discrimination to bar a broad spectrum of disparate treatment, said Sachin Pandya, a discrimination law professor at the University of Connecticut.

The US Justice Department in 2020 urged the high court to strike down the Fifth Circuit’s standard.

The justices were considering whether to review a decision that threw out a lawsuit alleging that a company gave Black offshore oil workers outdoor

assignments without water breaks, while their White counterparts worked inside with air conditioning.

The Supreme Court never weighed in because the parties settled.

‘Movement To Change’

The next shot at modifying the Fifth Circuit’s standard could come as part of a case recently argued before the court.

A Louisiana federal judge invoked the appeals court’s ultimate employment decision standard to toss construction worker Magan Wallace’s gender discrimination claim against Performance Contractors Inc. Wallace alleged that she was told in direct and profane terms that she couldn’t work “at elevation” on a project—on scaffolding and scissor lifts—because she was a woman, but the judge said that wasn’t an ultimate decision giving rise to a discrimination claim.

Performance Contractors’ attorney, Murphy Foster of Breazeale Sachse & Wilson LLP, told a three-judge panel of the Fifth Circuit during oral arguments June 9 that Wallace was barred from working at elevation because of her lack of experience, not her sex.

Judge Jennifer Walker Elrod, a George W. Bush appointee, said there’s a “whole movement to change our precedent” on final employment decisions.

But she then asked Wallace’s attorney, Madeline Meth of the Georgetown Law Appellate Courts Immersion Clinic, if Wallace could win under existing precedent.

The refusal to allow her to work at elevation was tantamount to a demotion, which satisfies the Fifth Circuit’s standard for a discrimination claim, Meth responded. Nevertheless, she preserved her argument against the circuit’s standard for possible review by the full court.

“Any discriminatory prohibition on job duties violates Title VII,” Meth said, “because the tasks an employee is assigned are job requirements an employer may not dole out in a discriminatory fashion.” ●

COVID INSURANCE STATE COURT RULINGS REFLECT ‘LONG GAME’ AHEAD

By Daphne Zhang

Business-owners seeking to battle insurers over pandemic-related business interruption coverage received ammunition and some clarity last week in a pair of rulings in New York and Louisiana state courts.

The state courts ruled that the New York Botanical Garden and the Oceana Grill, a New Orleans restaurant, didn’t have to have completely shut down to get coverage. The Louisiana Fourth Circuit Court of Appeal also held that the coronavirus can cause physical damage covered by businesses’ all-risk property insurance.

“The two decisions are not outliers and will provide precedential value, especially the Louisiana case,” said Peter Kochenburger, an insurance law professor at the University of Connecticut.

Federal courts haven’t been kind to policyholders as they’ve nearly always sided with insurers. But policyholders, especially the ones that are banking on state courts are likely to try to build on those wins. But with covid-coverage legal battles still expected to last years to come, state courts haven’t been as consistent in their Covid-coverage rulings when compared to federal courts.

“There’s still a tremendous amount of uncertainty. The insurance industry wants to paint a picture that there’s not,” said Daniel Schwarcz, a professor at University of Minnesota Law School. Every state is different in its insurance law interpretation, he said.

Without guidance from state high courts, federal courts are only making guesses about what state supreme courts would decide on insurance matters, and the Louisiana ruling proved them wrong, Schwarcz said

“State supreme courts really should have been the ones deciding this from the beginning. And federal courts should have been certifying this issue to state supreme courts,” but few have done that, Schwarcz said.

Property Damage

The two state cases are particularly notable because the Louisiana and New York courts similarly held that a mere slow-down and a partial suspension of revenues can also be covered. Most other courts have held businesses need to experience a total shutdown of operations in order to get coverage.

The Louisiana ruling “may be only the tip of the iceberg,” because “so many Covid insurance cases have been dismissed without discovery,” said Jeffrey Stempel, an insurance law professor at the University of Nevada, Las Vegas law school. The decision could be persuasive to the Louisiana high court if insurers appeal, he added.

The Louisiana case, in particular, may be precedential because it addressed the central question in many Covid-related insurance battles — whether the coronavirus causes property damage—according to Kochenburger.

The Louisiana decision is the first appellate ruling holding that insurance requirement for property damage is ambiguous. In insurance law, if a court finds the contract is open to more than one interpretation, it has to adopt the policyholder’s reading and rule for coverage.

“The big win for the policyholder in Louisiana was on ambiguity,” said Erin Webb, a Bloomberg Law analyst. “Once you open that door, states like Louisiana and many other states have these favorable rules that if the policy is ambiguous, you interpret in favor of the policyholder.”

The New York ruling could also benefit policyholders seeking civil authority coverage for losses incurred during pandemic lockdowns, said Scott Greenspan, a senior counsel at Pillsbury Winthrop Shaw Pittman LLP. Courts have ignored insurance policy definitions that business interruption also means slow-down of operation instead of a total shut down, he said.

Other courts have ruled that policyholders, such as restaurants, cannot get civil authority coverage for pandemic shutdowns because some of their employees still worked on-site to prepare other services such as food delivery and take-out during the lockdowns.

Uphill Climb

Litigation data still show policyholders face an uphill climb. Federal courts have tossed 96.4% of the 637 decided. State courts have dismissed 73.2% of the 201 they looked at so far, according to the University of Pennsylvania Law School’s data.

“It’d be too far to say these two rulings turn the tide” because of the vast number of holdings against policyholders, including in federal appellate courts, Webb said.

Most Covid insurance lawsuits don’t survive insurers’ motions to dismiss. Courts have largely adopted carriers’ argument that policyholders’ financial losses during the pandemic are not covered because they never experienced real property damage required by the policy. A virus on a surface does not cause damage the property because it can be easily cleaned by disinfectant, courts have found.

The Louisiana and New York rulings will have to live through appeals at state high courts if insurers want to challenge the decisions. The New York ruling is also based on a niche pollution policy not at the center of the Covid insurance fight on property policies. On the whole, insurance is matter of state law, and other state courts don’t have to follow the two decisions.

Michael Savett, a partner at Clark & Fox who represents insurance companies in coverage disputes, downplayed the New York and Louisiana decisions.

“At this point, the table was already set,” Savett said. “Any policyholder-friendly decisions will not have a significant impact on the general landscape.”

Still, state supreme courts have not fully addressed the essential question of whether the coronavirus physically harms a property and if property damage requires a tangible structural change. Only three state high courts, in Massachusetts, Iowa, and Wisconsin, have ruled in Covid insurance cases, and all three sided with insurance companies.

If there is a state high court finding covid coverage for businesses, it would move the needle, Stempel said.

“If they can get one in Maryland, South Carolina, or Washington where cases are pending, this would be big news and would probably have a significant impact,” Stempel said.

The Louisiana decision will be binding on all federal courts deciding on Covid issues applying Louisiana law unless they find a valid reason not to adopt it, said Kochenburger from the University of Connecticut.

However, federal courts can try justifying their opposition by pointing to the large number of insurer-friendly rulings finding no coverage for businesses losses during pandemic, Kochenburger said.

The covid insurance fight “is a long game,” Kochenburger said. ●

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Business-owners seeking to battle insurers over pandemic-related business interruption coverage received ammunition and some clarity last week in a pair of rulings in New York and Louisiana state courts.

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UCONN LAW PROFESSOR SAYS CONNECTICUT IS 'SOMEWHAT INSULATED' FROM ROE V. WADE'S REPEAL

By John Henry Smith

Before the Supreme Court overturned Roe v. Wade, saying that there is no constitutional right to abortion, Connecticut lawmakers who support abortion rights took steps they say will ensure that women in the state will still be able to obtain the procedure.

A law passed in the last General Assembly session broadened the categories of medical providers who are allowed to perform some abortions.

That same law banned public agencies in Connecticut from cooperating with abortion-related criminal investigations or lawsuits from other states.

Connecticut law specifies that the decision to terminate before viability is that of the patient, in consultation with a doctor or other medical provider.

UConn Law Professor Anne Dailey joined All Things Considered to talk about how safe these Connecticut laws are from being federally superseded going forward.

She also talks about how the repeal of Roe v. Wade affects young Connecticut women who attend college in states set to ban abortion.

Dailey also discusses what's next for state anti-abortion supporters as well as Connecticut's important role in the history of abortion rights in this country.

Interview Highlights

What are the legal ramifications of the Supreme Court ruling as it pertains to Connecticut law?

Dailey: I think the residents of Connecticut are not going to see a major change in the laws governing abortion in the state. Because Connecticut already has

very liberal abortion laws. Abortion is available, pre-viability, there's really no restrictions on a person's ability to access abortion care, pre-viability.

After viability, there's abortions allowed, if the life or health of the pregnant person is endangered.

And so that's not going to change.

There will be a couple of issues that will come up. One is having the states that are going to be protecting abortion rights, absorb people coming from other states seeking abortions in their states.

It's not going to be dramatic for Connecticut because we're in the Northeast and the states surrounding us all protect abortion rights, but that's still possibly going to be something of an issue -- the increased demand.

And then there's the issue of the extent to which other states can reach into Connecticut to enforce their bans on abortion. So can they either criminalize a doctor or abortion provider in Connecticut who provides abortion care to one of their residents or provide for cause of action against that abortion provider? Those sort of conflict of laws issues are going to arise and could have an effect in Connecticut.

Connecticut lawmakers passed a law earlier this year that aims to create a legal safe harbor for abortion providers and patients. To what degree would Connecticut laws be superseded by the Supreme Court ruling?

Dailey: The ruling doesn't really bear on that. And I believe the governor has signed the law and that it will be going into effect on July 1. This safe haven law ... if it's upheld by the Supreme Court, it's an important step to protecting providers in Connecticut and those seeking abortions from outside the state coming to the state.

But it's a law that provides for a cause of action by the person, by the provider in the state who's being sued in another state. So it's going to essentially protect that person from being sued; they can now sue the person who sued them. It's a complicated statute.

I would hope that the courts would be sympathetic to a statute of this sort, allowing a state — really in the name of federalism, allowing a state's rights — a state to protect the integrity of its legal regime. But this is

one of the many questions that are going to arise in the aftermath of the Dobbs case.

The majority ... defended their case, their opinion, their decision, on the grounds that they wanted to send it back to the states, send the issue of abortion back to the states. They want to get away from the kind of instability that they claim, Roe vs. Wade, instituted over the past 50 years.

But the fact is that their this decision is going to engender a huge amount of instability in the ... legal regime covering abortion. It's not even going to be just at the state level. The Supreme Court is going to have to decide a host of questions now, new questions arising having to do with ... whether the Dobbs ruling extends to contraception, to IUDs, the morning-after pill. What kind of requirements for exceptions might have to be made for the life of the mother or the health of the mother or rape or incest or age, for example.

Then the interstate conflicts – they're going to be very complicated. But what about mail-order drugs: Can a state prohibit those? Can it criminalize the woman's conduct? Could it pass a law to ... empower citizens to sue citizens of other states who are helping to or are assisting their residents in obtaining an abortion?

The idea that this decision settles anything is really quite laughable. It's actually going to create a great deal of chaos.

It sounds like what you were just referring to was a series of legal slippery slopes. If we do this, then what does that lead to down the road? Specifically in Connecticut, what slippery slopes does it create here? And with regards to things like same-sex marriage, with regards to race equity issues, or even something like Title IX that just celebrated its 50 year anniversary?

Dailey: Again, I think Connecticut is somewhat insulated, because it has strong statutory and state constitutional protections for many of these rights. But if you take something like same-sex marriage. In his opinion, Justice Alito reassured all of us that the Dobbs case was not going to affect the court's rulings on other rights, other fundamental rights, like the right to same-sex marriage or the right to intimate sexual behavior, in particular, among same-sex couples.

But there's really no way to read that opinion – and the dissent mentions this – that there's no other way to

read his opinion, but putting those rights into jeopardy as well.

So what does that mean for a state like Connecticut? I think we should feel pretty good about where we are in terms of our protection for fundamental rights. I think we have to worry about the rest of the country and the effects of this case on the rest of the country.

And also, I'll just take one example. If you think about something like the ways in which the rights could be eroded in Connecticut, right now under the prior Roe v. Wade framework, minors had a right to obtain an abortion without parental consent to notification. They had the right to go to a court and obtain a go through a procedure of judicial bypass.

Without a fundamental right to an abortion, that's no longer the case. So in a state like Connecticut, if the legislature was interested, they could pass a law requiring parental notification or consent.

So there may be ways in which, in smaller ways, even though the general right to choose to obtain an abortion would still be intact in Connecticut, there may be ways in which it will be weakened or eroded with respect to particular applications. ●

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COLUMN: CAN GUN INSURANCE MANDATES STEM AMERICA'S TORRENT OF FIREARM VIOLENCE?

By Michael Hiltzik

Perhaps the most heart-rending story coming out of the July 4 massacre in Highland Park, Ill., is that of Aidan McCarthy, the 2-year-old boy found at the scene of the tragedy looking for his parents.

They were among the seven people slain by a rooftop sniper as they watched an Independence Day parade.

Aiden is now in the care of his grandparents. He's also the beneficiary of a GoFundMe campaign that, as of this writing, has raised \$2.3 million from 42,600 donations.

Instead of the state being the arbiter of who gets to own which sorts of guns, the market plays the role.
Heidi Li Feldman, Georgetown University

Those circumstances underscore not only the horror and tragedy of the July 4 attack, but the question about who should pay the cost for America's seemingly endless torrent of gun violence — as well as the feebleness of the official response to the crisis.

If politicians remain in thrall to the National Rifle Assn. and therefore are unwilling to take action against gun violence, perhaps the market can step in.

That's the idea behind legislation being pondered in several states, including California, to require gun owners to carry liability insurance.

Only one such law has been passed thus far — by the city of San Jose, which was the scene of a mass shooting at a regional rail yard in May 2021 in which 10 people died, including the shooter. It enacted an insurance mandate in February.

Even before the city ordinance was passed, it came under attack from gun rights advocates; their lawsuit seeking to invalidate the ordinance is currently before U.S. Judge Beth Labson Freeman of San Jose. The ordinance requires all gun owners to carry liability insurance “specifically covering losses or damages resulting from any accidental use of the Firearm, including but not limited to death, injury or property damage.” The ordinance also imposes an annual fee expected to be about \$25 on gun owners to fund a municipal program for “gun harm reduction.”

A liability insurance mandate was introduced in the state Legislature last month by Sen. Nancy Skinner (D-Berkeley), requiring that gun owners carry liability insurance explicitly covering damage or injury from the negligent or accidental discharge of a firearm (most homeowner policies implicitly cover those cases, but don't say so specifically).

A measure requiring liability coverage of at least \$1 million has been introduced in New York state.

These measures have several goals. The most obvious is to provide that gun owners, rather than victims of

shootings or the public, bear the costs of gun violence. Another is in effect to outsource the regulation of gun safety to the private market, and to do so in ways that are immune from constitutional challenges.

“Government may not be the best entity to do the regulating,” says San Jose Mayor Sam Liccardo. “Sometimes the private sector can do so more effectively.”

The most often cited analogue is auto safety. The San Jose ordinance states that auto insurance used premiums to “reward good driving and incentivize use of airbags and other safety features,” contributing to a reduction in auto fatalities per mile by nearly 80% from 1967 through 2019.

“Insurers have a real incentive to understand the risks, what increases the risk of a car accident, what steps can be taken to reduce it, and then to decide whether they underwrite the cost,” says Peter Kochenburger, an expert in insurance law at the University of Connecticut School of Law. “The hope is that insurers will serve a private governance or private regulatory function — private because they can't tell anyone what to do, they can just make decisions about what to insure and at what price.”

This doesn't place insurers in the role of police, says Heidi Li Feldman of Georgetown University Law Center, but rather “privatizes the promotion of gun safety.... We create market mechanisms that allow people some range of choice, and let the market decide what the costs will be for people who want to engage in risky behavior. We do this with all sorts of products.”

The makers of products carrying inherent dangers, whether baby cribs or gas heaters, can be sued for injuries they cause. That legal exposure is reflected in the cost of the products themselves.

Gun manufacturers, however, have been largely immunized from the same exposure by the 2005 Protection of Lawful Commerce in Arms Act, or PLCAA, a notorious law that in effect barred civil lawsuits against gun manufacturers for the “criminal or unlawful misuse” of their products.

The law was signed by George W. Bush in 2005 after it had been championed by the NRA, which declared its passage “an historic victory.”

Gun manufacturers, consequently, haven't built the cost of compensating injured people into their products.

"Given the power of the gun lobby," Feldman says, "one alternative is to make gun owners, who are also in the potential chain of violence, bear some of the cost of trying to prevent that violence.... We are asking that people participate in a market mechanism that accurately reflects the dangers and costs of owning guns and particular types of guns."

With only the San Jose law on the books, it isn't yet clear how insurers will assess those costs. Conceivably, however, insurers could base premiums for liability coverage on considerations already applied to homeowner policies (such as whether a home has known perils such as a pool or trampoline or dog breeds known for biting) or auto policies (such as whether a driver has a record of speeding or has taken and passed a driver training course).

Insurers might consider the types of guns in a household, whether they are secured in a safe, and whether the household includes people known to show an elevated risk of violence, whether because of a police record or age and gender.

Laws like San Jose's and the proposals in California and other states might not keep events like the July 4 massacre in Highland Park from recurring, once a determined killer got his or her hands on a weapon. But they might reduce access to especially dangerous weapons by driving up the cost of ownership: Higher premiums might lead gun buyers to think twice about acquiring an assault weapon or place the price of those weapons out of reach.

Up to now, insurers haven't made much of an effort to develop data on what factors contribute to a higher probability of misuse. That's largely because they haven't needed to. "What creates insurers' desire or need for information is what risks they have," Kochenburger told me. "In liability insurance, you can only be sued if the law says you're liable."

Gun owners' liability for how their guns are used isn't deeply ingrained in the law, so violent outcomes don't necessarily present a liability underwriting issue.

The vast majority of firearm deaths, according to the Centers for Disease Control and Prevention, are suicides

(53.7%) or homicides (42.9%). Only about 1.2% — or 535 deaths out of a total of 45,222 firearm deaths in 2020 — are classified as "unintentional," the category that might most commonly be covered by insurance.

"Insurance companies have minimal skin in this game," Kochenburger says.

An increasingly important consideration is how the Supreme Court might view gun insurance mandates. Under normal circumstances, Feldman says, these laws would be largely unchallenged.

"Instead of the state being the arbiter of who gets to own which sorts of guns, the market plays the role," she says. "Either it becomes prohibitively expensive for people to buy certain types of insurance, or prohibitively expensive for insurers to offer certain types of insurance. That's a very small-d-democratic way to deal with an activity that throws off a lot of risk on other people."

Could the Supreme Court overturn these laws on 2nd Amendment grounds?

"We have an extremist Supreme Court on the 2nd Amendment and I think they are looking to constitutionalize all sorts of laws that touch on guns," Feldman says. "Do I think that the 2nd Amendment in any way requires the invalidation of laws like this? Absolutely not. They're not a direct regulation of guns, but of the conditions of keeping guns on your property."

The Supreme Court's recent 2nd Amendment cases, especially its June 23 decision overturning a 117-year-old New York law regulating permits for the carrying of guns in public, create "a lot of uncertainty about what this court would do," Feldman says. "That makes people nervous about enacting these laws. You're a city, you don't have a lot of money, you don't really want to get caught up in constitutional litigation. That might deter you from passing the law."

As it happens, the plaintiffs in the lawsuit challenging the San Jose ordinance cited the Supreme Court decision the day after it was handed down. The judge has given the plaintiffs and the city until Friday to submit briefs on its relevance. The city has said that its rules don't impinge on 2nd Amendment rights because they don't involve any factors "directly affecting

residents' ability to keep and bear arms for self-defense."

Until the Supreme Court ruling, interest in gun liability laws was rising. The seemingly impermeable protection PLCAA gave gun manufacturers had even been broken by a lawsuit brought by parents of the victims of the 2012 Sandy Hook Elementary School shooting in Connecticut, which took the lives of 20 children ages 6 and 7, and six adults. Remington Arms, which made the assault weapon used in the massacre, settled with the plaintiffs for \$73 million after courts ruled that state law was not preempted by PLCAA.

But the desperation to find some way to stem gun violence may carry the day.

"Obviously, the Supreme Court decision darkens the sky over gun regulation nationally," Liccardo told me. "But the court hasn't said anything to suggest that we cannot enact legislation to make gun ownership safer." ●

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DOM AMORE: BRITTNEY GRINER VERDICT, SENTENCE, LEAVES US TO ONLY WAIT AND HOPE FOR A NIGHTMARE TO END

By Dom Amore

Brittney Griner stared blankly from behind white bars as the ruling was translated for her. Her eyes were empty and when they did shift focus it was only downward.

There was resignation in those eyes and lack of expression, or perhaps Griner was trying to will herself somewhere else. For those who have viewed the video, it was a window into someone else's unimaginable nightmare.

Griner, 31, was sentenced to nine years in a Russian penal colony, and experts say such places are as bad as the term sounds. Experts on these processes also say Thursday's ruling from Judge Anna Sotnikova of the court in the Russian city of Khimki was expected, and is the end of the beginning. One of U.S. basketball's biggest stars will remain where she is for as long as it takes the U.S. and Russian governments to agree on the price for her release. With the "trial" over, those negotiations can begin.

That's no reason to be optimistic, however. Prisoner exchanges are not done easily and in cases such as these, those of a certain age likely remember, the old, very American impulse to do something now only works against the cause of releasing her.

Griner's detainment, trial, conviction and sentencing for packing vaping cartridges containing hashish oil make no sense to any reasonable person. But if we have learned anything as Vladimir Putin's Russian forces pound Ukraine these last six months, it's that neither Griner, nor other Americans held for a longer time in Russia, are in the hands of reasonable people. The wishes of the entire world did not matter when Putin chose to wage war, and neither U.S. nor world opinion matter in Russia now.

"Today's verdict and sentencing is unjustified and unfortunate but not unexpected and Brittney Griner remains wrongly detained," read a joint statement from NBA commissioner Adam Silver and WNBA commissioner Cathy Englebert. "The WNBA and NBA's commitment to her safe return has not wavered and it is our hope that we are near the end of this process of finally bringing BG home to the United States."

Griner's Phoenix Mercury teammates were at the Mohegan Sun getting ready for their game against the Connecticut Sun on Thursday night. They made their feelings known via social media and the organization issued a statement.

"While we knew it was never the legal process that was going to bring our friend home, today's verdict is a sobering milestone in the 168-day nightmare being endured by our sister, BG," it read. "We remain heartbroken for her, as we have every day for nearly six months. We remain grateful to and confident in the public servants working every day to return her to her family and us. We remain faithful the [Biden]

Administration will do what it takes to end her wrongful detention. We are inspired every day by BG's strength and we are steadfastly committed to keeping her top-of-mind publicly until she is safely back on American soil. We will not allow her to be forgotten. We are BG."

Several U.S. political leaders, including President Joe Biden, weighed in with a similar sentiment. Whether you are a fan of Griner, or whether you agree or disapprove of her past actions and statements, there shouldn't be a question but that the U.S. government must do all it can to bring Griner, and other Americans held in Russia, home. But doing all it can doesn't seem like enough to achieve this soon, given the leverage.

Griner made a dangerous choice in February when she packed her bag and headed to Russia to play for UMMC Ekaterinburg, which paid her more than she made in the WNBA. Yes, basketball is loved and it's big business there, too. But Arthur H. House, an adjunct professor at UConn who has worked for the National Security Council and for the director of National Intelligence, wrote in an op-ed piece for *The Courant* a chilling reminder that when an American citizen travels abroad, U.S. laws and rights do not follow. Griner did not take the abundance of caution that was necessary, especially with Russia's move into Ukraine pending and relations with the U.S. strained.

She plead guilty, apologized, insisted she had no intent to break the law, that she was using the hashish oil for pain, but those pleas fell on deaf ears in a Russian court.

Now, as she sits helplessly as a geopolitical pawn in a Russian prison, the more there is outrage and outcry for her release, the more "valuable" she becomes to Putin and the more leverage he gains, as House also pointed out.

Secretary of State Antony Blinken has said he has made a "significant proposal" to Russia for Griner's release. There have been numerous reports this includes releasing convicted arms dealer Viktor Bout, a terrible thing to have to do, for the release of Griner and Paul Whalen. There is no telling if Russia will even accept that.

So we're left to watch, for some of us to be haunted by Brittney Griner's blank stare. And we are left to wait and hope for the day she is released, because at this moment waiting and hoping is still all we can do. ●

7 QUOTES THAT REVEAL THE RACIST ORIGINS OF MINIMUM WAGE LAWS

Progressive economists and intellectuals saw these job losses as a eugenic service to the larger population.

By Dom Amore

Minimum wage laws are suddenly vogue. According to the National Conference of State Legislatures, 18 states began 2019 with a new minimum wage. Three states have since passed legislation to increase the minimum wage to \$15 an hour, a wage floor the House of Representatives is seeking to make the law of the land.

The age-old lesson of Econ 101, that, to quote Nobel Prize-winning economist Paul Krugman in 1998, "the higher wage reduces the quantity of labor demanded, and hence leads to unemployment," is no longer considered rock solid.

"Economism"

In a 2017 article in *The Atlantic* titled "The Curse of Econ 101," James Kwak cited basic economic theory as an example of "economism"—what he called the "misleading application of basic lessons from Economics 101."

Kwak, a professor of law at the University of Connecticut, said the historical record suggests there is "no obvious relationship between the minimum wage and unemployment."

Even if most economists disagree with Kwak, it's worth noting that the word "most" wouldn't have been necessary in this sentence a few decades ago. Today it is.

Progressive economists and intellectuals saw these job losses as a eugenic service to the larger population.

Many progressive economists, like Kwak, are skeptical of the link between a high minimum wage and

unemployment. In this, they differ from their progressive forefathers.

As Princeton scholar Thomas C. Leonard noted in a 2005 paper "Eugenics and Economics in the Progressive Era," early progressives understood quite well that minimum wage laws cause job losses. They simply saw it as a social benefit, not a social ill.

Leonard, author of *Illiberal Reformers*, notes that progressive economists and intellectuals saw these job losses as a eugenic service to the larger population. Low-wage workers, particularly those of color, are described in subhuman terms, a reflection of the social Darwinism of the day. Those denied work by minimum wage laws could at least more easily be segregated, sterilized, and put in asylums—since administrators lacked the resources to "chloroform them once and for all."

Early Quotes About Minimum Wage and Employment

Here are seven quotes that reveal how early social reformers viewed the minimum wage and the "unemployable."

1. "It is much better to enact a minimum-wage law even if it deprives these unfortunates of work. Better that the state should support the inefficient wholly and prevent the multiplication of the breed than subsidize incompetence and unthrift, enabling them to bring forth more of their kind."

– Royal Meeker, Princeton scholar and labor commissioner to Woodrow Wilson, as quoted in *Political Science Quarterly*, Vol. 25

2. "How to deal with the unemployable?" asked economist Frank Taussig. They "should simply be stamped out."

"We have not reached the stage where we can proceed to chloroform them once and for all; but at least they can be segregated, shut up in refuges and asylums, and prevented from propagating their kind..."

– F. W. Taussig, *Principles of Economics*, Vol. 1

3. "If the inefficient entrepreneurs would be eliminated [by minimum wages,] so would the ineffective workers. I am not disposed to waste much sympathy upon either class. The elimination of the inefficient is in line with our

traditional emphasis on free competition, and also with the spirit and trend of modern social economics. There is no panacea that can 'save' the incompetents except at the expense of the normal people. They are a burden on society and on the producers wherever they are."

– A.B. Wolfe, *American Economic Review*, 1917

4. "Imbecility breeds imbecility as certainly as white hens breed white chickens; and under laissez-faire imbecility is given full chance to breed, and does so in fact at a rate far superior to that of able stocks."

–New Republic editorial, 1916 (most likely written by Herbert Croly)

5. Henry Rogers Seager, a leading progressive economist from Columbia University, argued that worthy workers deserve protection from the "competition of the casual worker and the drifter."

"The operation of the minimum wage requirement would merely extend the definition of defectives to embrace all individuals, who even after having received special training, remain incapable of adequate self-support.....If we are to maintain a race that is to be made up of capable, efficient and independent individuals and family groups we must courageously cut off lines of heredity that have been proved to be undesirable by isolation or sterilization"

– Henry Rogers Seager, Columbia University scholar and future American Economic Association president, in 1913 (quoted from "Eugenics and Economics in the Progressive Era")

6. "[Wage] competition has no respect for the superior races," said University of Wisconsin economist John R. Commons in his 1907 book *Races and Immigrants* (p. 151). "The race with lowest necessities displaces others."

7. "[The minimum wage will] protect the white Australian's standard of living from the invidious competition of the colored races, particularly of the Chinese."

– Arthur Holcombe of Harvard University, a member of the Massachusetts Minimum Wage Commission, speaking approvingly of Australia's minimum wage legislation in 1912 (quoted from "Eugenics and Economics in the Progressive Era". ●

HUNTINGTON INGALLS’ COVID INSURANCE WIN GIVES HOPE TO BUSINESSES

By Daphne Zhang

The Vermont Supreme Court’s revival of Huntington Ingalls Industries Inc.’s lawsuit seeking Covid-19-related insurance coverage offers a glimmer of hope to other companies that saw business drop during the pandemic.

The recent ruling out of the Green Mountain State is the first state high court decision allowing an insured business to bring in experts to testify that the virus injured its properties, as required for coverage under the insurance policy. The ruling opens the door for scientific discovery on whether the coronavirus damages property—a significant step for lawsuits over pandemic-related business losses, which have been largely been decided in favor of insurers.

“We are inclined to allow experts and evidence to come in to evaluate the validity of insured’s novel legal argument before dismissing this case,” Justice Harold Eaton wrote. “We cannot say ‘beyond doubt’ that the virus does not physically damage surfaces in the way insured alleges.”

Most pandemic business interruption lawsuits haven’t survived insurers’ motions to dismiss. Federal appellate courts and six state supreme courts—Iowa, Massachusetts, Oklahoma, South Carolina, Washington, and Wisconsin—have upheld lower court rulings in favor of carriers.

Several of those courts found that coronavirus doesn’t cause the kind of property damage required by insurance policies because the virus can be easily wiped off a surface by disinfectant.

“The Vermont decision lays out a path for analytical framework on how other courts could proceed, especially regarding early motions to dismiss the case,” said Peter Kochenburger, an insurance law professor at the University of Connecticut. “A complicated insurance

policy requires scientific evidence on a relatively recent phenomenon such as Covid-19.”

Off to Discovery

The Huntington Ingalls case is now headed to discovery, unless the two sides settle. The shipbuilder has alleged that its Covid-19-positive employees spread droplets on property surfaces and, as a result, it had to reduce operations, disrupting vessel construction and repair.

The Vermont high court found plausible Huntington Ingalls’ allegation that the virus damages property in a way that strips it of its intended functionality.

The court did not say that the virus damages property or that Huntington Ingalls should receive coverage, merely that the shipbuilder should have a chance to prove its argument, said Reed Smith partner John Ellison.

“That’s what businesses have been asking for all along, since the start of the pandemic,” he said.

Attorneys for insurance companies involved in the case, including Chubb Ltd. and Berkshire Hathaway Inc., didn’t respond to requests for comment. But Kenneth Stoller, assistant vice president of the insurance trade group American Property Casualty Insurance Association, said the Vermont ruling “runs contrary to the nearly unanimous nationwide trend of state and federal appellate courts.”

Trial vs. Settlement

Danny Hernandez, a spokesperson for Huntington Ingalls, said the shipbuilder expects the case to move to “discovery and trial” at the Vermont Superior Court.

If the case goes to trial, a jury may be more likely to show sympathy to companies and find that insurers are on the hook for pandemic losses. In August, a Texas state court jury issued a \$12.5 million verdict against Lloyd’s of London, finding the insurer should pay for Baylor College of Medicine’s pandemic business interruption losses.

Celeste Koeleveld, a Clifford Chance partner, said it’s unclear whether Huntington Ingalls’ case will go to trial, but that the ruling opens the door for potential settlement discussions.

“Once you open up to discovery, it changes the litigation ballgame, and the risks increase for the insurance companies,” she said.

Impact On Other States

Although the Vermont Supreme Court ruling is not binding for other state high courts that are weighing in on the same issue, it provides guidance from a persuasive authority, insurance and legal experts say.

“It certainly raises questions and makes judges think that there might be another way to look at this insurance language that they need to be open to,” said Koeleveld. The attorney said she has already seen policyholders asking the Nevada Supreme Court to look at the Vermont decision.

Most Covid-19 insurance lawsuits that were dismissed fell short of alleging that the virus was constant on an insured’s premise, according to experts. Huntington Ingalls set itself apart by alleging instead that the virus was continuously present on its properties, with its staff contracting and spreading Covid-19 all the time.

“There is life left in the better-pleaded Covid business interruption claims now that the action has shifted decisively to the state courts,” said Tom Baker, a professor from the University of Pennsylvania Carey Law School. “Supreme Courts in Iowa and Washington and, possibly, Oklahoma would be open to better-pleaded claims than the ones they decided.” ●

CONNECTICUT LANDLORDS USUALLY HAVE LAWYERS. TENANTS OFTEN DON’T. UCONN LAW STUDENTS WANT TO CHANGE THAT.

By Ed Stannard

In one of the tightest rental markets in years, with both rents and evictions rising, the University of Connecticut School of Law is bringing more help to tenants.

The school’s Housing and Eviction Defense Clinic will assist those who are facing homelessness because landlords are increasingly evicting those who are behind on their rent, beyond their lease or for other reasons.

The students will add to advocacy by organizations such as Greater Hartford Legal Aid, the Connecticut Fair Housing Center and efforts by United Way and the state Department of Housing, which has been budgeted \$5 million to help prevent evictions through a rent bank and other efforts.

“The difference is that we’re actually going to be training law students to do the work of the legal advocate,” said Catharine Freeman, director of the clinic, who has taken on the role as a visiting professor from Connecticut Legal Services.

“So when you think of legal services, you would think that we’re training folks to then eventually go to that type of legal services operation,” she said. More than 100 clients will be represented, she said.

Starting in the spring semester, six students will begin to represent clients — the first has been accepted already — as they prepare to appear in Superior Court in Hartford, where Freeman and other lawyers will represent them. Those facing an eviction notice do not have an automatic right to an attorney.

Freeman said many tenants “do not have an attorney because there’s usually a cost associated with hiring an attorney, so a very low percentage of people who are

tenants will have an attorney represent them in this type of proceeding.”

A study by the Connecticut Fair Housing Center and the Connecticut Data Collaborative found that landlords had a lawyer 80% of the time while tenants did just 7% of the time. A tenant without an attorney faced eviction almost twice as often as those who were represented, the study found.

Freeman said the U.S. Department of Housing and Urban Development has provided funds to support the program, as has the fair-housing center. Clients are eligible if they earn less than twice the federal poverty level.

“The statistics are showing that the filing of eviction cases is actually higher today than it was prior to the pandemic,” Freeman said. “That means each month we’re seeing a higher volume of cases being filed at the Superior Court level, where a landlord has actually at that point hired a marshal to serve papers on a tenant.”

Meanwhile, rents have increased 30% to 50%, she said. “We’re seeing that as a real problem,” Freeman said. “And with the pandemic, we saw a lot of landlord turnover sales. And new landlords have certain agendas of what they want to do with that property. It doesn’t necessarily involve the existing tenant that already lives there.”

She said while there was a moratorium on evictions during the pandemic, it was still possible to remove tenants under certain conditions, such as criminal acts. “I definitely handled the standard volume of eviction matters during the pandemic, which is my requirement of 100 cases a year,” Freeman said. “So I don’t think there was really any change in the volume of work that was needing to be completed.”

However, there were more lapsed-lease cases once the pandemic ended, she said. “Once the moratorium lifted, we started to see more claims for what’s called lapse of time,” she said. “Which means that there’s no longer a lease agreement and the owner wants to take the property back because of the lack of ongoing lease agreements.”

Besides filing paperwork and counseling clients, “our students are going to learn about the history of housing in the Greater Hartford area,” Freeman said.

Other issues will include “how it came to be that there’s a concentration of rental housing in certain parts of the Greater Hartford area,” she said. “The challenges that renters in the rental market face within the Greater Hartford area. They’ll also learn how to manage the vicarious trauma that they’re exposed to when they learn about the challenges that the client who is facing eviction is dealing with.”

Ultimately, the goal is to show law students that housing law is “a viable area of the law to go in and practice and that it is a rewarding area to practice in that you are actually helping a family with a critical need: where they live, their housing,” Freeman said. “And so we are really focusing on building up the next generation of legal services attorneys through this program.”

Giovanna Shay, litigation and advocacy director for Greater Hartford Legal Aid, said, “I think the clinic is a wonderful way to train attorneys in representing folks in evictions, and I have the utmost respect for Catharine Freeman.”

Freeman will be assisted by Alex West, formerly Massachusetts supervising attorney for SouthCoast Fair Housing, as associate director. “I’m delighted that she’s the director and I’m happy that Alex has come to Connecticut. I think it’s always great to have more resources for tenants in Hartford.”

Shay said vacancy rates in the Hartford rental market are extremely low.

“Even clients who have Section 8 vouchers are having a lot of difficulty finding apartments,” she said. “So the stakes are very high. There’s just no place for anyone to go. So we are seeing tenants, unfortunately, forced to rent hotel rooms, to double up with family, to sleep in their cars.”

She said calls to United Way’s 211 line from those threatened by homelessness are at 176% of the 2017 level.

Another problem is that a client with an eviction filing on their court record will have a difficult time finding housing, even if the filing was withdrawn. Shay said a bill will be filed in the legislature limiting the amount of time an eviction filing will stay on the electronic court filing system, from a year to 30 days.

Advocates also want records when tenants win their cases to be removed after 30 days, rather than staying online for three years.

“And most important, we’re advocating for the eviction data to which candidate-screening companies and commercial credit-reporting companies can subscribe ... to have to match what is available on the public judicial branch website, the most updated version,” Shay said.

Now, older information is reported by those companies “and they’re hurting people.

Legal Aid also is launching its Right to Counsel program, which will focus on residents of Asylum Hill and the North End.

“But we know that there are many other people in the city and in our service area who need representation,” Shay said. “So we’re delighted to have more resources available.” ●

Neag School of Education

MORE THAN MASKS AND CRITICAL RACE THEORY – 3 TASKS YOU SHOULD BE PREPARED TO DO BEFORE YOU RUN FOR SCHOOL BOARD

By Casey D. Cobb

When people run for school board these days, they often are motivated to campaign on a controversial topic. That's according to Ballotpedia, a nonprofit that tracks political elections in the U.S.

In an analysis of school board elections in 463 school districts in 2021, the organization found elections that were once uncontested had drawn candidates who were "galvanized by one issue or another."

Three issues came up the most. The most oft-cited issue was race in education, more specifically, the teaching of critical race theory. The second most frequently cited issue was school policies on the pandemic – that is, requirements to wear masks or get vaccinations, or school reopening. The third most-cited was sex and gender in schools, such as gender-specific facilities.

As of January 2022, Ballotpedia discovered 287 school districts in 25 states where candidates took a position on race in education; 199 school districts in 23 states where candidates took a position on responses to the coronavirus pandemic; and 144 school districts in 18 states where candidates took a position on sex and gender in schools.

A Worrisome Trend

As a former school board member – and as a researcher who studies educational leadership and policy – I find it worrisome when polarizing issues generate so much attention from candidates. The reason I worry is that I know from firsthand experience that being an effective school board member is never just about taking a stance on a few hot-button topics. Rather, it's about

much broader issues, such as meeting the educational needs of all students in the school district.

Too often, support for candidates hinges on the positions they take on the most controversial issues. For instance, in Florida, Gov. Ron DeSantis, speaking on behalf of his state's Republican Party, pledged to withhold support from "any Republican candidate for school board who supports critical race theory in all 67 counties or supports mandatory masking of schoolchildren."

As impassioned as people may be about issues like mask requirements, keeping schools open or confronting issues of race in the curriculum, running a school district is about much more than any one of those single issues. With that in mind, here are three actions that future school board candidates should be prepared to take.

1. Set District Policy

A primary function of the school board is to develop, review and approve district policy. These policies can include implementing state mandates – such as establishing high school graduation requirements – or formulating a plan to evaluate teachers.

Some policies take on broad issues that affect all students. For instance, a policy might express a goal to make sure all students have access to the internet at home. Other policies might deal with smaller matters, such as whether home-schooled students can participate in extracurricular activities at the local public school.

2. Make Tough Budget Decisions

One of the most difficult tasks that school board members must do is decide how to spend the school district's limited revenue.

The vast majority of a district's budget – about 80% to 85% – goes to personnel costs, such as salaries and benefits for school staff. Paying for these employee expenditures is becoming more challenging because of the rising cost of health insurance.

To stay within budget, school board members may have to cut positions or programs. It's usually a matter of assessing tradeoffs: Do we cut our gifted and talented program to keep our school safety officer? Do we cut

teaching positions to make the budget, and if so, which ones?

Each decision comes with consequences. For instance, cutting a gifted and talented program would make some families upset. Continued funding of a night school program might require a series of budget reductions in other areas, such as field trips or late buses.

A tough budget choice I remember facing as a school board member was deciding whether to renovate an outdated and undersized school theater. The board members all agreed the theater was in desperate need of an upgrade but decided to put off the theater upgrade to deal with other needs. The high school would soon need a new roof and boiler that ultimately took priority.

3. Select A Superintendent

Selecting a district leader is critically important. So is deciding whether to keep or get rid of one. A good superintendent can make or break a district. The superintendent is the face of the school community and the district's instructional leader.

Superintendents work with the school board to set the vision and goals for the district and then make sure they are achieved. They also hire and manage principals and other district leaders. Superintendents are expected to provide for the safety of children and staff and be good stewards of district finances.

Finding a good superintendent involves looking for leaders who have a proven track record in the areas of importance. Do they have a history of improving student achievement? Have they created a positive school climate and culture? Are they effective communicators?

If a school board chooses an ineffective superintendent, it usually sets a district back and the board ends up having to spend time and money to replace them.

A key distinction of American democracy is that candidates can develop platforms as they see fit, and it's up to voters to decide if a particular candidate will represent their concerns. But when it comes to running a school system, it's important to keep in mind that it involves much more than taking a stance on a few controversial issues.

It's also about making sound financial decisions and implementing policies that ensure all students get the education they deserve. ●

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PANDEMIC-RELATED SCHOOL CLOSINGS LIKELY TO HAVE FAR-REACHING EFFECTS ON CHILD WELL- BEING

By Sandra M. Chafouleas

A global analysis has found that kids whose schools closed to stop the spread of various waves of the coronavirus lost educational progress and are at increased risk of dropping out of school. As a result, the study says, they will earn less money from work over their lifetimes than they would have if schools had remained open.

Educational researchers like me know these students will feel the effects of pandemic-related school closures for many years to come. Here are four other ways the closings have affected students' well-being for the long term.

1. Academic Progress

At the end of the 2020-2021 school year, most students were about four to five months behind where they should have been in math and reading, according to a July 2021 report by McKinsey and Co., a global management consulting firm.

When the researchers looked at the data from fall 2021, though, they found students attending majority-white schools are catching up. But students from historically disadvantaged backgrounds – including those attending majority-Black or low-income schools – are falling further behind. As a result, students attending majority-Black schools are now estimated to be a full year behind those attending majority-white schools.

Differences also can vary by grade level. High schools have been closed more total days than elementary schools. According to a recent news report, 2021 graduation rates dipped across the country, and some education leaders fear future graduating classes may be hit even harder. Schools have scrambled to provide options such as credit recovery to boost graduation rates, leaving concerns about the quality of learning.

College and university leaders have been preparing for first-year students with less knowledge, weaker study habits and more difficulty concentrating than new college arrivals in past years.

2. Social-Emotional Development

Even early in the pandemic, school closings were harming students' social and emotional well-being, according to a review of 36 studies across 11 countries including the U.S. By summer 2021, teachers and administrators in the U.S. said students felt more emotional distress, disengagement, depression, anxiety and loneliness than in previous years.

When schools resumed in fall 2021, large numbers of children in the U.S. had lost a primary caregiver over the previous year to COVID-19. A colleague and I raised concerns about the anxiety and grief those students would likely feel.

In addition, 28% of all parents of children in grades K-12 are "very concerned" or "extremely concerned" about their child's mental health and social and emotional well-being. That's down from a high of 35% in spring 2021, but is still 7 percentage points higher than before the pandemic. Parents of Black and Hispanic students are 5 percentage points more likely to be worried than parents of white students.

Schools and organizations have focused resources on supporting students' social, emotional and mental health. The U.S. Department of Education, for example, recommends, based on research, that teachers integrate lessons around compassion and courage into classroom activities, and that schools establish wellness teams to help students.

States have said they plan to address these needs with federal funds meant to help schools respond to the pandemic. In Connecticut, for example, school districts will hire additional mental health support staff, offer

social-emotional programs and partner with local agencies to increase access to supports.

3. Behavioral Habits

The return to in-person learning has been accompanied by school leaders' reports of increasing student misbehavior and threats of violence. These increases were more likely to be reported in larger districts and where most students had engaged in remote or hybrid learning – rather than in-person instruction – during the prior school year.

Viral social media "challenges" – like memes on TikTok suggesting students "smack a staff member" or skip school on a particular day – certainly aren't helping educators provide safe and supportive environments.

Parents' distress is also affecting their children. Students whose parents are depressed, anxious, lonely and exhausted are more likely to misbehave in school – and that connection grew stronger during lockdown periods when schools were closed.

Meanwhile, news reports show students are missing more school than they were before the pandemic, with more kids out for more than 15 days of a school year. Given links between chronic absenteeism and increased high school dropout rates, researchers warn this increase in missed school could lead between 1.7 million and 3.3 million students in eighth through 12th grade to not graduate on time.

4. Physical Health

Adults have suffered hair loss, sore eyes, irritable bowels and skin flare-ups as a result of the pandemic. One study found that Chinese preschool children whose schools closed during the pandemic were shorter than preschoolers in previous years, though the researchers did not observe noteworthy differences in weight change.

Schools can be a primary place for children to access physical activity and healthy food. Amid school closures, researchers are exploring the effects of losing out on these benefits. During lockdowns in Italy, children with obesity engaged in less physical activity, slept and used screens more and increased their consumption of potato chips and sugary drinks.

In the U.S., 1 in 4 families with school-age children don't have reliable access to food. Abrupt school closures cut off more than 30 million children from free and reduced-price lunches and breakfasts delivered at school.

The U.S. Department of Agriculture, which oversees school food programs, provided waivers to let schools provide meals in ways that fit their students' needs. In Connecticut, for example, researchers found that letting families know about wider availability and pickup sites for to-go school meals boosted the number of students who received food during the pandemic.

Time will tell if the costs of school closings will be worth the benefits. These early indicators show that decisions are not as simple as reducing the physical health risks of COVID-19. A full assessment would consider the effects across all aspects of child well-being, including how diverse populations are affected.

Connection, collaboration and positive interaction are fundamental to healthy childhood growth and development. Working together, schools, families and communities can assess and address every child's needs to reduce the lasting effects of school closings. ●

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WHAT'S THE IOC – AND WHY DOESN'T IT DO MORE ABOUT HUMAN RIGHTS ISSUES RELATED TO THE OLYMPICS?

By Yannick Kluch and Eli Wolff

The International Olympic Committee, a nongovernmental organization based in Switzerland that's independent of any one nation, was founded in 1894. It's a group of officials who supervise and support the Olympics and set Olympic policies about everything from whether break dancing can be added as an official sport to what's required for an athlete to compete on a

team representing a country where they don't normally reside. Because the IOC is often in the news, we asked two sports scholars, Yannick Kluch and Eli Wolff, five questions about what it does and why so many people want it to change how it responds to concerns about human rights and other issues.

1. What Are The Main Things The IOC Does?

The IOC coordinates what's known as the Olympic movement, the technical term for the constellation of committees, federations and other bodies that puts on spectacular sporting competitions every two years.

That includes overseeing the 206 national Olympic committees and 35 international sports federations. The IOC also supervises the specific organizing committees formed for every one of the Olympic Games, seven years before the competitions begin.

The IOC's 101 members, many of whom are former athletes, meet at least once a year to make important decisions.

They're responsible for selecting where future Olympic Games will occur, electing their leaders, choosing new Olympic sports and making amendments to the Olympic Charter. The IOC's own officials select candidates for membership in the committee.

Thomas Bach, a German, has served as IOC president since 2013. He regularly convenes its executive board. He represents the IOC during the Games.

The IOC also oversees several humanitarian initiatives such as Peace and Development through Sport, the Olympic Refugee team and the Olympic Solidarity program. The committee has observer status with the United Nations and promotes a worldwide symbolic ceasefire during the Games known as the Olympic Truce resolution.

2. What's The IOC's Mission?

The IOC has three main roles. The global nonprofit says "its job is to encourage the promotion of Olympic values, to ensure the regular celebration of the Olympic Games and its legacy and to support all the organizations affiliated to the Olympic Movement."

In the Olympic Charter the IOC goes into more detail about its principles, articulating the seven fundamental principles of “Olympism.”

These include placing “sport at the service of the harmonious development of humankind, with a view to promoting a peaceful society concerned with the preservation of human dignity,” promoting the “practice of sport [as] a human right,” a commitment to political neutrality and shielding athletes from discrimination.

The IOC is also supposed to protect the ethics and integrity of the Olympic movement, prevent athlete abuse and harassment and generally make competitions safe, fair and accessible for all qualifying competitors.

3. How Does The IOC Get Money, And Where Do Those Funds Go?

About three-quarters of its funds come from the sale of the rights to broadcast the Olympic Games. It gets most of the rest through marketing deals. The IOC collected more than US\$5 billion for the 2014 and 2016 Games, the most recent data it has made available.

Because the IOC operates as a nonprofit, its leaders do not manage this money as they might if it were a private company. Instead, the committee distributes 90% of its revenue to national Olympic committees, Olympic athletes and other entities, reserving the rest of the money to cover operational expenses.

The IOC also provides half of the funds used by the World Anti-Doping Association, established in 1999 to research and monitor the use of prohibited medications and treatments by athletes. Governments provide the rest of the association’s funding.

Olympic athletes, especially those who compete on U.S. teams, get very low compensation for their participation in the Games, and they are limited in terms of their ability to earn money from marketing deals. Bach, although he is technically a volunteer, earns about \$244,000 a year, and other IOC leaders are paid as well.

4. What Are Some Of The Controversies The IOC Faces?

The IOC’s response, in 2014, to proof that the Russian government was sponsoring systematic doping of its athletes has led to widespread criticism for being too lenient and has sparked controversy ever since. To punish the Russian government, without sidelining all Russian athletes from the Games, the IOC permits them to compete as “Olympic Athletes from Russia” without allowing the use of the Russian flag or anthem.

In 2022, doping remained a problem. That became clear when belated test results showed Russian figure skater Kamila Valieva had used a banned heart medication several weeks before she competed in the Olympics. The IOC’s response to this news appeared to disappoint all sides.

Separately, the IOC has failed to stop corruption in the bidding process for hosting the Olympics, a longstanding problem most recently exposed with the 2016 Olympic Games in Rio de Janeiro and the Olympic Games held in Tokyo five years later.

Human rights groups have expressed outrage over the IOC’s decisions that allowed China to host the Olympic Games in 2008 and 2022.

China faces widespread accusations, including from the U.S. government, that it oppresses Uyghurs in China’s western Xinjiang region. This abuse is increasingly considered to constitute genocide.

Many athletes and other people object to China’s repression of the Tibetan people. China has also drawn widespread criticism for cracking down on free speech in Hong Kong.

The United States and several other countries cited these concerns in announcing a diplomatic boycott of the 2022 Beijing Olympics.

Interestingly, the committee states that “at all times, the IOC recognises and upholds human rights” on its website.

The IOC has also come under fire for its Rule 50.

Originally adopted in 1975 as Rule 55, it now states that “no kind of demonstration or political, religious or racial propaganda is permitted in any Olympic sites, venues or other areas.” This is the rationale for why the IOC bars

athletes from engaging in protests while they compete or during medal ceremonies.

Time and again the IOC has relied on Rule 50 to justify its commitment to what it calls “political neutrality” as a fundamental principle of Olympism – even when that commitment has contradicted one or more aspects of its mission.

5. Is The IOC Neutral And Apolitical?

Well, it depends on whom you ask.

“The position of the IOC must be, given the political neutrality, that we are not commenting on political issues,” Bach said, when asked about the abuse of Uyghurs by China’s government at the outset of the Beijing Winter Games. “Because otherwise, if we are taking a political standpoint, and we are getting in the middle of tensions and disputes and confrontations between political powers, then we are putting the Olympics at risk.”

In 2020, likewise, Bach wrote that the Olympics “can set an example for a world where everyone respects the same rules and one another.”

Human rights experts and activists around the world, however, have called the IOC’s position to be apolitical a myth and urged the committee to take a stronger stance on human rights abuses.

Shortly before the Tokyo Games began, in the summer of 2021, more than 150 experts on sports, human rights and social justice – including both of us – published an open letter. In it, we called on the IOC to demonstrate a stronger commitment to human rights and social justice.

“Neutrality is never neutral,” we argued. “As a reflection of society at large, sport is not immune to the social ills that have created global inequities. ... Staying neutral means staying silent and staying silent means supporting ongoing injustice.” ●

‘THE NEXT FRONTIER’: SUPREME COURT CASE COULD OPEN DOOR TO RELIGIOUS CHARTER SCHOOLS

By Matt Barnum

An upcoming Supreme Court decision about school vouchers could have a broader impact in the decades ahead, creating an opening for Christian, Jewish, or other religious charter schools.

In the coming months, legal observers expect the U.S. Supreme Court to reject a Maine rule barring religious private schools from participating in its voucher program. That decision would definitively establish that states offering money to private schools have to allow religious schools into those programs, too.

Some legal scholars say that raises a new question. If a state can’t keep a private religious school out of its voucher program, can it stop a religious school from participating in its charter school program?

“Charter schools are the next frontier,” Preston Green, an education law professor at the University of Connecticut. Compared to school vouchers, “this could actually be more of a win for religious entities if they can get it.”

The idea has the potential to redefine charter schools and open up a major funding source for religious schools, which have lost students over the last few decades. But the concept faces a long legal road, a host of practical questions, and opposition from major charter school groups.

“The bottom line is: Charter schools, as public schools, can never be religious institutions,” said Nina Rees, president of the National Alliance for Public Charter Schools. “And anyone who says differently is flat-out wrong.”

For Two Decades, The Legal Ground Has Been Shifting To Make Religious Charter Schools Possible

The Supreme Court has grown increasingly sympathetic to the idea of using public funds for religious education. “That shift in a two decade period really is an astonishing transformation,” said Justin Driver, a Yale law professor who wrote a book about education law.

The case now before the Supreme Court involves a Maine program, dating back to the 19th century, that pays for students in rural areas without a nearby public high school to attend another school of their choice. In 1980, the state barred religious schools from participating, citing concerns about the separation of church and state.

In 2002, though, a closely divided Supreme Court said it was OK for states like Maine to issue vouchers that parents could use at religious schools.

Eventually, the court went further. In successive cases in 2017 and 2020, the justices said that states could not exclude religious schools from a generally available program. Doing so, they concluded, amounted to religious discrimination.

These rulings haven’t affected many states yet. But one justice has hinted that the decisions could have broader implications down the line. In his dissent in the 2020 case, Justice Stephen Breyer asked, “What about charter schools?”

Garnett, the Notre Dame law professor, has one potential answer. It’s well established that the government cannot run a religious school, but a private entity can, she said in a recent report for the Manhattan Institute, a conservative think tank. Despite being defined as “public” in state laws, Garnett continues, charter schools are not run by the government; they are run by private, unelected boards, typically organized as nonprofits.

That means, she says, charter schools can be religious, and state laws prohibiting religious charter schools — in place in every state where charters exist — are vulnerable.

“At least based on the court’s reasoning, it would be difficult to exclude religious institutions that would want to have explicitly religious charter schools,” Joshua

Dunn, a University of Colorado Colorado Springs political science professor, said in a recent podcast.

Helping their case: despite the “public” label, the legal system remains unsettled on exactly how public charter schools are. For instance, a federal court recently ruled that a North Carolina charter school is not a “state actor,” although the case is still being appealed.

If religious charter schools clear legal obstacles, there are also practical and political reasons that they might be appealing to school leaders.

Charter schools are typically more generously funded than voucher programs, and are allowed in many more states. At the same time, many private religious schools, particularly Catholic schools, have been losing students for decades. For religious education providers that might otherwise face closure, a charter school structure could make sense.

“The situation, for many religious schools, is a matter of life and death,” wrote Garnett. The politics of school choice are also changing in a way that might benefit the idea of religious charter schools. Some school choice advocates on the right are eager to embrace culture war issues — opposition to teaching “critical race theory” and about LGBTQ people — to expand appeal in red states. Religious charter schools could be one way to do that.

“It’s now homeschooling, faith, values, and anger at the public-school establishment that dominate talk of school choice,” Rick Hess of the American Enterprise Institute wrote in a piece urging charter advocates to consider religious charters.

There have been early signs of interest. Under Education Secretary Betsy DeVos, the Trump administration’s education department said in 2020 it would allow religious organizations to apply for a federal charter school grant program, although the administration didn’t go so far to say that teaching religion was allowed.

Religious Charter Schools Are No Sure Thing

But religious charter schools are far from a foregone conclusion.

Perhaps the biggest challenge is the fact that in America, public schools can't be religious, and charter schools are still defined in state statute as public. They also act as public in some key ways. Charter schools have to take state tests, can't discriminate in admissions, and often are subject to some form of public records laws.

"You have to make the argument that these schools are actually private, not public, looking at how they are operated," said Green.

Charter school groups have argued that the schools are indeed public for legal purposes and that the recent Supreme Court cases don't apply to charter schools.

"All charter schools are public schools," said Rees of the National Alliance for Public Charter Schools. "Charter schools have never been able to, and cannot now, endorse a specific religion." Religious charter schools would also open up other legal issues. Could such schools admit students based on religious affiliation? Could they bar students or teachers based on sexual orientation and gender identity?

A ruling requiring states to approve religious charter schools also would be much more far-reaching than the recent cases involving private schools. Even a conservative court might be reluctant to sweep aside dozens of states' charter school laws that ban religious association. "A charter school would be a much harder case for the court," acknowledged Garnett.

Then there are the political and practical barriers. Even if legally allowed, charter leaders may reject the idea. Legislators, especially in blue states, might try to put up other legal barriers or limit all charters.

"There would be a lot of pushback amongst a lot of folks in the charter space around this idea," Karega Rauchs, president of the National Association of Charter School Authorizers, said at an event about religious charters.

Finally, it's not even clear how many religious school operators would want to start a charter school, since they come with a slew of additional regulations. Historically, private schools leaders have blanched at any limits put on their admissions rules in particular.

"Some religious providers would undoubtedly want to become charter schools," said Garnett. "Many would not and they would go it alone." ●

BIDEN SUPREME COURT NOMINEE, PRAISED FOR 'STELLAR CIVIL RIGHTS RECORD,' COULD FACE CONFLICT ON UPCOMING HARVARD ADMISSIONS CASE

By Linda Jacobson

Updated April 7

The Senate on Wednesday confirmed Judge Ketanji Brown Jackson to replace retiring Justice Stephen Breyer on the U.S. Supreme Court. With a vote of 53 to 47, Jackson picked up support from three Republicans — Sens. Susan Collins of Maine, Lisa Murkowski of Alaska and Mitt Romney of Utah.

According to the White House, Jackson, who will be the first Black woman on the court, watched the vote with President Joe Biden.

President Joe Biden made history Friday when he nominated federal appeals court Judge Ketanji Brown Jackson to be the first Black woman on the U.S. Supreme Court. If confirmed, however, she'll likely face pressure to sit out one of the most important cases involving race and education in recent years.

In 2016, she recused herself from a sexual misconduct case against the U.S. Department of Education because she has served on the Board of Overseers of Harvard University, where she previously graduated magna cum laude and served as editor of the Harvard Law Review. Prior to her confirmation hearings for a federal judgeship, she explained in a questionnaire that she "was serving on the board of a university that was evaluating its own potential response" to sexual assault guidelines.

That rationale is likely to be revisited if she sits on the court next term when it hears an upcoming case in which the university is a defendant, one of two challenging race-based admissions policies. Plaintiffs

argue that affirmative action policies at both Harvard and the University of North Carolina discriminate against Asian Americans by giving preference to Black and Hispanic students.

Charles Geyh, an expert in judicial conduct at Indiana University, said Jackson's first responsibility would be to ask herself whether she can be impartial. But the degree of the board's involvement in creating and implementing the policy also factors into the decision.

"The more involved she was, the more a reasonable person would look at this and say, 'I don't know if she can weigh this thing in an even-handed way,'" he said. "It wouldn't shock me to find that some senators will try to leverage that."

Students for Fair Admissions v. Harvard is one of several high-profile education cases the court will hear in coming years. Other potential issues expected to work their way up from the lower federal courts involve religious school choice, the rights of transgender students and the public status of charter schools.

Jackson, who attended a Miami-Dade high school, is the daughter of public school educators, whom she thanked Friday during remarks at the White House.

"My father made the fateful decision to transition from his job as a public high school history teacher and go to law school," she said. "Some of my earliest memories are of him sitting at the kitchen table reading his law books. I watched him study. He became my first professional role model." Her father served as a school board attorney for the Miami-Dade County Public Schools and her mother was a principal at one of the district's magnet schools for 14 years.

Despite her strong public school connections, Jackson has served on boards of private schools in the D.C. area — Georgetown Day School and a Christian school in Maryland that has since closed.

The Montrose Christian School opposed abortion, another issue Jackson could face on the court. The school's mission statement also said marriage should be limited to those between a man and a woman. Questioned by Sen. Josh Hawley, a conservative Republican from Missouri during confirmation hearings last year on her nomination to the appellate court, she responded that she did not "necessarily agree with all of

the statements ... that those boards might have in their materials."

None of those potential conflicts came up Friday, however, when Biden formally announced her nomination.

"Her opinions are always carefully reasoned, tethered to precedent and demonstrate respect for how law impacts everyday people," he said. "It doesn't mean she puts her thumb on the scale of justice one way or the other, but she understands the broader impact of the decisions."

If confirmed, Jackson won't change the ideological make-up of the court, where conservatives have enjoyed a supermajority since 2020. That means on a major educational issue like school choice — where liberals typically oppose public funds for religious schools — the addition of Jackson would be unlikely to affect the outcome.

But as the first Black woman on the court, Jackson would likely be more attuned to issues of race and gender as reflected in school dress codes or restrictions on Black hairstyles like braids, and she might see "discrimination that maybe another justice might not," said Preston Green, an education professor at the University of Connecticut.

Jackson would join the court at a time when conservative justices have signaled they're open to rolling back abortion rights and have already moved in the direction of more religious freedom.

"This court is really undoing a lot of decisions that people have thought were off the table," Green said.

'So Long Overdue'

Prior to her service on the D.C. Court of Appeals, Jackson served as a trial judge on the Federal Court in Washington for 8 years. Biden called Jackson's experience as a trial judge a "critical qualification," and civil rights organizations celebrated the nomination.

In 2020, she blocked the Trump administration from allowing child welfare agencies receiving federal grants to turn away LGBTQ youth and families. And in 2018, Jackson ruled that the Trump administration failed to follow proper procedure when it sought to end funding for teen pregnancy prevention.

“I’m elated. It’s groundbreaking, and so long overdue to have a Black woman on the Supreme court,” said Sasha Buchert, senior attorney at Lambda Legal, which focuses on the rights of LGBTQ students and adults. “She has a stellar civil rights record.”

Buchert is among the legal experts who expect a case involving the rights of transgender students to reach the court at some point. The 11th Circuit Court of Appeals, which heard oral arguments in a Florida case last week, could clash with the 4th Circuit, which ruled in *Grimm v. Gloucester County School Board* that a transgender boy could use the bathroom that matched his gender identity. The Supreme Court turned down an appeal of that case, but conservative Justices Clarence Thomas and Samuel Alito said they would have heard it.

Joshua Dunn, a political science professor at the University of Colorado, Colorado Springs, said the court also could ultimately confront the issue of whether transgender girls should be able to play women’s sports.

“I don’t see any way that they can dodge that one,” Dunn said. “There will be some split circuit decisions sooner rather than later.”

Hecox v. Little — a challenge to Idaho’s ban on transgender girls in women’s sports — is currently moving through the 9th Circuit. Long considered one of the most liberal appellate courts, the circuit court has shifted recently because of appointments by former President Donald Trump. The Alliance Defending Freedom, a conservative Arizona-based law firm, is also expected to appeal the dismissal of a case challenging a Connecticut policy that allows transgender girls to play in girls high school sports.

Dunn said it’s hard to predict how justices would rule in such a case, adding that if Jackson is confirmed, all three liberal members of the court would be women.

The conservative members, he said, could be “suspicious” of ruling that bans like Idaho’s should stand, but added he could see “some of the liberal wing of the court having concerns” about transgender girls in sports.

The fact that Justice Neil Gorsuch, a conservative, wrote the 2020 opinion in *Bostock v. Clayton County* could be a factor in any future cases involving LGBTQ rights. In that case, the court decided that federal law prohibits

employment discrimination against LGBTQ workers. But Buchert said the ruling also left open the door for restrictions outside the workplace.

A ‘Minimalist Course’

Before the end of the current term, the court will issue an opinion in *Carson v. Makin*, which challenges a Maine law banning some religious schools from receiving public funds for tuition assistance. How the court rules in that case could determine whether Jackson might face a similar school choice issue if she’s confirmed.

Experts expect the court to rule in favor of the plaintiffs, who say the state is discriminating against religious families. “My sense is that [Chief Justice John] Roberts’s ability to keep the conservatives on the minimalist course that he established is over,” Dunn said, but added that the court could also leave open the possibility for similar cases in the future.

A decision in a 4th Circuit case, which focuses on whether a student can sue a charter school under the federal equal protection clause, is expected this spring.

Jackson won’t be on the court to hear a church-state separation case this term in which a football coach argues he should be allowed to pray publicly after games. But when she clerked for Justice Stephen Breyer, the Supreme Court justice she’s in line to replace, the court ruled that student-led prayer at football games violates the First Amendment.

In choosing Jackson, Biden passed on California Supreme Court Justice Leandra Kruger, and J. Michelle Childs, a federal district court judge in South Carolina, who not only went to public K-12 schools like Jackson, but also earned a law degree from the University of South Carolina.” ●

VISION, YOUR HOUSE IN ORDER, AND AN EXTRA \$20K: WHAT IT NOW TAKES TO HIRE A SUPERINTENDENT

By Stephen Sawchuk

It's not every day the school board president meets the superintendent's plane at the airport.

But that's what happened last year when Jonathan Cooper, the superintendent in Mason City, Ohio, returned after interviewing for the top gig in a Fort Collins, Colorado district. Word had trickled out due to that state's hiring rules—and Cooper's school board was determined to keep him.

Cooper shrugs, a bit sheepishly. "Boards are willing to go the extra mile. For us, that's how it was," he said. "I mean, we had newspapers here with headlines saying, 'Will the Cooper family be leaving or staying?'"

It's a small anecdote that gets at how competitive the hiring process has become for top leadership positions.

For all the news stories on staffing challenges for bus drivers, paraprofessionals, and teachers, the pandemic has also taken a toll on the top job in school districts. National surveys indicate that about a quarter of superintendents say they're at least considering leaving. Actual turnover rates, at least in the nation's largest districts, match that figure.

It all translates to more districts looking to hire—even as hiring experts say the applicant pools for jobs are thinner than they typically are.

Plus, says George Thompson, the past president and director of strategic initiatives for the Schlechty Center, a Louisville, Ky.-based education leadership nonprofit that runs two networking programs for superintendents, the pandemic seems to be changing the nature of the pipeline itself.

Given the pummeling they've gotten over the last two years, seasoned district leaders are warier about

jumping to higher-profile—and potentially more troubled—gigs.

"A lot of superintendents are saying, maybe those days of aspiring to be bigger and better are over," Thompson said. "They're looking for communities where there is a really good, stable board that's not turning over based on politics, and a lot of times those are in communities where there's been less divisiveness."

The pressures will require school board leaders to think differently about how they hire, and the types of candidates they look at. Here are some of the experts' broad ideas about how to think differently about the hiring process.

Be Clear About What You Want.

Board-superintendent relations tend to founder over a few key issues, often the direction and vision of the board. Being clear about those things can help get a pool of applicants more well matched to what board members want.

"Are you going to want someone to create a new vision for the future? Or someone who's going to lead in the direction of a vision that's already been established? Often that's where things go crosswise," said Thompson. "One thing we worry about is that with all that's going on with the pandemic, will it accelerate the rush for candidates without that clear thinking?"

Some boards tend to favor either the technical skills of the job, like managing budgets and personnel, while others—usually those that are looking to change direction rather than reinforce a set of beliefs—prefer a more adaptive set of abilities, said Sue Rieke-Smith, the superintendent of the Tigard Tualatin district southwest of Portland, Ore.

Rieke-Smith said both she and board members at the Tigard Tualatin district, which she began leading in 2018, focused during the interview process on questions about student outcomes, which students weren't performing as expected, and what kinds of changes might need to be made to start seeing progress.

"I had many conversations prior to coming on: When you say you want equity of outcomes, what does that look like? What are you prepared to do?" she said.

Get Your Own House In Order.

Unlike just a few years ago, board drama now unfolds in real time. Zoom recordings and YouTube mean that when meetings go haywire, the entire world can see it in seconds. Potential candidates are watching and deciding whether those are districts they really want to represent.

Take for example, Douglas County, Colo., where a new crop of board members recently fired a well-respected superintendent—and have since been embroiled in a dispute over whether those plans violated sunshine laws. Or Spotsylvania County, Va., where last November several board members voiced support for burning books they'd ordered removed from the library. (The book policy was later rescinded.)

Such incidents have not only captivated the mainstream media, they also point to broader signs of dysfunction on the boards and potentially in the communities, the hiring experts said.

"Prospective superintendent candidates are going on social media and seeing how the board is dealing with these tough issues. While lots of superintendents are quitting and retiring early, more are saying: I'm going to be particular about where I go, and I'm going to vet it really carefully," said Thompson of the Schlechty Center.

Look Beyond The Pool Of Sitting Superintendents.

Most board searches start off by trying to find someone who's already had superintendent experience. But those preferences are not well matched to the current market, said Robert Villanova, a professor and the director of the executive leadership program at the University of Connecticut's Neag School of Education.

Interest in superintendent certification programs at his university has remained strong, Villanova said, despite the clear challenges of the job. On the other hand, seasoned leaders in the state are operating under a devil-you-know logic: They increasingly seem reluctant to leave good—or at least manageable—situations.

"You get fewer superintendents who want to pick up and move from their district," said Villanova. "I've been trying to convince the boards that there are a number

of people in the number 2 spot who are completely qualified and certified."

Such sentiments are echoed by other hiring experts. "We try to say that there's a lot of really good aspiring superintendents—the assistants and the deputies. They're hungry, they're smart, and they're humble," said Glenn "Max" McGee, of Hazard, Young, Attea, and Associates, a hiring firm that specializes in superintendents.

And don't overlook strong interim talent, either. Sometimes, newly elected board members feel like they have to come in and begin by changing things. But if a district already has a strong interim superintendent in place—or a deputy who is already well aligned with the board's vision—why put them through the ringer of a search process?, points out Julia Rafal-Baer, a co-founder of the ILO Group, a women-led education leadership consulting organization.

"It just does such a disservice to the person, and it's really bad for the community. It puts the community at odds with each other when the most important thing they could be doing is showing unity and that they have a real vision," she said. "Not enough people are calling out this reality that in this stage of the pandemic, the last thing most communities want is a whole lot of churn."

Newly minted superintendents do face some unique challenges that board hiring committees should be sensitive to. First-time superintendents often struggle with the complexity of the budgeting process and school board relations in particular, Villanova said. But there's an opportunity, he added, for boards to be honest about the kinds of support both parties will need to make a new arrangement work.

Hire Women.

One of the consistently depressing findings about the superintendency is its incredible gender imbalance: the percent of women leaders rose modestly from 13 percent in 2000 to just 27 percent nearly two decades later, according to surveys from AASA, the School Superintendents' Association.

Even that progress appears to be slipping during the pandemic, and the fact that many districts continue to put a premium on hiring sitting superintendents means

this pattern tends to be self-reinforcing because of how heavily male-dominated the profession is.

Yet women are far overrepresented in the educational administration programs that typically qualify educators for the top chair. (In about half the states, an education administration degree suffices, while in other states, candidates have to get a special superintendent credential.)

In 2018-19, women made up 68 percent of those who received a master's degree in educational administration and 64 percent of those who earned doctorates, according to federal data.

When you add it all up, it means there's a large number of women who are talented, qualified, and even credentialed, but who aren't in the hiring mix. Fixing that is a challenging structural problem, Rafal-Baer said, but the solutions need to begin with school boards. They can start with steps like asking the hiring firms they contract with to include equal numbers of women candidates, and thinking creatively about contracts that would attract women candidates. And they can make the job more attractive by modeling good governance.

"One of the first reasons we'd find why women were not putting themselves forward for the job was that they had concerns about governance structure, or about how the board was approaching decisionmaking," she said.

Be Decisive.

During and after his interviews, Cooper, the Ohio superintendent, found his phone pinging nonstop for days, both from well-wishers in the Centennial State and from colleagues in Ohio urging him to stay. Both jobs were great and came with good benefits. So what, ultimately, was the tipping point?

It wasn't the contract details or the money; it came down to some last-minute dithering among the Colorado board members that delayed things too long. Cooper chose to stay put in Mason City.

"There needs to be a level of recognition that in our roles, we can't just mess around with our careers or burn our bridges," Cooper said. "Not when you're in a high-profile position like this. This is a life decision, not a money decision."

Bottom line: Once you have a great candidate, don't wait around.

Open Your Pocketbook.

Ok, while money clearly isn't everything, it's not nothing, either.

Hiring experts warn that most boards will have to pay about \$20,000 more than they want to spend, and if they want a sitting superintendent they'll likely pay a premium on top of that. "It's supply and demand. It's just basic economics," said McGee, the hiring expert.

And some recent big-city contracts suggest that new hires are being wooed at least in part by a crop of new or strengthened perks. Sabbaticals, deferred compensation, wellness days, and moving expenses variously crop up in new agreements inked in Oakland, Calif., Los Angeles, and Atlanta.

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'THIS IS AMERICAN HISTORY': THE HALL OF FAME RECONSIDERS RACE

Dave Winfield and Ken Griffey Jr. will be among the advisers for a permanent exhibit that re-examines the contributions of Jackie Robinson and others.

By Tyler Kepner

Jackie Robinson lived only a decade as a Hall of Famer. He suffered from diabetes and died of a heart attack at age 53, in 1972. Robinson had integrated the major leagues a quarter-century before, and he never stopped striving for social justice.

“I marvel at how much this man did in such a short period of time,” said Doug Glanville, a former major league outfielder and an ESPN analyst, who gave his son the middle name Robinson. “He lived, like, five lifetimes. He was in his 50s when he passed away, and you sit there and go, ‘How in the world did he do all this? How did he take all this on?’”

Glanville teaches a class on sports and society at the University of Connecticut and assigns students a letter Robinson wrote to the Rev. Dr. Martin Luther King Jr., in 1960, urging King to help quell the infighting between the Southern Christian Leadership Conference and the N.A.A.C.P. Robinson co-founded a Black-owned bank in Harlem, served as a columnist for New York newspapers and wrote in his autobiography that he could not stand and sing the national anthem.

His contributions, in other words, went much deeper than suiting up for the Brooklyn Dodgers at Ebbets Field on April 15, 1947. As Major League Baseball celebrates the 75th anniversary of Robinson’s debut, his legacy is getting a thorough re-examination at the Hall of Fame in Cooperstown, N.Y.

The Hall will announce on Friday that it has begun a two-year project to create a permanent exhibit on Black baseball. This will replace the current one — Ideals and Injustices — which was installed in 1997 to coincide with the 50th anniversary of Robinson’s debut.

“We know that there’s a greater depth to these stories that probably wasn’t told in the past, including more Black perspectives and interpretations,” said Josh Rawitch, the president of the Hall of Fame.

“If you think about the research that’s been done and the way that society now understands the racism that existed both before and since Jackie Robinson, those are all really important things that in some ways are tackled in the current exhibit but in other ways probably not done to the extent that they can be.”

The advisory board for the project will include several former players — Glanville, Adam Jones, Dave Stewart and the Hall of Famers Ken Griffey Jr., Barry Larkin and Dave Winfield — as well as historians and representatives from the Negro Leagues Baseball Museum in Kansas City, Mo., and the Players Alliance, a nonprofit made up of current and former players. Rawitch has also spoken with current players, like Dee Strange-Gordon of the Washington Nationals, who

could be involved. The Hall — located in a mostly white community and with a mostly white staff — has also created a new, full-time position for someone to help coordinate the project from a different perspective.

“We have to be able to tell the story authentically,” Rawitch said. “So, with that, we are searching for a curator who’s lived the experience either through their race, through their studies or through their understanding of what it was like to experience what these players experienced.”

Winfield pointed out that the Hall of Fame had inducted many more Black players and officials since 1997 — more than three dozen, including pioneers like Bud Fowler, Minnie Miñoso and Buck O’Neil in this year’s class — and said it was time for a fresh look.

“The biggest thing is that so much more history has been researched, revealed, unearthed — and this is American history,” Winfield said. “Of course it’s baseball history, but baseball is an integral part of America. You hear many times now that people are trying to erase or whitewash history, and that’s not good. It’s very important that worthy people can take their place and be recognized.”

M.L.B. officially recognized the Negro leagues as major leagues in late 2020, and the Hall has grappled with how to acknowledge the efforts by some of its inductees to uphold the color line. It has kept up all of the plaques, choosing context over erasure: A sign near the gallery entryway now reminds visitors that “enshrinement reflects the perspective of the voters at the time of election.” The museum and the library, the sign adds, provide deeper analysis — the shining and the shameful — of the inductees’ careers.

Such accounting will be essential to the new exhibit, and with more than 150 years of history to review it is a massive undertaking. Glanville said he preferred the term exploratory to advisory, because there is so much still to learn about the Black experience in baseball, so much that continues to evolve.

“There’s still a common thread, even in 2022,” Glanville said. “Pioneering efforts, whether it’s Ketanji Jackson, whatever — there’s a lot of barbed wire, there’s a lot of pain, there’s a lot of familiarity to some of the hurdles that Robinson faced.

“And at the same time, there’s a lot to celebrate, a lot of hope. Because when you are a first and you are opening certain doors, you see possibilities. You see the chance to bring everybody with you through the best of what we profess to celebrate — at least foundationally — of equality and what our country was founded on.”

Rawitch said the exhibit would have a digital and traveling component for those who cannot get to Cooperstown. It will highlight not just hardship, as Glanville suggested, but also the ways that the Black experience has enriched and enlivened baseball — a useful reminder as the sport seeks to increase Black participation numbers in the majors that have fallen sharply since their peak in the 1980s.

That was Winfield’s prime, and he said he hopes the display will feature video of stars like Griffey and Bo Jackson — and, yes, himself — climbing walls that seemed unscalable, of Rickey Henderson stealing bases at rates unheard-of today, of Dave Parker rounding the bases with a flair all his own.

“Speed, style, power — just a unique style of play,” Winfield said. “You tell people what a lot of these players accomplished, it’s almost incomprehensible.”

That is the Hall of Fame’s mission, reflected again in its newest project: to make the incomprehensible come to life, to contextualize and glorify the game-changers. Jackie Robinson is just one of many. ●

DOUG GLANVILLE SPEAKS HIS MIND ON BASEBALL AND ITS FUTURE

The Penn alum and Phillies fan favorite says baseball should look more like America.

By Sandy Smith

Former Phillies centerfielder Doug Glanville is one of those rare pro athletes who won’t need a ghostwriter to write his autobiography.

In fact, he’s already done quite a good job of telling the story of his major-league career with his book *The Game from Where I Stand* (2011), his chronicle of the day-to-day experiences of a major league ballplayer, namely, himself. The book grew out of columns he wrote for *The New York Times* while playing in the major leagues. And he produced the columns and the book while maintaining the grueling schedule of a big-league ballplayer.

Glanville has no trouble expressing his views on baseball or on any other subject that interests him, which serves him well as a sports commentator for ESPN and NBC Sports Chicago, a writer for *The Athletic*, the *Times* and other publications, and an adjunct professor at the University of Connecticut Neag School of Education.

Clearly, Glanville has made the most of his Penn education. (He graduated in 1993 with a bachelor’s degree in systems engineering.) That education also made him a rarity in the world of pro baseball: only four other Penn grads have played in the majors since 1951, and he was the first Black Ivy grad to do so. We got together to talk about his life and career prior to his appearance at his alma mater Monday and Tuesday as a Kelly Writers House Fellow.

I was working at Penn when you were an undergraduate there. I remember you wrote a paper, I think it was your senior engineering thesis, on [SEPTA’s] Regional Rail.

Yeah. It was kind of a two-parter, because I had a feasibility study of the stadium as well, building one [a

possible Phillies ballpark] at 30th Street, but I went into it learning about the Regional Rail system, the difference between it and the subway and all these things. And I keep in touch with Dr. [Vukan] Vuchic [a Penn engineering professor who is an expert on transportation and advised Glanville on his paper; he was one of the faculty members whose work I promoted in Penn's communications office] as well.

But one time [Phillies General Manager] Bill Giles called me into his office while I was playing. Sort of out of nowhere, the phone rings, and they said I gotta go see Bill Giles. I thought it was trading [him to another team], but he actually called me to ask me if he could get a copy of my paper because he heard it had some good transportation ideas in it.

Had you intended to have teaching as your ultimate career even when you were in college? Well, no. I can't say that I had a plan. I operate more organically, and things just kind of come along, and I say, Okay, this might be an opportunity to explore.

Teaching was in my family, for sure. My mom taught math all through high school and spent many years as a respected educator. And my dad was an educator in Trinidad and Tobago before he moved to the United States. So they both had this perspective and sensibility around education and how to communicate. So I paid a lot of attention to how they delivered and shared information in various settings.

So it was kind of in the blood when I had this opportunity to teach and take some of the things I wanted to share about my career, but mostly through the lens of how baseball and sports can help us connect with society at large. I felt it would be a great fit.

So that's where my teaching comes from. ... And I've certainly learned as much as I teach, and so the students have been great educators for me as well.

Speaking of education, Ivy League-educated athletes in the pros tend to be rare. Did you find being a Penn grad playing professional baseball led to any stereotyping assumptions?

For sure. I would say all players carry with them some label that they're trying to shake, so I don't think it was exclusive to me. But what was unique to being the Ivy League guy, I guess, is the label of being too smart for your own good, or that you have all these other options

and you're not going to be that committed or focused on this craft of baseball. The stereotype that you may not be able to get along and talk to other people because you're at this other level, so to speak.

So there's a lot of perceptions I had to shake, some of which started from the time I was being looked at as a potential draft pick. And I think it was tough, but over time, [my education and background] became more and more assets, especially once I got to the big league. Because I think a lot of parents that had young fans started to see it as a great example — that you can be an athlete and finish college are things that parents care about. So I got more positive [response] from the fans. And I think that gave me a lot of confidence that I belonged there. But it took some time to shake that off, to prove I had a great work ethic and that I was going to be committed, that I really wanted to do this and that I had this toughness to endure.

We just celebrated the 75th anniversary of Jackie Robinson's breaking the color barrier in Major League Baseball. And yet it seems that interest in the game is at a low ebb among young Blacks in the United States. Does that trouble you at all? Do you see this as something that baseball should be addressing, and if so, is it addressing it? It's troubling in that I always wanted to see my presence as part of a way to celebrate the fandom of everyone, and [all people] are represented everywhere, in leadership and in fans across the country and the world. I think that first of all, it grows the game. You have a chance to have all these people from different walks of life celebrate the game and see the game in their own image. And so in baseball, like in many other sports and businesses in America, the challenge is [overcoming] the homogeneity that could lead to a lack of diversity not only in image, but lack of diversity of thought, of perspective, of experience, all of which I found valuable in a team setting when you are playing another team.

And I think baseball is aware of this. I do think they try many things. Tyrone Brooks [senior director of the Front Office and Field Staff Diversity Pipeline Program at Major League Baseball] has done a lot of good work on the behind-the-scenes diversity, thinking about how to create opportunity for everyone to support the game. But I think the fundamental challenge is when you have ownership that at the highest level is not diverse, and that's what informs and rolls down into the other ranks.

In terms of interest, I don't think there is one reason why the percentage of Black players in Major League Baseball is at a near low. I think it's a combination of a lot of factors and trends that go back decades. There are still so many opportunities, but I think it's a bigger challenge now than it was even 10 years ago because there are so many other distractions, so many other interests...there's so much entertainment out there. And getting into [major league] baseball [as a player] is tricky because you have to go through these levels. It's not like you're a top college player that goes and gets drafted right into the NBA system. You have to go through the minor league system. And if you have middle management that's not sensitive to your experience, you'll just get stuck, you disappear.

It's like me going back to my old high school when I was still in the minor leagues, and people would ask me, "When are you going to make the pros?" Well, I am, but [I] just fell off. You're in a minor league somewhere and nobody knew where you were. And that's a lot of power of leadership, of managers and coaches, over your future, where you can literally be sent into an abyss if you're not progressing.

I think that the game would be better served by being representative of everybody. I think that grows the game. I think it creates a special kind of sensitivity that makes the game better not just on the field, but off the field. ●

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How to Keep Your Kids Academically Engaged During the Summer

Help your kids stay sharp even as they toss textbooks aside for the season.

By **Laura Scudder**

That's right: summer break. While adults must keep up with the hustle and bustle of their everyday lives, kids

get to take time away from the classroom. But for some, this time outside of school can contribute to what's called summer slide—i.e., the learning loss students experience during their summer vacations because they're not in a classroom.

According to the National Summer Learning Association, nine out of 10 teachers spend at least three weeks re-teaching lessons at the start of the school year. It's an annual concern, made even worse this year because of the pandemic. Remote school affected learning in a tremendous way, with the impacts still felt by students.

"I think because of COVID, kids got out of practice sitting at a desk, knowing what they had to do, focusing long enough to get it done, turning it in, and staying organized.

They just really struggled with those things coming back from the pandemic," says Ann Dolin, president of Fairfax-based learning service Educational Connections and a former longtime teacher at Fairfax County Public Schools (FCPS).

Socioeconomic status is also at play when it comes to summer slide. During summer vacation, loss in reading skills increases as household income level decreases, according to Fairfax County Public Library (FCPL).

Luckily, there's more than one way to keep your kid's mind sharp this summer in Northern Virginia, from signing them up for one of the region's educational summer camps to taking them to the library.

Forget The Term "Summer School."

Educators note it's important to frame summer learning in a way that both keeps it engaging for your child and does not make them feel like they're being left behind.

"We try not to think about what we do as 'summer school.' That term is really outdated; it has negative connotations, and that's why years ago, we began to refer to our programs as summer learning," says Levi Folly, the summer learning manager at FCPS. "Because we're more concerned about moving kids forward than trying to deal with what's behind them, helping build their capacity, re-engage them in learning, so that they're ready for the new year. So to me, that's an important distinction."

The school system's summer academic programs will be taking place in July, Folly says. They are for students in

kindergarten through grade 12, and are taught by FCPS instructors. For three weeks, students are in the classroom for about 4 to 5 hours per day, depending on grade level. Folly notes that schools typically reach out to families during the spring if they believe summer learning would be beneficial to their student.

“Inherent in all of those programs across all those levels will be some attention given to social-emotional learning and the well-being of the students,” Folly says.

He notes that FCPS recognizes it’s been a trying couple of years.

Ellen Agosta, a program manager in FCPS’s Office of Special Education Instruction, echoes this sentiment, noting that summer learning is not a time when students should feel punished or like they’re wasting time doing nothing, but hopefully feel excited to be there.

“I think as a county, we really try [to make sure] the curriculum and the materials that teachers use during the summer are fun and engaging, and really do try to tap into other avenues for students to progress,” she says.

For instance, math workbooks, which can feel more like a punishment than a fun activity, might stay put in the desk drawers, says Ann Bremner, director of lower-school mathematics at St. Stephen’s & St. Agnes School. “We have to be careful of the type of practice and reinforcement [we use],” she says.

Students “Slide” In Different Ways.

It’s not just academic programs that can keep students from experiencing summer slide. Kathleen Miller, a media-outreach specialist at FCPS, notes that the school system offers summer activities, such as art camps, that can help keep a child’s mind engaged.

These sorts of extracurricular activities are a great asset to academics, and summer experiences usually make for good social interaction, says University of Connecticut associate professor Rachael Gabriel. She notes that the social element was particularly lost for

younger children during the pandemic, as older students typically have more electronic access to their peers—through things like texting and social media—than elementary-aged students.

Gabriel worries that the term “learning loss,” especially for children who have had to pivot in their learning thanks to the pandemic, implies the only way kids can ever learn is if it has to do with studying for standardized exams—but there’s more to keeping the mind sharp than just test prep.

Like socialization, learning loss may manifest differently among varying age groups.

“Because I’m mostly with the upper-level students, I would see the effect of forgetting things—more [so] the details. Because the class was at a high level, it was complicated; there were a lot of parts to it. And over the summer, they forget the parts,” says Dr. Alan Whiting, who works for C2 Education of Fairfax, a local affiliate of a national tutoring and test-prep service. “I suspect in the lower-level students, it would be more [that] they have forgotten how to concentrate, how to sit down and work, and attack schoolwork, rather than the details.”

His colleagues at C2, Jonathan Chan, agrees. “I would say that high school students actually will probably lose more content than middle schoolers and younger kids,” he says.

The challenges with summer slide are not just experienced differently between age groups, but among students with different learning abilities.

“We provide extended school-year services, which is a federally mandated program that serves students with disabilities in grades pre-K through 12, whose individual educational program (IEP) team determines that without these services, the gains that a student makes during the regular school year would be significantly jeopardized. So, it really is about maintenance of skills that they’ve gained during the school year,” Agosta says of how summer slide impacts students with disabilities.

“Of course, we try to make it a time for students where we address their IEP goals, but oftentimes, that also includes that social-emotional component for those students as well,” she says.

How Libraries Can Help

For those who may be concerned about financing tutoring services or are not involved with any particular school's academic program, Northern Virginia's libraries offer a place where children and their families can go to avoid the summer slide. Every summer, FCPL hosts its Summer Reading Adventure (SRA), designed to involve the whole family.

"The library is really hoping to ensure [kids] don't have that loss of reading skills over the summer," says FCPL director Jessica Hudson. The SRA is a structured program across all county libraries, but every branch hosts its own events that best serve the surrounding community, she says.

The program offers incentives for students who read a certain number of books or for a certain number of minutes over the summer, with past prizes including things like coupon books offering deals at local businesses. Hudson notes that there are different reading milestones for different ages, and that each student has a different approach to reading.

Summer is a time when students typically have more room to do things they enjoy—and reading can be one of those things, says Hudson. For her, "summer reading is pleasure reading," when children can read books not as assignments, but because they enjoy them.

"When students have an opportunity to read a book of their choice," she says, "that is such a wonderful, magical moment."

How To Recognize The Summer Slide:

Look for patterns. "In general, if you've seen your child really resist doing something, it means that it's a pain point for them. So if you've seen a child really resist math, then it's probably fair to say that student may struggle a little bit in math, because it's harder for them. So, over the summer, you want to make math as fun as possible," says Dolin.

Ask your child questions. "Just checking in to see what kids have been doing with their time" can be useful, says Chan.

How To Keep Kids Learning:

Do activities consistently. Maybe your child is a reader. In terms of keeping the mind sharp, it's better to curl up with a book for a certain number of minutes every day than to read for hours just once in a while, says Dolin. "It doesn't have to be intense, but it needs to be consistent."

"Everybody's different. But you do have to keep doing it—for reading, at least a couple of times a week over the entire summer, not just a couple of weeks at the beginning and letting it go. And not just a couple of weeks at the end in a state of panic," Whiting says.

Use the buddy system. "I think it's important to encourage kids to sign up [for summer learning activities] with their friends ... because it just increases their motivation to actually go," says Chan.

Play games! Chan recommends educational apps on a phone or tablet that can engage students through games, and Bremner says that board and card games are a great tool for students to keep up on math skill. ●

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SCHOOL MENTAL HEALTH RESOURCES CRITICAL TO ENSURING SAFE SCHOOL ENVIRONMENTS

Help your kids stay sharp even as they toss textbooks aside for the season.

By Amy Briesch and Sandra M. Chafouleas

Whenever a mass shooting takes place in schools, public discussion often focuses on laws or policies that might have prevented the tragedy. But averting school violence needs more than gun policy. It requires both prevention and crisis response that take students' emotional well-being – not just their physical safety – into account.

School violence prevention also requires professionals – counselors, psychologists and social workers – who know how to create an emotionally safe environment, which research shows is critical to safe schools. Unfortunately, statistics show there is a critical shortage of such employees. Staffing shortages have become a major obstacle to creating schools that are emotionally safe for children.

As school psychology professors who train future school psychologists, we know that school counselors, psychologists and social workers are in short supply. Though school shootings have led to increased hiring of police officers to serve in schools, the hiring of experts in school mental health has not kept pace. Demand is greater than supply, a trend that is projected to continue in the years to come.

Staffing Matters

Employment of school counselors is expected to grow 11% over the coming decade. However, there are not enough trained professionals to fill the positions. Current ratios are already twice what they should be, with one school counselor for every 464 students and one school psychologist for every 1,200 students. These ratios are even higher in schools where most students are members of ethnic or racial minorities.

Better-staffed schools are more likely to use preventive and restorative approaches to student violence – ones that aim to educate, rather than those that simply aim to punish. In understaffed schools, providers manage only to keep up with emergencies, rather than doing the preventative work required to make schools safer and more successful.

Key preventive and restorative activities to promote emotionally safe environments include:

Promoting connected communities: Research has found that when students feel more comfortable at school, and feel like they belong there, they are less likely to engage in aggressive behavior at school – even when they have experienced violence at home. Key activities such as group decision-making, teamwork-building and conflict resolution – often led by teachers with support from school mental health personnel – can help build this type of community.

Teaching social-emotional skills: School mental health professionals can help to ensure all students are taught

strategies to identify their feelings, calm themselves and connect with others. Students with these skills not only have fewer conduct problems and less emotional distress at school but get better grades as well. Most states, however, don't require schools to teach these skills to all students.

Intervening early: Schools are in a unique position to provide proactive supports when data suggests widespread need. For example, rates of anxiety and depression in youth have doubled since the onset of the pandemic, such that as many as 20% of students in a classroom may be affected. Targeted therapeutic supports delivered in small group formats by school mental health personnel can help prevent the development of future disorders.

Providing accessible mental health support: Schools can be a primary source for mental health support for young people in crisis. This includes both providing direct services in school and coordinating care with community providers. For many students, especially students of color and those with fewer financial resources, school may be the only accessible way to receive mental health treatment.

Preparing School Staff

Even before the COVID-19 pandemic, and much more severely since it began, schools have been struggling to provide enough mental health support to students, given insufficient staffing.

There are several federal bills proposed that aim to expand the number of school mental health workers. One bill would help grow the pipeline by subsidizing the cost of graduate training for those who commit to working in schools. Another would provide grants directly to schools to fund additional in-school positions. However, experts project both bills only have a 3% chance of being enacted by Congress. ●

SUPREME COURT SAYS RELIGIOUS SCHOOLS CAN'T BE SINGLED OUT FOR EXCLUSION FROM PUBLIC DOLLARS

By Matt Barnum

The Supreme Court has made it a bit easier for K-12 religious schools to access public dollars, the latest in a string of cases to do so.

Tuesday's ruling, by the court's 6-3 conservative majority, declares that states can't limit religious schools from accessing public funding just because they are religious.

Maine's voucher program "operates to identify and exclude otherwise eligible schools on the basis of their religious exercise," wrote Chief Justice John Roberts in the majority opinion in *Carson v. Makin*. And that violates the First Amendment guarantee of freedom of religion, he said.

But the decision won't turn on a money spigot for religious private schools. Maine will have to allow those schools into its small voucher program, but the ruling does not require states to offer funding to religious schools if they don't already fund private schools.

The decision effectively ends one chapter of litigation, appearing to close the last possible door for states to exclude religious schools from private school aid programs. And it could mark the beginning of a new series of lawsuits, including about whether charter schools can be religious and whether states can exclude private schools of all kinds from government aid.

Backed by a conservative law firm, the latest suit was brought by two families who were eligible for Maine's small voucher program that pays private or public school tuition for students who are located in rural parts of the state.

One of the families paid for tuition at a religious school with their own money, but would have liked to use a

voucher. Another family used a voucher to send their child to a secular private school, but would have preferred a religious school. By state law, religious private schools are ineligible to receive funding from the voucher program.

"The State pays tuition for certain students at private schools — so long as the schools are not religious," wrote Roberts. "That is discrimination against religion."

The court's three liberal judges disagreed. In dissent, Justice Stephen Breyer argued that Maine had actually treated students eligible for a voucher the same as all the other students in the state — eligible for a publicly funded secular education, but not a publicly funded religious education.

"Maine has promised all children within the State the right to receive a free public education," Breyer wrote. "In fulfilling this promise, Maine endeavors to provide children the religiously neutral education required in public school systems."

The court's liberal justices also raised concerns about discrimination in private schools. They pointed out that the schools that the plaintiffs' children attend or would like to attend have policies that bar gay teachers and students.

"While purporting to protect against discrimination of one kind, the Court requires Maine to fund what many of its citizens believe to be discrimination of other kinds," wrote Justice Sonia Sotomayor in another dissent.

It's not clear whether the ruling would clear the way for these particular schools to participate in the state's voucher program, since Maine law generally bars discrimination based on sexual orientation. That itself could be subject to further litigation.

Tuesday's decision was widely expected and follows similar cases in 2017 and 2020.

This case won't have much immediate impact beyond Maine, though.

That's because nearly all private school choice programs already allow religious schools to participate. Maine, as well as Vermont, which has a comparable program, are exceptions. (Vermont lost a similar lawsuit recently, and the state legislature has been wrestling with how exactly to include religious schools.)

Critically, the decision does not require states to offer public funds to private schools. In his majority opinion, Roberts reiterated something he wrote in the 2020 case: “A State need not subsidize private education. But once a State decides to do so, it cannot disqualify some private schools solely because they are religious.”

This is a blow to private school advocates in Michigan, including former Education Secretary Betsy DeVos who is backing an effort to create a tax-credit funded voucher program there. The state’s constitution bars aid to private schools, religious and non-religious alike, and that appears to be permissible under today’s decision.

Still, Michigan school choice advocates have filed their own federal lawsuit arguing that the barring aid to private schools is unconstitutional. They may draw on aspects of the latest Supreme Court decision to bolster their case.

Meanwhile, there may also be an opening for religious charter schools, a possibility noted in Breyer’s dissent. Presently, charter schools across the country must be secular in their operation and instruction. This decision doesn’t change that, but some legal scholars say in future cases, the same logic could be applied to charter schools.

Might prohibiting religious charter schools amount to an illegal form of discrimination under the Constitution? The Supreme Court may eventually have to answer that question.

“Charter schools are the next frontier,” Preston Green, an education law professor at the University of Connecticut, previously told Chalkbeat. ●

THE DRUGS DON’T WORK (AND OTHER MENTAL HEALTH MYTHS)

Our attitudes to mental health are changing but much of the stigma that surrounds conditions such as schizophrenia remains – along with some enduring and often damaging untruths

By David Robson

here can be little doubt that public attitudes to mental health have already turned a corner. Just consider the sheer number of public figures – from Robbie Williams and Lady Gaga to Baroness Davidson – who have opened up about their struggles.

According to one analysis of English newspapers, the number of articles stigmatising mental illness roughly halved between 2008 and 2016, while those challenging that stigma roughly doubled over the same period. And that seems to be having a positive impact on day-to-day experiences of prejudice – people with mental illness now report markedly less discrimination from family, friends and colleagues compared to just a few years ago.

Despite this progress, some myths about mental illnesses are still widely shared, including false claims about the efficacy of treatments. Here are six of the most prevalent beliefs, and the truth behind them.

Mental Illnesses Are Overdiagnosed

Let’s begin with the idea that people are mistaking everyday distress for a clinical disorder. The claim is a favourite of TV personalities and newspaper columnists, who periodically claim that the increased focus on mental health is reducing people’s self-reliance, so that they turn to medical interventions, rather than addressing the problems in their lives.

In reality, there is very little hard evidence that overdiagnosis is the serious problem that some claim. Surveys of depression in western countries, for instance, have failed to reveal a large uptick in

diagnoses as people jump on the “mental health bandwagon”. “The evidence points at stability,” says Prof Johan “Hans” Ormel of the University of Groningen in the Netherlands. He suggests that doctors are just as likely to miss real cases as they are to wrongly diagnose someone who is simply experiencing transient distress.

Time Is A Healer

Related to the claim that doctors are medicalising everyday distress, there is the suggestion that many people who think they have depression should show more resilience and simply wait for time to heal their woes. If they are simply suffering transient sadness, after all, then the problem should surely go away on its own?

To find out if this were really the case, researchers in Australia examined the data from 16 clinical trials, in which a control group of patients had been placed on a “waiting list” before being given a treatment. They found that just one in eight of these patients went into remission as they waited for therapy, while the rest continued to show symptoms during the three-month period.

Antidepressants Don’t Work

It’s not just the diagnostic process that has inspired medical myths; the treatments used to help patients are often the subject of misinformation.

One common belief is that a common class of antidepressant medications, called SSRIs (selective serotonin reuptake inhibitors), are ineffective, and work no better than a placebo. The idea recently attracted widespread attention following the publication of a paper that raises some serious questions about the proposed mechanism of these pills.

The Idea That Mental Anguish May Inspire Great Art Certainly Should Not Be Grounds For Avoiding Treatment

SSRIs, which include Prozac, were thought to address a “chemical imbalance” in the brain, by correcting levels of the neurotransmitter serotonin that is thought to be involved in mood regulation, among other functions. The recent paper, however, examined the evidence to

date and concluded that there was no clear link between levels of serotonin and depression.

But there are many other ways that they may help relieve symptoms – by reducing inflammation, which is another potential contributor to depression, for example. Importantly, a recent meta-analysis in the *Lancet*, considering multiple clinical trials, confirmed that SSRIs are effective at relieving depression. While they do not work for everyone, they are about 50% more likely to produce a response than placebo pills. In the words of Prof Cathryn Lewis of King’s College London and Prof Andrew M McIntosh of the University of Edinburgh, the clinical benefits are now “beyond reasonable doubt”.

‘Happy Pills’ Simply Numb People’s Feelings

Other myths concern side-effects. You will see many articles, for example, claiming that antidepressant pills “blunt” people’s emotions. There is a seemingly good basis for this idea: many patients do report concerns that their medications have muted life’s ups as well as its downs, resulting in numbed feelings.

Until recently, however, few studies had interrogated the causes of the emotional blunting, and it now seems that the feelings of numbness may be a residual symptom of depression. It makes sense: depression is often accompanied by apathy and an inability to feel pleasure. The SSRIs have taken away the more salient feelings of hopelessness – but they don’t necessarily increase positive emotions and motivation, says Prof Guy Goodwin of the University of Oxford, who conducted the recent study: “The feeling of emotional blunting is real, but it isn’t caused by the drugs.”

Mental Illness Makes People More Creative

Perhaps the most persistent myth has been the idea that mental suffering is a source of artistic genius – from Virginia Woolf to Kanye West. But any evidence supporting the link between creativity and mental illness is extremely tenuous, says Prof James C Kaufman at the University of Connecticut.

“Historiometric” analyses, for example, have plumbed the biographies of notable artists. While these studies seem to suggest that mental illness is more prevalent in creative personalities, any post-hoc diagnoses, based

purely on a text, have to be treated with great caution. “They are not super objective,” says Kaufman. “Very few creativity researchers believe there is a strong connection.” And the idea that mental anguish may inspire great art certainly shouldn’t be grounds for avoiding treatment for a serious conditions, he says.

Schizophrenia Is Untreatable

Despite the changing attitudes to other mental illnesses, schizophrenia is still subject to a huge amount of stigma, says Marjorie Wallace, the founder and chief executive of the mental health charity SANE.

“Schizophrenia is still a ‘forgotten illness’ because it has been squeezed out of all these anti-stigma campaigns, which have emphasised stress, depression and anxiety.” This means that most people have only a vague understanding of the condition, despite the fact the lifetime prevalence is around 1.5% in the UK.

One big misconception is that schizophrenia is simply “untreatable”. With the right medications and talking therapies, however, 45% of people with schizophrenia go into remission after one or more psychotic episode, while 35% show mixed patterns of remission and relapse. The belief that there is no chance of recovery can be a cause of great despair for people who have been diagnosed with the disease, and their families. (The campaigner and film-maker Jonny Benjamin famously described the diagnosis as feeling like a life sentence.)

In general, earlier interventions are more effective. But a chronic lack of resources in the health service means that many people with schizophrenia fail to get help in the first stages of a crisis, says Wallace, which reduces their chance of recovery. They may be turned away from hospitals or psychiatric facilities, and often it will be police officers who end up dealing with the patient. The escalation of their condition in these cases only adds to the perception that it is impossible to treat, yet the person may have fared far better if they’d had earlier access to treatment.

The Expectation Effect: How Your Mindset Can Transform Your Life by David Robson is published by Canongate (£18.99). To support the Guardian and Observer order your copy at guardianbookshop.com. Delivery charges may apply

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MORE KIDS ARE REPEATING A GRADE. IS IT GOOD FOR THEM

By Brooke Schultz and Heather Hollingsworth

HARRISBURG, Pa. (AP) — As Braylon Price remembers it, he struggled with pretty much everything the first full school year of the pandemic. With minimal guidance and frequent disruptions, he had trouble staying on top of assignments and finishing homework on time.

It was so rocky his parents asked for him to repeat sixth grade — a decision they credit with getting him on a better track.

“At first I didn’t really want to do it,” said Braylon, now 13. “But then later in the year I thought it would probably be better for me if I did.”

The number of students held back for a year of school has surged around the country. Traditionally, experts have said repeating a grade can hurt kids social lives and academic futures. But many parents, empowered by new pandemic-era laws, have asked for do-overs to help their children recover from the tumult of remote learning, quarantines and school staff shortages.

Twenty-two of the 26 states that provided data for the recent academic year, as well as Washington, D.C., saw an increase in the number of students who were held back, according to an Associated Press analysis. Three states — South Carolina, West Virginia and Delaware — saw retention more than double.

Pennsylvania, where the Price family lives, passed a pandemic-era law allowing parents to elect to have a redo for their kids. The following year, the number of retained students in the state jumped by about 20,000, to over 45,000 students.

Braylon’s mother has no regrets about taking advantage of the new law.

“Best decision we could have made for him,” said Kristi Price, who lives in Bellefonte, in central Pennsylvania.

While the family’s two daughters managed to keep up with school despite limited supervision, Braylon

struggled. He went back to in-person school for the first full academic year of the pandemic but it was “wishy-washy,” his mother said. Students were quarantined on and off, and teachers tried to keep up with students learning at home, online and in hybrid models. That winter, Braylon suffered a spinal cord injury from wrestling that forced him to go back to remote learning.

On his repeat of sixth grade, Braylon had an individualized education program that helped him build more focus. Having more one-on-one attention from teachers helped too. Socially, he said the transition was easy, since most of his friends had been in lower grades or attended different schools already.

Research in the education world has been critical of making students repeat grades.

The risk is students who’ve been retained have a two-fold increased risk of dropping out, said Arthur Reynolds, a professor at the University of Minnesota’s Human Capital Research Collaborative, citing studies of students in Chicago and Baltimore.

“Kids see it as punishment,” Reynolds said. “It reduces their academic motivation, and it doesn’t increase their instructional advancement.”

But backers of retention say none of the research was conducted in a pandemic, when many children wrestled with Zoom lessons and some stopped logging in entirely.

“So many children have struggled and have had a lot of problems,” said Florida state Sen. Lori Berman, a Delray Beach Democrat. Berman authored a law aimed at making it easier for parents to ask for kindergarten to fifth graders to repeat a grade in the 2021-22 school year. “I don’t think there is any stigma to holding your child back at this point.”

Generally, parents can ask for children to be held back, but the final decision is up to principals, who make decisions based on factors including academic progress. California and New Jersey also passed laws that made it easier for parents to demand their children repeat a grade, although the option was only available last year.

In suburban Kansas City, Celeste Roberts decided last year for another round of second grade for her son, who she said was struggling even before the pandemic. When virtual learning was a bust, he spent the year

learning at a slower pace with his grandmother, a retired teacher who bought goats to keep things fun.

Roberts said repeating the year helped her son academically and his friends hardly noticed.

“Even with peers, some of them were like, ‘Wait, shouldn’t you be in third grade?’ And he’s just like, ‘Well, I didn’t go to school because of COVID,’” she said. “And they’re kind of like, ‘OK, cool.’ You know, they move on. It’s not a thing. So it’s been really great socially. Even with the parent circles. Everybody’s just like, ‘Great. Do what your kid needs to do.’”

Ultimately, there shouldn’t be just two options of repeating a grade or going on to the next, said Alex Lamb, who has been looking at research on grade retention as part of her work with the Center for Education, Policy Analysis, Research and Evaluation at the University of Connecticut to help advise school districts.

“Neither of those options are good,” she said. “A great option is letting students move on, and then introducing some of these supports that are research-backed, that are effective and that allow for academic and social-emotional growth of students and then communities.”

In Pennsylvania’s Fox Chapel Area School District, two students were retained at the behest of educators, while eight families decided their students would repeat a grade. Another six discussed the new legislation with the school and ultimately decided against holding their students back.

“As a school district, we take retention very seriously,” Superintendent Mary Catherine Reljac said. She said the district involves parents, a team of educators, school counselors and principals to help decide what is best for each child.

Price says Braylon’s retention helped him obtain an individualized education program, or IEP. The special ed plan gave him more support as he navigated sixth grade again. When he thinks about the difference between rounds one and two of sixth grade, Braylon said he felt like the extra support was instrumental, noting he likes having one-on-one aid from teachers sometimes.

“In online school, you didn’t really do that,” he said. “You did the work and then you just turned it in.”

He doesn’t want to be given the answer, he said, but guided enough that he can figure it out on his own.

“I think because of the pandemic, we, as parents, were able to see how much he was struggling and we were able to recognize that he was barely keeping his head above water, and that he needed more help in order to be successful on his own,” Price said.

This story has been corrected to reflect that a total of 26 states and Washington, D.C., provided data on grade retention for the recent academic year. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE EDUCATION WEEK ON NOVEMBER 7, 2022

THE 2022 MIDTERMS: WHY EDUCATORS SHOULD CARE WHAT HAPPENS

By Libby Stanford

Regardless of who prevails in Tuesday’s midterm elections, the results could mean big changes for K-12 schools, with ripple effects on everything from school funding and early-childhood programs to policy on heated cultural issues like how race and sexuality are discussed in the classroom.

Those issues resonate differently around the country in gubernatorial, state superintendent, state legislative, and school board races in a highly polarized political climate.

But even in places where education isn’t a major political talking point, the outcome in one state could end up affecting future education policies in another.

Building A Community For Black Male Teachers

“The old saying is ‘all politics are local,’” said Steve Barnett, a professor of education economics and policy at Rutgers University. “But it is also true that states and local governments learn from each other.”

Potential Impact Down To The Most-Local Level

Voters in 36 states will decide on a governor, who has the power to enact state laws, set the state's education budget, and sometimes to decide who leads the state's department of education. Voters in seven states will also decide on a schools superintendent. And in nine states, they will choose who sits in 51 state board of education seats with broad policy implications.

Those races are in addition to at least 373 local school board elections this election cycle nationally, 271 of which will take place in November or December.

But outside of the races that are likely to directly impact education are contests for other positions that could affect local, state, and even federal politics, said Bruce Baker, an education funding and policy professor at the University of Miami. For example, newly elected judges in numerous states and localities could make decisions on cases surrounding school funding, Baker said.

"Courts are a big deal in how well, how equitably, schools are funded and run, and, for that matter, upholding certain other rights and policies and regulations around the governance of schools and rights of kids," Baker said. "These down-ballot elections matter. That's why people should care."

The State Legislative Context Matters

Over 6,000 state legislative seats in 46 states are up for election this year, according to the National Conference of State Legislatures. A number of states have led the charge in passing bills limiting how schools can approach race, gender identity, and sexuality in the classroom. Seventeen states have passed laws aimed at preventing teachers from discussing what they call divisive concepts like race, gender, and sexuality.

Nearly a third of teachers who have chosen not to address those topics in the classroom worry about professional or legal consequences, according to an EdWeek Research Center survey of teachers.

"Things that public schools focus on, in terms of teaching students about various issues and making sure students are protected, all of those hallmarks of public education are being attacked," said Preston Green, an education leadership and law professor at the

University of Connecticut. "Depending on how the Republicans do, you may see more of it."

Indeed, more states could see similar policies passed, depending on the results of the election. On campaign websites, nine of the 36 Republican nominees for governor explicitly say they'd like to ban critical race theory—an academic theory generally taught at the college level—and six say they aim to restrict transgender students' participation in sports that align with their gender identity.

What About The Federal Government?

Democrats currently hold Congress with 224 members in the House of Representatives and 48 Democrats, plus two independents, who both caucus with the Democrats, in the Senate, according to the Congressional Research Service. But many political analysts expect the House to flip to Republican control, which would mean a divided Congress.

Congress has the power to pass laws that can impact school funding and federal education policy.

In September, for example, House Republicans introduced the "Stop the Sexualization of Children Act," a bill that critics claim is a national copy of Florida's "Parental Rights in Education" law. The bill is unlikely to gain traction in the current Congress but could make headway if Republicans were to take the House or the Senate.

If passed, it would "prohibit the use of federal funds to develop, implement, facilitate, or fund any sexually-oriented program, event, or literature for children under the age of 10," according to the bill. If Republicans were to take Congress, Green expects lawmakers to propose more bills like the "Stop the Sexualization of Children Act," that may not pass but could set the stage for action should a Republican president be elected in 2024.

"The sorts of things being proposed at the statewide level you could see being proposed at the national level to try and garner more support," he said.

At the same time, certain other education policies could find it harder to gain ground in a Republican-led Congress, said Barnett at Rutgers. For example, Barnett wouldn't expect his area of expertise, early-childhood

education, to be a major action point in a Republican-controlled Congress.

Ambitious early-childhood proposals from President Joe Biden, such as the \$400 billion for child care and prekindergarten that he tried and failed to pass in last year's Build Back Better initiative, would be unlikely to move forward, Barnett said. In addition, Head Start, the federal early-childhood-education program, "is long overdue for reauthorization, and I can't see that happening in a divided Congress or when Congress and the president are different parties," he said.

There is also likely to be little change to education funding in a Republican-controlled or a divided Congress. Most education policymakers are still focused on district and state spending under the American Rescue Plan and ESSER funding, which together funneled \$190 billion into local and state education systems to help with the impacts of the pandemic.

Barnett sees it as unlikely that Congress, regardless of the outcome of Tuesday's election, will pass another wave of funds at that magnitude.

But Baker said the baseline for annual federal K-12 spending could actually be a bit higher than before the pandemic.

"I would actually expect in the post-COVID period that the new equilibrium of federal funding might find its way to be slightly or somewhat above the pre-COVID equilibrium," Baker said. "Because we've had a few years of getting used to spending a bit more."

Why Should Educators Care About Elections In States Where They Don't Live?

Education-related policies and campaigns in one state are likely to influence education policy trends elsewhere because politicians follow what works, Barnett said.

The 2021 Virginia gubernatorial election demonstrated that. Gov. Glenn Youngkin, a Republican, won in a campaign in which he emphasized a conservative parents' rights agenda. Before then, parents' rights as a campaign talking point wasn't nearly as widespread.

Youngkin appealed to parent frustration with how schools handled the COVID-19 pandemic and went on to establish a parent hotline, offering a channel for parents' to voice concerns over critical race theory and

fears of political indoctrination and LGBTQ issues being taught in the classroom.

Eleven of the 36 conservative candidates for governor in this year's election cycle mentioned parents' rights policies on their campaign websites.

"What happens in one state does influence policy in another," Barnett said. "Whether it's because politicians see that an issue was effective in attracting support or simply because legislators are looking for something to do."

Education policy experts see that as a reason why educators should pay attention to both the potential impact of both their local elections and what's happening across the country.

"[Republicans] have made it clear that the sorts of things they want to do, they'll be emboldened to do them," Green said. "So [the election] could have an impact even for people in states that don't think they could be touched." ●

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ON DECEMBER 12, 2022

OKLAHOMA ATTORNEY GENERAL GREENLIGHTS RELIGIOUS CHARTER SCHOOLS

By Naaz Modan

An opinion allowing religious charter schools to be established in Oklahoma, issued by state Attorney General John O'Connor, is one of the first to reveal what the road forward for such measures may look like since the U.S. Supreme Court in June left open the possibility.

The opinion was issued after the Archdiocese of Oklahoma City announced its intent to launch a virtual Archdiocesan charter school in a letter to the Oklahoma Statewide Virtual Charter School Board.

"The more complex question here is whether a religiously affiliated applicant must be allowed to

establish and operate a charter school in conformance with that applicant's 'sectarian' or 'religious' traditions," O'Connor wrote.

To that question, he answered: Yes.

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Oklahoma law currently prohibits a charter school — often funded with public dollars — from affiliating with a nonpublic sectarian school or religious institution and requires charters to have nonsectarian operations, including programs, admission policies, and employment practices.

However, O'Connor wrote that these requirements constitute religious discrimination and, if enforced, would be unconstitutional due to recent Supreme Court decisions.

"The State cannot enlist private organizations to 'promote a diversity of educational choices' ... and then decide that any and every kind of religion is the wrong kind of diversity," he said. "This is not how the First Amendment works."

The Fallout Begins

The opinion follows in the footsteps of the Supreme Court's landmark cases *Carson v. Makin* and *Espinoza v. Montana Department of Revenue*, which allowed private institutions to have access to public funding regardless of their religious status or use. It was not unexpected for education and law experts following the issue.

"I wasn't surprised. Many of us saw this coming," said Preston Green, professor of educational leadership and law at the University of Connecticut. "You could see how the court was gradually setting this possibility up."

Together, the *Carson* and *Espinoza* cases left open the door for the public funding of religious charter schools, including those with religious instruction. In June, when the *Carson* decision was announced, 45 states and the District of Columbia had charter school-authorizing laws that could be impacted.

The Oklahoma attorney general's opinion in light of these cases concludes "that the current SCOTUS majority has drastically tipped the balance away from 'separation of church and state' concerns and toward ensuring that churches are not excluded from publicly funded programs," said Kevin Welner, director of the National Education Policy Center and professor of education policy and law at the University of Colorado Boulder's School of Education, in an email.

Impact On Faith-Based School Operations

O'Connor warns in his opinion that while prohibiting religious charter schools is unconstitutional, that does not mean they "can necessarily operate however they want" when it comes to programs, admission policies, employment practices and other operations. Religious, LGBTQ and racial discrimination in religious schools have all concerned public education advocates.

O'Connor said the religious charters should be "as equally free and open to all students as traditional public schools."

However, the opinion stops short of detailing what this means in practice.

"Can Oklahoma charter school laws continue to require the teaching of a public school curriculum?" Welner said. "Can it stop teachings that condemn religious beliefs that are contrary to that church's teachings or that are racist, homophobic, or otherwise in conflict with state standards?"

What's next for publicly funded religious schools?

The O'Connor opinion will likely not be the last.

Welner and Green both expect other states — especially states with pro-voucher leaders — to adopt similar policies. And even states that don't favor religious charter school policies like New York and California may be cornered in complying, according to Green.

"These decisions can have major implications for them, because you're going to see religious churches and other entities saying that they want to run charter schools, and they want to run religious charter schools," Green said.

The education law and policy experts also expect another round of litigation brought on, at least in part, by these interpretations. That could potentially decide whether charter schools are considered public or private entities, with implications for civil rights and protections of students and employees in those schools.

“These issues will surely be litigated,” said Welner. “Starting in the federal district courts and working their way up to the Federal Circuit Courts of Appeals and perhaps to the Supreme Court.” ●

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THERE’S A REASON THERE AREN’T ENOUGH TEACHERS IN AMERICA. MANY REASONS, ACTUALLY.

By Thomas B. Edsall

Here are just a few of the longstanding problems plaguing American education: a generalized decline in literacy; the faltering international performance of American students; an inability to recruit enough qualified college graduates into the teaching profession; a lack of trained and able substitutes to fill teacher shortages; unequal access to educational resources; inadequate funding for schools; stagnant compensation for teachers; heavier workloads; declining prestige; and deteriorating faculty morale.

Nine-year-old students earlier this year revealed “the largest average score decline in reading since 1990, and the first ever score decline in mathematics,” according to the National Center for Education Statistics. In the latest comparison of fourth grade reading ability, the United States ranked below 15 countries, including Russia, Ireland, Poland and Bulgaria.

Doris Santoro, a professor of education at Bowdoin, wrote by email in response to my query regarding the morale of public school teachers:

Teachers are not only burnt out and undercompensated, they are also demoralized. They are being asked to do things in the name of teaching that they believe are mis-educational and harmful to students and the profession. What made this work good for them is no longer accessible. That is why we are hearing so many refrains of “I’m not leaving the profession, my profession left me.”

In an August 2022 paper, “Is There a National Teacher Shortage?,” Tuan D. Nguyen and Chanh B. Lam, both of Kansas State University, and Paul Bruno of the University of Illinois Urbana-Champaign wrote that they

systematically examined news reports, department of education data, and publicly available information on teacher shortages for every state in the U.S. We find there are at least 36,000 vacant positions along with at least 163,000 positions being held by underqualified teachers, both of which are conservative estimates of the extent of teacher shortages nationally.

In an email, Nguyen argued, “The current problem of teacher shortages (I would further break this down into vacancy and under-qualification) is higher than normal.” The data, Nguyen continued, “indicate that shortages are worsening over time, particularly over the last few years. We do see that southern states (e.g., Mississippi, Alabama, Georgia and Florida) have very high vacancies and high vacancy rates.”

He pointed out that “the cultural war issues have been prominent in some of these states (e.g., Florida).”

I asked Josh Bleiberg, a professor of education at the University of Pittsburgh, about trends in teacher certification. He emailed back:

The number of qualified teachers is declining for the whole country and the vast majority of states. The number of certified teachers only increased in the District of Columbia, Massachusetts, North Dakota, and Washington. Those increases were relatively small and likely didn’t keep up with enrollment increases.

These declines in the numbers of qualified teachers take place in an environment of stagnant or declining economic incentives, he wrote:

Wages are essentially unchanged from 2000 to 2020 after adjusting for inflation. Teachers have about the same number of students. But, teacher accountability reforms have increased the demands on their positions.

The pandemic was very difficult for teachers. Their self-reported level of stress was about as twice as high during the pandemic compared to other working adults. Teachers had to worry both about their personal safety and deal with teaching/caring for students who are grieving lost family members.

According to the National Center for Education Statistics, the number of students graduating from college with bachelor's degrees in education fell from 176,307 in 1970-71 to 104,008 in 2010-11 to 85,058 in 2019-20.

In a study of teachers' salaries, Sylvia Allegretto, a research associate at the Economic Policy Institute, found a growing gap between the pay of all college graduates and teacher salaries from 1979 to 2021, with a sharp increase in the differential since 2010. In 1979, the average teacher weekly salary (in 2021 dollars) was \$1,052, 22.9 percent less than other college graduates', at \$1,364. By 2010, teachers made \$1,352 and other graduates made \$1,811. By 2021, teachers made \$1,348, 32.9 percent less than what other graduates made, at \$2,009.

These gaps play a significant role in determining the quality of teachers, according to a study by Eric A. Hanushek of Stanford; Marc Piopiunik, a senior researcher at the CESifo Network; and Simon Wiederhold, a professor at the Catholic University of Eichstätt-Ingolstadt, "The Value of Smarter Teachers: International Evidence on Teacher Cognitive Skills and Student Performance."

Questions About The Pandemic

When will the pandemic end? We asked three experts — two immunologists and an epidemiologist — to weigh in on this and some of the hundreds of other questions we've gathered from readers recently, including how to make sense of booster and test timing, recommendations for children, whether getting covid is just inevitable and other pressing queries.

How concerning are things like long covid and reinfections? That's a difficult question to answer definitely, writes the Opinion columnist Zeynep Tufekci, because of the lack of adequate research and support for sufferers, as well as confusion about what the condition even is. She has suggestions for how to approach the problem. Regarding another ongoing

Covid danger, that of reinfections, a virologist sets the record straight: "There has yet to be a variant that negates the benefits of vaccines."

How will the virus continue to change? As a group of scientists who study viruses explains, "There's no reason, at least biologically, that the virus won't continue to evolve." From a different angle, the science writer David Quammen surveys some of the highly effective tools and techniques that are now available for studying Covid and other viruses, but notes that such knowledge alone won't blunt the danger.

What could endemic Covid look like? David Wallace Wells writes that by one estimate, 100,000 Americans could die each year from the coronavirus. Stopping that will require a creative effort to increase and sustain high levels of vaccination. The immunobiologist Akiko Iwasaki writes that new vaccines, particular those delivered through the nose, may be part of the answer.

"We find," they write, "that teachers' cognitive skills differ widely among nations — and that these differences matter greatly for students' success in school. An increase of one standard deviation in teacher cognitive skills is associated with an increase of 10 to 15 percent of a standard deviation in student performance." In addition, they find "that teachers have lower cognitive skills, on average, in countries with greater nonteaching job opportunities for women in high-skill occupations and where teaching pays relatively less than other professions. These findings have clear implications for policy debates here in the U.S., where teachers earn some 20 percent less than comparable college graduates."

Using data for 33 countries collected by the O.E.C.D.'s Program for the International Assessment of Adult Competencies, the scholars found that the cognitive skills of teachers in the United States fell in the middle ranks:

Teachers in the United States perform worse than the average teacher sample-wide in numeracy, with a median score of 284 points out of a possible 500, compared to the sample-wide average of 292 points.

In literacy, they perform slightly better than average, with a median score of 301 points compared to the sample-wide average of 295 points.

Raising teacher skill levels can significantly improve student performance, they argue:

Increasing teacher numeracy skills by one standard deviation increases student performance by nearly 15 percent of a standard deviation on the PISA math test. Our estimate of the effect of increasing teacher literacy skills on students' reading performance is slightly smaller, at 10 percent of a standard deviation.

In addition, "the impact of teacher skills is somewhat larger for girls than for boys and for low-income students compared to wealthier students, particularly in reading." ●

School of Nursing

CLEARING THE AIR: UCONN SCHOOL OF NURSING DONATES AIR PURIFIERS TO COVENTRY SCHOOLS

By Ben Crnic

COVENTRY — Since the COVID-19 pandemic began, many schools with aging ventilation systems have struggled to remove virus-carrying particles from the air. The University of Connecticut School of Nursing has devised an innovative solution, however, that was being installed today in Coventry schools.

Some 150 do-it-yourself air purifiers, known as Corsi-Rosenthal Boxes, built by university students on the Storrs campus over the weekend, were donated to Coventry schools to help them properly ventilate indoor spaces. The purifiers are built from commonly found materials, such as a box fan, air filters, cardboard, and duct tape, said Mikala Kane, UConn School of Nursing spokeswoman.

"I was pretty excited to have this opportunity come this way," Coventry Superintendent David Petrone said last week. "It's no secret that our (ventilation) systems are on the older side of things." There's no cost to the town for the air purifiers, which come as a result of a partnership between the school district and the university started seven years ago, he added.

"This is a very simple unit that costs about \$60 that students, adults, teachers and even our students here at UConn can make, using just these simple materials," said Marina Creed, a nurse practitioner with UConn Health who spearheaded the initiative with Michelle Cole, an associate clinical professor with the university's School of Nursing.

"Corsi-Rosenthal Boxes provide immediate relief to improve indoor air quality, the benefits of which not only impact COVID-19 but also pollen, mold, dust and other indoor allergens that can negatively impact school performance and lead to missed school days," Creed

said during a Saturday event where UConn students assembled 100 of the air purifiers for Coventry schools. Some of the purifiers have already been given to the schools, and the final delivery will be made today.

Kane said the boxes could remove up to 90% of virus carrying aerosols, dust and allergens from the air. Each box can last up to six months before filters need to be replaced.

The cubed boxes have air filters on four sides, cardboard on the bottom, and a box fan on top that is covered with cardboard with a hole cut out of the middle. It is sealed completely with duct tape to create "negative pressure," Creed said.

"When you turn the fan on, the air has nowhere to go except through the filters to be discharged through the top of the fan," Creed said, adding that this construction allows for "extremely high performance."

"It reminds me of science projects I used to do as a child, but instead of taking it home for mom and dad to see, when you're done with it, you can plug it into the wall and it actually serves a purpose. It cleans the air immediately upon turning it on," she said.

Petrone said that the boxes would be placed in "every space occupied by students," including classrooms and cafeterias. The hope is that the filters can help protect students and staff for months.

"We're excited just to have another mitigation strategy," Petrone added.

Jennifer DeRagon, George Hersey Robertson School principal, said last week that teachers "greatly appreciate" that the boxes run quietly in their classrooms all day. UConn students personalized each unit with their names and unique designs, giving local students "a sense of authentic innovation to solve real world problems using the engineering and design process."

Captain Nathan Hale Middle School Principal Dena DeJulius said last week that teachers there plan to use the purifiers "as a lesson for our students in using creativity to help others."

Town Councilman Matthew Kyer, who also works as the Library Media Center specialist in Coventry Grammar School, said last week that the partnership between

Coventry schools and UConn is "just amazing" and that the purifiers are very quiet and non-intrusive.

"They're just very much appreciated," Kyer added.

Gov. Ned Lamont announced last week that he is proposing legislation to establish a grant program that would fund improvements to school air flow systems, using \$90 million in federal pandemic relief funds the state received last year. Municipalities would have to provide matching grants under the plan.

"One thing the COVID-19 pandemic exposed is that many school buildings in our state, particularly those that are of a certain age, are in serious need of air quality improvements," Lamont said last week in a prepared statement. "Some people may erroneously think that heating and cooling systems are only about temperature control, but modernized ventilation systems provide an important public health function that filtrate the air and reduce airborne contaminants, including particles containing viruses." tuition-free. ●

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THE OPPOSITE OF A "KILLER APP:" NURSE RESEARCHER HOPES PROGRAM WILL HELP FORMER INMATES WITH DIABETES

By Rachel Antonelli

Oftentimes, social or economic disadvantages prevent a person from living their healthiest life. Last year, the American Diabetes Association (ADA) announced grant funding to support projects that focus on the impact of such health disparities on those with diabetes.

Louise Reagan, MS, APRN, ANP-BC, an assistant professor at the University of Connecticut School of Nursing, received one of those grants — called the Health Disparities and Diabetes Innovative Clinical or

Transitional Science Award — as her research focuses on people with diabetes who are reentering society from prison.

Reagan says her team has found that people living with diabetes in prison lack critical knowledge and skills regarding managing their diabetes. As these individuals transition to the community, they are required to self-manage diabetes independently and are not prepared to do so.

Diabetes survival and self-management skills include knowing what foods to eat, how to control blood glucose (sugar), when to take insulin, how to manage sick days, and how to access health care. These skills are critical for incarcerated individuals, as their rate of diabetes diagnosis is almost 50% higher than the general population.

"I wanted to figure out what we could do to reach persons with diabetes at this critical transition period when they're just getting out of prison and into the community, and how we could help them self-manage their illness," Reagan says. "The Connecticut Department of Correction (CDOC), a community collaborator and advocate for the needs of persons transitioning from prison to the community, and my team don't want citizens returning to the community from prison to end up in the emergency room being treated for hypoglycemia or dangerously low blood glucose when it can be prevented."

5 Pro Tips For Running A Successful Online Student Orientation

Reagan worked as an advanced practice registered nurse in Hartford for 16 years, treating underserved populations with multiple comorbid diseases, including diabetes. This clinical work exposed her to the challenges that people released from prison or living in supervised community housing post-prison release face in self-managing their illness when reentering the community, and inspired her research.

She says many social barriers prevent patients from adequately caring for their own health. It can be challenging to provide diabetes education to recently released patients due to their multiple housing locations, desire for anonymity, and limited access to clinical care.

Additionally, she says, the priorities of people recently released from prison are often to avoid reentering prison, to find a job, and reestablish social and family relationships rather than manage their diabetes and other aspects of their health.

“Patients have many other competing needs when integrating into their societal roles,” Reagan says. “The Diabetes LIVE JustICE research provides an opportunity to help them with their health.”

Her study — called Diabetes Learning in Virtual Environments Just in Time for Community reEntry (Diabetes LIVE JustICE) — examines the feasibility and acceptability of a mobile app that provides diabetes education, support, and other resources in a virtual environment to people recently released from prison living in supervised community housing or on parole. Reagan’s goal is to improve health outcomes and reduce health inequities for this vulnerable population.

Reagan’s app, called LIVE Outside, contains live sessions with diabetes educators and instructive games to inform users about self-care.

Over the course of 12 weeks, Reagan will be measuring users’ diabetes knowledge, stress, and self-care after using LIVE Outside and comparing it to typical diabetes care education.

The mobile app is a culmination of projects Reagan has been working on since completing her postdoctoral fellowship at New York University. There, she served as a project director for an R01 study using a personal computer-based virtual environment called Diabetes LIVE, which promoted diabetes education to community-dwelling individuals.

Reagan’s preceding research project with the CDOC, Diabetes Survival Skills (DSS), was an in-person intervention run within CDOC-managed correctional facilities. However, this project experienced attrition as individuals reentered society and could no longer participate, she says.

With collaboration and support from the Connecticut Department of Correction, Reagan anticipated taking in-person DSS interventions beyond prisons to supervised housing facilities to reach recently released individuals. This intervention, however, was put on hold due to the COVID-19 pandemic.

This forced Reagan to get creative with her work, leading to her innovation and the ADA grant.

“I was thinking about my work, and I wondered, ‘what if we use a virtual environment and adapt it to a mobile environment?’” Reagan says. “We could adapt the virtual app, use my program from the Diabetes Survival Skills, and blend them into a mobile app.”

Given the need for diabetes self-management education during the critical transition from prison to the community, the CDOC was excited to work with Reagan again to develop a remote mobile option for the people with diabetes under their care. Reagan then collaborated with her colleagues from Diabetes LIVE — Constance Johnson (UTHealth Houston), Allison Vorderstrasse (University of Massachusetts Amherst), and Stephen Walsh (UConn School of Nursing) — to combine DSS and Diabetes LIVE into a mobile app.

Diabetes LIVE JustICE was created and Reagan applied for the ADA grant to propel her innovation forward.

“My team and I had been talking about making this app mobile,” Reagan says. “The grant allows us to put all our work together to collaborate on this new idea.”

Reagan says she is grateful to have received this grant and for the strong collaboration with and involvement of the CDOC.

“When I received notice that the project was going to be funded, it was just an unbelievable feeling,” she says. “For me, this grant meant I had the opportunity to help underserved populations with their health, and I am so grateful for that. I feel so thankful that we can offer something to these people that sometimes don’t have anything.” ●

DEMAND FOR NURSES IS URGENT. CT'S COLLEGES AND UNIVERSITIES CAN'T KEEP UP.

CT needs 3,000 new nurses a year and only 2,000 graduate — and many of them are leaving.

by Erica E. Phillips

This year's nursing school graduates matriculated before the pandemic took hold, and over the course of their studies, they've seen the profession go through an upheaval.

Waves of COVID-19 delayed students' clinical rotations at patient care facilities. When they were allowed back into hospitals, clinics and long-term care facilities, the work was more intense than many had expected.

"I was shocked," said Jillian Levesque, one of the University of Connecticut School of Nursing's five valedictorians from the class of 2022.

"I remember thinking, 'Oh, I've got time to get better at my vital signs,' and then it was the second day and I was giving medication," she said. "There was no getting better and practicing your vital signs. It was the real world because of the COVID-19 pandemic."

A prolonged shortage of nurses across the state became more acute during the pandemic. And the graduating class of 2022 — roughly 2,000 in number statewide — won't be able to fill those yawning gaps in the workforce.

Over the last two years, mid-career and older nurses experienced burnout, left emergency departments and intensive care units for less stressful positions or retired early. Many younger nurses opted for lucrative traveling assignments. Nurses periodically fell ill with COVID and had to stay home, placing further stress on health care facilities.

These nurses who would have never dreamed of leaving their practice, because that's what they do and who they are, are now moving to ... areas where they can work 9 to 5 and they can create physical and emotional respite for themselves.

~ Beth Beckman, Chief Nursing Officer at Yale New Haven Health

The health care field accounts for 16% of the state's total workforce, and nurses and certified nursing assistants are in high demand. In late 2020, the Governor's Workforce Council estimated the state's registered nurse (RN) workforce was roughly 50,000, more than half of whom were over the age of 50. There were "significant shortages" in health care workers, the council reported, estimating an annual need of 3,000 new RNs and 2,500 openings for certified nursing assistants.

It's been nearly two years since that report. At the time, deaths from COVID-19 in the United States had just passed 200,000. Today, that number is over 1 million. Weeks ago, the U.S. Surgeon General issued an advisory about health care worker burnout, warning that "the public's ability to get routine preventive care, emergency care, and medical procedures" is at risk.

"Dyed-in-the-wool, hardcore, ED, ICU nurses, who've been that forever — COVID has just burned them out," said Beth Beckman, chief nursing officer at Yale New Haven Health. "These nurses who would have never dreamed of leaving their practice, because that's what they do and who they are, are now moving to ambulatory settings or ... areas where they can work 9 to 5 and they can create physical and emotional respite for themselves." ●

THIS DIY BOX HELPS CLEAR INDOOR AIR OF THE CORONAVIRUS. WHY AREN'T MORE PEOPLE USING THEM

By Emily Alpert Reyes

The glowing box, pulsing with rainbowy light, looks as if it was dropped into this Studio City living room from a warehouse rave.

It came, in fact, from the garage where Alex LeVine has been tinkering with fans, filters and tape, trying to bring a bit of fun to a simple tool to prevent the spread of COVID-19. The mesmerizing device uses fans and filters to pull contaminants — including smoke, dog dander and the unwelcome coronavirus — out of indoor air.

It can also flash in time to the sounds of Phil Collins. “In the Air Tonight,” of course.

“People aren’t embracing any of the other things that can avert disaster in this pandemic,” said LeVine, a 49-year-old cannabis company executive with an electrical engineering degree who started building trippy do-it-yourself filtration boxes as a hobby. “Maybe I can create a way to clean the air that people want in the middle of the room.”

As the pandemic drags on, cleaning up indoor air has become a passion project not just for aerosol scientists and epidemiologists, but for a grab bag of concerned citizens like LeVine.

Alex LeVine, holding his dog, demonstrates his DIY air filter system.

Alex LeVine, who has a background in electrical engineering, decided to have fun with his Corsi-Rosenthal boxes by using computer fans with controllable LED lighting. The boxes, constructed of widely available fans, filters, cardboard and tape, have become popular during the pandemic as people have sought ways to clean indoor air. (Myung J. Chun / Los Angeles Times)

In San Francisco, parents mobilized to fund and build simple devices for classrooms. On Twitter, one woman consulted experts about how many she should assemble for an indoor wedding in Ontario. University volunteers have gathered to build them in San Diego, Arizona and Connecticut.

It has been rewarding “to be able to feel like you’re being proactive and that you’re rolling up your sleeves against the virus — that you’re not just passive, but you’re actually able to trap it in a filter and to go after it,” said Marina A. Creed, a neuro-immunology nurse practitioner at UConn Health who began looking into air filtration when her immunocompromised patients worried that their kids might bring home COVID-19 from school.

Students and faculty from the University of Connecticut’s schools of nursing, engineering and other fields have since assembled hundreds of the DIY cleaners with box fans, filters and duct tape for local schools. “People are hungry for something else that they can do to fight back,” Creed said.

As the BA.5 subvariant barrels through the country and many people have abandoned masks, engineers and epidemiologists have argued that more needs to be done to prevent the coronavirus from building up in stagnant air. Cleaning up indoor air has long been a neglected front in the halting battle against COVID-19, experts say.

A hand with a remote control activates an air filter system made with computer fans.

LeVine decided to have fun with his Corsi-Rosenthal boxes by using computer fans. “People aren’t embracing any of the other things that can avert disaster in this pandemic,” he said. “Maybe I can create a way to clean the air that people want in the middle of the room.” (Myung J. Chun / Los Angeles Times)

“It’s enormously important for our health. It’s enormously important for protection against many infectious diseases. And it is completely neglected in almost every aspect” — and had been long before the pandemic, said Jeffrey Siegel, a professor of civil engineering at the University of Toronto

Changing the air in an indoor space just five times an hour — a lower rate than the systems used for some hospital wards — can cut the risk of COVID transmission

in half, researchers have found. In Italy, one analysis found that ventilation systems could reduce the risk of coronavirus infection in schools by more than 80% if the air was changed six times an hour.

Improving ventilation and air filtration may not stop someone from getting infected if they sit maskless next to a contagious person, but it could make “super-spreading events” that infect huge numbers of people less likely, said Dr. Abraar Karan, a fellow in the Division of Infectious Diseases and Geographic Medicine at Stanford University. He is also studying how such devices could reduce the spread within households.

“We’re not going to eliminate COVID” by cleaning indoor air, Karan said, “but we can eliminate these big surges of infection.”

Alex LeVine holds his dog in one hand and shows off an array of air filter systems.

As the pandemic drags on, cleaning up indoor air has become a passion project not just for aerosol scientists and epidemiologists, but for a grab bag of concerned citizens like LeVine. (Myung J. Chun / Los Angeles Times)

The problem is that indoor air is “very hard to regulate,” Siegel said. Building codes are typically used when a structure is first built or undergoes major renovations, he said, and then “it’s never looked at again unless something stops working.”

Federal officials pointed out that the Environmental Protection Agency has no regulatory power over the quality of indoor air. “Right now, two tools we have are guidance and funding,” said Georgia Lagoudas, a senior advisor for biotechnology and bioeconomy in the White House Office of Science and Technology Policy. “We’re doing what we can to incentivize people.”

Schools, for instance, can tap federal relief funds to improve ventilation systems or buy portable cleaners. The EPA offers tips on what to look for when buying a portable device or filter.

And federal officials released a “Clean Air in Buildings Challenge” this spring that provides recommendations on improving indoor air, from simple steps such as opening windows to sophisticated systems that use ultraviolet energy to kill the virus.

But federal agencies have not put forward a clear standard for what it takes to clean an indoor space, said

Devabhaktuni Srikrishna, an infectious-diseases control researcher and founder of PatientKnowHow.com, which provides consumer advice on protective tools such as respirators.

In March, aerosol scientists were heartened when the White House held a virtual event focused on cleaning indoor air to quash the virus, but Devabhaktuni complained that it had made no firm recommendation for how many times air should be changed per hour. He likened it to getting the right pressure in vehicle tires.

“It’s one thing to say, ‘Inflate your tires.’ It’s another to say, ‘Set your tire pressure to 30 psi,’” he said.

A national standard for indoor air — even a totally voluntary one — would let building operators know what they should aspire to, said William Bahnfleth, a professor of architectural engineering at Penn State University and chair of an epidemic task force at the American Society of Heating, Refrigerating and Air-Conditioning Engineers. It could also give rise to evaluation and public labeling of buildings for their air quality, like the letter grades assigned by health departments to restaurants, he said.

The tricky part of setting any such standard, however, is that “we don’t necessarily have a common understanding of what acceptable risk is,” Bahnfleth said.

Some other tools to combat the pandemic, such as N95 masks and rapid tests, have become easier to access over time, with free tests now being shipped through the U.S. Postal Service and some pharmacies tasked with handing out N95 respirators without charge.

Matthew Cortland, a senior fellow on healthcare and disability at the left-leaning think tank Data for Progress, argued that to quash the pandemic, “you need an investment of money to purchase HEPA filters or [do-it-yourself air cleaners] and deploy them on a widespread scale.”

“We’ve just seen nothing of the sort in the United States,” Cortland said. Federal money has been made available to schools, “but schools are using that money for capital projects that will take years to be realized — when children are getting sick today,” they said.

Epidemiologist Megan Jehn, an associate professor at Arizona State University, said that public health officials “really dropped the ball” by putting so much emphasis,

early in the pandemic, on the idea that COVID could spread through surfaces. Although the federal Centers for Disease Control and Prevention later clarified that the risk of getting COVID from contaminated surfaces is “generally considered to be low,” schools and other public settings have continued to focus on disinfecting and washing surfaces, Jehn lamented.

“There’s really not as much awareness that, one, COVID can be airborne and, two, that we can clean the air,” Jehn said.

Filter Systems Made With Fans, Some Cardboard And Tape

Inspired by gamers who have tricked out their computers with LED lights, LeVine began experimenting with cheap, illuminated fans made for computers and sharing his colorful creations online. (Myung Chun / Los Angeles Times)

Unlike simple recommendations about masks, “there is not one specific solution that works for all indoor settings,” said Erica Kimmerling, senior policy advisor for public engagement in science at the White House Office of Science and Technology Policy.

For instance, not all HVAC systems work with high-grade filters, Kimmerling explained. DIY air cleaners may be a great tool in some cases, but if building operators can afford longer-term upgrades, that may be a better choice, she said.

“We want to give people that menu of options that work — and then figure out what works best in their environment,” Kimmerling said.

In Los Angeles County, health officials distributed HEPA air purifiers to more than 100 homeless shelters and other interim housing sites, according to a county report.

The L.A. County Department of Public Health said it has connected schools with state grants to improve their ventilation systems and provides diagrams on the best places to put fans in school gyms. If outbreaks arise at schools or workplaces, its teams help assess ventilation systems and may perform a “smoke test” to gauge airflow, according to the public health department.

Los Angeles Unified officials said they had upgraded the filters in their school ventilation systems and were

checking and changing them more frequently. The district also purchased more than 1,700 portable cleaners as a backup option if air-conditioning systems go down in classrooms, said its chief facilities executive, Mark Hovatter.

“We’re providing the best air quality we can for our classrooms,” Hovatter said.

LAUSD officials were unable to promptly confirm how many air changes their classrooms were getting per hour, however. Thousands of people have sent letters to the district urging it to ensure safe air not just with the HVAC system, but with HEPA and DIY filtration devices to achieve a dozen air changes per hour.

As the school district has dropped masks and stopped routine weekly testing, “they’re not upgrading air quality to meet the need,” said Rebecca Schenker, a parent and community advocate with the group LAUSD Parents for COVID-Safe Schools.

“It’s enormously important for our health. It’s enormously important for protection against many infectious diseases.

— Jeffrey Siegel, a University of Toronto civil engineering professor.

Many other districts have not taken the same steps as LAUSD: As of earlier this year, less than 40% of public schools surveyed nationally said they had replaced or upgraded their HVAC systems, according to a study released by the CDC.

Fewer — less than a third — had put portable HEPA filtration systems in classrooms. And although many schools did spend on air improvements, a Kaiser Health News investigation found that some were installing devices that experts warned were unproven and could even be harmful.

“There are things we could be doing immediately and not waiting to spend millions of dollars to retrofit ventilation systems,” said Richard L. Corsi, dean of the UC Davis College of Engineering.

His name has become synonymous with grass-roots efforts to clean up indoor air, thanks to a do-it-yourself cube called the Corsi-Rosenthal box, which he helped develop from box fans, four high-quality filters and duct tape. He estimated that when materials, replacement filters, and electricity are included, it costs “a little less

than a venti cafe mocha at Starbucks, per student, per year.”

Creed, whose efforts to make Corsi-Rosenthal boxes in Connecticut were supported by a local foundation and some programs at the University of Connecticut, estimated that the boxes had cost them roughly \$65 apiece. And “the amazing thing is that it actually works,” added Kristina Wagstrom, an associate professor in chemical and biomolecular engineering at UConn who has been involved with the effort. “It’s not just one of those DIY things that makes you feel better.”

In a published analysis, Corsi and other UC Davis researchers found that the simple devices had “exceptional performance relative to most commercially available filter-based air cleaners.” Devabhaktuni also found that they compared well to HEPA purifiers at a fraction of the cost. The California Department of Public Health mentions them on its website as an inexpensive option.

Alex LeVine's most basic Corsi-Rosenthal box, made of a box fan and furnace filter, with art paper "flames."

Among LeVine’s fanciful works is a blue box of a filtration device, garnished with strips of red and yellow tissue paper that wave in the fanned air like flames, which has been stationed in his living room. (Myung J. Chun / Los Angeles Times)

In Studio City, LeVine spotted the homemade devices on social media, watched a training video made by a fourth-grader and got to work. Inspired by gamers who have tricked out their computers with LED lights, he began experimenting with cheap, illuminated fans made for computers and sharing his colorful creations online.

Among his fanciful works is a blue box of a filtration device, garnished with strips of red and yellow tissue paper that wave in the fanned air like flames, which has been stationed in his living room. LeVine said he was pleased to discover that his daughter, who is mildly allergic to one of their dogs, was no longer bothered by them after the filter had been running.

Homemade cleaners also sit in his office, bedroom, garage and guest room, but so far, LeVine hasn’t distributed them to anyone else. For now, he said, “my goal is to inspire other people.”

When cholera ravaged Europe and North America in the 19th century, people “revolutionized sewage” by

creating the modern sewage system, said Andrew Noymer, an associate professor of population health and disease prevention at UC Irvine. “They could have just said, ‘Boil your water.’ But they didn’t do that. They gave people clean drinking water.”

Ensuring clean air indoors is “the 21st century equivalent,” Noymer said. But “it’s a long-term solution, and people are still hoping that COVID is just going to go away.”

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GETTING OUT OF THE WOODS: STRATEGIES TO COPE WITH FEAR OF CANCER RECURRENCE

Cognitive therapy, teletherapy, journaling and taking up other daily activities may help cancer survivors overcome their fear of recurrence.

By Jeannette Moninger

When Aleah Hockridge was undergoing cancer treatments in spring 2015 for stage 3a breast cancer, the then 31-year-old resident of Santee, California, longed to hear the words “no evidence of disease.”

Aleah Hockridge, a survivor of stage 3a breast cancer, says that she longed to hear that her cancer was gone. However, the California resident, explains that she has anxiety that her cancer may recur every time she faces a big change or life decision.

However, when those words finally came 15 months later, Hockridge didn’t breathe a sigh of relief. Instead, she worried — a lot.

“For the first two years, I couldn’t shake the idea of the cancer coming back or spreading.”

Even hitting the five-year milestone in February 2020 didn’t ease Hockridge’s fears. “I never feel like I’m out

of the woods,” she says. “I don’t know if I’ll ever feel like this is behind me.”

When Fear Takes Over

It’d be hard-pressed to find a cancer survivor who hasn’t occasionally pondered their vulnerability to a cancer recurrence or metastasis.

Although many individuals eventually move past this worry, some survivors develop what experts call a fear of cancer recurrence (FCR). Their persistent worries, fears and anxiety consume their thoughts, negatively affecting their ability to get on with their lives.

This preoccupation about a cancer recurrence makes them hypervigilant to any physical symptoms that hint that the cancer is back or progressing.

“Fear of cancer recurrence is more intense and persistent than ‘scanxiety,’ which goes away after a scan. It’s also different from post-traumatic stress disorder, which causes you to relive past events,” says Heather Jim, a clinical psychologist at the Moffitt Cancer Center in Tampa, Florida.

“A survivor with fear of cancer recurrence ruminates about future events they have no control over. Even though a recurrence may never happen, they can’t break free from this cycle of worry.”

As many as 2 in 3 cancer survivors have FCR, according to findings from a 2022 study published in the European Journal of Oncology Nursing.

Hockridge says that she is grateful to be marrying her fiancé, Brandon La Flair, but notes that she still worries that her breast cancer may come back.

Despite its pervasiveness and the fact that this fear has certainly plagued some survivors, it wasn’t until the early 2000s that experts recognized FCR as one of the biggest unmet needs among cancer survivors.

That’s when a panel of psychosocial-oncologists developed a Fear of Cancer Recurrence Inventory (FCRI). This 42-item questionnaire uses a scale of 0 (not significant) to 4 (very significant) to determine how a

person thinks about a cancer recurrence. There’s also the FCRI-Short Form (FCRI-SF), with nine questions.

For researchers, the FCRI provides a uniform way to measure FCR among survivors. It also gives clinicians a tool to gauge when a person needs help.

Normal or low levels of FCR can also be helpful, as they may motivate a survivor to get follow-up scans and examinations and make healthy lifestyle changes such as exercising more or changing their diet.

It’s those with clinically significant results who worry Sophie Lebel, a clinical psychologist and professor of psychology at the University of Ottawa in Canada.

“The more severe the fear — meaning an almost daily preoccupation with cancer recurrence — the greater the negative impact on quality of life,” Lebel explains. “Studies, including my own, show a strong correlation between clinical fear of cancer recurrence and depression, anxiety, distress and post-traumatic stress symptoms (such as) hypervigilance, intrusive thoughts and panic attacks.”

Lebel says she often sees patients who have adopted a what’s-the-point attitude.

“They’re unable to plan a vacation, return to work or buy new clothes for fear that cancer will interfere with their plans.”

Anyone on the receiving end of a cancer diagnosis can experience FCR, regardless of gender, race, cancer type, stage or prognosis. But results from a study published in the Journal of Cancer Survivorship suggest that the fear and its impact may be greatest among young adult cancer survivors.

“Perceiving a greater number of years ahead of them may be interpreted as more opportunity for the cancer to come back or spread and a greater burden to remain cancer free,” explains Maurade Gormley, an assistant professor at the University of Connecticut School of Nursing in Mansfield.

Gormley’s studies on genomic testing for risk of recurrence among hormone receptor-positive breast cancer survivors found that those with a greater risk of recurrence had higher FCR; however, some still had a disproportionately high level of fear, even when their genomic test results indicated a low risk of recurrence.

“Factors such as how the individual perceives their illness and its consequences may be more important than their objective risk of recurrence,” she says. “This suggests that patients with cancer may benefit from closer follow-up of their emotional response to diagnostic and prognostic testing, regardless of their individual risk of recurrence.”

This need for improved communication is especially crucial when a patient transitions from active treatment to survivorship.

“I wasn’t prepared for what life would be like when the routine of scans, treatments and doctor visits ended,” says Keith Tolley, a resident of Warwick, Massachusetts.

Tolley was 61 years old in June 2017 when he was diagnosed with stage 3 melanoma. A year and a half later, the cancer spread to his liver and then to other areas. He underwent surgeries, an immunotherapy clinical trial, radiation therapy and additional immunotherapy treatments, scans taken in July 2020 showed a complete response to the treatments.

After his treatments ended, Tolley found himself occasionally struggling with the loss of security he felt while receiving regular medical care.

“It can be a struggle to shake that feeling of vulnerability and fear,” he says. “Early on, there were times when I would wake up in the middle of the night, worrying about the cancer coming back.”

Sleep problems, fatigue and pain are common issues among individuals with FCR. These symptoms can drive them to see their doctors more often, seeking reassurances that everything is OK. These actions can unnecessarily fuel anxiety and lead to higher health care expenses.

After Hockridge had a couple of scans to look for the source of back pain that she was sure was metastatic bone cancer (it wasn’t), she made a new rule.

“I track any unusual symptoms in a journal for two weeks and only call my oncologist if the symptoms worsen or don’t go away.”

Overcoming The Fear

When thoughts of a cancer recurrence become so intrusive that they affect the ability to function, enjoy

life or plan for the future, mental health counseling can help.

Studies suggest that clinically significant FCR won’t get better over time without treatment, and one of the most effective treatments is cognitive behavioral therapy (CBT).

When anxiety from the fear of cancer recurrence takes over, Keith Tolley says he finds talking to someone in his support system, like his wife Esmeralda Tolley, to be helpful.

“(CBT) gives you the tools to change negative thought patterns by breaking down what makes you anxious or scared and finding healthy ways to think about and manage them,” says Lynne Wagner, psychologist and professor of social sciences and health policy at Wake Forest University School of Medicine in Winston-Salem, North Carolina, who is conducting research on effective treatments for fear of recurrence.

One way to do this, Wagner says, is by scheduling worry sessions.

“You set aside five to 10 minutes every day for three weeks to think about your fears and how you would handle a situation, should it come true,” she says. “Push aside any fears that crop up outside the session (or write them down) until it’s worry time. You decide when you’re going to worry. The sessions challenge the idea that worrying gives you control over a situation or its outcome. You learn to say, ‘Let me focus on what I can control’ whenever intrusive thoughts creep in.”

Wagner also teaches her patients how to use diaphragmatic breathing exercises at the end of each worry session to help ground them.

“Deep breathing, mindfulness and meditation are great tools for coping with fear of cancer recurrence,” she says. “In some ways, a worry session is a type of mindfulness. The goal isn’t to change a thought but to become more comfortable with it.”

Facing his fears head-on is one way Tolley copes.

“I analyze a fear to figure out what I’m feeling and why,” he explains. “I try to determine (whether) this fear is driven by something I can or cannot control and whether it’s based on what is actually true or what I’m imagining to be true.”

Tolley also sticks to a commitment he made to himself to never go through this journey alone. “When I can’t shake fear or anxiety, I talk to someone in my support system,” he says. “(Often), just verbalizing the fear to someone else takes away its power.”

Tolley learned some of these strategies through a survivorship program at his cancer center. But many centers, and even cancer specialists, are just now recognizing the importance of talking to cancer survivors about FCR.

Psychosocial-oncologists are encouraging a two-pronged approach to raise patient awareness about FCR.

The first step involves educating patients during and after treatments about the signs of clinical FCR and when to seek help. This educational step also includes making sure patients understand their actual risk of recurrence based on their unique diagnosis and what signs to look for.

The second step encourages cancer care teams and primary care physicians to use the FCRI to identify those who need help.

However, finding that help may still be a challenge, Lebel admits.

“This is still a developing field, so it’s often difficult to find a therapist who has experience helping people overcome this fear,” she says.

If your cancer center doesn’t have a social worker or therapist who can help, Lebel recommends looking for a provider who specializes in treating anxiety and depression with CBT and mindfulness techniques.

“There’s strong evidence that these interventions help, and you don’t need a lifetime of therapy,” she explains. “Many people see improvements after doing six weeks of once-a-week group sessions, or you can do personal sessions or even teletherapy.”

Hockridge tried teletherapy sessions during the height of the pandemic but decided they weren’t for her. “I’ve found some healthy ways to cope, like yoga, mindfulness and challenging myself to try new things like surfing and kayaking,” she says. “It’s been a lot of trial and error, and I still struggle.”

That struggle intensified this year while Hockridge was planning her fall wedding.

“The fear of cancer recurrence comes back anytime I’m faced with big life decisions or changes,” she says. “I’m so grateful that I’m here to marry my soulmate and celebrate with our families. And yet, I have thoughts like, ‘Should we be spending money on a wedding if we need it to pay for future cancer treatments?’”

Hockridge likens her fear to an invisible boulder hanging perilously from a rope above her head.

“I try to pretend it’s not there because when I look up, the rope looks more frayed,” she says. “I fight the urge to look. Instead, I do what I can to cultivate joy, reduce stress and keep my eyes focused on the future. I must choose to believe that the boulder won’t come crashing down.” ●

School of Pharmacy

NOVEL APPROACH DESCRIBED FOR ATTACKING HERPESVIRUSES

By Staff Writer

Researchers from the University of Connecticut School of Medicine and School of Pharmacy say they have published an article (“Two-Metal Ion-Dependent Enzymes as Potential Antiviral Targets in Human Herpesviruses”) in *mBio* that could open the door to a novel approach to attacking herpesviruses. The study demonstrated that targeting two-metal ion-dependent enzymes of human herpesviruses with two compounds, AK-157 and AK-166, can inhibit the replication of the virus. The finding provides new opportunities to developing agents against herpesviruses, according to the scientists.

“A lot of people know the herpes simplex viruses, but there is actually a family of nine different herpesviruses including cytomegalovirus (CMV) which causes a lot of problems for immunocompromised people, folks getting transplants and chemotherapy patients for example. We need better therapeutic agents that can be used in these very vulnerable populations,” noted co-author of the study Dennis Wright, PhD, professor of medicinal chemistry in the School of Pharmacy at the University of Connecticut. “Right now, the therapeutic agents that are out there aren’t terribly effective in terms of being able to treat all the viruses, and many of them have a significant dose-limiting toxicities and associated side effects.”

Looking For One Drug

Ideally, said Wright, there would be one drug that would inhibit the reactivation of all nine of the herpesviruses. Co-study author Sandra K. Weller, PhD, a distinguished professor of molecular biology and biophysics in the School of Medicine at the University of Connecticut, identified targets that would allow just

that. She identified herpesvirus enzymes that require two magnesiums for the herpesvirus to replicate.

“The majority of drug discovery efforts against herpesviruses has focused on nucleoside analogs that target viral DNA polymerases [agents that are associated with dose-limiting toxicity and/or a narrow spectrum of activity],” she explained. We are pursuing a strategy based on targeting two-metal-ion-dependent (TMID) viral enzymes.”

“This family of enzymes consists of structurally related proteins that share common active sites containing conserved carboxylates predicted to coordinate divalent cations essential for catalysis. Compounds that target TMID enzymes, such as HIV integrase and influenza endoribonuclease, have been successfully developed for clinical use. HIV integrase inhibitors have been reported to inhibit replication of herpes simplex virus (HSV) and other herpesviruses; however, the molecular targets of their antiviral activities have not been identified,” write the investigators.

“We employed a candidate-based approach utilizing several two-metal-directed chemotypes and the potential viral TMID enzymatic targets in an effort to correlate target-based activity with antiviral potency. The panel of compounds tested included integrase inhibitors, the anti-influenza agent baloxavir, three natural products previously shown to exhibit anti-HSV activity, and two 8-hydroxyquinolines (8-HQs), AK-157 and AK-166, from our in-house program.

“The integrase inhibitors exhibited weak overall anti-HSV-1 activity, while the 8-HQs were shown to inhibit both HSV-1 and cytomegalovirus (CMV). Target-based analysis demonstrated that none of the antiviral compounds acted by inhibiting ICP8, contradicting previous reports. On the other hand, baloxavir inhibited the proofreading exonuclease of HSV polymerase, while AK-157 and AK-166 inhibited the alkaline exonuclease UL12.

“In addition, AK-157 also inhibited the catalytic activity of the HSV polymerase, which provides an opportunity to potentially develop dual-targeting agents against herpesviruses.” ●

PAXLOVID: ORAL ANTIVIRAL FOR THE TREATMENT OF COVID-19

By Cassandra R. Doyno

Editors Note: The information provided in this month's New Drug Review column is based on the FDA's emergency use authorization (EUA).

Per the EUA,¹ "Paxlovid has not been approved, but has been authorized for emergency use by FDA under an EUA, for the treatment of mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progression to severe COVID-19, including hospitalization or death; and the emergency use of Paxlovid is only authorized for the duration of the declaration that circumstances exist justifying the authorization of the emergency use of drugs and biological products during the COVID-19 pandemic under Section 564(b)(1) of the Act, 21 U.S.C. § 360bbb-3(b)(1), unless the declaration is terminated or authorization revoked sooner."

On December 22, 2021, the FDA issued an EUA for nirmatrelvir copackaged with ritonavir (Paxlovid; Pfizer).² Paxlovid is the first oral pill indicated for the treatment of mild to moderate COVID-19 for certain adult and pediatric patients 12 years and older, weighing at least 40 kg, who have a positive SARS-CoV-2 viral test, whose symptoms have been present for at least 5 days, and who are at high risk for progression to severe disease, including hospitalization or death.

Paxlovid is not indicated for treatment in those requiring hospitalization for severe disease, as exposure prophylaxis, or for those with symptoms that have been present for more than 5 days.^{3,4}

Efficacy

The Paxlovid EUA came from a planned interim analysis of the EPIC-HR Trial (NCT04960202), a phase 2/3 randomized, double-blind, placebo-controlled trial.² At randomization, the trial enrolled 2246 nonhospitalized,

symptomatic (< 5 days) adult patients 60 years or older with at least 1 risk factor for progression to severe disease. Patients with a history of COVID-19 infection or evidence of vaccination against the virus were not included.

The primary efficacy end point was the proportion of patients with COVID-19–related hospitalization or death from any cause through day 28. In a modified intention-to-treat analysis (n = 2085) of patients whose symptom onset was within 5 days and who were not expected to receive monoclonal antibody therapy, 8 patients in the Paxlovid group (n = 1039; 0.8%) and 66 patients (n = 1046; 6.3%) in the placebo group were hospitalized or died.² This represented an 88% decreased risk of hospitalization or death in those treated with Paxlovid vs placebo (–5.62 reduction relative to placebo; 95% CI –7.21 to –4.03). This is an interim analysis; effectiveness continues to be evaluated.²

Safety

Initial safety data also come from the EPIC-HR Trial. Notable adverse effects in the Paxlovid group vs placebo included dysgeusia, diarrhea, hypertension, and myalgia.² As stated in the EUA, rates of reactions observed may not reflect the rates observed in clinical practice and may become more apparent with widespread use. Health care providers and/or facilities are required to track all serious medication errors and adverse events that are considered related to the drug and must report them to both the FDA and Pfizer.

Dosing And Special Considerations

Paxlovid is supplied as two 150-mg tablets of nirmatrelvir copackaged with one 100-mg tablet of ritonavir. The current dosing recommendation is 300 mg/100 mg every 12 hours for 5 days. A dose adjustment to 1 tablet of nirmatrelvir (150 mg) plus ritonavir (100 mg) is recommended in moderate renal impairment (eGFR 30-60 mL/min). Pharmacokinetic or safety data are not available for severe renal or hepatic impairment and pregnancy; therefore, use is not recommended in these populations.²

Paxlovid (ritonavir component) inhibits cytochrome P450 3A4 metabolism pathways, and many potentially significant drug interactions may exist. Contraindications to use are any clinically significant

hypersensitivity reactions to active drug components of Paxlovid.

The Paxlovid Fact Sheet for Healthcare Providers provides an extensive and comprehensive list of potential drug interactions.² Given the significant potential for many drug interactions, pharmacists should review all concomitant medications and monitor for any adverse events that may be associated. herpesviruses.” ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE CONVERSATION
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HOW THE ‘TEST TO TREAT’ INITIATIVE AIMS TO GET AHEAD OF THE NEXT WAVE OF COVID-19

Going into the third year of the pandemic, public health experts are developing strategies to work within communities to have a more nimble and rapid response to COVID-19 infection rates.

By C. Michael White and Adrian V. Hernandez

C. Michael White, a professor of pharmacy practice, and Adrian V. Hernandez, a clinical epidemiologist, both from the University of Connecticut, explain how the Biden administration’s new “test to treat” initiative will make use of pharmacies in this effort. The strategy is to quickly identify those who are positive for COVID-19 and to provide oral antiviral treatments in the early days of illness when it is deemed necessary – all through the easy access of a local pharmacy. And they discuss how the strategy falls short of addressing the needs of underserved communities.

1. What Is The Premise Behind The Initiative?

In his March 2022 State of the Union address, President Joe Biden introduced the “test to treat” initiative, a program designed to help reduce barriers to getting

COVID-19 treatments in the early stages of illness. The goal is for people to be able to walk into a pharmacy with a health clinic staffed by nurse practitioners, physician assistants or physicians and to be tested for COVID-19 free of charge; if a person tests positive and treatment is deemed appropriate, oral antiviral therapy can be prescribed on the spot at no cost.

The premise is that the sooner people are tested, the sooner they can self-isolate to limit the spread of the disease while simultaneously receiving oral antiviral medications to help prevent hospitalization and death from COVID-19.

Do experts have something to add to public debate?

2. How Might This Initiative Help Curb The Next Wave Of COVID-19?

As of March 31, 2022, more than 1 million out of 332.6 million people or 3 in 1,000 people living in the U.S., have died from COVID-19. In contrast, 16,230 people out of 51.8 million or 3 in 10,000 South Koreans have died from COVID-19.

Some countries, such as South Korea and New Zealand, invested heavily in COVID-19 testing and contact tracing early in the pandemic so those at higher risk of infection could be tested immediately and isolated early. And they implemented contract tracing – the process of identifying friends, family and co-workers who may have come into contact with the infected person – early on to help slow the spread of infection.

A medical worker takes samples from a man during COVID-19 testing at a makeshift clinic.

Early on in the COVID-19 pandemic, South Korea implemented strategies to quickly test for COVID-19, isolate those who tested positive and trace people who may have come into contact with the infected person. AP Photo/Ahn Young-joon

Another advantage of early COVID-19 testing is that infected people can be treated much sooner. A new meta-analysis of oral antiviral therapies found that such treatments reduced the risk of hospitalization and death from COVID-19 by nearly 67%.

Starting therapy early is key. Early studies with the injectable antiviral remdesivir found that people did not benefit from the treatment at later stages of illness.

Clinical trials for the newest oral antiviral therapies against SARS-CoV-2, the virus that causes COVID-19, required that patients be treated within five days of the beginning of their symptoms. So combining early testing with immediate access to free oral antiviral therapy could make a huge difference, especially for those with limited access to traditional health care services.

A more rigorous and proactive testing program in the U.S. could especially benefit underserved communities with limited health care access. For instance, in the first half of the pandemic, a study found that for every 10,000 people who tested positive for COVID-19, more than 30 Hispanic patients and nearly 25 Black patients were hospitalized, compared with only 16 Asian patients and seven white patients.

3. What Are The Limitations Of The Initiative?

Only about 2,800 of the approximately 50,000 retail pharmacies in the U.S. have health clinics staffed by nurse practitioners, physician assistants or physicians, and about a third of them are located in California, Florida, Illinois, Minnesota and Texas. And only 12.5% of these retail clinics are located in medically underserved areas.

This leaves much of the country, and especially populations who suffer disproportionately from health disparities, left out of the “test to treat” initiative. But 95% of Americans live within 5 miles (8 kilometers) of one of more than 41,000 community pharmacies. If those settings were part of the initiative, access and impact would be much more widespread and equitable. The pharmacy is often the sole health care setting that can alleviate the problem of health care deserts – areas that lack sufficient access to medical offices in inner-city and rural communities.

At the height of the omicron surge, between 890,000 and 904,000 people in the U.S. were diagnosed with COVID-19 daily. Physicians’ offices and emergency departments were highly stressed. So adding only 2,800 retail health clinics – which are also dealing with heavy demands outside of COVID-19 – to rapidly test and disseminate oral antiviral drugs across the nation is unlikely to make a major dent in handling a COVID-19 surge. And there would be virtually no impact on COVID-19 outcomes in underserved communities, which would continue to have limited access.

4. Could Pharmacists Play A Bigger Role In The Initiative?

Our research shows great variations in how pharmacists are allowed to practice in the U.S. In hospitals across the country as well as federal health clinics run by the Department of Veterans Affairs, Indian Health Service and Department of Defense, pharmacists are fully integrated health professionals who can order lab tests and interpret their results, order or alter drug therapy and actively monitor a patient’s drug response.

The data supporting the positive impact that pharmacist-provided services have on patient health is undeniable. For example, pharmacist-run hypertension and diabetes clinics help patients achieve their blood pressure and blood sugar goals better than the standard treatment provided in physicians’ offices.

But pharmacists are not currently recognized as Medicare Part B providers – health professionals allowed to bill Medicaid for clinical services. So pharmacists are limited in their ability to provide clinical services in the community.

5. What Can Be Done To Address Access Issues?

To broaden access, the Department of Health and Human Services authorized pharmacists to provide COVID-19 vaccines in community pharmacies or long-term care facilities in September 2020. Since that time, pharmacists from more than 41,000 pharmacies have administered 233.4 million vaccine doses as of early April 2022. This includes 46% of all COVID-19 vaccinations in children ages 5-11.

A similar authorization could be granted to allow pharmacists to provide oral antiviral drugs to patients with positive COVID-19 tests who meet the criteria.

Alternatively, a bill that has been proposed with bipartisan support in the House of Representatives aims to ensure that all communities have access to testing and drug treatment by a pharmacist.

However, the American Medical Association has taken a stand against “test to treat” in pharmacies, whether or not they have a health clinic with nurse practitioners and physician assistants in them. The organization states that the large number of drug interactions with these antivirals, the complexities of COVID-19 disease

and the lack of full access to patients' medical records suggests that patients testing positive for COVID-19 should solely contact their physician to discuss treatment options.

But this position does not take into consideration the medical conditions pharmacists already successfully manage, such as heart failure and blood clotting. And it does not address how to care for the 25% of patients – largely in underserved communities – who do not have a primary care physician or access to a health clinic within a pharmacy.” ●

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MARIJUANA: 4 ESSENTIAL READS ON THE USES, EFFECTS AND POTENTIAL OF CANNABIS

By Leah Samuel

As states have legalized marijuana for medicinal and recreational use, and federal law now allows sale of hemp-derived products, cannabis and its derivatives are getting more attention and study. The Conversation has compiled excerpts of articles from scholars who have been watching recent marijuana developments.

1. Studies May Support CBD Claims

Soaring sales of products containing the marijuana extract CBD followed Congress legalizing CBD in 2018.

CBD sellers and users swear by its ability to relieve pain and anxiety. Although science isn't yet sure about that, there are reasons for encouragement, writes Hillary Marusak, a professor of psychiatry and neuroscience at Wayne State University.

“Neuroimaging studies in humans show that CBD can reduce activity in the amygdala and anterior cingulate cortex, brain regions associated with stress and anxiety,” she writes.

We bring the expertise of academics to the public.

Read more: CBD sales are soaring, but evidence is still slim that the cannabis derivative makes a difference for anxiety or pain

2. Don't Believe The Hype

In 2018, the Food and Drug Administration approved a drug containing CBD to treat seizures from two rare forms of epilepsy. After that, health claims around CBD grew.

C. Michael White, a University of Connecticut pharmacy professor, starts off debunking one of them. “There are no credible animal or human studies showing CBD has any effect on SARS-CoV-2 or the course of COVID-19 infection,” he writes.

Person in white mask and lab coat is wearing blue gloves as they use tweezers to place part of a marijuana plant into a clear glass tube.

Further study of marijuana extracts like CBD and delta-8 THC could determine whether they relieve pain and anxiety, as users and sellers claim. Casarsa Guru/E+ via Getty Images

“CBD might help with inflammation of the joints or skin, sleep disturbances, chronic anxiety, psychosis and behavioral issues associated with Fragile X syndrome,” White adds, pointing out that some of those conditions already have proven treatments, including other plant extracts.

But while CBD “may do some good for some people,” White suggests caution until scientists learn more about the side effects, drug interactions and potential contamination of CBD products.

Read more: No, CBD is not a miracle molecule that can cure coronavirus, just as it won't cure many other maladies its proponents claim

3. Marijuana + Alcohol = Trouble

Among college students, marijuana use is catching up to booze, according to Texas State University psychology professor Ty Schepis. As binge drinking is falling out of favor, “Marijuana use is inching upward,” Schepis writes.

“The number of young adults using both alcohol and marijuana is also rising, heightening concerns about a future surge in substance abuse problems,” he adds. “Young adults in that group also had much higher rates of other illicit drug use, like cocaine, and prescription drug misuse involving medications like opioids or benzodiazepines.”

4. Legal THC Is Not Well Understood

Daniel Kruger and Jessica Kruger, assistant professors at the University of Michigan and the University at Buffalo, respectively, surveyed 500 users of delta-8, a less psychoactive and technically legal type of THC.

The scholars suggest that delta-8 is ripe for more study of its possible benefits which, according to the survey, come without marijuana’s cognitive side effects like paranoia and an altered perception of time. “Many participants remarked how they could use delta-8 THC and still be productive,” the scholars wrote.

They added that survey participants who had been using delta-8 for health conditions said they stopped using pharmaceutical drugs to treat some mental and physical symptoms. “They considered delta-8 THC better than pharmaceutical drugs in terms of adverse side effects, addictiveness, withdrawal symptoms, effectiveness, safety, availability and cost.” ●

THE DIETARY SUPPLEMENT YOU’RE TAKING COULD BE TAINTED WITH PRESCRIPTION MEDICATIONS AND DANGEROUS HIDDEN INGREDIENTS, ACCORDING TO A NEW STUDY

The Research Brief is a short take about interesting academic work.

By C. Michael White

The Big Idea

Many over-the-counter dietary supplement products – particularly those used for sexual enhancement and weight loss – are tainted with undisclosed pharmaceutical ingredients. That is the key finding of my recently published review in the *Journal of Clinical Pharmacology*.

My assessment of the Food and Drug Administration’s Health Fraud Product Database turned up 1,068 unique dietary supplement products marketed between 2007 to 2021 that contained active ingredients found in prescription drugs or deemed too dangerous to be used in people. Among the tainted dietary supplements that my study identified, 54% were for sexual dysfunction and 35% were for weight loss. While many such products are removed from the market once detected by the FDA, other tainted dietary supplements can make their way onto the market in their place.

Why It Matters

Dietary supplements are used by 58% of U.S. adults. And according to recent surveys from the Council for Responsible Nutrition, U.S. consumers have a moderate level of confidence in the quality and safety of dietary supplements. However, my study suggests this confidence is misplaced, since numerous dietary supplement products contain unlabeled synthetic active ingredients.

So What Are These Hidden Substances, And Why Do They Matter?

Lurking in many of the tainted weight loss dietary supplements is the active ingredient sibutramine, which the FDA recommended removing from the U.S. market in 2010 after research showed that it increased the risk of heart attacks and strokes. And phenolphthalein, also commonly found in weight loss dietary supplement products in the FDA database, was removed from over-the-counter laxative products in 1999 when the FDA reclassified it as “not generally recognized as safe and effective.” The FDA’s warning came after studies showed that the ingredient can damage people’s DNA and increased the risk of cancer.

My study also identified the presence of ingredients approved only for use in prescription drugs. These include sildenafil and tadalafil, which are used in FDA-approved erectile dysfunction drugs like Viagra and Cialis. Such inadvertent usages can be dangerous, since the active ingredients in these drugs come with risks like loss of vision or priapism, or prolonged penile erection. My study also documented frequent cases in which more than one active ingredient found in erectile dysfunction drugs was combined in ways that were never studied for safety.

Another reason why hidden active ingredients are problematic is they pose the risk of serious drug interactions. When the active ingredients found in erectile dysfunction drugs are used with high blood pressure or prostate medications like nitrates and alpha-1 blockers, life threatening drops in blood pressure can occur.

Similarly, two of the dietary supplements identified in my study contained flibanserin, the active ingredient in the prescription drug Addyi, which is used to treat female sexual dysfunction. Flibanserin is generally safe

but can severely reduce blood pressure if used with alcohol.

Pharmacists check for these sorts of drug interactions before dispensing prescription medication. However, if undisclosed ingredients are hidden in dietary supplements, it is impossible to prevent unwanted drug interactions.

What Still Isn’t Known

Dietary supplement manufacturers do not provide the FDA with proof of good manufacturing practices before they sell them in the U.S., and these manufacturers can alter their products with no advance notice. The FDA must prove that a dietary supplement product is unsafe before it can take action, but this is difficult to enforce when there are over 29,000 dietary supplement products being sold in the U.S.

FDA assessments are laborious and expensive because these evaluations also aim to detect other dietary supplement problems such as the presence of heavy metal or bacterial or mold contamination. The agency’s assessment process of these supplements is also deeply underfunded. The FDA alerts consumers about newly detected tainted dietary supplements through its Health Fraud Product Database while attempting to remove these products from the market.

If the product that you are thinking about using is on that list, steer clear of it. However, if your product is not included in the database, it may simply mean that it hasn’t yet been assessed. availability and cost.” ●

DANGEROUS COUNTERFEIT DRUGS ARE PUTTING MILLIONS OF US CONSUMERS AT RISK, ACCORDING TO A NEW STUDY

By C. Michael White

The Research Brief is a short take about interesting academic work.

The Big Idea

The Food and Drug Administration took 130 enforcement actions against counterfeit medication rings from 2016 through 2021, according to my new study published in the journal *Annals of Pharmacotherapy*. Such actions might involve arrests, confiscation of products or counterfeit rings being dissolved.

These counterfeiting operations involved tens of millions of pills, more than 1,000 kilograms (2,200 pounds) of active ingredient powder that could be turned into pills in the U.S. and hundreds of millions of dollars in sales. Unfortunately, with over 11,000 rogue pharmacy sites selling drugs on the internet, these actions barely scratch the surface.

The FDA's Office of Criminal Investigations conducts and coordinates criminal investigations into manufacturers and individuals violating federal drug laws.

The agency maintains a database with links to press releases for their enforcement actions. Overall, in 64.6% of cases in that five-year period, the counterfeit products were sold over the internet, and in 84.6% of the enforcement actions taken, the products were obtained without a prescription.

Many of the counterfeit drugs were for controlled substances like opioids such as oxycodone and hydromorphone and stimulants such as those commonly used to treat attention-deficit/hyperactivity

disorder, as well as benzodiazepines, which are used for anxiety and sleep. China, India, Turkey, Pakistan and Russia were the most common countries supplying U.S. consumers with counterfeit drugs.

Why It Matters

The World Health Organization states that approximately 11% of medications sold in developing countries are counterfeit, resulting in 144,000 additional deaths annually from imitation antibiotics and anti-malarial drugs alone. My previous study also documented 500 childhood deaths attributed to diethylene glycol – a common additive in antifreeze – being added to knockoff cough suppressants as a sweetener.

In addition, from November 2021 to February 2022, counterfeit versions of drugs used for chronic conditions – such as the transplant medication tacrolimus, sold under the brand name Limustin, and the anticoagulant rivaroxaban, or Xeralto – were found on Mexican pharmacy shelves.

In the U.S., the Drug Quality and Security Act of 2013 secures the medication supply through a national electronic track-and-trace system that allows a specific medication to be followed from the manufacturer to the pharmacy. While the medications in licensed U.S. pharmacies are secure, a Kaiser Family Foundation survey found that 19 million people in America obtained prescription medications that are likely counterfeit through non-U.S. licensed internet pharmacies or while traveling abroad. The National Association of Boards of Pharmacy found that 96% of the 11,688 internet pharmacies they analyzed did not comply with U.S. federal or state laws. Of these, 62% did not reveal their physical location and 87% were affiliated with “rogue networks of internet drug outlets.” The FDA offers some guidance to help consumers determine whether an online product is legitimate.

How Counterfeit Medications Can End Up In Your Medicine Cabinet.

Opioids, benzodiazepines and stimulants are highly addictive and dangerous when taken inappropriately or when used together. While these counterfeit medications may look legitimate, the active ingredients that are supposed to be in these controlled substances

are frequently replaced with more dangerous alternatives like fentanyl. Four in 10 counterfeit opioid pills containing fentanyl harbor a potentially lethal dosage.

According to the Drug Enforcement Administration, the U.S. confiscated 9.5 million counterfeit pills from April 2020 to April 2021 – more than the previous two years combined. This is a likely driver of the 100,306 drug overdose deaths in the U.S. over that time.

Rogue online pharmacies frequently use social media platforms to reach potential customers. This suggests that more needs to be done by online platforms like social media, online forums and search engines to identify and stop illegitimate sellers of prescription drugs online.

People buying controlled substances over the internet are usually trying to circumvent physician control over the medication or the quantities they can receive. However, most people accessing noncontrolled substance counterfeit medications are simply trying to buy them at an affordable price. These trends make clear that the U.S. needs a long-term strategy to lower the cost of prescription medications to diminish demand for counterfeit medications, though there are some money-saving strategies that can be used in the short term.” ●

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TWO STATES ARE TRYING TO SET AGE LIMITS FOR DIET PILL SALES

Some lawmakers think the diet supplement industry has grown out of control.

By Laurie Udesky / KHN

California and New York are on the cusp of going further than the FDA in restricting the sale of non-prescription diet pills to minors as pediatricians and public health

advocates try to protect kids from extreme weight-loss gimmicks online.

A bill before Gov. Gavin Newsom would bar anyone under 18 in California from buying over-the-counter weight loss supplements — whether online or in shops — without a prescription. A similar bill passed by New York lawmakers is on Gov. Kathy Hochul’s desk. Neither Democrat has indicated how he or she will act.

If both bills are signed into law, proponents hope the momentum will build to restrict diet pill sales to children in more states. Massachusetts, New Jersey, and Missouri have introduced similar bills and backers plan to continue their push next year.

Nearly 30 million people in the United States will have an eating disorder in their lifetime; 95% of them are between ages 12 and 25, according to Johns Hopkins All Children’s Hospital. The hospital adds that eating disorders pose the highest risk of mortality of any mental health disorder. And it has become easier than ever for minors to get pills that are sold online or on drugstore shelves. All dietary supplements, which include those for weight loss, accounted for nearly 35% of the \$63 billion over-the-counter health products industry in 2021, according to Vision Research Reports, a market research firm.

Dietary supplements, which encompass a broad range of vitamins, herbs, and minerals, are classified by the FDA as food and don’t undergo scientific and safety testing as prescription drugs and over-the-counter medicines do.

Public health advocates want to keep weight loss products — with ads that may promise to “Drop 5 pounds a week!” and pill names like Slim Sense — away from young people, particularly girls, since some research has linked some products to eating disorders. A study in the American Journal of Public Health, which followed more than 10,000 women ages 14-36 over 15 years, found that “those who used diet pills had more than 5 times higher adjusted odds of receiving an eating disorder diagnosis from a health care provider within 1 to 3 years than those who did not.”

Many pills have been found tainted with banned and dangerous ingredients that may cause cancer, heart attacks, strokes, and other ailments. For example, the FDA advised the public to avoid Slim Sense by Dr. Reade because it contains lorcaserin, which has been found to

cause psychiatric disturbances and impairments in attention or memory. The FDA ordered it discontinued and the company couldn't be reached for comment.

"Unscrupulous manufacturers are willing to take risks with consumers' health — and they are lacing their products with illegal pharmaceuticals, banned pharmaceuticals, steroids, excessive stimulants, even experimental stimulants," said Bryn Austin, founding director of the Strategic Training Initiative for the Prevention of Eating Disorders, or STRIPED, which supports the restrictions. "Consumers have no idea that this is what's in these types of products."

STRIPED is a public health initiative based at the Harvard T.H. Chan School of Public Health and Boston Children's Hospital.

An industry trade group, the Natural Products Association, disputes that diet pills cause eating disorders, citing the lack of consumer complaints to the FDA of adverse events from their members' products. "According to FDA data, there is no association between the two," said Kyle Turk, the association's director of government affairs.

The association contends that its members adhere to safe manufacturing processes, random product testing, and appropriate marketing guidelines. Representatives also worry that if minors can't buy supplements over the counter, they may buy them from "crooks" on the black market and undermine the integrity of the industry. Under the bills, minors purchasing weight loss products must show identification along with a prescription.

Not all business groups oppose the ban. The American Herbal Products Association, a trade group representing dietary supplement manufacturers and retailers, dropped its opposition to California's bill once it was amended to remove ingredient categories that are found in non-diet supplements and vitamins, according to Robert Marriott, director of regulatory affairs.

Children's advocates have found worrisome trends among young people who envision their ideal body type based on what they see on social media. According to a study commissioned by Fairplay, a nonprofit that seeks to stop harmful marketing practices targeting children, kids as young as 9 were found to be following three or more eating disorder accounts on Instagram, while the

median age was 19. The authors called it a "pro-eating disorder bubble."

Meta, which owns Instagram and Facebook, said the report lacks nuance, such as recognizing the human need to share life's difficult moments. The company argues that blanket censorship isn't the answer. "Experts and safety organizations have told us it's important to strike a balance and allow people to share their personal stories while removing any content that encourages or promotes eating disorders," said Liza Crenshaw, a Meta spokesperson, in an email.

Dr. Jason Nagata, a pediatrician who cares for children and young adults with life-threatening eating disorders, believes that easy access to diet pills contributes to his patients' conditions at UCSF Benioff Children's Hospital in San Francisco. That was the case for one of his patients, an emaciated 11-year-old girl.

"She had basically entered a starvation state because she was not getting enough nutrition," said Nagata, who provided supporting testimony for the California bill. "She was taking these pills and using other kinds of extreme behaviors to lose weight."

Nagata said the number of patients he sees with eating disorders has tripled since the pandemic began. They are desperate to get diet pills, some with modest results. "We've had patients who have been so dependent on these products that they will be hospitalized and they're still ordering these products on Amazon," he said.

Public health advocates turned to state legislatures in response to the federal government's limited authority to regulate diet pills. Under a 1994 federal law known as the Dietary Supplement Health and Education Act, the FDA "cannot step in until after there is a clear issue of harm to consumers," said Austin.

No match for the supplement industry's heavy lobbying on Capitol Hill, public health advocates shifted to a state-by-state approach.

There is, however, a push for the FDA to improve oversight of what goes into diet pills. U.S. Sen. Dick Durbin of Illinois in April introduced a bill that would require dietary supplement manufacturers to register their products—along with the ingredients—with the regulator.

Proponents say the change is needed because manufacturers have been known to include dangerous ingredients. C. Michael White of the University of Connecticut's School of Pharmacy found 35% of tainted health products came from weight loss supplements in a review of a health fraud database.

A few ingredients have been banned, including sibutramine, a stimulant. "It was a very commonly used weight loss supplement that ended up being removed from the U.S. market because of its elevated risk of causing things like heart attacks, strokes, and arrhythmias," White said.

Another ingredient was phenolphthalein, which was used in laxatives until it was identified as a suspected carcinogen and banned in 1999. "To think," he said, "that that product would still be on the U.S. market is just unconscionable." ●

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POLIO VACCINATION RATES IN SOME AREAS OF THE US HOVER DANGEROUSLY CLOSE TO THE THRESHOLD REQUIRED FOR HERD IMMUNITY – HERE'S WHY THAT MATTERS

By Jennifer Giroto

Given recent headlines, you may be wondering why polio is even an issue in 2022. For more than 60 years, vaccines against the poliovirus have protected virtually everyone in the United States from the disease. Due to an enormously successful polio vaccination campaign beginning in the 1950s when the first polio vaccines became available, by 1979 polio was considered eliminated in the U.S.

Unfortunately, even today, there are communities in the U.S. that have lower-than-necessary polio vaccination rates. Because many people have not been vaccinated, there is now a real possibility of a resurgence of polio in the U.S.

As a clinical professor of pharmacy, I train future pharmacists about how vaccines work, their importance and how they prevent diseases.

Public health experts' longstanding concerns over falling vaccination rates rose to the surface when, in July 2022, a man from Rockland County, New York, was diagnosed with polio, the first such diagnosis in the U.S. in nearly a decade. The patient – who developed the severe, paralytic form of the disease – had been exposed to an altered live vaccine strain from overseas.

Then on Sept. 9, 2022, New York declared a state of emergency due to ongoing poliovirus transmission. As of that date, using wastewater surveillance, officials had identified 57 samples of poliovirus in wastewater from four New York counties. More than half of those were detected in the same county where the adult patient is from, just outside New York City.

As a result of the continued poliovirus detection in wastewater, the Centers for Disease Control and Prevention declared that the U.S. now meets the World Health Organization's criteria for "a country with circulating vaccine-derived poliovirus."

Two Main Poliovirus Vaccine Types

There are two key types of polio vaccine in use around the world today. The inactivated poliovirus vaccine is given as a shot, and the oral attenuated (or weakened) poliovirus vaccine is administered as oral drops, sometimes on a sugar cube.

Since 2000, the U.S. has exclusively used the inactivated poliovirus vaccine, which cannot cause disease since it does not contain live virus. But in countries where the poliovirus continues to circulate, such as Pakistan and Afghanistan, the oral attenuated poliovirus vaccine is still used.

In extremely rare cases, the weakened live vaccine used in other countries can mutate back into its virulent form and lead to paralysis. This is how the adult in New York is believed to have come into contact with the virus.

How ‘herd Immunity’ for polio is determined

The degree to which a community is protected from a pathogen like poliovirus comes down to herd immunity. When a community – the so-called herd – reaches a threshold of immunity, it can prevent the transmission of a pathogen from person to person, thereby quelling the pathogen.

The herd immunity threshold for a given disease is calculated based upon the expected number of individuals who an infected person would spread it to if they were susceptible. The higher the number of individuals who would become infected, the higher the percentage of the community or population that needs to be vaccinated to avoid continued spread of the disease.

For poliovirus, researchers estimate that between five and seven individuals would be infected for each case if those people were susceptible. Based upon these calculations, experts determined that at least 80% of a community or population should be vaccinated against poliovirus to prevent its spread.

Falling Vaccination Rates

Throughout the U.S., vaccination rates for polio vary significantly.

The CDC recommends that infants and young children receive a four-dose schedule of the inactivated poliovirus vaccine at 2 months, 4 months, 6 to 18 months and 4 to 6 years. For those who begin vaccination later – as older children, teens or adults – three doses is considered to be complete vaccination. This is because three doses of inactivated poliovirus vaccination have been shown to provide between 99% and 100% protection against severe disease.

Although all U.S. states are currently above the 80% herd immunity threshold for poliovirus, there are areas within the country that include many pockets of unvaccinated or undervaccinated individuals – those who have not received a total of three lifetime doses of the inactivated vaccine.

New York state, for example, holds one of the highest kindergarten polio vaccination rates in the country, with 97.9% of kindergartners vaccinated in the 2020-2021 school year. But current estimates by the New York

State Department of Public Health suggest that only 79% of 2-year-olds in that state have received three doses of the polio vaccine.

Further, in certain pockets and counties of New York, such as Rockland, Orange and Sullivan, three-dose vaccination rates may be far lower based on the 2-year-old age group, which is the only data that is available by county: Rockland 60%, Orange 59% and Sullivan 62%. In fact, 46% of counties in New York are below the three-dose poliovirus vaccination herd immunity threshold for 2-years-olds.

Most people today don’t remember the polio outbreak that terrorized Americans during the first half of the 20th century.

Vaccine Recommendations

When children fall more than one month behind on recommended polio vaccination, doctors recommend routine catch-up throughout adolescence.

Because most adults in the U.S. today were vaccinated as children and the U.S. had eliminated polio as of 1979, there was little reason for health experts to believe an adult would come into contact with poliovirus in the U.S. For that reason, catch-up vaccination for adults has not been included on the routine adult vaccination schedule.

But in August 2022, the CDC updated its guidance. In light of the fact that there are communities where poliovirus vaccination rates have fallen below the 80% threshold needed for herd immunity, coupled with the ongoing circulation of poliovirus in New York, the CDC now recommends that all unvaccinated or undervaccinated adults in these communities receive a poliovirus vaccination.

Additionally, the CDC suggests that some fully vaccinated adults who are at increased risk of exposure may benefit from a single lifetime poliovirus booster dose. This includes health care providers who care for those with poliovirus, or people traveling to areas where poliovirus has not been eliminated.

If you are unsure if you need vaccination or what steps you should take, talk to your pharmacist or primary care physician. ●

EXPERTS DEBUNK MYTHS ABOUT ALTERNATIVE MEDICINE FOR HEART DISEASE, HEART FAILURE

At the American Heart Association Scientific Sessions 2022, panelists discussed myths and misperceptions around taking alternative medicines for heart disease.

By Don Rauf

Now more than ever, people are turning to home remedies like herbal medicines, dietary supplements, and homeopathic products, and activities such as yoga, massage therapy, and acupuncture to treat what ails them. The alternative medicine market reached \$100 billion in 2021 and projections show that value more than tripling in the next five years, according to a 2022 report from Research and Markets.

The use of alternative medicines was a topic of discussion at a panel held on Sunday, November 6 at the AHA Scientific Sessions 2022. Experts addressed myths related to alternative medicines in people with heart disease, such as heart failure. Want to know what the experts think about alternative medicine? Here's a rundown of what they discussed.

Don't Place Alternative Therapy Above Traditional Medicine

"It's critical for us to educate our patients about potential interactions with heart failure medications," said session moderator Biykem Bozkurt, MD, an advanced heart failure and cardiac transplantation cardiologist and professor of medicine at Baylor College of Medicine in Houston. Dr. Bozkurt stressed that standard therapies today are having a critical impact on survivorship for people with heart failure, and it's a myth that "significantly marketed" herbal or alternative therapies should ever be used in place of standard therapies, which are proven to improve cardiovascular death and heart failure hospitalizations.

Other research presented at the AHA meeting supported this premise. A Cleveland Clinic trial published in the Journal of the American College of Cardiology showed that six commonly used dietary supplements marketed for improving heart health did not lower LDL cholesterol when compared with a low-dose cholesterol-lowering medication (also known as a statin) or placebo. The six supplements studied included fish oil, garlic, cinnamon, turmeric, plant sterols, and red yeast rice.

Read Product Labels To Ensure Safe Drug Use

Certain alternative medicines can do more harm than good, according to panelist Prateeti Khazanie, MD, who specializes in advanced heart failure and transplant cardiology at the UHealth Heart Failure Clinic at the Anschutz Medical Campus in Colorado. Dr. Khazanie shared the story of a patient who was drinking herbal tea, which happened to contain a lot of licorice root. Too much licorice can lower a person's potassium levels and disrupt normal heart function.

"He was probably drinking 5 to 10 cups of this tea a day, and his blood pressure was incredibly high," said Khazanie. "But we were able to take him off the licorice root tea and found that his blood pressure went down and he didn't need as much medication."

This is why reading product labels is important. She added that the upcoming AHA guidelines will highlight several other products — depending on the dose and medications being taken — that can be potentially harmful, such as grapefruit juice, ginkgo, bitter orange, blue cohosh, and vitamin E supplements.

Patient-Doctor Communication Is Critical

For Khazanie, healthcare practitioners should know what alternative products patients may be taking so they we can better counsel them and work with them as partners on their health.

Figuring out how to talk to patients about alternative medicine, however, can be challenging, noted Khazanie. "Some of the complementary and alternative medications come in tea form or in some other supplement that they're taking and they don't really think of it as a medicine," she said. On top of that, some patients want to feel empowered by their decision to

take something natural as opposed to “unnatural,” so Khazanie says that healthcare providers need to learn to communicate in such a way that doesn’t undervalue a patient’s opinion.

Some Alternatives May Offer Some Benefit

Not all alternative medicines are “bad” for your heart. Panelist Barry Bleske, PharmD, professor and chair of the department of pharmacy practice and administrative sciences at University of New Mexico Health Sciences in Albuquerque, highlighted that fish oil is recommended as a potential complementary therapy to reduce cardiovascular deaths and hospitalizations in people who have heart failure with reduced ejection fraction (when the muscle of the left ventricle is not pumping enough oxygen-rich blood out to the body).

He also noted that some studies have shown CoQ10 (coenzyme Q10) supplements and vitamin D as potentially beneficial, but research has produced mixed results.

“When it comes to some of these alternative treatments, they appear to be safe — there’s no really significant drug interactions,” said Dr. Bleske. “So if the patient does take it, it probably won’t interact with their heart failure medication and it could possibly help the patient in some regard. I have patients who’ve been on coenzyme Q who say it’s the best thing they’ve ever taken.”

Mind-Body Practice Can Be a Powerful Tool

Bleske also noted that mind-body practices such as yoga and tai chi fit the category of safe practices that may enhance physical health and mental attitude contributing in a positive way to whatever medical treatment a patient may be receiving. Another study presented at the AHA Sessions (which has not been published in a peer-reviewed journal) showed that mindfulness behavior, teaching individuals to develop a healthy relationship with their diet, exercise, and medication adherence, could lead to a significant drop in blood pressure.

In some cases, a “natural” product may be providing no real benefit but possibly be producing a placebo effect where patients improve simply because they believe the product is working. “The mind is a powerful thing,” said Bleske. “If people believe something works and it

improves their life, that all goes in to making it a positive therapy.”

Because many of these supplements and herbal remedies are sold at pharmacies, pharmacist William Baker, PharmD, a panelist and an associate professor of pharmacy practice at the University of Connecticut in Storrs, says that pharmacists can contribute to educating consumers on these products.

“Pharmacists may be more readily available than a physician and they may be able to give expert advice on whether a product may be good for a patient,” says Dr. Baker. “I’ve worked in retail pharmacy and there are many times that people would ask for my opinion. Many people just assume a supplement will work because it’s sold in the store, but I might advise them if I’m uncertain if the product is going to be of any benefit or if it may cause harm.” ●

**Rudd Center for
Food Policy and Health**

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ORDERING GROCERIES ONLINE? GOOD LUCK FINDING NUTRITION INFO

By Amy Norton

Online grocery shopping has skyrocketed during the pandemic, but many websites are making it hard to find nutrition information on products, a new study shows.

In the United States, packaged foods are required to have a nutrition facts label, ingredients list and warnings about common food allergens, displayed prominently and legibly.

Based on the new study, that is not translating well to online grocery shopping.

Looking at a sample of groceries sold by nine major online retailers, researchers found that required labeling was only inconsistently displayed. Nutrition facts and ingredients were present and legible around half of the time, while allergen information was rarely given.

It seems the surge in online shopping has gotten ahead of federal regulators, the researchers said.

"Maybe this hasn't really hit them yet," said study leader Jennifer Pomeranz, an assistant professor at the NYU School of Global Public Health, in New York City. "But I'd urge the federal agencies to get on this."

In the meantime, she said, it's in companies' "best interests" to voluntarily address the consumer information void. The study found that even individual websites seemed to have no uniform policy on displaying nutrition information.

Online grocery shopping was gaining momentum before COVID-19, but the pandemic fueled an explosion in popularity. Surveys indicate that between 2019 and 2020, the percentage of Americans doing at least some grocery shopping online shot up, from 19% to 79%.

And it's projected that by next year, online orders will make up more than one-fifth of all U.S. grocery sales, according to Pomeranz's team.

In theory, online shopping could make it easier for consumers — especially busy parents — to make healthy choices, according to Frances Fleming-Milici, a researcher who was not involved in the study.

"I've talked to parents about their shopping experiences in the grocery store," said Fleming-Milici, of the University of Connecticut's Rudd Center for Food Policy and Health. "They're rushed, they have no time for differentiating between products."

On top of that, she noted, their kids are demanding the candy they see at the checkout, while their own rumbling stomachs can make them buy foods they otherwise might skip.

Grocery shopping online could help parents avoid those problems, Fleming-Milici said. Unfortunately, she added, this study shows they are not being provided the product information they need.

"This is a real missed opportunity," Fleming-Milici said.

The findings, published Jan. 20 in the journal *Public Health Nutrition*, are based on a sampling of 10 brands of cereal, bread and drinks sold by nine online retailers. They included Amazon, Walmart, Fresh Direct and grocery chains like ShopRite and Safeway.

On average, the study found, nutrition facts labels were "present, conspicuous and legible" about 46% of the time across all products. Ingredients lists met that bar slightly more often, at 54%.

Information on allergens, meanwhile, was usually missing. A couple of cereals and a bread product had that information clearly displayed 11% to 33% of the time.

Instead, consumers could more often expect to see product claims, like "low sodium" — which are marketing tools to imply a product is "healthy."

"People want information, not obfuscation," Fleming-Milici said.

Often, those claims were visible on images of the product itself, the study found. But in some cases, retailers' websites also hyped nutrition-related claims.

According to the researchers, three federal agencies could potentially take action: the U.S. Food and Drug Administration, which oversees food labeling; the Federal Trade Commission, which has authority over online sales and food advertising; and the U.S. Department of Agriculture (USDA), which runs the Supplemental Nutrition Assistance Program (SNAP), which provides food stamps to eligible Americans. The USDA could also require online retailers that participate in the program to display all required nutrition information, the researchers noted.

Fleming-Milici agreed that the onus is on regulators. "I would really like to see policy change to address this," she said.

She added that having all companies follow the same rules would "level the playing field" for retailers.

For now, Pomeranz suggested consumers stick with online retailers that consistently provide the required nutrition information. That's harder, she noted, for people in the SNAP program, since only some retailers participate.

Pomeranz also pointed out that food labeling is about more than calorie-counting: People with health conditions like high blood pressure and diabetes need to be careful about content such as sodium and sugar.

"This is a matter of health and safety, too," Pomeranz said. ●

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Brazil, Land of the Thong, Embraces Its Heavier Self

A country known for beach bodies is confronting soaring obesity rates with new laws that enshrine protections for people who are overweight.

By Jack Nicas

RECIFE, Brazil — In this oceanside metropolis in Brazil's northeast, the schools are buying bigger desks, the

hospitals are purchasing larger beds and M.R.I. machines and the historic theater downtown is offering wider seats.

Recife is one of the fattest cities in Brazil. It is also quickly becoming one of the world's most accommodating places for people with obesity.

That is because Recife is part of an accelerating movement across Latin America's largest country that, according to experts, has quickly made Brazil the world leader in enshrining protections for the overweight.

Over the past 20 years, Brazil's obesity rate has doubled to more than one in four adults. In response, activists in Brazil have fought to make life less difficult for overweight Brazilians — and the success of their efforts stands out globally for changing not just attitudes, but laws.

Measures across the country now entitle the obese to preferential seats on subways, priority at places like banks and, in some cases, protection from discrimination.

Here in Recife, population 1.6 million, a law passed last year requires schools to purchase larger desks and educate teachers about weight-based discrimination so they can include it in their lessons. Another law created an annual day to promote overweight people's rights.

"There's a lot more we can do at the national level and, God willing, one day we can go international," said Karla Rezende, an activist in Recife who started pushing for the new laws after realizing that typical airplane seatbelts didn't fit her. "There are fat people everywhere, and they all suffer."

She paused and then clarified: Cultural expectations in Brazil might mean overweight Brazilians have it particularly hard. "The demand for the perfect body," she said. "The perfect curves."

Like many countries, Brazil has recently begun confronting racism, sexism and homophobia. But in a nation where the body is often front and center — think plastic surgery, thongs on the beach and a carnival that features perhaps more feathers than fabric — a national conversation is also now emerging over how Brazil treats overweight people.

"Gordofobia," or the term for weight-based discrimination in Portuguese, has become a buzzword in

Brazil. It is at the center of heated debates on one of Brazil's most-watched television programs, the reality show "Big Brother," and is the main issue discussed on Instagram and TikTok accounts with millions of followers.

Brazil's biggest pop star, Anitta, has made waves for including obese women in her music videos and sometimes not editing out her cellulite. And after the Brazilian country-music star Marília Mendonça died in a plane crash last year, some journalists and commentators were widely criticized for mentioning her weight.

In some ways, Brazil is catching up to the trend in the United States and Europe, where larger models have become more commonplace on catwalks. But when it comes to public policy, the movement in Brazil has quickly surpassed many other countries, experts said. The debate here went from the media and into city halls, state legislatures and Brazil's Congress.

In 2015, Brazil amended a 15-year-old federal law to extend protections for disabled people to those who are overweight, entitling them to preferential seats on public transportation and priority in certain places like banks. In São Paulo, there are now wider seats for obese people on the metro, and in Rio de Janeiro, there are some at the famous Maracanã soccer stadium. Three Brazilian states recently dedicated Sept. 10 to promoting obese people's rights. And one of those states, Rondônia, also passed a law in December that guarantees overweight people "access to all places," "dignified treatment" and protection from "gordofobia."

"What's happening in Brazil are these collective efforts by policymakers to address this problem in ways we're really not seeing in other places," said Rebecca Puhl, a University of Connecticut professor who tracks such laws. "In the U.S. and frankly everywhere else in the world, the policy landscape is quite barren."

Ms. Puhl said that since Michigan passed a law in 1976 that formally protected people from weight discrimination, there have been few meaningful or related policies in the United States. Massachusetts is considering similar legislation, though it has failed there before. Iceland's capital, Reykjavík, passed a similar law in 2016. And in 2014, the European Court of Justice ruled that severe obesity can legally render people

disabled, potentially protecting them from discrimination, but obesity alone does not warrant protection.

In Brazilian courts, rulings began mentioning "gordofobia" in 2014 and have steadily increased since, according to a review of available judgments by Gordana Lei, or Fat in the Law, a Brazilian activist group. In October, a judge ordered a comedian to pay a \$1,000 fine for making jokes about an obese Brazilian dancer's weight. "The defendant exuded unequivocal gordofobia," the judge said in the ruling. Freedom of speech is allowed, the judge added, "but it's the state's duty to protect minorities."

Still, enforcement is still often lacking in Brazil. Rayane Souza, a founder of Gordana Lei, said that many modes of public transportation remained inaccessible despite the 2015 law. She pointed to a recent incident in the coastal city of Guarapari, where an overweight woman got stuck in the turnstile on a city bus. Firefighters freed the woman as other passengers laughed, according to the Brazilian news outlet G1. "I cry at night just thinking of what the people said," Rosângela Pereira told G1 days later.

In 2020, nearly 29 percent of Brazilians older than 20 were obese, up from roughly 15 percent in 2000, one of the largest increases of any country over that period, according to the Institute for Health Metrics and Evaluation at the University of Washington. Among the 10 most populous nations, only Mexico, the United States and Russia had higher obesity rates, ranging between 31 percent and 37 percent, according to the data.

Dr. Claudia Cozer Kalil, an endocrinologist at one of Brazil's top hospitals in São Paulo, attributed the soaring obesity in part to rising wages that led to poor diets of fast food and processed foods. As obesity has increased, she said, so have related health problems like diabetes, high blood pressure and sleep apnea. She said that the government should do more to address the issue, including better food labeling. In Brazil, for instance, nutrition labels often don't include sugar.

Still, she supported the laws. "The fact is, the population is heavier," she said. "So we have to adapt to that."

Brazil's "gordofobia" debate revolves in part around the unrealistic image of the Brazilian body in the media

inside and outside the country. The psychological impact of that image, activists said, can be illustrated by Brazilians' efforts to pump up their lips, breasts, butts and muscles — and surgically suck out their fat — at a rate far higher than that of most other countries.

In 2019, Brazil led the world in plastic surgeries. In 2020, amid the pandemic, it had 6.1 plastic surgeries per 1,000 people, compared with 4.5 per 1,000 people in the United States, the world leader in total plastic surgeries that year, according to statistics from a global plastic-surgeon trade group. A risky surgery that involves transferring fat from the abdomen to the butt is even called the Brazilian butt lift.

At a November beauty pageant for larger men and women in Recife, the theme was standing up to “gordofobia” and defying stereotypes of the perfect body. During one emotional moment, the contestants stood onstage as actors hurled insults at them.

Many Brazilians agree that their culture largely embraces shapely women more than other Western countries. And a visit to Brazil's beaches and parks will confirm that there are plenty of overweight men and women who feel very comfortable with their bodies, and don't give a second thought to wearing bikinis or sungas, the Brazilian version of a Speedo.

Yet those people don't represent all Brazilians, activists said. Ms. Souza said that despite living near the beach, she didn't put on a bikini for 11 years after being called a whale there. “A woman putting on a bikini today has much more to do with her own self-acceptance than social acceptance,” she said.

Carol Stadtler, a founder of Beauties of the Body, another activist group in Recife, said overweight people fitting in societally was one part of the movement. Perhaps more important was getting them to fit into society physically, she said.

“It's not just about being beautiful or ugly or having the body of the Brazilian woman,” she said, speaking after the pageant, where she said the theater chairs left painful marks on her legs. “It's also about how we don't fit into chairs.” ●

SCHOOLS WILL STOP SERVING FREE LUNCH TO ALL STUDENTS – A PANDEMIC SOLUTION LEFT OUT OF A NEW FEDERAL SPENDING PACKAGE

By Marlene B. Schwartz

Public schools have been serving all students free meals since the COVID-19 pandemic first disrupted K-12 education. In March 2022, Congress rejected calls to keep up the federal funding required to sustain that practice and left that money out of a US\$1.5 trillion spending package that President Joe Biden signed into law on March 11, 2022. We asked food policy expert Marlene Schwartz to explain why free meals make a difference and what will happen next.

How Did The COVID-19 Pandemic Initially Affect The School Lunch Program?

In March 2020, nearly all U.S. K-12 school buildings closed due to the COVID-19 pandemic.

The U.S. Department of Agriculture, which administers the federal government's National School Lunch Program, quickly granted waivers to increase program flexibility and accommodate the challenges of the pandemic.

These waivers, which have been renewed several times, were critically important for school food service programs as the programs abruptly shifted away from serving meals in cafeterias and designed new distribution models to continue to feed students. Many school meal staff across the country created grab-and-go meals that families could pick up, which was particularly important in the spring of 2020 and the following school year. Another major change, which has

continued during the 2021-2022 school year, is that school systems are able to serve meals to all students at no cost.

Prior to the COVID-19 pandemic, nearly 30 million lunches were served every school day to K-12 students through the National School Lunch Program. Schools provided roughly three-quarters of those meals at reduced rates or no cost at all – with the federal government reimbursing a portion of the cost of those meals.

Children Near A School Bus, Wearing Masks, Carry Bags Of Food.

Children like these in Santa Fe, N.M., could pick up bagged meals at bus stops when their schools had closed their doors amid virus outbreaks in 2020 and 2021. AP Photo/Cedar Attanasio

How Much Money Is Involved?

The program cost \$14 billion in 2019, before the pandemic disrupted it.

The price of a school lunch for families without free or reduced-cost meals varies. In 2017, full-price lunches tended to run between \$2.50 and \$2.75 apiece.

Are All Public School Students Still Getting Free Meals?

Yes. However, that will no doubt change once the latest waiver expires on June 30, 2022.

Advocates urged Congress to keep funding school nutrition programs at higher levels. But Congress did not include that money in the \$1.5 trillion spending bill House and Senate lawmakers passed in March 2022.

This means that next fall, most schools will have to resume the old three-tiered system where some families don't pay at all, some receive discounted lunches, and others must pay full price.

Two states will buck that trend. California and Maine will continue providing universal school meals after the federal waiver ends due to measures their state

legislators passed and governors signed into law during the COVID-19 pandemic.

At the federal level, more than a dozen senators and roughly 50 members of the House of Representatives backed proposed legislation in 2021 that would permanently make school lunch free for all students, regardless of their income. There is significant support for this idea among advocates, but the future of this type of federal legislation remains to be seen.

What Are The Advantages Of Making School Meals Free To Everyone?

In my view, the biggest advantage to universal school meals is that more students actually eat nutritious school meals. Following the regulations that emerged from the 2010 Healthy Hunger-Free Kids Act, the nutritional quality of school meals improved significantly, and a recent study found that schools typically provide the healthiest foods that children eat all day.

The research shows that making school meals free for everyone improves attendance and boosts diet quality. It also decreases the risk of food insecurity and the stigma associated with receiving a free meal. When no one has to pay, the growing problem of school meal debt is also eliminated.

There are important logistical benefits to universal school meals. Families don't have to fill out any paperwork to establish their eligibility for free or reduced-price meals. And cafeteria staff can focus on serving the meals if they don't need to track payments.

What's Wrong With Charging Some Students For Lunch Again?

You have to look at the costs and benefits of the big picture. Universal school meals provide significant benefits to the school community as a whole – most notably, reductions in food insecurity and improvements in student diet quality. I believe these benefits are far greater than the marginal cost of providing free meals to students who would otherwise pay.

The fall of 2022 is also much too early to revert back to the three-tiered system because school food programs continue to face significant challenges. Supply chain disruptions have made it harder to buy some kinds of food, including chicken and whole grain products. In addition, many schools are having trouble hiring the staff they need to prepare and serve the meals, and inflation is increasing food costs.

What Do You See Happening In The Future?

Ideally, the federal government will reconsider this issue and support universal school meals.

If that does not happen, advocates, policymakers and researchers will be watching what happens in California and Maine. We will be able to compare what happens in these states versus those that do not continue to provide all students with free meals. My hope is that this information will inform future decisions about implementing universal school meals for all students nationally. ●

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THE UNSPOKEN WEIGHT-DISCRIMINATION PROBLEM AT WORK

By Andrea Yu

Discrimination linked to weight can affect hiring, promotions and employees' mental wellbeing. Why aren't legal protections in place?

After a year working at a Canadian fashion company, Courtney noticed she was being excluded from meetings with vendors. "It was portrayed to me that being out of the office for a whole afternoon [meeting vendors] wasn't a good use of my time," she recalls.

In August 2018, 18 months after starting the job, Courtney (whose surname name is being withheld for privacy reasons) sat with her manager for a

performance evaluation. He spent the first 10 minutes praising her job performance, but the following 20 minutes took Courtney by surprise.

"He told me that my looks were affecting my job. He point-blank told me that he thought I was too fat to be in the position I was in. He told me he was embarrassed having me around our vendors in meetings, and that it ruined his reputation."

Courtney's boss also told her that she needed to start going to the gym and to stop wearing any fitted clothing. He told her to buy a new wardrobe and to wear makeup every day. "I was so shell shocked," she says. "I kind of just sat there, to be perfectly honest. I felt like I was going to cry." After the meeting, Courtney says her anxieties over her appearance significantly affected her work; she felt paranoid about what her colleagues thought. "My work 100% suffered. I was so distracted."

Weight-based discrimination in the workplace is still legal in nearly all parts of the world, except for the US state of Michigan and a handful of US cities including San Francisco and Madison, Wisconsin. In many nations, characteristics including gender, race, religion and sexual orientation are officially protected under law, meaning employers can't use them to discriminate. But with a few tiny exceptions, that's not yet the case for weight.

Of course, many people know that including weight as a factor in whether to hire or advance candidates or employees isn't right. But this kind of discrimination still happens, whether openly or behind the scenes, based on people's conscious and unconscious biases. It can take a significant toll, both economically and mentally, on those who experience it. Measures to tackle it legislatively are making glacial progress; meanwhile, this insidious form of discrimination remains hard to stamp out.

Overlooked, Judged

"Weight discrimination can be experienced in lots of different ways, some subtle and some more overt," explains Rebecca Puhl, a professor at the department of human development and family sciences at the University of Connecticut, US. "We see people being

discriminated against because of their weight when they're applying for jobs. They're less likely to be hired than thinner individuals with the same qualifications."

He point-blank told me that he thought I was too fat to be in the position I was in – Courtney

While there's no evidence to support the idea that weight is linked to certain personality traits, stereotypes feed into these hiring decisions. Puhl points to a 2008 study which found that overweight job applicants are viewed as being "less conscientiousness, less agreeable, less emotionally stable and less extraverted than their 'normal-weight' counterparts".

Once hired into for a job, people can experience weight discrimination in a variety of ways. It can be explicit, like the exclusion and comments Courtney experienced at the fashion company. A 2021 study, co-authored by Puhl, surveyed 14,000 people across Australia, Canada, France, Germany, the UK and the US who were participating in a weight management programme. Fifty-eight percent of respondents said they had experienced weight stigma from their colleagues.

Other discrimination can be subtle. "We also see people who have been overlooked for promotions, or are being wrongfully terminated from their job because of their weight," explains Puhl. A 2012 study of HR professionals showed they were more likely to disqualify obese people from being hired and less likely to nominate them for supervisory positions. At the fashion company, Courtney saw other people with the same job get promoted, while she remained at the same rank. "Anybody with my position was moving up within one or two years," she explains.

Weight discrimination manifests in all kinds of workplaces, according to Brian J Farrar, an employment attorney at Sterling Employment Law, located in Bloomfield Hills, Michigan. But he says it's especially prevalent in environments with a focus on physical appearance. "You tend to see it more where employees are interacting with customers," he explains. "In a restaurant or retail, you tend to have a higher potential incidence of weight discrimination."


There is a gendered element: Puhl says women are more vulnerable to weight discrimination in the workplace. "[They] experience it not only at higher levels, but also at lower levels of body weight," she says. "For men, their BMI [body mass index] has to increase quite high before the same level of weight discrimination kicks in for women." Puhl attributes this to different societal standards around weight and attractiveness between the genders.

Farrar concurs, noting expectations of physical appearance aren't enforced universally among male and female employees. Income can also play a role in weight discrimination, he points out, disproportionately affecting low-wage workers. "They may be less likely to come forward and report discrimination," he says. "That may cause their employers to take advantage of them more."

Weight discrimination can have multiple impacts, both in terms of a worker's career progression – which links to their earning potential – and their mental health. On the economic side, one study from 2011 showed that a one-unit increase in a woman's BMI correlates with a 1.83% decrease in hourly wages. And a 2018 study showed while being in a lower income bracket can increase the risks of obesity, the reverse is also true — being obese decreases one's income, impacts more pronounced among women than men.

Weight-based judgment and rude remarks can also lead to negative health behaviours, like higher sleep disturbance and alcohol use, lower physical activity and poor eating habits. For Courtney, being judged for her weight led to severe anxiety which, coupled with other life stresses, led her to take a two-year sick leave from work.

Opening The Door?

Experts like Puhl and Farrar, who has represented employees in Michigan in workplace weight-discrimination cases, agree greater adoption of legislation could have an impact on this issue. In the US, bills are currently circulating in New York and Massachusetts; the new laws would be similar to the protections in Michigan, where weight is included as a protected characteristic in the state's civil rights act  EditSign. Some states in Brazil and the city of Reykjavik

have also passed laws protecting people from weight discrimination.

Puhl reminds us that change is slow – she has been testifying about the legislation in Massachusetts for more than a decade. She believes that these laws aren't being prioritised because of persistent stigmas around weight. "If society continues to place personal blame on people for their weight, and if that blame is deemed socially acceptable, policy change is very challenging," she says. But she believes Massachusetts "is pretty close" to passing a new law. "That's monumental, because the Michigan law was passed in 1976. We have not had a state since then pass anything. If Massachusetts does this, that will open the door for other states to follow suit."

If society continues to place personal blame on people for their weight ... policy change is very challenging –
Rebecca Puhl

Legislation isn't the only solution, of course, because it won't eradicate pervasive negative attitudes around weight. But similar to previous advancements protecting gender, race and sexual orientation, legislation makes a difference.

"Is it going to get rid of weight stigma? No, of course not," says Puhl. "We still live in the same society and culture where we have messages that weight is about personal responsibility or laziness or discipline." But legal protections are important and necessary for significant societal change to take place.

Courtney believes having weight discrimination protections in Canada wouldn't have prevented her negative workplace experience, but says the existence of laws would have been reassuring. "I think knowing there is legislation almost feels like a validation that it's wrong to be discriminated against for one's weight," she says. After returning to work from sick leave, Courtney continued to experience weight-related bullying and negative comments from supervisors. She was eventually laid off – and feels relieved to be out of a "toxic situation".

"It has put a lot of self-doubt in my mind about my ability to do my job, about the career I want," explains Courtney. "It's made me rethink whether I feel like I can work within the fashion industry in general. I don't think I could ultimately have a long-lasting career if I'm always thinking that people are judging me." implementing universal school meals for all students nationally. ●

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PARENTS SWAP, SELL BABY FORMULA AS BIDEN FOCUSES ON SHORTAGE

By Josh Boak and Pat Eaton-Robb

WASHINGTON (AP) — President Joe Biden stepped up his administration's response to a nationwide baby formula shortage Thursday that has forced frenzied parents into online groups to swap and sell to each other to keep their babies fed.

The president discussed with executives from Gerber and Reckitt how they could increase production and how his administration could help, and talked with leaders from Walmart and Target about how to restock shelves and address regional disparities in access to formula, the White House said.

The administration plans to monitor possible price gouging and work with trading partners in Mexico, Chile, Ireland and the Netherlands on imports, even though 98% of baby formula is domestically made.

The problem is the result of supply chain disruptions and a safety recall, and has had a cascade of effects: Retailers are limiting what customers can buy, and doctors and health workers are urging parents to contact food banks or physicians' offices, in addition to warning against watering down formula to stretch supplies or using online DIY recipes.

The shortage is weighing particularly on lower-income families after the recall by formula maker Abbott, stemming from contamination concerns. The recall wiped out many brands covered by WIC, a federal

program like food stamps that serves women, infants and children, though the program now permits brand substitutes. The Biden administration is working with states to make it easier for WIC recipients to buy different sizes of formula that their benefits might not currently cover.

About half of infant formula nationwide is purchased by participants using WIC benefits, according to the White House.

Clara Hinton, 30, of Hartford, Connecticut, is among that group. She has a 10-month-old daughter, Patience, who has an allergy that requires a special formula.

Hinton, who has no car, has been taking the bus to the suburbs, going from town to town, and finally found some of the proper formula at a box store in West Hartford. But she said the store refused to take her WIC card, not the first time that has happened.

Hinton said her baby recently ran out of formula from an already opened can she got from a friend.

“She has no formula,” she said. “I just put her on regular milk. What do I do? Her pediatrician made it clear I’m not supposed to be doing that, but what do I do?”

In Utah, fellow WIC card holder Elizabeth Amador has been going store-to-store every day after she finishes work at a call center in Salt Lake City in desperate search of one particular formula her 9-month-old daughter needs. She recently was down to only one can, but had four cans on Thursday. She said she won’t stop her cumbersome daily routine until she knows the shortage is over.

“It sucks, you know because of high gas prices,” Amador said. “We’re having to drive everywhere to find formula. It’s stressing.”

Some Parents Are Also Using Social Media To Bridge Supply Gaps.

Ashley Maddox, a 31-year-old mother of two from San Diego, started a Facebook group on Wednesday after failing to find formula for her 5-month-old son, Cole, at the commissary on the Navy base.

“I connected with a gal in my group and she had seven cans of the formula I need that were just sitting in her house that her baby didn’t need anymore,” she said.

“So I drove out, it was about a 20-minute drive and picked it up and paid her. It was a miracle.”

She said there was already a stigma attached to being a non-breastfeeding mom and that the group has become supportive. “To not be able to have that formula, it’s scary,” she said.

Jennifer Kersey, 36 of Cheshire, Connecticut, said she was down to her last can of formula for her 7-month-old son, Blake Kersey Jr., before someone saw her post on a Facebook group and came by with a few sample cans. She said she and others in the group are helping each other, finding stores that might have the formula in stock and getting it to mothers who need it.

“At first I was starting to panic,” she said. “But, I’m a believer in the Lord, so I said, ‘God, I know you’re going to provide for me’ and I just started reaching out to people, ‘Hey do you have this formula?’”

Kimberly Anderson, 34, of Hartford County, Maryland, said her 7 1/2-month-old son takes a prescription formula that has been nearly impossible to find locally. She turned to social media and said people in Utah and Boston found the formula, which she paid to have shipped.

“They say it takes a village to raise a baby,” she said. “Little did I know my village spans the entire U.S. as I ping friends, family for their zip codes so I can check their local Walmarts to have them ship directly to me.”

Shortages of basic goods have been a problem since the start of the coronavirus pandemic. Access to medical supplies, computer chips, household appliances, cars and other goods has been hurt by closed factories and outbreaks of the virus, as well as storms and other climate-related events.

Parents desperately searching for infant formula on retailer websites such as Amazon and Google are being served up with products intended for toddlers, including powdered toddler goat milk and plant-based milk powders.

One banner ad across Amazon offers “organic non GMO formula for babies & toddlers,” but a closer inspection of the product’s image shows that it is only intended for children over 12 months. Other ads for toddler milk appear on Amazon’s website on pages for out-of-stock infant formula.

Toddler milk cans often closely resemble that of infant formula, but the ingredients are distinct, with toddler milks sometimes boasting more sugar, calories, said Frances Fleming-Milici, UConn's Director of Marketing Initiatives at the Rudd Center who has studied toddler milk packaging. Toddler milk also does not follow FDA standards for formula.

"It's not like you're buying a pair of shoes. This is a little bit more serious," Fleming-Milici said.

"It's serving up something that you should not be giving to your child."

Dr. Navneet Hundal, a pediatric gastroenterologist at Massachusetts General Hospital in Boston, said she and other pediatricians have been grappling with the formula shortage for months. Formula companies have stopped giving out samples that she could pass on to parents, she said. She advises new parents to talk to their pediatricians to see if there are other brands of formula that they can safely give their newborns. "This is ruling our clinical practices right now," she said.

A Safety Recall Compounded The Challenges.

The Food and Drug Administration warned consumers on Feb. 17 to avoid some powdered baby formula products from a Sturgis, Michigan, facility run by Abbott Nutrition, which then initiated a voluntary recall. According to findings released in March by federal safety inspectors, Abbott failed to maintain sanitary conditions and procedures at the plant.

The FDA launched its investigation after four babies became sick with a rare bacterial infection after consuming formula manufactured at the plant. All four were hospitalized and two died. Chicago-based Abbott said in a statement, "there is no evidence to link our formulas to these infant illnesses." Samples of the bacteria collected from the infants did not match those found in the company's factory, Abbott noted.

Abbott said that pending FDA approval, "we could restart the site within two weeks." The company would begin by first producing EleCare, Alimentum and metabolic formulas and then start production of Similac and other formulas. Once production began, it would take six to eight weeks for the baby formula to be available on shelves.

On Tuesday, the FDA said it was working with U.S. manufacturers to increase their output and streamline paperwork to allow more imports.

"We recognize that this is certainly a challenge for people across the country, something the president is very focused on and we're going to do everything we can to cut red tape and take steps to increase supply," White House press secretary Jen Psaki told reporters.

Meanwhile, the shortage got politicized Thursday as Republicans including Texas Gov. Greg Abbott criticized the Biden administration for providing baby formula to babies in detention at the U.S.-Mexico border.

Biden, in a Thursday letter to the Federal Trade Commission, pressed the independent agency to "bring all of the Commission's tools to bear" to investigate and act in response to reports of fraud or price gouging as a result of the supply disruptions.

"It is unacceptable for families to lose time and spend hundreds of dollars more because of price gougers' actions," he wrote to FTC Chair Lina Khan. ●

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CHANGES ARE COMING TO SCHOOL MEALS NATIONWIDE – AN EXPERT IN FOOD POLICY EXPLAINS

By Marlene B. Schwartz

For the two years during the COVID-19 pandemic, U.S. public schools have been able to provide free meals for all students, including to-go meals in the summer. But on June 30, 2022, the federal waivers that expanded the school lunch program will expire.

In May 2022, SciLine interviewed Marlene Schwartz, a professor of Human Development and Family Sciences at the University of Connecticut and the director of the

Rudd Center for Food Policy & Health, about how these changes will affect children and families and how food pantries can help.

What Is The Role Of School Food In Children's Overall Diet And Health?

Marlene Schwartz: School food plays an important role, particularly since the Healthy, Hunger-Free Kids Act, which was passed in 2010, improved the National School Lunch Program.

About 30 million children a day participate in the National School Lunch Program.

The Healthy, Hunger-Free Kids Act required the USDA to update not just the rules about what was served for the reimbursable lunch, but also the rules for things like snacks and beverages that are sold in vending machines or other places in the school.

Research has shown that the meals served now are better, that the meals children are eating are better, and, in fact, some data suggests that the trajectory of childhood obesity that has been such a concern has been attenuated because of the success of the Healthy, Hunger-Free Kids Act.

During the pandemic, the federal government provided waivers to school food programs so they can change their services.

What changes have the waivers permitted?

Marlene Schwartz: The largest change was allowing for all of the children to receive meals at no cost. That dramatically increased the number of children who had access to school meals.

Another large change that came from the waivers was for the summer meal program. Typically, that program is much smaller, and meals are served at particular sites in a community and children need to be brought there by a parent, and they need to eat the meal on-site.

During COVID-19, the USDA allowed that program to provide meals to-go.

Breakfasts, lunches were packaged up and were distributed to the parents of the children, and this increased participation because it allowed parents to access these foods in a way that worked with their own schedules, particularly if they are working parents.

Assuming The Waivers Will Expire As Scheduled On June 30, How Are Schools Going To Cope?

Marlene Schwartz: It's hard to know how schools are going to cope, but dropping the waivers will make their jobs much harder.

We are adding the administrative burden of having to go back to collecting information from families to see who qualifies for the meals, and then, in the actual serving of the meals, having to know who's eligible for reduced or free meals and collecting money from those who pay. Those are things that, over the last couple of years, food service directors have not had to manage, giving them more time to really focus instead on the meals.

It's also important to recognize that we are still facing supply chain issues. Food service directors often order the food months in advance. When that food doesn't show up, they really need to scramble to find substitutes. Those problems have increased the burden on them to run the program.

What Are The Effects Of Making School Meals Free For All Students?

Marlene Schwartz: The findings are pretty clear that when students have universal free meals, participation in school meals programs goes up, so more children eat them. And research shows that the meals that are provided through the school meal program are of higher nutritional quality than the meals that children bring from home or get from other places.

Some studies have found that when you provide universal free meals, you have improvements in academic performance, particularly for students who are at higher risk.

There is also evidence in some studies that universal free school meals help improve family food insecurity rates. When a family knows that their child can get breakfast and lunch every day at school, it really allows them to save their food budget to purchase other foods for the house. And that helps them be more food-secure.

What Is The Role Of Food Banks And Pantries In Shaping The Diet And Health Of Vulnerable Children And Families?

There are over 200 food banks across the country that distribute food to thousands of food pantries.

Marlene Schwartz: Within the charitable food system, there's been a real shift in thinking that has been a change from giving away as many pounds of food as possible to really looking at the nutritional quality of those pounds.

That's thanks in part to Feeding America, which is a national network of food banks, and Partnership for a Healthier America, which is part of Michelle Obama's Let's Move initiative.

Both of them are working with food banks around the country to really help them track the nutritional quality of their food and set goals for themselves in terms of maximizing the most nutritious foods they are able to distribute.

What Do You Wish People Knew About The Current State Of School Foods?

Marlene Schwartz: One thing that I would really like people to acknowledge is the improvements that have occurred in the school meal program after the Healthy, Hunger-Free Kids Act.

One of the challenges that I've noticed in my research is that sometimes the menu that you get from your school says things like chicken nuggets, pizza, tacos, hamburger, and a parent might think that doesn't sound healthy.

What they don't know is that those chicken nuggets are baked, not fried, and probably are whole grain breadcrumbs. The pizza probably has a whole grain crust, lower-fat cheese and vegetables on it.

There's this tension between wanting to create school menus that will be appealing to children and also communicate the nutrition information to parents. And that's not the easiest thing to do. ●

THE BATTLE BEGINS – AND ENDS – WITH CHILDREN

Good habits learned early will help win the war

By Karen Weintraub

“The No. 1 reason a child struggles with weight issues is a family struggles with weight issues.” Dr. William Dietz The George Washington University

At least half of all adult obesity starts in childhood.

Each of the children in Betty McNear's home day care has a paper cup with their name neatly written on it and a green bean or pepper plant sprouting inside.

The preschoolers help set the lunch table and clean up afterward, eating a “rainbow” of foods in between. They study their colors with tomatoes and blueberries and learn to share by preparing a meal to feed everyone.

McNear's approach at My Nana Too, a family child care center she owns and runs in Garfield Heights, Ohio, is more than an academic exercise. It's a bulwark against obesity and the lifelong health risks it can bring.

Her “kids” grow up knowing what a balanced diet looks like, how much is an appropriate portion and why it's important to favor fruits and vegetables over ultra-processed fast food.

For four decades, Americans have essentially thrown up their hands in the face of this growing epidemic, bemoaning the problem and lack of solutions.

But slowly, responses have been cropping up around the country. Some are as small as a pepper plant in a paper cup. Others are as large as an overhaul of the school lunch program, which is finally combating obesity rather than contributing to it.

Will They Be Enough?

It's too soon to tell, experts say, but the path to addressing widespread obesity has to start in childhood when habits are established, lessons learned and capping weight gain remains realistic.

"If we can put our resources into prevention, it's going to go much further in the longer term than waiting to treat someone," said Christina Economos, an expert in pediatric obesity and behavior change and interim dean of the Friedman School of Nutrition Science at Tufts University. "The only way is starting early."

More than half of adolescents with obesity had met the criteria by age 5, according to a study in 2018. And adolescents were more likely to have obesity if they were relatively large at birth, the study found, meaning risk starts before a child is even born.

People tend to become more sedentary as well as heavier with age – a combination that can lead to the problems that have made Americans among the unhealthiest of the world's wealthy populations, plagued by diabetes, high blood pressure and premature death.

In Cuyahoga County, where McNear lives and runs her day care, nearly 1 in 4 preschoolers fit the medical definition of having obesity or overweight. For children of color, it's roughly 1 in 3.

One in 10 already have blood pressure problems, according to Alison Patrick, a program manager with the Cuyahoga County Board of Health.

No one actually knows what happens to the health of children who have obesity and high blood pressure before they graduate from kindergarten. Obesity in early childhood hasn't been a major concern long enough to have tracked these kids across the lifespan.

But it's not likely to be good. "The longer (these problems) exist and persist, the more damaging they're going to be," said Dr. William Dietz, who directs the Sumner M. Redstone Global Center for Prevention and Wellness at The George Washington University in Washington, D.C. "The older you get and the more severe the obesity you have in childhood, the more likely it is to persist into adulthood."

Pandemic Made Matters Worse

The COVID-19 pandemic made life harder for children in many ways. Not surprisingly, it also led to weight gain.

From 2019 to 2020, obesity increased by 6% among elementary school kids, according to a study – multiple times the typical annual increase, Dietz said.

Kids who started out with disadvantages because of race, income or existing obesity gained the most weight, the study found. Black and Hispanic children added more pounds than white kids and girls more than boys. Children who started out carrying extra weight were likely to have gained the most.

Although it hasn't been extensively studied, Dietz expects school-age children gained the most during the pandemic because they were too young to go out on their own. They lacked the structure of school and missed the healthy meals and physical activity provided there.

Among 700 children in a study at the Cambridge Health Alliance in Massachusetts, almost all gained weight during the pandemic, but children ages 2 to 5 added more than older kids, as did Spanish-speaking and Brazilian children, said Dr. Wudeneh Mulugeta, a preventive medicine specialist who led the research.

Traumatic experiences, which many children endured during the pandemic, are strongly associated with unhealthy weight, said Dr. Brian Jenssen, a primary care physician and researcher at the Children's Hospital of Philadelphia and the University of Pennsylvania.

Perhaps kids gained weight during the pandemic in part because giving them something delicious was one of the few ways parents could give them pleasure at a difficult time, Jenssen said. Economics played a role, too.

For children whose parents receive government-funded health insurance, childhood obesity rates worsened early in the pandemic and then stabilized at the higher level, Jenssen said. Increases in obesity leveled off for those with commercial health insurance.

Dr. Ihuoma Eneli, a pediatric obesity expert, said she and her colleagues on the National Academy of Sciences Roundtable on Obesity Solutions used the pandemic to take a step back and rethink how they were addressing excess weight in children. They realized that to effectively deal with obesity, they needed to shift their own and the public's "mental model" away from blame.

Yes, there are things parents and children can do, but there's a lot that's beyond a person's control, said Eneli, who directs the Center for Healthy Weight and Nutrition at Nationwide Children's Hospital in Columbus, Ohio.

Families might have eaten poorly during the pandemic because of financial constraints or stress, but that's not the full story. "Sitting on top are things in your environment, some of which we can control and some of which we cannot control," she said.

People talk about weight and obesity as a personal choice, but a 2-year-old isn't choosing to eat gummy worms for breakfast, as Jenssen saw recently in his clinic. "Who's giving them that food? What's the environment they're living in that's causing that?" he asked.

"The No. 1 reason a child struggles with weight issues is a family struggles with weight issues."

School Meals To The Rescue

For anyone of a certain age, thoughts of school lunch bring up memories of "mystery meat" and Pizza Fridays. Vending machine soda and junk food often staved off afternoon hunger pangs.

But today's children generally eat healthier food at school than they do at home, with well-balanced meals and lots of fruits and vegetables. Food waste hasn't increased, studies show, so they're actually eating what they're served. And in many schools, vending machines have been purged of sodas and the unhealthiest snacks.

Kids also move more during the school year than over the summer, research finds, so attending school helps protect against weight gain.

A study this spring from the RAND Corp. found that school food used to contribute to weight gain, but now it may help reduce the signs of obesity. "We've come a long way," said Andrea Richardson, a RAND policy researcher who led the research.

In 2010, first lady Michelle Obama helped pass the Healthy, Hunger-Free Kids Act, which is credited with transforming school food from "obesogenic" to healthy.

During the coronavirus pandemic, the federal government allowed schools to lift restrictions on

school meal payments, allowing all students, not just those with the lowest-earning parents, to get food free.

The expanded program made a substantial difference in kids' eating habits, a handful of childhood nutrition experts said. At the end of June, Congress passed legislation extending the program through next school year, but many kids will have to start paying again for their meals.

Providing the food at no cost guaranteed that children who might otherwise have gone hungry or brought junk food from home had access to healthy food, Richardson and others said. It got rid of the stigma children face when they have to show a card proving they're eligible for reduced-price food. And kids were no longer denied food if their parents weren't up to date on school meal bills.

"Those supports, those waivers are still going to be very dearly needed," Richardson said.

If the tide has turned against unhealthy food in schools, it still has a long way to go in other places, said Marlene Schwartz, director of the Rudd Center for Food Policy & Health at the University of Connecticut.

The same push during the Obama administration that led to changes in school meals didn't end the problem of food marketing to young people, Schwartz said.

"The food industry is remarkably powerful," she noted.

Junk food can be marketed on virtually any TV program except those aimed at the youngest children, like "Blues Clues," she said. The amount of marketing kids are exposed to at home makes a big difference in the food they eat.

"Parents have to pick their battles," Schwartz said. "I don't blame the parents. There are so many times you have to say no."

What Parents Can Do

The single biggest target for pediatric obesity experts: sugary drinks.

A drink might be labeled "100% vitamin C," for instance, which can make harried parents rushing through the grocery store think it's real juice, when in fact it's mostly sugar water, Schwartz said. "Fruit drinks – that is one product category I'd love to see disappear."

Some companies are pulling sugar out of drinks, pitching them to parents as “healthier,” but they’re filled with artificial sweeteners, which parents don’t know are there and, Schwartz said, haven’t been adequately studied for safety in children.

“We really see these fruit drinks as not just doing harm in the moment but setting the stage for someone who is not going to want to drink plain water because they feel like drinks are supposed to be sweet.”

Parents can do many other things to help their child avoid obesity or stop it from getting worse, said Eneli of Nationwide Children’s Hospital.

“The first thing is to let that child know they are loved and accepted,” she said. Particularly for children at a time of so much public unrest and tension about race, she said, home “has to be a safe harbor for that child.”

Within the family, parents should focus on steps they can take to help modify behaviors, which she described as “food, fitness, feelings and sleep.”

The weight of children and young adults is profoundly affected by lack of sleep, said Dr. Esra Tasali, director of the UChicago Sleep Center. “These links are much stronger than in middle age or older adults,” she said. “We have to protect children’s sleep.”

Active young people have stronger bones, better memory, higher academic performance, less depression and reduced risk of future health problems, studies show. And eating regular meals helps combat overeating, said Denise Wilfely, an expert in eating disorders at the Washington University School of Medicine in St. Louis.

“It’s about having the whole family come on board,” she said, “changing the whole family, so the child isn’t singled out ... making sure those healthy behaviors get turned into habits.”

Wilfley said she tells families to make it simple for the child to choose healthy foods. It isn’t fair for the child to be denied Dad’s brownies and soda.

“Unhealthy food is so easy,” she said. “How can you make it easy in your home environment so (nutritious food can) outcompete these other things?”

Playgrounds And Policies

In Greenville County, South Carolina, anti-obesity efforts have focused on improving access to green space as well as healthy foods.

The county, which comprises more than 80 square miles, sits in the foothills of the Great Smoky Mountains, near the borders of North Carolina, Tennessee and Georgia. “We have gorgeous and amazing parks,” said Sally Wills, executive director of the nonprofit LiveWell Greenville.

But not everyone could access them. The 80 parks, while fairly equitably distributed, were not equally accessible. Some lacked sidewalks, night lighting or wheelchair access.

In some neighborhoods, it was not safe or socially acceptable to let children go outside to play. “So how do we make it OK, so our children are able to be outside?” Wills asked.

LiveWell has been trying to capitalize on the county’s strengths, including its 93 schools. “A playground that is not in use from 5 p.m. until dark becomes an asset for the whole community,” she said. But first, LiveWell had to help resolve logistical and liability questions with each district.

LiveWell also provides healthy food for residents whose access is limited because of income or lack of grocery stores. The organization advocates for the state to continue to provide matching funding, so for every \$5 spent on eligible food, a shopper can get \$10 worth of produce.

“Food insecurity is one of the main drivers of pediatric obesity,” Wills said.

Policy changes could play a crucial role in scaling efforts like LiveWell’s, said Jamie Bussel, a senior program officer with the nonprofit Robert Wood Johnson Foundation.

In the second year of the pandemic, financial support offered by the Biden administration, like the child tax credit, reduced food insecurity for kids. But most of those policies were short-term patches, like universal free school lunches that have since gone away.

“We need to be thinking bigger and bolder about lasting solutions,” Bussel said.

Clearly, poverty is connected to obesity, but so are factors like housing, health care and education, she said.

In her foundation's 2021 State of Childhood Obesity report, obesity rates ranged from just under 9% among children whose parents were in the highest income group to 23% among those in the lowest-income groups.

Bussel said she'd like to see programs that support healthy eating, physical activity, ensuring a child has a safe place to call home, high-quality health insurance, early care and education.

"All of those things matter in profound ways around whether a child will grow up healthy and at a healthy weight trajectory," she said.

Reaching Parents Through Kids

Patrick, with Ohio's Cuyahoga County Board of Health, said early childhood education needs to better integrate health.

"It's not the sole responsibility of a family to raise healthy kids," she said. "It is really the job of our community to ensure that kids are very well supported in these areas."

Dr. Saba Khan, an attending physician with the Healthy Weight Program at Children's Hospital of Philadelphia and director of its Food Pharmacy, said "success" to her right now means keeping her programs going for the next five years.

She wants to continue to build trusting relationships with and healthy food for families who live in food deserts, aren't well informed about nutrition, or can't afford to eat well.

"It's a systemic issue," she said. "It is a lifestyle issue, not necessarily dictated by that being or that family or that community, but it's very much ingrained in resources. That's where we can see why this is still a global, national, local problem."

McNear, who has been caring for children for 60 years, 20 of them professionally, said she tries to educate her parents along with their kids.

"You have to pull them in, too, but do it in a loving way," she said.

She keeps a lending library of nutritional information. She quizzes parents whose child is gaining weight about what they're eating at home and tells those who can afford healthy food that it's worth spending a little more to make sure their child gets the best start in life.

And she's careful not to stigmatize her kids. "I don't use the word 'fat' here," she said. "I just tell them we might be a little 'fluffy.'"

"We don't criticize. We don't bully. We all come in all different shapes and sizes." ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE NEWSWEEK
ON AUGUST 30, 2022

ABERCROMBIE RECEIVES BACKLASH OVER PICTURE OF PLUS-SIZE CUSTOMER

By Samantha Berlin

Popular clothing store Abercrombie & Fitch received backlash after reposting an image of a plus-size customer wearing their clothes.

While many commenters online stated the image was an advertisement created by Abercrombie, the image was actually reshared by a customer.

"Abercrombie is often tagged by our customers on social media and we love to celebrate them by reposting their images to our channels," an Abercrombie spokesperson told Newsweek. "This is one of those occasions. The post was never removed from any of the channels to which it was posted."

But after posting the image on their Instagram on August 21, the clothing company began experiencing criticism online claiming they were promoting "obesity."

Although discourse online claimed the image was deleted, the image is still up on Abercrombie's Instagram account at the time of publication.

Abercrombie Deletes Clothing Ad After Backlash

Abercrombie & Fitch received backlash online after sharing the image of a customer wearing their jeans shorts. The company recently released a statement about the criticism, claiming they will continue celebrating all their customers.

Average Sizing In America

According to the Centers for Disease Control (CDC), the average waist size for women in America is 38.7 inches while men average closer to 40.2 inches.

The average pant size for adult women in America is large or extra large and the average dress size is between 18 to 20.

While these are the recorded averages in America, research has found that many stores do not produce jeans in these sizes. Rather, an analysis conducted by Quartz found the most-carried pant size was a size 27 while the median size carried was 30 inches.

Although about 50 percent of the population has a waist larger than 37, these sizes are offered in only about 13 percent of malls.

Currently, Abercrombie carries pant sizes from size 23 to 37 and carries curvy styles that range in various lengths as well. Before undergoing a complete rebranding starting in 2017, Abercrombie was notorious for only offering small sizing options.

Before his resignation in 2014, former Abercrombie CEO Mike Jeffries went viral for his comments about being "exclusionary" and saying many people "don't belong" in their clothes.

'Featuring Diabetes'

Twitter users continue to slam the company more than a week after the image was originally shared.

"New Abercrombie & Fitch ad just dropped...This season they are featuring diabetes and heart attacks," user @Chesschick01 tweeted over the weekend.

"Why are we normalizing obesity[?] Why don't we normalize fitness & health[?] Obesity ain't it," user @morgonnm tweeted.

"Abercrombie went from 'I don't want fat and poor people wearing my clothes' to lets [sic] get the fattest chick we can find," user @balcilic tweeted.

"I just did a scan through Abercrombie & Fitch social media," user @BrianClowdus tweeted. "It's literally become exclusively a social justice warrior company now: abortion, queer everything, drag queens, BLM & everything woke under the sun. I miss frat boys & frat girls on shopping bags. Those were the days... ."

The company responded to the backlash on its official Instagram page on Tuesday, stating that it will continue to celebrate its customers.

"Those we feature don't need to change anything about themselves," the statement said. "We will continue celebrating them exactly as they are."

Fat Shaming

According to a study of almost 14,000 people in six countries conducted by the University of Connecticut's Rudd Center for Food Policy and Obesity, more than half of the respondents had experienced fat-shaming.

Researchers found that family members were the most common source of fat shaming, with between 76 and 68 percent of participants reporting they received negative comments about their weight from a relative, particularly during childhood and adolescence. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE KHN
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FORMULA MAY BE RIGHT FOR INFANTS, BUT EXPERTS WARN THAT TODDLERS DON'T NEED IT

By Christina Szalinski

Formulas for toddlers are a burgeoning business in the United States: Sales of the drinks more than doubled in recent years as companies convinced parents that their little ones needed the liquid boost. But many experts warn that these products, designed for children ages 1

to 3, fill no nutritional needs beyond what is available in a typical toddler diet, are subject to less regulation than infant formula, and are expensive.

In addition, some parents feed the toddler versions to infants even though they do not meet federal standards for infant formula and may not provide babies with adequate nutrients to sustain their growth.

Pediatricians and federal health officials say that when most children turn 1, they can begin drinking cow milk or an unsweetened plant-based milk substitute. In a 2019 “consensus” statement  EditSign, the American Academy of Pediatrics and other health and nutrition organizations recommended against using toddler formulas, saying “they offer no unique nutritional value beyond what could be obtained with healthy foods; furthermore, they may contribute added sugars to the diet.” The toddler formulas often contain sweeteners and fats that add calories.

Some of the same companies that produce infant formula — including Enfamil, Gerber, and Similac — also make toddler formulas, as do some smaller, boutique brands that advertise that they have organic or other special qualities. Toddler formulas are available nearly everywhere infant formulas are sold and are marketed as providing extra nutrients to help children’s brain, immune system, and eye development, among other benefits. They are different from medical formulas prescribed for children with specific needs.

A 2020 study found that sales of toddler formula in the U.S. rose to \$92 million in 2015 from \$39 million in 2006.

Parents are often confused by the marketing for the formulas, according to a study led by Jennifer Harris, a marketing and public health researcher at the University of Connecticut. She found that 60% of caregivers falsely believed toddler formulas have nutrients that toddlers can’t get from other foods.

Dr. Anthony Porto, a pediatric gastroenterologist and pediatrics professor at Yale University, said he is concerned these products could be giving toddlers more nutrients and calories than they need. Unlike what’s designed for infants, toddler formula has no nutritional regulations: Experts say standardizing a supplement to toddlers’ diets is impossible because no two children are alike.

In focus groups, Harris said, parents report feeding their children toddler formula to fill nutritional gaps when a child isn’t eating enough, a common concern among parents.

“Infants are often voracious eaters,” said Dr. Stephen Daniels, chair of pediatrics at Children’s Hospital Colorado. But at around a year of age, children’s growth plateaus, he said, and “they’re suddenly not hungry in the way they used to be anymore.” That can worry parents, he added, but “it’s a completely normal phenomenon.”

If parents have concerns about their children’s diet, Daniels said, they should consult a pediatrician or family doctor.

Blanche Lincoln, president of the Infant Nutrition Council of America, which represents the makers of Enfamil, Gerber, Similac, and store brands, said in an email that the toddler formulas can be helpful because they can fill “nutritional gaps during this period of transition to table foods.” Lincoln, a former U.S. senator from Arkansas, said the drinks “help contribute to the specific nutritional needs of toddlers by providing energy and important nutrients, as well as essential vitamins and minerals during this important period of growth and development.”

But toddler formula isn’t being ingested by toddlers alone — it’s also being fed to infants. In a recent study, Porto and colleagues found that 5% of infants’ parents reported giving their babies drinks marketed for the older age group. And Harris’ research indicated that 22% of parents of infants older than 6 months had fed their babies toddler formula in the previous month. Both studies were conducted before the recent infant formula shortage, which may have exacerbated the problem.

“Infant formulas and toddler formulas tend to be next to each other in the supermarket,” Harris said. “They look similar, but the toddler formulas are cheaper than the infant formulas. So people confuse them, and they grab the wrong one. Or they think, ‘Oh, this one is less expensive. I’ll get this one instead.’”

According to an email from FDA spokesperson Lindsay Haake, toddler drinks do not meet the definition of infant formula, so they are not subject to the same requirements. That means they do not have to undergo the clinical trials and pathogen safety testing that the

infant versions do. “Unlike infant formulas, toddler formulas are not necessary to meet the nutritional needs of their intended consumers,” Haake said.

In a statement to KHN, the Infant Nutrition Council of America said, “Toddler drinks have a distinctive use and nutritional makeup from infant formula; the two are not interchangeable. The labeling of toddler nutritional drinks explicitly identifies the product as a toddler drink intended for children 12 months and older on the front of the package label.”

However, several expensive toddler formula brands made by smaller companies — often advertised as being made from goat milk, A2 whole milk (which lacks one common milk protein), or vegan ingredients that aren’t soy — do meet nutritional requirements for infants, and some advertise that.

Harris argued that this confuses parents, too, and shouldn’t be allowed. Just because a toddler formula has the nutritional ingredients required by the FDA for infant formula doesn’t mean it has met the other tests required of infant formula, she said.

Federal regulators have not forced any of the companies to withdraw those products. In an email, FDA spokesperson Marianna Naum said, “The FDA does not comment on potential compliance actions.”

One company, Nature’s One, whose toddler formulas are named “Baby’s Only,” received warning letters a decade ago from the FDA about marketing them for infants. That case was closed in 2016. The company’s website says that Baby’s Only formula “meets nutrient requirements for infant” and that “Baby’s Only Organic® can be served up to 3-years of age.” Critics say that language implies the formula is fine for babies younger than 1. The company’s website and its Instagram account feature customer testimonials from parents who report feeding the formula to their infants, as well as pictures of infants drinking it.

Jay Highman, CEO and president of Nature’s One, said that Baby’s Only is clearly labeled as a toddler formula and that the back of the can states that “Baby’s Only is intended for a toddler 1-year of age or older OR when directed by a healthcare professional.” He also said that since the company launched in 1999, its formulas have met all the nutritional, manufacturing, and safety standards required of infant formula even though they don’t have to. “We behaved like we are an infant

formula, but we were selling it as a toddler formula,” Highman said.

He said that the clinical trials required by the FDA are a huge barrier to bringing a new infant formula to market and that many other countries don’t require a clinical trial. Baby’s Only recently completed a clinical trial, he said, and the company expects to be able to sell it as an infant formula soon.

Yet pediatricians and nutritional experts continue to caution parents about using the toddler drinks.

“There’s no question that infant formula is very important in the first year of life,” Daniels said.

But he doesn’t recommend the toddler version “because it’s not that useful, because it’s confusing, because it’s expensive.” ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE DAILY BEAST
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How Big Data Could Solve Food Inequity—or Make Things Worse

Researchers in Los Angeles have a plan to eradicate “food swamps” and bring healthier options to poorer communities. But first they need your personal data.

By Mike Branom

LOS ANGELES—Today’s double cheeseburger is tomorrow’s weight problem, and that’s why your phone has become a weapon in the conflict between public health and private enterprise.

Researchers from the University of Southern California and MIT are using large-scale mobility data to follow people’s eating behaviors throughout the day, to understand how food choice is influenced by what’s accessible, available, and affordable.


This Big Data-derived knowledge can help health officials find solutions for people who eat poorly not because of any moral failing, but rather because they live in so-called “food deserts,” where there’s little access to healthy, affordable food, and “food swamps,” where what’s available might as well be muck.

“At face value, we haven’t really blown anyone’s mind with the finding that if you go more to fast-food outlets, you are eating more fast food,” Abigail Horn, who specializes in problems with food systems and nutrition for USC’s Information Science Institute, told The Daily Beast. “The more interesting finding is that when you look at health outcomes, people who live in neighborhoods with higher rates of fast-food outlet visits have significantly higher rates of obesity and diabetes.”

But at the same time, other experts said, the fast-food outlets whose greasy, salty offerings are fattening up Americans already use personal data collection as part of their efforts to market more aggressively to consumers—and a primary target may be those least resistant to it.

Added Horn: “If you look at the funding in public health and then the funding in the food industry, it’s not a fair game.”

Crisis In Plain Sight

For the national reputation Southern California carries as a haven for health nuts and fitness freaks, statistics show its weight-related wellness issues follow close to the rest of the nation. According to the UCLA Center for Health Policy Research, 1 in 10 adults in Los Angeles County has type 2 diabetes, while the Centers for Disease Control and Prevention states 11.3 percent of American adults are diabetic. There is a higher percentage of people who are overweight  EditSign—with a body-mass index between 25 and 29.9—in Los Angeles (35.9 percent than nationally 35.2 percent). Nevertheless, obesity—when the BMI is 30 and higher—is less prevalent in LA County than America as a whole: 23.5 percent to 28.9 percent.

Diet-related chronic diseases, like obesity and diabetes, are closely associated with food insecurity, which is the lack of reliable access to affordable, nutritious food. Annually, food insecurity costs the county an estimated \$2.3 billion in health-care expenses, Dipa Shah, director

of the Nutrition and Physical Activity Program at the county’s Department of Public Health, told The Daily Beast.

Those ugly numbers explain why scientists are so interested in learning whether Big Data can find answers to improving health. For Horn’s research, data was amassed from a county public health survey of more than 8,000 adults, as well as mobility data from nearly 243,000 smartphone users. Over a span of six months in 2016-17, there were 14.5 million visits to various food outlets.

In another study by Horn and others, the menus of more than 500 restaurant chains were scoured for nutritional info, with the results then mapped across the county. Horn said the data clearly showed the least nutritious restaurants could be found everywhere—a countywide swamp—but the most nutritious ones were only in the wealthier neighborhoods.

It’s systemic inequities such as these, Shah said, that have led to higher rates of food insecurity, obesity, and diabetes among low-income residents and racial minorities.

“It’s clear that people in neighborhoods in Central, South, and East LA, and Antelope Valley, have much higher rates of fast-food outlet visits than in West LA and the South Bay. This is a problem for health, and we see higher rates of diet-related diseases in these areas,” Horn said “But this is also why we have to be careful not to stigmatize fast food since it is a large share of people’s food source for people in those areas: 15-20 percent of all their food visits.”

Going Where The People Are

Under the Obama administration, the federal Healthy Food Financing Initiative sought to address inequality in food access by assisting grocers and developers who wanted to open or expand stores in these deserts and swamps. The program, started in 2010, has awarded \$270 million in grants and leveraged an estimated \$1 billion in additional financing.

Yet results have been mixed, with one study run by the RAND Corporation finding that neighborhoods with these interventions saw net positive changes in overall dietary quality, especially with added sugars, but people were not eating more fruits, vegetables and whole grains, nor were they improving their BMI.

That's when it became obvious that when it comes to where to buy food, attention should be aimed at where people go during the day and not only where they sleep at night. Now attention can be focused on, for example, office parks, where many people work, with perhaps the only lunch options being vending machines and/or a snack shop.

"It's a huge value of mobility data, because the previous research has really just focused on their neighborhoods or maybe a mile around their home," Horn said.

Horn and co-author Esteban Moro, a data scientist from Spain's Universidad Carlos III and visiting professor at MIT, followed up on their initial study by taking a broader sample of data from the same source over the same stretch of time—1.86 million users in 11 U.S. cities. Among the findings were that when people left their homes to buy groceries, they traveled an average distance of a quarter-mile; yet when patronizing a fast-food establishment they were, on average, 4.1 miles away from home.

So why do people choose an establishment peddling garbage over a healthier option? Consider workers at the aforementioned office park, where just getting from your desk to your car and out of the lot might take 10 minutes. If rushed for time, a priority would be to find a place that puts the "fast" in fast food. In other instances, people in a new lunchtime location might look for the familiar rather than take chances on unknown establishments.

These insights are invaluable to pinpointing people's eating habits and laying the groundwork for solutions that push people to healthier behaviors. But they are also a reminder that the purveyors of junk food are deploying the same Big Data as the researchers to attract new customers and keep loyal patrons coming back for seconds.

Convenience—But At What Cost?

Mobile apps for restaurants have gained in popularity in recent years, especially with the pandemic prompting the combination of expediency with no-contact ordering and pick-up. If you have such an app, then you can quickly find a restaurant when in an unfamiliar place, as well as receive discounts, bonuses for numerous orders, and free items on your birthday.

All the while, of course, your phone collects data and sends it back to the mothership.

"These apps are a windfall for companies," Fran Fleming-Milici, director of marketing initiatives at the University of Connecticut's Rudd Center for Food Policy and Health, told *The Daily Beast*. "You can send reminders and special deals, you can geolocate—and they're better than third-party apps, like Uber Eats, because you don't have to pay for advertising on them."

Clever developers have even found ways to "gamify" their apps through elements such as achievements and leveling-up.

On this last point, it sounds like a great way to market to teens—and the fast-food companies probably think so, too.

According to Fleming-Milici, 70 percent percent of adolescents reported engaging with food/beverage brands on social media, with 35 percent engaging with five or more brands. More than half (54 percent) reported engaging with brands of fast food.

"Even though we may not have evidence that companies are doing this more to teenagers than other consumers, when it comes to teens they have still-developing cognitive abilities," said Fleming-Milici. "So they're less likely to be able to defend against that kind of marketing technique than adults are."

But why don't we have that evidence? Because the purveyors of fast food want it that way.

"The interesting thing is, it's proprietary so you can't really study what companies are doing," Fleming-Milici said. "But they know what they're doing—and that's really challenging for public health."

Horn knows making changes for the better will not be easy or quick, speaking in terms of generations. But taking rash action would be worse.

"We're not going to get McDonald's to change their menu," she said. "That would just make millions and millions of people upset. ●"

UConn Health

CONNECTICUT PHYSICIANS PLEAD FOR PREGNANT PEOPLE TO GET VACCINATED AS INFECTIONS CAN CAUSE MISCARRIAGES, COMPLICATIONS

By Daniela Altimarie

Pregnant with her first child, the patient arrived at UConn Health critically ill with COVID-19. She had received two doses of the vaccine months earlier, but had put off getting her booster shot.

“She actually ended with severe illness and required a Caesarean delivery because of respiratory complications,” said Christopher M. Morosky, an associate professor of obstetrics and gynecology at the University of Connecticut School of Medicine and a practicing OB-GYN.

Even more alarming for the patient and her family, the baby she delivered tested positive for the coronavirus, Morosky told members of a state committee examining the impact of COVID-19 on those who are pregnant.

Both mother and newborn are now recovering at home.

“However, the trauma the patient had with this COVID-positive baby and the mom recovering from COVID infection and recovering from major surgery was just overwhelming to this family,” Morosky said. “They were brand new parents, and you can imagine putting all that on top of it.”

At a meeting last week, the Women and Children’s Health Committee, which is part of the state Medical Assistance Program Oversight Council, heard other harrowing tales from OB-GYNs on the frontlines of the COVID-19 crisis.

Dr. Vero Pimentel, a specialist in maternal and fetal medicine at St. Francis Hospital, cited studies that show

a higher risk of miscarriage among pregnant patients with the virus.

“In our hospital just this past week, we had a third trimester loss of somebody who was COVID-positive and a second trimester loss of someone who was COVID-positive,” Pimentel said. “The risk of miscarriage is real, the risk of [fetal] demise is real and the risk of preterm delivery is real as well.”

A COVID-19 infection during pregnancy brings an increased chance of other serious complications, including preeclampsia and maternal death. It also increases the likelihood the newborn will be admitted to the neonatal intensive care unit.

Yet vaccination rates among pregnant Americans are lower than among the overall population, according to figures from the Centers for Disease Control. In mid-September, just 31% of pregnant people were fully vaccinated against the coronavirus, prompting the CDC to issue an urgent health advisory to encourage inoculation. The agency said 22 pregnant people died of COVID-19 complications in August alone.

The CDC health advisory strongly recommends COVID-19 vaccination either before or during pregnancy because “the benefits of vaccination for both pregnant persons and their fetus or infant outweigh known or potential risks.”

Since that advisory, the percentage of pregnant Americans who have received the vaccine has climbed to 41.5% of the population, a figure Morosky says is still “unacceptably low.” And vaccination rates remain proportionally lower for pregnant Black and Hispanic people, according to the CDC.

Pregnant people were not included in clinical trials for the COVID-19 vaccines, which has fed skepticism about the vaccine, Pimentel said. Other factors include misinformation, mistrust of “the system,” the legacy of racism in medicine and a fear that the vaccine could harm the fetus.

The plea for pregnant patients to get vaccinated has taken on a new urgency with the increase in cases driven by the omicron variant. “Over the last two weeks, half of the patients who came to the hospital have been COVID-positive,” Morosky said.

“And even though the majority of them are fine, it is an additional stress on top of their pregnancy,” he said.

At St. Francis, the labor and delivery unit has seen “many patients who have COVID,” Pimentel said. Some of those who have experienced symptoms have received monoclonal antibodies to help them fight the infection, she said.

The CDC advisory calls on health departments and clinicians to educate their pregnant patients on the benefits and safety of the vaccines, something Pimentel and her colleagues at St. Francis have been doing.

The hospital assesses the vaccination status of every pregnant patient who comes in for an ultrasound, Pimentel said. If the patient is not vaccinated, the staff provide counseling to explain the benefits. The hospital holds a vaccination clinic for pregnant patients twice a week.

“We’re in the trenches,” Pimentel said. “My job is to educate one pregnant person at a time ... and if I change that one pregnant person, I can change her family, and if I change her family, I will change her community.” ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE CONVERSATION
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CONFLICTS BETWEEN NURSING HOME RESIDENTS ARE OFTEN CHALKED UP TO DEMENTIA – THE REAL PROBLEM IS INADEQUATE CARE AND NEGLECT

By Eilon Caspi

Frank Piccolo was a beloved high school chemistry teacher in Ontario, Canada, until his retirement in 1998. “His trademark was to greet all of his students at the door at the start of class to make sure everyone felt welcomed there,” wrote a former student. “He had extensive knowledge of his subject matter, passion for his craft, and empathy for his students.”

But after Frank’s retirement, he developed dementia. When his condition declined, his family moved him to a Toronto nursing home. One evening in 2012, another resident – a woman with dementia – entered Frank’s bedroom. She hit Frank repeatedly in the head and face with a wooden activity board. Staff found Frank slumped over in his wheelchair, drenched in blood. He died three months later.

The Ontario Ministry of Health and Long-Term Care investigated. It found that the woman had a history of pushing, hitting and throwing objects at staff and other residents. But the nursing home didn’t address the woman’s behavioral expressions for weeks before the attack on Piccolo, the agency determined. “There were no interventions implemented, no strategies developed,” the report stated.

As a gerontologist and dementia behavior specialist, I’ve written a book on preventing these incidents. I also co-directed, with dementia care expert Judy Berry, a documentary on the phenomenon called “Fighting for Dignity.” The film sheds light on the emotional trauma experienced by family members of residents harmed during these episodes in U.S. long-term care homes.

Reporting And Stigmatizing

Resident-to-resident incidents are defined by researchers as “negative, aggressive and intrusive verbal, physical, material and sexual interactions between residents” that can cause “psychological distress and physical harm in the recipient.”

These incidents are prevalent in U.S. nursing homes. But they are largely overlooked by the Centers for Medicare and Medicaid Services, the federal agency overseeing care in approximately 15,000 nursing homes across the country. Consequently, such incidents remain untracked, understudied and largely unaddressed.

An elderly man with severe injuries, including cut marks and bruises, across his face and forehead.

Frank Piccolo sustained severe injuries to his face and head after a woman with dementia entered his bedroom and hit him repeatedly with an activity board. Theresa Piccolo, CC BY-NC-ND

These interactions don’t just result in injuries and deaths among residents. They also leave behind

devastated families who then must fight for answers and accountability from nursing homes.

Making matters worse, government reports, research studies and media coverage commonly describe these episodes with words that stigmatize people with dementia. Researchers, public officials and journalists tend to label the incidents as “abuse,” “violence” and “aggression.” They call a resident involved in an incident a “perpetrator” or an “aggressor.” News outlets described the attack on Piccolo by the woman with dementia as “aggressive” or “violent.” And when reporting on the phenomenon in Canada, the Toronto Star called it “abuse.”

Getting To The Root Of The Real Problem

Most incidents, however, do not constitute abuse. A growing body of evidence suggests the true cause of these injuries and deaths is inadequate care and neglect on the part of care homes. Specifically, there is a lack of the specialized care that people with dementia require.

Two of every three residents involved in these incidents have dementia. One study found that the rate of these episodes was nearly three times higher in dementia care homes than in other long-term care homes. A recent study also found an association between residency in a dementia care home and higher rates of injurious or fatal interactions between residents.

But for these residents, the conflicts occur mostly when their emotional, medical and other needs are not met. When they reach a breaking point in frustration related to the unmet need, they may push or hit another resident. My research in the U.S. and Canada has shown that “push-fall” episodes constitute nearly half of fatal incidents.

Another U.S. study found that as residents’ cognitive functioning declined, they faced a greater likelihood of injury in these incidents. Those with advanced dementia were more susceptible to inadvertently “getting in harm’s way,” by saying or doing things that trigger angry reactions in other residents.

The Centers for Disease Control and Prevention has stated that what it calls “aggression” between residents is not abuse. Instead, the CDC noted that these episodes may result when care homes fail to prevent them by taking adequate action. And a study on fatal incidents in U.S. nursing homes has shown that many

residents were “deemed to lack cognitive capacity to be held accountable for their actions.” An undercover yearlong investigation into nursing homes in Ontario, Canada, revealed shocking instances of abuse and neglect by staff members.

How Incidents Often Occur

In one study, researchers examined situational triggers among residents with cognitive impairments. The strongest triggers involved personal space and possessions. Examples include taking or touching a resident’s belongings or food, or unwanted entries into their bedroom or bathroom. The most prevalent triggering event was someone being too close to a resident’s body.

That study also found that crowded spaces and interpersonal stressors, such as two residents claiming the same dining room seat, could lead to these episodes. My own work and a different Canadian study came to similar conclusions.

Other research shows that when residents are bored or lack meaningful activity, they become involved in harmful interactions. Evenings and weekends can be particularly dangerous, with fewer organized activities and fewer staff members and managers present. Conflicts between roommates are also common and harmful. With a smiling staff member looking on, two nursing home residents enjoy conversation while having coffee.

A growing body of research suggests that most incidents between residents are preventable. A major risk factor, for example, is lack of adequate supervision, which often occurs when staff are assigned to caring for too many residents with dementia. One U.S. study found that higher caseloads among nurses’ aides were associated with higher incident rates.

And with poor staffing levels in up to half of U.S. nursing homes, staff members do not witness many incidents. In fact, one study found that staff members missed the majority of unwanted bedroom entries by residents with severe dementia.

Residents With Dementia Are Not to Blame

In most of these situations, the person with dementia does not intend to injure or kill another resident. Individuals with dementia live with a serious cognitive disability. And they often must do it while being forced to share small living spaces with many other residents.

Their behavioral expressions are often attempts to cope with frustrating and frightening situations in their social and physical environments. They are typically the result of unmet human needs paired with cognitive processing limitations.

Understanding the role of dementia is important. But seeing a resident's brain disease as the main cause of incidents is inaccurate and unhelpful. That view ignores external factors that can lead to these incidents but are outside of the residents' control.

Frank's wife, Theresa, didn't blame the woman who injured her husband or the staff. She blamed the for-profit company operating the nursing home. Despite its revenue of \$2 billion in the year before the incident, it failed in its "duty to protect" Piccolo. "They did not keep my husband safe as they are required to do," she said." ●

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WHAT'S BEHIND THE RISE IN THE RARE "BROKEN HEART SYNDROME"?

By Theresa Sullivan Barger

Heartbreak isn't just a metaphor for songwriters. A heart condition called stress-induced cardiomyopathy, commonly known as broken heart syndrome, is real. And since the COVID-19 pandemic, there's been a marked increase in the rare condition.

People experience an acute but reversible decline in their heart's function. It's often triggered by the loss of a loved one, a pet or a job, or a stressful life event like coping with a loved one's serious illness, a home break-

in or other traumatic event, says Dr. Joseph Burdowski, a cardiologist at Nuvance Health Medical Practices in Danbury and Norwalk. Physical stressors such as a severe asthma attack, seizures or COVID-19 can also trigger stress cardiomyopathy. While the condition is far more common in women from both emotional and physical triggers, when men get it, physical stressors are more likely the cause.

Since the pandemic, the percentage of cases has quadrupled, according to a study published in JAMA Network Open in 2020. The increase has been attributed to both emotional stress and physical stress, and some patients with COVID develop the condition, according to the study by a team of Cleveland Clinic researchers. Before the pandemic, about 2 percent of patients with acute heart syndrome were diagnosed with broken heart syndrome, while 8 percent had the condition in the early months of the pandemic in 2020, the researchers reported.

Cases have been steadily increasing since 2006, and women account for 88 percent of them, according to a study published in the Journal of the American Heart Association in October 2021. Women ages 50 to 74 were diagnosed more than any other demographic group. "This study further validates the vital role the heart-brain connection plays in overall health, especially for women," said the study's lead author, Dr. Susan Cheng, of the Smidt Heart Institute at Cedars-Sinai Medical Center in Los Angeles, in a story in Science Daily.

Scientists don't yet know why the condition most often affects post-menopausal women, says Dr. Supriya Tigadi, a cardiologist with UConn Health in Farmington. Anxiety sufferers are at increased risk. The exact cause of the condition is a mystery, and otherwise healthy people without heart conditions can get it. There's some evidence diabetics may be at greater risk.

One contributing cause is emotional stress, which leads to the fight-or-flight response, weakening the heart muscle, Tigadi says. The symptoms are similar to a heart attack — chest pain, shortness of breath, throat pain, jaw pain and heartburn. People with these symptoms should call 911, she says.

When it comes to heart attack symptoms, "women are not good at this. They seek medical care slower than men," she says. And once in the hospital, she advises

IT'S YOUR HEALTH: TIPS ON UNDERSTANDING AND PREVENTING HEART DISEASE

By Laura Falt

MIDDLETOWN — February is American Heart Month. According to the American Heart Association, nearly half of all adults in the United States are living with cardiovascular disease, the No. 1 killer of Americans.

This article will discuss some key strategies to preventing and managing heart disease.

The American College of Cardiology and AHA have published the following guidelines recommended to prevent heart disease.

These strategies include taking a daily low-dose aspirin when advised by one's medical provider; maintaining blood pressure below 130/80 and a healthy cholesterol level; refraining from smoking, managing weight and diet by including more fruits, vegetables, healthy fats, nuts, fish, and whole grains; controlling blood sugar if diabetic, and participating in 150 minutes of moderate exercise a week.

According to Dr. Supriya M. Tigadi, assistant professor of medicine at the Pat and Jim Calhoun Cardiology Center at UConn Health, "It is important to know your numbers. Having annual exams, checking cholesterol levels, controlling blood pressure, and taking prescribed medications as directed are very important to help prevent a heart attack or stroke."

If your blood pressure is high, it should be monitored regularly. A diet low in salt and limiting alcohol will help to maintain a healthy blood pressure. Additionally, replacing animal fat (red meat) with plant-based fats is recommended, as well as limiting refined sugars.

According to the AHA, cholesterol levels should be checked between ages 9 and 11 and again between 17 and 21, plus every four years after 20. This guideline may change based on family history. High cholesterol does not discriminate based on age or sex.

they self-advocate for an EKG immediately. "Even when women come to the hospital, they don't get an EKG quickly," she says. "Even the medical profession is to blame; that's the reason women do poorly because of this delayed treatment."

Doctors treat patients who present with heartbreak syndrome as if they are having a heart attack. If the EKG comes back abnormal, Burdowski says, the findings suggest a heart attack. When doctors send the stress-induced cardiomyopathy patient to the catheterization lab, cardiologists don't see the blockage they see with heart attack patients. The heart's left ventricle isn't moving and looks like it has ballooned out, while the rest of the heart is pumping normally. Further testing with an ultrasound of the heart or cardiac MRI can provide additional information.

Patients are put on similar medications, including beta-blockers, given to patients suffering heart failure, Burdowski says. The vast majority of patients make a full recovery but they continue to be kept on the heart medications and monitored, because once they've had one such event, he says, they're at risk for another one.

The heightened stress from living through COVID, the loss of loved ones, the social isolation and concern for one's health and others' health are leading to an increased number of stress-induced cardiomyopathy cases, both Tigadi and Burdowski say. In one December 2020 case report published in the Journal of Cardiac Surgery, a patient in her mid-80s said she was under extreme emotional distress because of social isolation.

While both cardiologists concede there weren't research studies to prove it, they suggest we all practice stress management and seek help from friends and family when we need it and support others who are grieving, isolated or stressed. "Especially now, living through COVID, we're all locked up. There's a lot of anxiety among all of us. We have to learn to manage that better," Tigadi says. "Overall, when you see family and friends come in to help, we see the patients do much better."

Broken heart syndrome "could happen to anybody, regardless of health status," Burdowski says. When people are facing a stressful situation, it helps to have someone to talk to and rely on, he says. "I'm not saying this is going to entirely prevent this disorder. I want to believe it can only help." ●

Furthermore, those who are not overweight and exercise can still have unhealthy cholesterol numbers.

Even if you're taking medications for high blood pressure or to regulate cholesterol, it is important to eat a healthy well-balanced diet, lead an active lifestyle, and maintain a healthy weight to reduce risk of heart disease and stroke.

Dr. Tigadi further said women can have warning signs of heart disease at a young age. Specifically, those who had pre-eclampsia, eclampsia, gestational diabetes, or early menopause are at greater risk of a heart attack. "Education at 30 can prevent heart disease at 60," she stated.

In review, risk factors for heart disease and stroke include, but are not limited to, having a family history of cardiac disease, smoking, high blood pressure, high cholesterol, diabetes, chronic kidney disease and chronic inflammatory conditions.

Speak with your medical provider if you have any concerns about your heart health. Additionally, the American Heart Association's website, heart.org, is a great resource for information on heart disease including healthy living, caregiver support, and more. ●

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UConn Health's Mission is Public Service for our State

By Bruce T. Liang, M.D.

As the newly appointed interim CEO for UConn Health, I testified on February 22 before the Connecticut General Assembly's Appropriations Committee regarding our budget request for the next fiscal year. I highlighted the enormous good that UConn Health does and proudly carries out as a public service mission for our state.

However, I remain troubled and perplexed by the level of misunderstanding and mistaken assumptions that

continue to be perpetuated regarding UConn Health, our mission, and our finances.

Here are some facts:

For nearly every state agency, the state covers 100% of the cost of employee fringe benefits, including the so-called "legacy" costs, which are the result of the state playing catch-up to fund historical pension and health costs that for years went unfunded. But, unlike other agencies, the state does not fund these costs for UConn Health. Instead, we have had to fund them ourselves (from clinical revenues, research grant awards and student tuition and fees). Fringe is a cost UConn Health doesn't control with rates we don't determine.

Because of the exponential growth of these state fringe costs over the last several years, we can no longer afford to cover them for the state, so we are asking the state to continue to take on a greater share of these costs. Some would like to portray this as evidence that UConn Health is troubled and that asking the state to fund a greater share of legacy fringe costs (as it does for most every other agency) is akin to seeking a "bailout." That is an inaccurate, grossly unfair characterization.

Some have even used this as a reason to question the very existence of UConn Health. It should be noted that every state in the nation has a public health system. UConn Health is that system for Connecticut. We are a public agency providing a public service. There is nothing remotely unusual about a state agency seeking support from state government to help fund the costs it faces – especially state-determined costs we don't control.

As of January, if UConn Health did not have to pay the state's legacy fringe costs itself, we would have an estimated surplus of \$8 million this year, thanks in large part to our expected \$689 million in self-generated net patient revenue and successful faculty researchers bringing in competitive grants. And instead of an average employee fringe rate of 65%-70%, it would be 35-40% – much closer to other health systems in the state.

That is how significant the impact of these legacy costs is on UConn Health's budget.

Also, every hospital and health system needs to have a medical malpractice risk management program. UConn Health had a trust fund set up to help cover

expenses associated with malpractice. The state swept \$20 million of this fund years ago to help close the state's budget gap, not associated with UConn Health. We are asking the state to replenish this fund. That is also being portrayed as a "bailout" in some quarters, which it is not.

The best thing we can do to challenge misunderstanding and misinformation about who we are and what we do is to rely on the truth, and on facts, to tell our story.

In speaking to the Appropriations Committee I also noted:

- UConn Health generates \$2.2 billion in overall economic benefit to Connecticut, supporting more than 10,000 jobs, and is the single largest producer of physicians and dentists in our state – our Schools of Medicine and Dental Medicine have grown enrollment by 30% in recent years.
- Our hundreds of residents are providing patient care in local hospitals and more than two dozen communities across the state, bringing \$137 million in federal funds to Connecticut to support their salaries and training.
- Our research revenue has grown every year for the past four years and now exceeds a record \$170 million; our collaboration with Jackson Labs has resulted in joint grant submissions garnering more than \$66 million in awards and our biotech start-up incubator is at capacity with 36 different companies. This groundbreaking research is propelling innovative and promising therapies across the fields of health care from the world's first potential gene therapy cure for the life-threatening pediatric condition Glycogen Storage Disease (GSD) to a new medication reversing the growing epidemic of heart failure. Plus, our researchers are even working toward re-growing a limb by 2030 to heal wounded warriors, children born without limbs, or others injured.
- Clinical revenue at UConn Health has seen unprecedented growth over the last decade, climbing from \$326 million to an expected \$689 million, accounting for half of our entire budget. Our clinical care itself is transforming the lives of patients whether it's those treated at the

first and only dedicated comprehensive outpatient center of its kind in New England for the painful inherited condition of sickle cell to those benefitting from our surgeons unparalleled expertise in brain, spine and stroke surgery. In fact, our Stroke Center was just named an Advanced Thrombectomy-Capable Stroke Center, the very first of its kind in the Hartford area. Plus, we were first in the state to offer severe emphysema patients a new valve to breathe easier and first in New England to offer breast cancer patients breast conserving surgery with the latest 3D navigation technology.

- And we provide patient care for everyone, everywhere in Connecticut, up and down income brackets, including those who are severely economically disadvantaged and have nowhere else to turn, other than their state's public health system.

This all is the cornerstone of being a public service and an incredible asset for our state. ●

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WHEN WILL PANDEMIC END IN CONNECTICUT? EXPERTS SAY IT'S COMPLICATED.

By Jordan Nathaniel Fenster

Brooks Walsh is an emergency room doctor at Bridgeport Hospital, and when asked if he thought the COVID pandemic was over, he said: "Sorta over, sorta not."

"We don't have the surge of acutely infected people anymore," he said. "It's crashed."

Even though fewer patients have been hospitalized with COVID in recent weeks, Walsh said that doesn't mean the pandemic is in the rear view.

“We are all wary of what comes next,” he said.

Walsh and his colleagues are still operating under the supply chain and staffing constraints that came with the pandemic, and there are still COVID patients.

“I’m looking at how many people are in the waiting room, how many people are waiting for beds, how many people can get their elective cancer surgery,” he said.

Former President Donald Trump declared a pandemic on March 13, 2020, finding there to be “sufficient severity and magnitude to warrant an emergency declaration for all states, tribes, territories, and the District of Columbia,” as the Food and Drug Administration wrote.

That declaration was two days after the World Health Organization made its own declaration.

“At some point, there will be a formal declaration that the pandemic is over,” Yale New Haven Health Director of Infection Prevention Rick Martinello said.

But experts say a combination of medical, social and political measures will be factors in determining when the pandemic is officially over.

“It’s all mixed up in the scientific, the political, the cultural,” Walsh said.

Restaurants, Churches And Schools

Many schools across Connecticut are offering students the choice to remove their masks in class. But according to Ridgefield resident Art Caplan, founder of the New York University Langone’s division of bioethics, declining mask use is not necessarily a signal of the end of the pandemic.

“It’s not over, but our ability to fight it with enthusiasm is gone,” Caplan said. “It’s still killing people at a high rate. We still have vulnerable people out there, but we have both gotten tired of masking and yelling about being vaccinated and we’ve weakened our ability to feel that we have to protect the vulnerable and the weak.”

Caplan said the pandemic is unlikely to end with fanfare. There may not be a clear demarcation point.

“I think it’s more likely to peter out than it is someone standing on an aircraft carrier saying, ‘mission accomplished,’” he said.

Scott Dolce, president and CEO of the Connecticut Restaurant Association, said the pandemic is not yet over for his industry.

“I don’t think it’s over,” he said. “I do think that we’re leading to a really good place. We’ll always be on guard, though.”

Restaurants may be full again, but they’re still dealing with the effects of the pandemic, like staffing shortages, inflation and supply chain issues. After a recent meeting with dozens of restaurateurs in New Haven, Dolce tried unsuccessfully to go out to lunch.

“Eight locations I was going to go to weren’t open on a Tuesday,” he said. “There’s this after-effect of the challenges that have been put on our industry.”

All of the restaurant owners at that meeting said last month was the worst January they’ve ever seen.

“Restaurants haven’t started recovering yet,” Dolce said. “They’re not back to their normal hours, they’re not back to their normal staff, they’re not back to their normal profit margins.”

For spiritual leaders, the pandemic is also not viewed as being over.

“No, not by a long shot,” Rev. Kelcy G.L. Steele said.

“The numbers may be down, vaccinations may be up, but still there’s a psychological measure that’s still at play within the minds of my parishioners,” said Steele, pastor at New Haven’s Varick Memorial AME Zion Church.

Varick Memorial returned to in-person worship, but the omicron variant pushed the congregation online again.

“During this omicron spike, we had to go back to all virtual,” Steele said. “We’re not doing any in-person at the moment.”

The plan is to invite congregants back to the church on March 6, but Steele said he does not expect things to ever go back to the way they were before the pandemic.

“The beginning of shaping a new paradigm and a new way of living,” he said.

Rabbi Michael Friedman, of Westport’s Temple Israel, said the question was better left to public health experts.

"I'll let the medical experts and scientists deal with that question," he said, though there is a sentiment that people are ready for the pandemic to be over.

"The majority of people are done," Friedman said. "People don't want to be living with COVID as a daily threat. They don't want to live in that space anymore."

Rev. Luk De Volder, of Trinity Episcopal Church in New Haven, expressed a similar feeling.

"We're getting the sense that the pandemic will soon be over," he said. "It seems that spring this year will be a new beginning. That is the sentiment among the staff, myself and many members of our congregation."

A 'Parallel Pandemic'

Akiko Iwasaki is a virologist at Yale studying long COVID and cancer who also does not view the pandemic as being over yet.

"There are millions of people suffering from long COVID," she said. "There are people developing long COVID as we speak."

New cases of COVID are still occurring, but there are patients who've been fighting the disease for an extended period of time.

"Some people are suffering for over a year now," Iwasaki said. "It's sort of a parallel pandemic that's happening that people don't pay attention to."

Dr. Jaime Imitola, director of the Division of Multiple Sclerosis and Translational Neuroimmunology at the University of Connecticut, said the pandemic might be long over for some, but it's never stopped for others.

Multiple sclerosis, Imitola explained, is an autoimmune disorder. That means "your body somehow didn't learn to not fight against you," Imitola said.

"The immune system didn't get the memo, the T cells didn't get the memo that, do not attack your brother, you don't attack your other cells," he said.

People with autoimmune disorders like MS are still very much at risk.

"One of the major questions in the virology community is when this pandemic is going to end, and what the end of the pandemic looks like," Imitola said. "The reality is that we will remain at high risk, especially people that

are immunocompromised, and especially people with cancer, old people, etc."

'Fueled By Poverty'

Beyond immunocompromised patients, Imitola said he believes COVID is "fueled" by "people that live at the edges of poverty."

People who live in poverty are at greater risk for the comorbidities that continue to make COVID deadly, even as the rates decrease. Poverty is indicated with a higher risk for obesity, hypertension and for autoimmune diseases like asthma. Experts say those who are poor are less likely to have access to high-quality medical care.

"This is a historical thing," Imitola said. "Every single pandemic, always, is permeated by poverty."

Imitola believes that poorer communities, with less access to health care and higher rates of comorbidities will continue to see higher rates of death and hospitalizations.

So, the answer to the question, "is the pandemic over," is not a simple "yes" or "no," Imitola said.

"The pandemic, probably, for many people is over," he said. For others, "it's alive and kicking."

'Over For Now'

There have been, by some counts, five distinct COVID waves in Connecticut since the start of the pandemic and, "at the trough of every one of those, you declare it's over," Caplan said.

"I like to say the pandemic has been over," he said. "It's been declared over a couple of times."

Caplan said the decision of when a pandemic ends is based on "value laden" metrics. The questions are, "What degree of infection, what degree of disability, what degree of death," are nations willing to live with.

Those decisions are largely political in nature.

"Pandemics give national governments more authority to restrict travel," Caplan said. "In the United States, Washington's authority is based on the declaration of an emergency and the ability to control who comes in and out of the country."

So, to some degree, the pandemic will be over when the special powers and funding granted state and federal leaders as the result of an emergency declaration end, though Caplan said that all could change quickly, if the rates of infection and death go beyond what is considered acceptable.

“All of this can be undercut by the reemergence of a new strain,” he said.

Walsh agreed. “We are all wary of what comes next,” he said. “‘Is it over for now,’ is probably a more accurate way to put it.”

To some degree, he said it doesn’t matter when the pandemic ends. COVID will become endemic, if it isn’t already, but it could still continue to stress the hospital system and cause a significant number of deaths.

“It’s a trivial, technical question when the pandemic is over,” he said. “Smallpox was endemic for a while and that just carried a terrible burden. It shook society.”

Hospitals were better prepared to deal with COVID when the omicron wave created a spike in cases and hospitalizations. There was more immunity in the population due to high rates of vaccination in Connecticut, resulting in less severity of infection and, perhaps, fewer deaths.

But Walsh said hospitals were still overwhelmed.

“The omicron wave showed us that it doesn't have to be a more severe wave,” he said. “It doesn't have to be dominating the hospital to still affect us.” ●

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HOW AGING AFFECTS YOUR IMMUNE SYSTEM

By Lisa Esposito

As you get older, your immune system ages with you. There's even a medical term for it – immunosenescence – the gradual decrease in immune function that comes with age. Similar to your walking or running speed, your body's ability to fight off infection inevitably slows.

COVID-19 has added another health hazard for older adults. Once infected with the virus, people in their 60s, 70s, 80s and above are at increasingly higher risk of experiencing severe COVID-19 illness and complications, hospitalization and death.

Although its difficult to precisely measure the impact of immune-system aging, "We know that it adds a massive risk," says Dr. Janko Nikolich-Žugich, a professor and chair of immunobiology at the University of Arizona College of Medicine–Tucson. "Those over 80 are 260-fold more likely to die from COVID-19 than those between 18 and 39."

The good news is the COVID-19 vaccine is highly effective at any age – making full vaccination critical for older adults. Research confirms its value:

A large study of COVID-19 vaccination coverage and mRNA vaccine (Pfizer and Moderna) effectiveness included more than 6.5 million U.S. veterans. One-half of these participants were ages 65 and older. For full (two-dose) vaccination, average effectiveness against infection was 97% for participants overall, and 94% – still very high – for veterans ages 65 and older. Among participants who were immunocompromised, vaccine effectiveness was 87%.

Full vaccination is effective for preventing hospitalization in older adults, according to findings in the August 13 issue of the Morbidity and Mortality Weekly Report. The 13-state analysis showed 96% effectiveness for Pfizer and Moderna vaccines, and 84% effectiveness for the Johnson & Johnson vaccine in adults ages 65 to 74. For adults ages 75 and older, effectiveness was similar: Moderna (96%), Pfizer (91%) and J&J (85%).

Older adults are doing better than expected, says Nikolich-Žugich, who is also co-director of the Arizona Center on Aging. "There is a strong response after two doses of mRNA vaccines," he says. "We still do not know enough about it's durability or breadth – but so far, so good. Still, boosters are fully warranted for this population."

Besides getting COVID-19 and other recommended immunizations for your age group, you can do a lot to bolster your immune system and keep it as healthy as possible. Here are some reasons your immune system weakens and then proactive ways to support it.

Aging Effect Is Real

Your immune system keeps your body healthy by warding off foreign substances. Harmful invaders include bacteria, viruses, fungi and cancer cells. The immune system battles back through a complex network of blood cells and bodily organs. Lymph nodes are glands that harbor, then release, specialized white blood cells called lymphocytes. Lymph and blood vessels transport the infection-fighting lymphocytes throughout the body.

"Your age is the primary determinant of what's going to happen to your immune system," says Philippa Marrack, a researcher, professor and chair of immunology and genomic medicine at National Jewish Health in Denver.

The bottom line is that your immune system is just not as robust as it used to be, Marrack explains. As a consequence, it takes longer for your body to figure out when you have an infection. Once detected, it takes longer for the immune system to deal with it, as there are fewer white blood cells to respond, and your body starts losing the race between bacteria or viruses. You get sick more often. Infections are more severe and more of a threat than when you were younger, and you recover from them more slowly.

Vaccinations are key for protecting you from infection. However, some vaccines may not work as well as they used to. As the immune system changes, autoimmune diseases like rheumatoid arthritis are more likely to occur.

Experience does confer some benefit. "When you get older, your immune system is (still) pretty good at dealing with things you've already experienced," Marrack says. "But it's the new infections that you've never experienced before that are a real problem."

One example is the West Nile virus, Marrack says. West Nile virus disease, which affects older adults more severely, was far more lethal among those over 65 than younger adults when it first came through North America at the turn of the millennium.

Aging Immune System Plus Underlying Conditions

Immune-system aging increases COVID-19 risk "quite a bit," says Laura Haynes, a professor of immunology at the UConn Center on Aging at University of Connecticut

School of Medicine. "But it's not only that older adults have a less robust immune system that makes them more susceptible to COVID," she says. "The vast majority of older adults have other comorbidities that also put them at risk for COVID." These underlying conditions put people at a greater risk of severe cases of COVID-19 with longer-lasting effects.

Being overweight, having diabetes, cardiovascular disease or preexisting lung conditions like chronic obstructive pulmonary disease become more common with age, Haynes notes. "So it's the perfect storm of not only changes in the immune system but also other changes that happen as you get older."

What Are Some Ways To Boost Immunity?

Fortunately, COVID-19 vaccination still works really well in older adults, says Haynes, who explains why the Pfizer and Moderna vaccines are so effective. "They are a much different kind of technology than, say, our seasonal flu vaccines," she says. "They're more stimulatory to the immune system. So they work much better at stimulating a protective immune response in older adults."

Inflammation And Aging

Inflammation is part of the body's normal response to an injury, infection or toxin. With chronic inflammation, however, the body's ongoing response can damage healthy cells, tissue and organs.

The combination of inflammation plus aging, sometimes called "inflammaging," can have an unfortunate impact on health. "As you get older, for most people, the level of inflammation in your entire body goes up," Haynes says. "This is due to aging, to changes in your cells as you get older."

Inflammation is a factor in a variety of conditions from heart disease to dementia, Haynes says. "It's probably related to pretty much every disease of aging you can think of," she says. Increased inflammation could be at the root of age-related changes in physical function and reduced mobility, she adds. Inflammation can also impact how the immune system responds to a vaccine or an infection: "And that might make the response be not as protective as it would be in a younger person."

Within the cells, a phenomenon called "cellular senescence" is likely responsible for inflammation that comes with aging, Haynes says. "Normally, in a younger person, cells that are old and have accumulated defects because of their age are rapidly cleared from the body," she explains. "As you get older, it doesn't happen as efficiently – and so the cells hang around. They produce and generate more inflammation."

What You Can Do

Vaccinate, vaccinate, vaccinate. That's the first line of defense against common infections such as flu and pneumonia. Getting adult vaccinations according to recommendations is the best way to protect yourself from infectious diseases, Marrack emphasizes. One example is shingles – a painful, persistent infection that tends to prey on seniors.

"Shingles is caused by the chickenpox virus hiding away in our nerve cells ever since we got chickenpox when we were young," Marrack says. An intact immune system keeps the virus under control, sometimes for decades. However, she says, "As your immune system gets less effective, it can come popping out."

Vaccination against the varicella zoster virus, which causes shingles, is recommended for adults over 50, according to the Centers for Disease Control and Prevention. Shingrix, now the only shingles vaccine approved in the U.S., is highly effective at preventing shingles even in adults in their 80s and 90s.

Most people should receive yearly flu shots. Special formulations are targeted just for older adults. The Fluzone High-Dose Quadrivalent vaccine is one. "That has more of the flu antigens in it than the standard-dose vaccine, which younger adults get," Haynes explains. "It's more concentrated." FLUAD Quadrivalent, the standard yearly flu vaccine with an adjuvant added to boost protection, is also approved for people 65 and older.

Pneumococcal vaccines are advised for adults over 65 to prevent pneumonia and related conditions. In addition, you may need periodic booster shots for tetanus or other conditions, depending on your health history. Work with your health provider to stay on top of immunization schedules.

"You need to get your vaccines," Haynes says. "There's a lot of talk about natural immunity: letting your immune

system fight off whatever infection you get. When you're older that's really a bad idea because your immune system is just not going to be up to the task on its own. So it's even more important for older folks to get the vaccines that their doctor recommends."

Beyond vaccination, masks, avoidance of crowded spaces, good sleep, diet and exercise help older adults protect themselves to mitigate their higher infection risk, Nikolich-Žugich says.

A healthy immune system is closely tied to your overall health. Avoiding obesity and keeping chronic conditions like diabetes under control reduces immune-system stress.

"The one big thing that keeps people younger – and it's been shown over and over again, in study after study – is exercise," Haynes says.

For instance, a March 2018 study highlighted the importance of exercise to counter aging. A team made up of 125 male and female cyclists, ages 55 to 79, was compared to a control group of older adults who did not exercise regularly. The cyclists not only had intact strength and muscle mass, but also possessed immune systems equal to those of much younger adults.

Good nutrition from eating a balanced diet also keeps your immune system strong. On the other hand, smoking is as bad for your immune system as it is for your lungs. Heavy alcohol use or binges can compromise immunity as well. Sleep disorders like sleep apnea can also lower immunity, so seek treatment if needed.

Hope For A Stronger Immune System

A growing body of research is looking at aging's effect on the immune system. "The main recent realization is that some immune (lymphoid) tissues, such as the lymph nodes, age earlier than we thought," Nikolich-Žugich says. "The aging of lymph nodes is critical to impaired maintenance an function of the immune cells. Lymph nodes are specific parking grounds where immune cells, particularly T and B lymphocytes, are maintained (and) where they react to infection. So, losing lymph node function is a pretty nasty proposition. There may be ways to reverse that loss, but this work is still in early stages."

In his own laboratory, Nikolich-Žugich's team is working to understand how to reinvigorate white blood cells that are critical to immune function. Another challenge is restoring coordination throughout the immune system so that infection-fighting cells can meet microbial challenges in time.

One potential treatment track is medications such as rapamycin and metformin, which have shown age-delaying and anti-inflammatory effects in animal studies. "This is a big area of research right now," Haynes says.

"And there are a lot of companies trying to generate the perfect drug."

Certain experimental drugs are currently being evaluated for their ability to rid the body of worn-out cells that accumulate and cause harm. "What people are looking at now is the use of drugs called senolytics," Haynes says. "These will clear the senescent cells. In animal models, they've been shown to be really efficacious in restoring physical and metabolic function in old mice."

The next step is happening: Clinical trials are now being conducted in people.

"The process of aging is inevitable, but it is also plastic – it can be modulated and delayed," Nikolich-Žugich says. "This is also true for immune aging, and there are many interventions to improve the function of the immune system that are candidates to be tested in humans." ●

SANDRA CARPENTER: PEOPLE WITH DISABILITIES DESERVE EQUAL OPPORTUNITY IN MEDICAL CARE

By Sandra Carpenter

Mr. Gerald, a 71-year old man from Unionville, has been seeing his primary care physician for years. Although proud of his good health, Mr. Gerald laments that he has never been weighed or examined on the table at these appointments.

That is because Mr. Gerald has cerebral palsy and uses a wheelchair, requiring additional time, staff and equipment to ensure his safe transfer.

"I guess it's just easier to do it in my wheelchair," he said. "But I can't help but wonder if something gets missed."

When Mr. Gerald saw his specialist in Physical Medicine and Rehabilitation for a minor procedure, the doctor asked his aide, Mary, to lift him onto the exam table. "I was so nervous," Mary said. "I could have dropped him, but also hurt myself. He's not too heavy, but it's an awkward position for me to be in."

Mr. Gerald is not alone. Over 55,000 adults in Connecticut have mobility disability, which is defined as serious difficulty walking or climbing stairs. In fact, mobility disability is the most common disability among adult Americans, affecting 1 in 7 people. More community members with mobility limitations have chimed in recently about their health care experiences.

Mr. Moss's doctor requests he bring another person to transfer him to the exam table, a requirement that is against the law.

Ms. Rider's doctor deferred her mammogram and colonoscopy because her spina bifida made obtaining these screenings more complicated, even though she has a history of cancer in her family.

Ms. Bernard's doctor sent her to the emergency room for radiographs rather than an imaging facility because of her quadriplegia. She spent significantly more money and time as a result.

I met Mr. Gerald during my second year of medical school when I became involved with the Citizens Coalition for Equal Access (CC=A), a grassroots disability advocacy group in Greater Hartford. CC=A members have significant disabilities, and many live in accessible housing designed for people with physical disabilities. I recognized that Mr. Gerald and others were receiving substandard care. When I rotated at different Connecticut hospitals during my third and fourth years of medical school, I witnessed the physical barriers.

Decades of studies show that people with disabilities have higher rates of preventable diseases and poorer health outcomes than the general population. These stark differences in health outcomes are not primarily caused by underlying disability, but rather by the differential treatment of people with disabilities within the health care system.

One of the most significant barriers is the lack of accessible medical diagnostic equipment (MDE), including exam tables, chairs, scales, lifts and imaging equipment.

In May 2021, the National Council on Disability, an independent federal advisory agency on disability policy, published a report on this issue. Although health care providers are required by law to ensure full and equal access to their services and facilities, the written law needs enforcement to truly take effect. The Affordable Care Act required the U.S. Access Board to issue accessibility standards for MDE. Those technical standards were published in 2017 but have yet to be enforced at the federal level. So they remain recommendations and not regulations with the law behind them. The only federal agency to act is the Veterans Health Association, which requires all equipment purchases to meet the standards for MDE.

State Rep. Mike Demicco proposed a bill that would require MDE purchased by health care facilities meet or exceed those technical standards. That would effectively make Connecticut the first state to do so. I submitted public testimony in support of the bill, as did many members of CC=A. However, the bill was opposed by the Connecticut Hospital Association and

Connecticut State Medical Society, both of whom cited logistical and financial barriers at the height of the COVID-19 pandemic. Expectedly, the bill died.

This year, disability activists from CC=A joined a newly formed group, which meets monthly and includes stakeholders from Connecticut health care systems, the Connecticut Hospital Association, the Connecticut State Medical Society and the Connecticut Department of Public Health. The working group's objectives are twofold: first, to include people with disabilities to increase awareness of their lived experiences in the health care system with respect to accessibility; second, to develop collaborative strategies to increase the prevalence and use of accessible MDE.

Rep. Demicco will propose a bill in the 2022 legislative session with input from the working group. The cost of change has already proved to be an obstacle, especially in COVID-19 times, but disability advocates know that change is wrought from hardship and never comes at the ideal moment.

As a physician-in-training, I aim to provide quality care to all of my patients, including patients like Mr. Gerald. People with disabilities deserve equal opportunity and dignity in all aspects of life, including medical care. Ensuring accessible MDE is a critical first step toward improving health care quality and access for people with disabilities. ●

EXPERTS: COVID WAS ‘AN AWAKENING’ TO HEALTH DISPARITIES IN CT. WHAT HAS BEEN DONE TO FIX ISSUES?

By Jordan Nathaniel Fenster

Dr. Jaime Imitola said he believes COVID is “fueled” by people who “live at the edges of poverty.”

Imitola, a neuroscientist, neurologist and immunologist, is director of the Division of Multiple Sclerosis and Translational Neuroimmunology at the University of Connecticut. People who live in poverty are at greater risk for the comorbidities that continue to make COVID deadly, even as disease rates decrease statewide, he said.

Poverty is indicated with a higher risk for obesity, hypertension and for autoimmune diseases like asthma, he said. Those who are poor are less likely to have access to high-quality medical care or good health insurance, he pointed out.

“This is a historical thing,” Imitola said. “Every single pandemic, always, is permeated by poverty.”

Imitola believes that poorer communities, with less access to health care and higher rates of comorbidities will continue to see higher rates of death and hospitalizations.

Researchers and public health experts began commenting on the inequitable outcomes in both poorer communities and among racial and ethnic minorities at the start of the pandemic.

Now two years after COVID first appeared in Connecticut, what has been done to address those health disparities?

The answer is complicated, and Tiffany Donelson, president and CEO of the Connecticut Health Foundation, said it’s first important to understand the difference between equality and equity.

“Equality is treating everyone the same; equity is meeting the differing needs people have,” she said.

Donelson said the difference between the two was exposed throughout the pandemic.

“An equality approach would be to open online slots for vaccine clinic appointments to everyone at the same time,” she said. “An equity approach would be to offer vaccines at locations you know people can access whether they have a car or not, that don’t require booking online, that are designed to address the barriers people face.”

“The pandemic really illustrated why an approach centered on equity, not just equality, is so important,” she said.

‘Social Determinants’

Mark Masselli, president and CEO of Community Health Center Inc., said access to health care and health insurance are downstream effects of larger issues, which he referred to as “social determinants of health.”

Food insecurity, housing insecurity, education and transportation, for example, are all important factors in a patient’s health care profile.

“I don’t know if there’s a plan for that. But I think more people understand this,” Masselli said. “The current health system is set up to address all the problems that we created by not addressing determinants. The question is can we, in fact, pivot from where we are, take what we’ve learned, and move forward?”

The pandemic has put a brighter spotlight on the issues that have led to health inequities, which have long been ignored, according to Sara LeMaster, manager of government relations and public policy for the Community Health Center Association.

“In Connecticut, at least, there has been a more intense focus on addressing the social determinants of health and health inequities,” she said. “I think that one of the struggles for us has been that health centers have been doing that work for a long time.”

Ken Lalime, CEO of Community Health Center Association, called it “an awakening.”

“All of a sudden, there’s a bit of an awakening that the underlying issues of the Black and brown communities

not getting access to the same level of service that others get is something that continuously needs to be worked on," he said.

The Future

The key, Lalime said, is making better use of technology, to provide a greater level of access to health care, but also to track the social determinants of health patient by patient, community by community.

"Health care is 20 percent of health," he said. "The bigger piece of health is behavioral, it's social. It's where you live, where you breathe."

Dealing with those large and long-standing issues "starts with technology," Lalime said.

"It starts, actually, with defining what social determinants of health we're talking about, what issues are we talking about, finding a way to identify those issues," he said. Then, it's possible to "find a way to get, from a technology point of view, those issues into an electronic health record, so that you can start looking at codifying those patients."

Then advocates can ask: "What types of services do we need to provide to certain groups of patients that are in need, that can change their pattern of health the most," Lalime said.

Public Act 21-35, signed into law last year, began that process, Donelson said. She said it "contains a number of provisions focused on advancing equity," including the creation of a commission on racism and public health.

"Public Act 21-35 requires health care providers to collect race, ethnicity, and language preference data from patients — having them self-report it (or opt out), rather than guessing or not collecting it," she said. "This data allowed state leaders to see who was getting COVID and who was — and wasn't — getting vaccinated, and to better focus on reaching those who were being left behind."

Removing barriers

Adjusting for age, Black and Hispanic patients were far likelier to have caught COVID in June 2020, when the pandemic was new, with case rates three times higher than among white residents.

Though case rates have since leveled out somewhat, Black and Hispanic people in Connecticut are still far more likely to have contracted COVID than their white neighbors.

That disparity is even more stark when looking at COVID death rates. Data from the state Department of Health suggests that Black people are twice as likely to die from COVID than white Connecticut residents.

Adjusting for age, the COVID death rate in Connecticut is 180 for every 100,000 white residents, compared with 313 for every 100,000 Hispanic residents and 359 for every 100,000 Black residents in Connecticut.

Vaccination rates have also lagged among communities of color in the state.

Only 57.77 percent of Connecticut residents who identify as Black are fully vaccinated, according to data maintained by the state. In comparison, 66.31 percent of the state's Hispanic residents and 73.04 percent of residents who identify as white are fully vaccinated.

There have been some concrete steps taken to improve outcomes for at-risk communities like Public Act 21-35, according to Donelson.

It's also important, Donelson said, to meet people where they live and work, "whether that means providing testing and vaccine clinics in communities where people live or going door-to-door to offer appointments to vaccine clinics and information about COVID."

"We learned to approach access with an equity lens," she said. "Health systems and other providers can learn from this going forward."

Masselli said disparities in vaccination and COVID testing between ethnic groups in Connecticut demonstrated that "we did not have a public health structure in place."

"We realized, and still we fell short, that if you remove the economic and structural barriers to care, then you can focus on the work of where people live, work, play and pray," he said.

That has meant both physical shifts — a movement from mass vaccination sites to smaller, community-centered approaches — and digital efforts.

“At the beginning of the pandemic, all health center patients had to see a provider in person, LeMaster said. “Through telehealth, we’ve been able to reach a lot more patients, but there are still technology issues and access issues that exist.”

“It’s not the perfect thing,” she said. “But I think that it has helped a lot more people continue to access care when they couldn’t before.” ●

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ADDRESSING ENDOMETRIOSIS BEYOND A DOCTOR’S OFFICE

By Julie Martin Banks

Dr. Danielle Luciano, associate professor of Obstetrics and Gynecology at UConn Health, said she sees the pain and infertility issues that women experience from endometriosis, a disease that occurs when tissue resembling the uterine lining grows outside the uterus.

But before becoming involved with the Connecticut Endometriosis Working Group, formed by state Rep. Jillian Gilchrest to bring awareness and push forward research, Luciano had not considered the impact the disorder was having on society as a whole.

“I think about how this affects patients’ lives. I don’t always think about the effects on society, when a person misses one day of school or one day of work,” Luciano said.

“It helped me to see that it’s a community problem and a societal problem rather than a one-patient-at-a-time problem. I’m focused on making them feel better but I am not thinking about how many people called in sick today because 10 percent of them have endometriosis.”

The legislature’s Public Health Committee voted last week to send a bill establishing an endometriosis clinical data and biorepository program to the House for a vote. Advocates say this initiative will lead to discoveries that can help speed up diagnosis, which currently can take up to seven years from the first symptoms.

The data and sample repository would allow researchers to better understand a disease that is extremely complex, according to Elise Courtois, Ph.D., who is Associate Director of Single Cell Biology at the Jackson Laboratory and an endometriosis researcher.

“It is really important to actually align what we know about patients, what are the clinical symptoms, what are the surgical findings with what the biology is telling us,” Courtois said. “If we have a way to actually get this data and these samples from a maximum of patients that are affected by this disease, we will have enough power to really understand and really push endometriosis research because we will have the fundamental knowledge that we need about how it is affecting patients and how it affects biology and how we can put those together to better understand what the causes endometriosis, how we can solve that and how we can detect it earlier.”

Endometriosis can cause extreme pain during menstruation cycles, pelvic pain, and infertility. It can also present with constipation and diarrhea as well as bladder issues, Luciano said.

“All that chronic pain can also cause depression and anxiety especially if it takes a long time to diagnose,” Luciano said.

Endometriosis affects 1 in 10 people born with a uterus in Connecticut, according to testimony submitted by The Jackson Laboratory. The chronic inflammatory gynecologic condition affects 200 million female-born people worldwide and 6.5 million in the United States. March is Endometriosis Awareness Month.

There is no cure now, as even with a total hysterectomy there is an 8% chance of recurrence, Luciano said.

There is no way to quickly diagnose someone suffering from endometriosis, as there is no blood test or biomarker to look for. Also, the disorder affects women differently, as some patients will have many lesions with almost no symptoms, while others have few

lesions and experience excruciating pain when they menstruate.

While lesions will be found on top of the ovaries, some patients will experience them in distant areas in rarer cases, such as the lungs and sometimes the brain, Courtois said. This complexity is why it takes so long to diagnose endometriosis, which means some women suffer years of intense pain, and the frustration of not being believed, she said.

“I think there is a stigma when we talk about periods and diseases related to women’s reproductive health,” Courtois said. “There has been some bias in the funding that was attributed to research. Reproductive women’s health was not considered a priority until very recently.”

Sarah Fox, a North Haven resident who lives with Stage 4 endometriosis, testified before the Public Health Committee this month that she saw countless doctors through her teen years and on through her thirties, as she suffered a variety of symptoms, including stomach pain, bladder issues, debilitating periods, and severe lower back pain. Many of these doctors told her she was being over-dramatic, Fox said.

“These interactions left me feeling depressed and angry at a body that I clearly did not understand,” Fox said. In 2014, Fox underwent a partial hysterectomy and deep tissue excision of endometriosis located on her bowels, bladder, and through her body cavity. “This surgery saved me and today, while I still manage different components of the disease, I can live a full life.”

The Endometriosis Working Group has been meeting since September of last year, with its next meeting scheduled for April 4.

“Within the first month of launching the working group more than 30 women reached out,” Gilcrest said, adding that the group has been helping Connecticut residents find national resources such as Endo Black, Inc., which advocates for African-American women and women of color in the areas of health equity and women’s reproductive health, and the Endometriosis Foundation of America.

The group has made several recommendations. One that is included in HB 5303 is requiring health care providers to receive training and continued education in cultural competency – the effects of systemic racism,

explicit and implicit bias, racial disparities, and the experiences of transgender and gender diverse people on patient diagnosis, care and treatment.

Other recommendations call for school nurses to receive the Endo What? School Nurse Training and Toolkit and that the state Department of Education and local school boards include information on common reproductive health concerns in health education.

The working group has already generated more discussion surrounding endometriosis, Luciano said. More patients are being proactive, she said, asking her specifically if they may be having symptoms.

“I’ve had moms that have come to me saying, ‘You know what, my daughter is miserable with her periods, and I don’t think this is normal’,” Luciano said. “People are talking about it, and just talking about it is making a difference. We as women tend to not talk about these things, but not talking leads to a long time to be diagnosed.” ●

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THE 5 SKILLS RESIDENCY PROGRAM DIRECTORS EXPECT ON DAY ONE

By Brendan Murphy

Dr. Grades and test scores do not necessarily reflect that a medical student will be able to practice the art of medicine when they transition into residency.

One longtime internal medicine residency program director shared his valuable insights on the transition from medical school to residency, what program directors expect from their first-year residents on day one, and where those interns might be faltering.

Steven V. Angus, MD, is a professor of medicine at University of Connecticut Health (UConn). He previously served as the director of UConn’s internal medicine residency program for more than a decade. UConn School of Medicine is one of the 37 member schools

of AMA Accelerating Change in Medical Education Consortium.

From a graduate medical education (GME) vantage point, Dr. Angus pointed out that the handoff between the two levels too often leaves much to be desired. The information that schools pass along—beyond the metrics—often comes in the form of the Medical Student Performance Evaluation letter, formerly known as the Dean’s Letter. That document, in theory, works as a summary of the student’s academic track record and assessment of their potential as a resident.

“Mostly when you talk to program directors, they will say that the information they get doesn’t really tell them what they want to know,” he said. “So, what is it that program directors want to know? There is plenty of published data across different disciplines that really gives us a good sense of what specific program directors and specific specialties are looking for in their new interns.”

Glean these nuggets about expectations during your first days as a resident so that you can focus more of your mental energy on thriving in residency.

Program director expectations

Dr. Angus was able to frame what internal medicine program directors are looking for within the context of the Core Entrustable Professional Activities for Entering Residency (EPAs).

Published by the Association of American Medical Colleges in 2014, the 13 Core EPAs provide a set of tasks that learners should be able to perform upon entering residency.

Rather than focusing on facts and lessons, the EPAs focus on tasks—such as working in an interprofessional team or performing a history and examination—and how a student is progressing toward being able to perform them well without supervision from a faculty member.

Within that group of 13, Dr. Angus’ research has identified five that the majority of internal medicine program directors believed residents must possess upon entering a residency program.

That must-have list is:

- Gather a history and perform a physical examination—a skill set 94% of program directors believed residents must possess.
- Give an oral summary of a patient encounter—87%.
- Document a clinical encounter in handwritten or electronic format—77%.
- Participate as a contributing and integrated member of an interprofessional team—58%.
- Recognize a patient requiring urgent or emergent care, initiate evaluation and management—51%.

While these skills may be the most valued, Dr. Angus found that they are not always the ones new interns possess.

“When we ask people to pick the most essential skill, ‘gather a history and performing a physical examination’ was the top at 97%,” Dr. Angus said. “We also asked them where they saw gaps. When these new interns came into your program, where did you see gaps in their performance? And of the top three required skills, two of those skills had the largest gaps in performance.”

Gain insight on how new residents can find learning gaps caused by the pandemic.

Looking For Solutions

As far as better preparing residents, Dr. Angus believes that communication of student competence as part of an educational handover would be most useful if the information provided were specialty-specific and included students’ strengths and weakness so the program directors could individualize training.

“If a program director had information on a student’s strengths and, more importantly, where a student needed to be supervised a little bit more or needed a little extra work, there is evidence in the medical literature that program directors will change their schedules and their curriculum to help new interns get up to speed,” he said.

Find out more about how coaching helps medical students successfully move to residency.

Working To Change GME

Launched in 2019, the AMA Reimagining Residency initiative is transforming residency training to address the workplace needs of our current and future health care system. It supports bold and innovative projects that provide a meaningful and safe transition from undergraduate medical education to graduate medical education, establish new curricular content and experiences to enhance readiness for practice and promote well-being in training. ●

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THE 5 SKILLS RESIDENCY PROGRAM DIRECTORS EXPECT ON DAY ONE

By Meghan Marples

“Love will make you do crazy things.” That’s what actor Will Smith said during his Oscars acceptance speech at Sunday’s Academy Awards ceremony.

That shouldn’t include resorting to violence, said Joel Wong, professor and chair of the counseling and educational psychology department at Indiana University Bloomington.

Smith rushed the stage and slapped Chris Rock at the Oscars for making a joke about Smith’s wife, Jada Pinkett Smith, and her closely shaved head. Not long after the incident happened, Smith was back onstage accepting the best actor award and attempted to justify his actions by saying love made him do it and that he was protecting his family. Pinkett Smith suffers from hair loss due to alopecia.

When a man who embodies unhealthy masculine behaviors like violence sees a family member being attacked, he often takes it as a personal affront to his honor, Wong said.

The incident between Chris Rock and Will Smith raises difficult questions for our kids, experts say

“Family, especially your spouse, is seen as an extension of yourself, so therefore insulting your wife or insulting your children would be viewed equally as threatening as insulting yourself,” Wong said.

For someone with this mindset, the only way to preserve your honor is to react in a way that is public and social, he added. The event needs to be available for viewing so people know his honor was restored.

In Smith’s case, 15.3 million Oscar viewers, along with millions more on the internet saw his response.

Shame may have also played a role, said Wizdom Powell, director of the Health Disparities Institute and associate professor of psychiatry at UConn Health in Farmington, Connecticut.

Smith may have felt shame at originally laughing at the joke before seeing his wife’s displeasure, or vicariously felt her shame, she said.

It’s less socially acceptable for men to be vulnerable, so they may try and regain control in a violent way, Powell explained.

Love As A Scapegoat For Violence

For domestic abuse survivors, Smith’s rhetoric was all too familiar. When some men act out violently, they claim it’s in the name of true love, according to a study published in the International Journal of Environmental Research and Public Health.

People who engage in bad behavior often have a vague sense that they are conducting themselves in a way that may not be consistent with who they are, Wong said.

They have to find a way to justify what they’ve done and make the decision look righteous, he explained.

“I think it’s important for people to call it what it is and not let Will Smith sort of get away with saying it’s all about love,” Wong said.

Throughout our children’s lives, we teach them that love shouldn’t hurt, Powell said.

My kids fight constantly: What do I do?

“Anytime we equate love with physical violence or aggression, there is a danger that those lines can be blurred,” she said.

Those facing domestic violence have resources available for support from organizations like the National Domestic Violence Hotline.

“Violence is never okay. If anyone impacted by domestic violence was triggered by (Sunday) night’s events at the 94th Academy Awards, The Hotline is here for you 24/7. Learn more at www.thehotline.org,” said Sharon McBride, a representative of NDVH, via email.

How To Break The Cycle

The “macho” mentality is deeply rooted in our society, so it will take time to unlearn, Wong said.

When a man lashes out with violence, he may think more men approve of his behavior than they actually do, he said.

In reality, most people do not believe that men should be aggressive, according to a 2020 study Wong conducted.

One of the most critical steps to begin the cultural shift is for bystanders to condemn the violent acts, known as positive bystander behavior, he said.

“It’s very important that men say they don’t participate in these kinds of things,” Wong said, because it’s a practical way to undermine unhealthy masculine behavior.

It’s also crucial to distinguish men from unhealthy masculine behaviors because we are not attacking men themselves, Wong said. “We want to celebrate the goodness of men and also express concern when men exhibit behavior that conforms to unhealthy masculine norms.”

Male honor culture and masculine norms are often conditioned in young boys over time, so the solutions need to start there, said Ronald Levant, professor emeritus of psychology at The University of Akron in Ohio.

When men are young boys, they are taught to not cry or show emotion, Levant said. People such as teachers, coaches, and parents and other caregivers need to give careful consideration to the message they are sending boys about masculinity.

“They have to know that it’s not obligatory, that they can be who they are, and that there’s not a set of

predetermined personality traits they have to meet,” Levant said.

Boys and girls can be equally emotional, but when boys are told to “walk it off” or “man up,” it chips away at their ability to be vulnerable and show emotions, Powell said.

Grown-ups need to teach young boys how to be vulnerable and use their words in a conflict rather than their fists, she said.

“Those are the kinds of conversations that lead us towards a society where men and women are free to experience a full range of emotions that’s not likely to overcompensate for the lack of access with violence,” Powell said. ●

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TV ADS, SOCIAL MEDIA MAY FUEL GROWING PSORIASIS DRUG MARKET IN U.S.

By Brian P. Dunleavy

NEW YORK, April 26 (UPI) -- Anyone in this country who watches television probably knows about the skin condition psoriasis, and voluminous commercials that tout prescription drug treatments for the autoimmune disease may be fueling a rise in diagnoses, experts say.

These advertisements reflect some of the 70 medications approved by the Food and Drug Administration to manage the disease, with social media influencers touting many of them online.

Marketing efforts may prompt some self-diagnosis of the disease in the United States -- the country accounts for 8% of all cases of the disease globally, or twice its share of the world population, according to Persistence Market Research.

But The Symptoms Are All Too Real.

"There is a lot of concern about the influence of commercials from drug companies because we are seeing that increased patient awareness of the disease has led to a rise in diagnoses," dermatologist Dr. Jun Lu told UPI in a phone interview.

"In places like Europe, drug companies aren't allowed to advertise in this way, and it may be why fewer people are being diagnosed with psoriasis," said Lu, an associate professor of dermatology at UConn Health in Farmington, Conn.

Psoriasis By The Numbers

An estimated 125 million people worldwide, or 2% of the global population, has psoriasis, which causes plaques, or itchy, sore patches of thick, dry, discolored skin according to the World Health Organization.

That the United States' share of cases of the disease is among the highest worldwide is reflected in sales of prescription drugs designed to treat it, according to market research firm Mordor Intelligence.

Last year, prescription drugs for psoriasis generated \$24.3 billion in sales revenues, a figure that is expected to nearly double by 2031 to \$47.4 billion, based on data from Fortune Business Insights.

New Psoriasis Drug Shows 'Night And Day Difference' In Clinical Trials

At \$10.4 billion, North America accounted for about half of worldwide psoriasis drug sales in 2021, Fortune Business Insights reports, and the United States makes up about 90% of North American sales, Mordor Intelligence estimates.

At least some of those sales are the result of widespread consumer advertising of prescription drugs, which is unique to the United States and its "for profit" healthcare system, UConn's Lu said. One company's commercial urges sufferers to get treatment and "show more of yourself."

Some Drugs Lead In Ads

Some drug brands dominate the psoriasis advertising landscape, including AbbVie's Skyrizi, or risankizumab, and Novartis' Cosentyx, or secukinumab, according to

Mordor, with the latter's commercials featuring singer-songwriter Cyndi Lauper, a psoriasis sufferer.

Other brands marketed widely are Eli Lilly's Taltz, or xekizumab, and Janssen's Tremfya, or guselkumab, Mordor said.

All of these treatments are administered in dermatologists' offices, via injections typically given every four to 12 weeks, according to information provided by the respective manufacturers.

Treatments can be expensive, with some newer medications costing up to \$20,000 per dose, without insurance coverage, based on manufacturer pricing information.

Not all insurance plans cover psoriasis treatments, though some drug companies provide patients with financial assistance through coupons and other discounts, according to the National Psoriasis Foundation.

Because they are "systemic" medications that affect the function of the immune system, they can have serious side effects, including an increased risk for infections, Lu said.

As a result, she and her colleagues limit their use to patients who have severe symptoms, such as widespread plaques covering large areas of their skin, and those who have progressed to psoriatic arthritis, a related disease that causes joint pain similar to other forms of arthritis, she said.

"Physicians don't prescribe these drugs just because patients think they have psoriasis after seeing a commercial on television," Lu said. "They only prescribe them after making a formal diagnosis."

Other Health Woes

A sign that there is more behind psoriasis than skin symptoms seen in commercials is that those with the disease typically have other health problems, an indication that the inflammation behind it may have other negative affects, according to Lu.

For example, people with Type 2 diabetes appear to be at higher risk for psoriasis, and vice versa, research suggests.

Similarly, obesity, or being severely overweight, appears to cause widespread inflammation in the body and increase the risk for psoriasis, Lu said.

The inflammation behind psoriasis also has been linked to an increased risk for heart disease among those with the disease, said Dr. Ladan Mostaghimi, an emeritus professor of psychiatry at the University of Wisconsin-Madison, who treats patients with psoriasis.

"That's why we really emphasize a holistic approach to treatment that includes not only prescription treatments, but lifestyle things like diet and exercise as well," Lu said.

"Some physicians may rush to prescribe a drug, and that may help, but we need to treat the underlying causes of the disease," she said.

Painful History

Many people's first exposure to psoriasis may be through television commercials, but the disease's history actually traces back more than 1,200 years and has significant health implications for sufferers, according to Mostaghimi, who specializes in the field of psycho-dermatology.

For example, the anxiety surrounding the outward symptoms affecting the skin -- when plaques are on parts of the body visible to others -- can lead to mental health complications, including depression, she said.

This may be why people with psoriasis may be at increased risk for suicide compared with the general population, research suggests, creating the need for the field of "psycho-dermatology," or mental health services focused on those with skin conditions, Mostaghimi said.

"It is more than stigma or cosmetic factors alone -- we have a combination of biological and psychological factors that interact closely and cause emotional effects," Mostaghimi, who in addition to who work has studied the history of psoriasis, told UPI in an email.

"Even though visible lesions could cause more distress, psoriasis also causes systemic inflammation, as well as arthritis, and metabolic syndrome, and these result in emotional distress, pain, and limitation in daily activities," she said.

Fingernails Affected

Up to 70% of people with psoriasis have plaques that affect their fingernails, a visible symptom causing discoloration and cracking, and nearly 30% progress to painful psoriatic arthritis, according to the National Psoriasis Foundation.

In other words, the condition is more than skin deep -- in spite of the focus on skin seen in television commercials, another psycho-dermatologist, Dr. Mohammad Jafferany, told UPI in an email.

"The drug manufacturers and drug commercials should also focus on other symptoms such as itching in the lesions, and pain," said Jafferany, a clinical professor of psychodermatology at Central Michigan University in Saginaw.

"That's why the holistic approach toward psoriasis is advocated, including not only treating visible disease but also helping associated itch, pain and anxiety and depression associated with psoriasis," he said. ●

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THE TRIBOLOGY OF DENTAL CERAMICS

Wear factors influence the development of materials and the design of restorations.

By Jeanna Van Rensselaar

Ceramics are widely used in dentistry due to their ability to mimic the optical characteristics of enamel and dentine, as well as their biocompatibility and durability. They include a wide array of materials.

There are three main classes of dental ceramics: predominantly glassy materials, particle-filled glasses, and polycrystalline ceramics. In general, the higher the proportion of polycrystalline components, the higher the strength of a ceramic.

Conventional production involves blending the minute particles of raw material, forming the mixture into a green body, and firing it at a high temperature. This process is referred to as sintering, which fuses the

individual grains to produce a hard, durable, corrosion-resistant product.

Tooth tissue loss is caused by caries or traumatic injuries and might be prevented. However, surface loss due to aging is unavoidable. It is the result of tooth interaction with an opposing tooth, the food that is being chewed, and even the toothbrush and toothpaste. Besides numerous advantages of dental ceramics such as superior aesthetics, favorable physical and mechanical properties, and biocompatibility, these materials might be a factor in additional tooth-surface loss.

The quantity of surface reduction depends on the ceramic material (chemical composition and microstructure), final procedures before cementation (glazing, finishing and/or polishing), and the restoration type (inlay versus overlay or full crown).

Tooth Surface Loss

Tooth surface loss most often results from natural tooth-to-natural tooth and/or natural tooth-to-restoration contact (See Figure 2). It is often accelerated by restorations — this is especially true with opposing ceramic restorations. The reduction of surface might lead to a variety of problems. These include loss of enamel, loss of dentine, teeth fracture, hypersensitivity, compromised aesthetics, misshapen teeth, loss of tooth vitality, and problems in chewing and possible jaw problems as a result of reduced facial vertical dimension in patients with generalized tooth surface loss.

This tooth surface loss can be categorized as:

- Erosion (loss due to acids).
- Attrition (loss due to tooth-to-tooth contact).
- Abrasion (loss due to contact with a foreign object such as a toothbrush).
- Abfraction (loss due to flexure, i.e., fatigue cracking).

Tooth surface loss is usually a result of a combination of these factors — with abfraction often instigating the process.

Lab tests reveal that the following factors have a strong influence on the extent of wear:

- Configuration (more wear of flat surface).

- Surface treatment (more wear of glazed versus polished restorations).
- Antagonist system (more material wear and less antagonist wear for ceramic versus enamel).
- Enamel thickness (more wear with thinner enamel).

The surface finishing and contouring of ceramics does have a significant effect on the rate and extent of wear. However, ceramic restorations when polished are hard on opposing enamel and on opposing natural teeth that have restorations. Ceramics, while aesthetically favorable and very wear resistant in themselves, are even more abrasive than gold, amalgam and composites. This is one of the reasons dental professionals don't favor ceramics in all applications.

“In general, the wear of brittle materials, such as dental ceramics, occurs primarily due to crack growth mechanisms rather than plastic deformation,” said Dr. Paulo Francisco Cesar, associate professor, department of biomaterials and oral biology, School of Dentistry, University of São Paulo. “Factors that influence the wear behavior of dental ceramics include ceramic type, microstructure, fracture toughness, surface quality/roughness, contact load, environment, and the number of cycles. Wear facets in dental ceramics usually present a series of superficial microcracks forming a zone of quasi-plastic deformation.”

Cesar goes on to explain that, under higher contact loads and high friction, subsurface crack propagation (brittle fracture) results in the formation of large wear particles due to delamination. Delamination wear of glass ceramics is associated with the presence or formation of microcracks. Because of this, ceramic materials that possess higher fracture toughness, such as zirconia, are able to resist delamination wear better than low-fracture toughness ceramics, such as porcelain, that possess lower fracture toughness.

In vitro wear studies have revealed partially detached wear particles and/or subsurface cracks running parallel to the sliding surface in both dental ceramics and enamel. These indicate that the wear particle formation can occur gradually with a lateral crack extending due to cyclic tensile loading by the sliding antagonist (i.e. delamination wear controlled by a fatigue process). The delamination process can, thus, result in relatively low wear or high wear, for example, when considering enamel opposing polished zirconia under low load or

enamel opposing rough zirconia under high load, respectively.

“Overall, lower ceramic and/or opposing enamel wear is generally noted when the ceramic material possesses high flexural strength or fracture toughness, the ceramic material, particularly for feldspathic porcelains or leucite glass ceramics, contains a high fraction of small, uniformly distributed crystals, when the ceramic contains fewer internal defects (e.g., cracks, pores) or the surface roughness of ceramic is reduced (e.g., by polishing),” Cesar said.

Maximizing Durability

“Efforts to understand clinical failure of single crowns and multi-unit prostheses (bridges) has involved studying fracture surfaces from clinically failed prostheses (using fractography), finite-element analysis modeling, and developing clinically valid laboratory tests,” said J. Robert Kelly, DDS, MS, DMedSC, professor of prosthodontics and dental materials science, School of Dental Medicine, University of Connecticut Health. “These all demonstrate that the main mechanism of bulk failure of single ceramic crowns does not involve damage from wear facets but stresses on the cementation surface due to occlusal loading.”

According to Kelly, there are four clinical techniques for maximizing durability:

1. Providing maximum occlusal thickness for the ceramic (strength increases with the square of the thickness).
2. Using the highest elastic modulus (stiffness) substrate possible (i.e., metal or ceramic versus resin-based composite).
3. Bonding the restoration, ceramic cement, and cement tooth (or substructure).
4. Developing broad, not pinpoint, occlusal contacts.

Advancements In Ceramics

“Dental ceramics is a unique family, not only due to the varieties in the physical and mechanical properties but also due to the variation in the production methods and uses,” said Dr. Ahmed Hussain, assistant professor in prosthodontics at the College of Dentistry, University of Saskatchewan. “Initially, dental ceramics were composed mainly from materials that exist in nature

such as silica, potassium, sodium and others — glass-based ceramics. Although they are still in use due to their high aesthetic characteristics, they have low flexural strength, which makes them unsuitable for use in the high loading areas of the mouth. That is why their use is usually limited to the anterior part of the mouth.”

“Later on, high-strength ceramics such as zirconia were introduced,” he said. “Although zirconia has a high flexural strength, its aesthetic characteristics are not close to that of the glass-based ceramics. So, the dentist sometimes uses a combination of ceramic materials to address the functional and the aesthetic needs of the patient.”

All ceramic materials have excellent aesthetic qualities that rival healthy natural teeth. However, ceramics tend to be brittle and fracture under high stress. To offset that, the current trend is to reinforce ceramics with crystalline materials.

There are three basic categories of dental ceramics:

1. Predominantly glassy (also called porcelains).
2. Particle-filled glasses.
3. Polycrystalline.

Kelly explains these three categories as follows:

Predominantly glassy ceramics are based on feldspar, are resistant to crystallization (devitrification) during firing, have long firing ranges (resist slumping if temperatures rise above optimal) and are extremely biocompatible. In feldspathic glasses, the 3D network of bridges formed by silicon-oxygen-silicon bonds is broken up occasionally by modifying cations such as sodium and potassium that provide charge balance to non-bridging oxygen atoms.

Particle-filled glasses have filler particles that are added to increase the strength and fracture toughness of the ceramic. Commonly used fillers include aluminum oxide, leucite, and lithium disilicate. These particles can decrease the natural flaw size of the ceramic and make crack initiation and propagation more difficult. They also generally increase the opacity of the ceramic as well by increasing light scatter.

Polycrystalline ceramics have no glassy phases; all of the atoms are densely packed into regular arrays that are much more difficult to drive a crack through than atoms in the less dense and irregular network found in glasses. Hence, polycrystalline ceramics are generally much tougher and stronger than glassy ceramics. Well-fitting prostheses made from polycrystalline ceramics were not practical prior to the availability of computer-aided manufacturing.

According to Kelly, the dental ceramics that best mimic the optical properties of enamel and dentin are predominantly glassy materials (see Tribological Testing of Dental Ceramics).

Processing

Porosity in dental restorations is undesirable because it increases the roughness of the surface and can lead to increased wear. Sintering reduces porosity. During the sintering process, high heat causes the ceramic particles to consolidate. This leads to a reduction in the porosity of the surface and, to some degree, the rest of the material. The extent of porosity depends on the length of time and the degree of temperature during the sintering process.

Porcelain can be fortified via a process called “dispersion strengthening” during which the material is reinforced with magnesia and alumina. Zirconia also can be added to strengthen the porcelain in a process called “transformation toughening.” When the zirconia is further stabilized with yttria (yttrium oxide), it has increased strength, thermal shock resistance, and fracture toughness. The downside is that it is less translucent. Because of this, copings are usually veneered to achieve better aesthetics.

Glass ceramic restorations are developed in a non-crystalline state and then converted into a crystalline material. To fabricate glass ceramic restorations, wax patterns are made using a dental wax. The liquefied ceramic is cast into the empty space in the investment material after the wax has been burned out. Then the glass is heated again for six hours. This leads to the formation of tetra-silicic fluoromica crystals. The resulting crystals improve strength and fracture toughness and increase abrasion resistance and chemical durability (see Fracture Toughness).

“The ceramic material itself does not affect the price of the dental restoration significantly,” Hussain said. “The major factor that would affect the price is the time required to fabricate the restoration, the experience of the ceramist and (the more the experienced the ceramist, the higher the fee) if it is going to be fabricated either partially or completely by computer-aided manufacturing or if it will be fabricated the conventional way.”

Most dental professionals are aware of not just these and other recent advancements in ceramic restorative materials but also the importance of finishing and polishing these materials before finalizing the patient’s procedure.

“In dental prosthodontics, the surface finish is a key factor,” Cesar said, “Finishing and polishing can be carried out intraorally or in the laboratory. Intraoral polishing is a difficult task and demands good operator skills and a variety of intraoral instruments to achieve an acceptable result. The final aim in dentistry is to achieve the lowest surface roughness possible, as rough surfaces result in more wear, more biofilm accumulation and discomfort for the patient.”

Advancements In Manufacturing

The development of computer-aided design/manufacturing (CAD/CAM) methods for the creation of restorations such as inlays, crowns, and bridges has enabled cutting-edge machinable ceramics. Because they can be created while the patient is still in the chair, they eliminate at least one additional visit. The downside is that CAD/CAM technology is expensive, and the process requires more than a little expertise.

“Technological improvements have come from both design/processing and materials enhancements (See Figure 7),” Kelly said. “Understanding how to maximize durability by design and processing flows from understanding clinical failure and the factors influencing the stress state at failure that are within our clinical control.

CAD software sets the parameters for the dimensions and shape of the restoration; CAM software defines and governs the manufacturing process. CAD/CAM has been used for restorations by dental professionals for three decades. Prior to that, the alternative was slip-casting,

which resulted in more defects/cracks in the restoration.

CAD/CAM systems are continually producing better restorations, for not only ceramics but also metal alloys and resin composites.

CAD/CAM techniques for producing restorations involve:

- Machining the prosthetic restoration from a mass of sintered material.
- Machining a partially sintered mass that then requires final sintering.
- Additive manufacturing technique (AMT).

The first method results in a more precise restoration and also takes less time. However, with some materials, it can lead to defects, be hard on the machining unit, and actually take more time.

The second method has the advantage of healing defects that occurred in the machining process during the subsequent sintering process. This final sintering, however, can misshape the restoration and create a misfit in the patient's oral area. One of the issues with CAD/CAM for dental restorations is that the machining process wastes about 90 percent of the material, which cannot be reused. New technologies are being developed to mitigate this such as AMT.

"Usually dental ceramics can be produced either conventionally or digitally," Hussain said. "In the conventional method, the quality of the final restoration is highly dependent on the technique, the material used, and the experience of the dental technician. The conventional method is usually time consuming, and it is getting less common in dental labs because of the advances in digital technology. More dental offices are getting digital scanners to scan the prepared teeth. Then they send the digital files from the scanners to the lab. In the lab, a dental technician, with the help of special software, can fabricate a restoration that will not only fit the prepared teeth but provide function, aesthetics, and comfort for the patient."

Hussain believes digital restoration design software is an essential part of any dental lab because more dental clinics are sending their impressions digitally—today many restorations are completely designed and fabricated digitally. This includes anything from a single restoration up to a full mouth restoration.

Hussain said digitized manufacturing has improved dental ceramics in the following ways:

- It has reduced the time of dental restoration production.
- It has reduced the cost.
- It has led to better quality consistency since the material is supplied by the manufacturer in the processed or green stage.
- There are better physical and mechanical properties of the materials.
- The production of such materials as high-strength ceramics is much easier.
- A replacement restoration can be fabricated because the file for the restoration manufacturing is already stored digitally.
- There is less possibility for error since there is less of a human factor involved in production.

"The digital revolution has radically changed the workflow in dental clinics around the world, and some dental ceramics like zirconia are only produced via CAD/CAM," Cesar said. "Gradually, prosthodontic procedures are changing to a completely digital workflow, beginning with the planning steps that include printing test-drive smiles in a 3D printer, with subsequent planning of the rehabilitation in an advanced CAD software and final steps involving milling the ceramic restoration in specialized CAD units. By using this workflow, a full-mouth rehabilitation with ceramics can be performed in two or three days."

Aesthetic Considerations

There are several factors that affect the aesthetics of the dental restoration such as optical properties, surface texture, polish ability, resistance to staining, and color stability. The missing tooth structure is usually composed of two layers (dentin and enamel). The combination of these two layers affects the tooth value, color, and chroma.

"A closer look at the complex light interaction with these two layers makes us wonder if there is a single ceramic material that can have aesthetic properties similar to the natural tooth structure," Hussain said, going on to explain that the dentist usually faces one of the following two scenarios:

1. The dentist is trying to restore a non-discolored tooth for a patient who does not want to

change the color of the tooth but to improve its shape or restore the missing tooth structure. “In this scenario, the dentist should try to use a ceramic material that has a high translucency so that the light can pass easily through the restoration to interact with the natural tooth structure, which, in turn, will show the natural color of the tooth,” Hussain said.

2. The dentist is dealing with discolored teeth that the dentist and the patient both think are undesirable. In this scenario, the dentist should use a high opacity (low translucency) dental ceramic to block the undesired color of the tooth and to establish a new natural color.

As ceramic materials and processes continue to develop, aesthetics, wear resistance, and patient convenience will improve. “Twenty years ago, I would not have predicted the use of engineering failure analysis of clinically failed prostheses and the increased use of clinical longevity studies to improve the performance of dental ceramics,” Kelly said. “However, design details, such as crown thickness and connector dimensions of multi-unit prostheses, have derived from these investigations.” ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE ADA
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A NEW DAY FOR DENTISTRY: MEET DR. EFFIE IOANNIDOU

By Kimber Solana

A New Day for Dentistry is a new ADA campaign that celebrates the Association’s vibrant community of dentists. It seeks to honor the dentists who power the ADA and commemorates the contributions dentists make to their communities and the profession every day.

Each month, the ADA News will profile one dentist who represents the diverse range of ages, career stages, practice paths and backgrounds that make the ADA what it is.

Meet Effie Ioannidou, D.D.S.,

Member since: 2006.

Location: Farmington, Connecticut.

Dental school: Aristotle University of Thessaloniki, Greece.

Practice type: Academia, currently chair of the Department of Periodontology at the University of Connecticut.

Why did you choose dentistry? At the time, I believed that dentistry offered more workforce flexibility than medicine. After working in a solo private practice for two years, I was recruited to teach UConn. I really loved the opportunity to work with students as well as to investigate research questions.

Why did you join the ADA? I was always a supporter of organized dentistry. Organizations like the ADA guide and support their members substantially.

What do you like most about your ADA membership? The access to ADA.org, the resources and the annual meeting, or SmileCon. My favorite resource is everything related to evidence-based data (meta-analysis and guidelines published by the ADA). As far as the meeting goes, the keynote speakers are always fun. But more than anything, the opportunity to interact with the ADA community and exchange ideas is the best part of the meeting.

When I’m not in the office, you can find me: Watching movies. My favorite is “The Great Dictator” by Charlie Chaplin. I have watched it multiple times and still love it. It is a combination of comedy and drama condemning Hitler, Mussolini, fascism and antisemitism. The movie is significant because it was released in 1940 while Hitler was ruling Germany. I highly recommend it to everybody.

Favorite movie/TV show: Working Moms on Netflix or The Dropout in Hulu.

What was your first job? Dental assistant in a periodontal practice in Greece while in dental school. Private practices in Greece are open until 10 p.m. so once I was done with my work at the university dental clinics around 2-3 p.m, I would go to practice.

Fun fact about me: I play the piano. The last time I performed in public was four years ago at the University of Hartford School of Music in Hartford, Connecticut.

What does A New Day for Dentistry mean to you? It means a day in an open, diverse community of providers who reflect the demographics, needs and ideas of the communities they serve. ●

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ON MAY 25, 2022

HOW TO TALK TO YOUR KIDS ABOUT THE TEXAS SCHOOL SHOOTING

Experts share tips and best practices for talking to children about the shooting at the Uvalde, Texas elementary school.

By Ginny Monk

As her 7-year-old ate a morning bowl of Cheerios, Amy looked at her daughter and wondered whether to start a conversation about the massacre in Uvalde, Texas, that left 19 elementary school children and their teacher dead.

It's a question parents have had to wrestle with time and again as kids are shot to death at their schools. It hits hard for many in Connecticut, where 20 first-graders were killed at Sandy Hook Elementary School in 2012.

Tuesday's shooting at Robb Elementary School has brought back memories of the Connecticut shooting for many residents.

Amy, who declined to give her last name out of concern for her daughter, is a member of Moms Demand Action. She joined gun control advocates, Gov. Ned Lamont and other elected officials at a press conference outside the state capitol Wednesday to decry the Texas school shooting.

Ultimately, she decided against talking about it with her child this morning.

There's no easy words.

"I don't know how to talk to kids about this," Amy said, although she knows it's a conversation that has to happen.

State officials offered reassurances Wednesday about safety protocols at local schools, and experts say honesty is one of the keys when talking to children about tragedies.

"There's no easy words," said Gary Steck, the chief executive officer and a marriage and family therapist at Wellmore Behavioral Health in Waterbury. "This is as terrible a tragedy as one can imagine, but we as adults, we have that responsibility [to talk to kids]."

Here's how experts advise parents or caregivers talk to their kids about the shooting:

Check In With Yourself

Steck said parents should first check in with themselves to ensure they're prepared to have that conversation with their kids. If they need, they can talk with a friend, pastor or mental health professional before talking with children.

"Parents are the first educators, and it's incredibly important that they be the ones that convey some sense of understanding of this crazy thing that's happened, this horrific thing that happened," Steck said.

Parents and guardians will best be able to care for their children if they take care of themselves, experts said.

Start The Conversation

Children are likely to have heard about the shooting, either from overhearing conversations, at school or from social media, experts say.

"Not talking about it can make the event even more threatening in your child's mind," says a publication from the National Child Traumatic Stress Network.

The conversation can start by asking the child what they already know and gently correcting any misinformation, the network's document says.

It's important to listen to what a child has to say and be attentive to their concerns, said Jason Lang, vice

president for mental health initiatives at the Child Health and Development Institute.

It may be easier for young children to have a tough conversation if they're doing something they enjoy such as playing outside, taking a walk or coloring, said Dr. Melissa Santos, a professor of pediatric psychology at the University of Connecticut School of Medicine.

"Those are ways that they can feel safe, to be able to associate it with something that they enjoy doing with you," Santos said.

Let Them Ask Questions

Children may have questions about what happened in Texas. Experts say you should answer those honestly and directly.

"To interact honestly and simply with a child's questions and a child's experiences in the school environment, wherever they are, is really important," said the Rev. Nada Sellers, a pastor at Rocky Hill Congregational and member of Moms Demand Action.

Sellers has worked with families through times of loss and grief in her role as a pastor. She said kids don't need to know every detail of a tragedy, particularly if they don't ask about it.

"But they need to have somebody who cares for them and loves them answer their questions honestly, and clearly and simply," Sellers said.

Caregivers should also keep an open line of communication and make sure children know they can ask questions later — it's not just one conversation, experts said.

The amount of information a child needs to know will vary based on their age and between children, Santos said. Parents know their kids best and can gauge what they're ready to hear, she added.

Lang said parents should also try to limit their kids' exposure to media about the shooting as more details emerge.

"It can become traumatizing to hear about that again and again," Lang said.

Reassure Them

Let kids know they are loved and that the adults in their lives are doing everything they can to keep them safe, experts said.

This means, in part, reassuring them that they are safe emotionally, Steck said.

"I think that we as adults have to provide the sense of safety for our children and make sure they know we will get through this," Steck said. "It's a dark day in our country."

Kids might also ask questions about whether this is going to happen at their school. This might be something parents struggle to answer, experts said.

But they can remind them that the grown-ups who care about them — their teachers, superintendents and parents — are doing everything they can to keep them safe, Steck said.

"They need to know that they're loved, that parents and supporters will be there for them, that we're doing everything we can to keep them safe ... the reassurance that nothing's going to happen to you as much as we can help," Sellers said.

Some specifics about safety measures, such as door locks, drills or police officers at school, could also help, experts said.

Be A Role Model

Kids might also be worried about their caregivers; they can see when parents are worried and upset, Steck said.

"It's just important that families stick together," he added. "I know how hard this will be for some parents to do, but parents and caregivers are the ones that need to step in to communicate."

Parents can also tell their children how they're feeling in age-appropriate ways, Lang said.

"Model that it's OK to have those feelings, and it's understandable and that communicating and talking is important even if they're feeling really sad and scared," he said.

Watch For Long-Term Effects

Kids might react to the shooting at different times and in different ways, so parents should keep communicating and monitor their kids for long-term mental health effects, experts said.

If they're having continual symptoms over a longer period of time, parents can seek professional mental health help.

Some of those symptoms include changes in appetite, sleep, behavior, moodiness or excessive worry, Steck said.

In young children, symptoms may manifest in persistent headaches or stomach aches, Santos said.

"I think there's a balance between continuing to follow up on it and continuing to check in as we learn more about what happened," Lang said. "You also want to be careful not to ask about it indefinitely ... if a child seems like they [are] feeling better or have fewer concerns or questions or anxieties, they look like they're doing OK, then it may be time to not keep talking about it or asking about it."

Early on, those symptoms aren't likely a cause for concern, Lang said.

"For most families, I think they're going to be fine, and they're going to be able to navigate this and help their children through this, but for some, this is a more challenging issue," Steck said.

There are several resources available for parents who are concerned about their kids' mental health including providers offering trauma treatment, the 211 system and other mental health resources. More information about evidence-based treatment in Connecticut is available online.

What State Officials Say

Gov. Ned Lamont recalled the experience of telling his own children about 9/11 when asked about what message he might have for kids.

"It starts by telling people we love you," Lamont said. "We start by telling our kids 'The people at your school love you, and they're doing everything they can to make sure you're safe and give you some comfort there.'"

Commissioner James Rovella, of the Department of Emergency Services and Public Protection, also said that the state has put several measures in place to keep kids safe at school.

The state has spent \$70 million on 1,693 projects since 2016 to "harden" schools in several ways, including improved door locks, Rovella said.

He added that since Sandy Hook, communication between nonprofits, houses of worship, schools and law enforcement has improved. Schools now have resource officers on campus, he added. ●

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DESPITE CHALLENGES, TREATMENTS FOR SICKLE CELL DISEASE ARE IMPROVING — AND MORE HOPE IS ON THE HORIZON.

By Theresa Sullivan Barger

Women with sickle cell disease who have given birth say they'd take the pain of childbirth over a sickle cell pain crisis every time. Other people say they've been written up by their supervisor for using the bathroom a lot — a consequence of having to stay hydrated to ward off a pain crisis. And, when faced with debilitating pain that lands them in the emergency room, even after identifying themselves as a person with sickle cell disease (SCD), people with the disorder are handled by medical staff as if they are seeking opiates for an addiction rather than for pain, clinicians say.

Sickle cell disease affects 1 in 365 African American people, 1 in 16,300 Latino Americans, and, to a lesser extent, people from Middle Eastern, Asian, Indian and Mediterranean regions, according to the Centers for Disease Control and Prevention. The only potential cure is a bone marrow transplant, which carries risks, including infertility and death, says Dr. Biree Andemariam, director of the New England Sickle Cell

Institute at UConn and vice chair of the Sickle Cell Disease Association of America board of directors.

More Living

But in the past several years, treatment advances helped improve the quality of life for children and adults who suffer from the genetic disease, Andemariam says. Those with sickle cell disease have red blood cells shaped like crescent moons, similar to a sickle, rather than the round shape of healthy red blood cells. As a result, the red blood cells that carry oxygen to the organs and tissues get trapped moving through the body, causing anemia, which brings on fatigue and pain, sometimes so severe that patients need to be hospitalized. Pain can come from the muscles, nerves or bones and it can't be stopped, only managed.

After no progress for more than a decade, the U.S. Food and Drug Administration has approved three new SCD medications since 2017 — L-glutamine, voxelotor and crizanlizumab. Voxelotor, which has been approved for those ages 5 and up, is a daily pill prescribed to improve anemia. Andemariam says patients with anemia receiving this medication are less tired, have less shortness of breath and more energy. "If patients are less anemic, they're more productive in their everyday lives," she says. "They also need fewer blood transfusions. One transfusion session can be a half a day — a half a day of missed work, school. Minimizing transfusions is always a good thing."

Crizanlizumab, a once-a-month infusion, prevents the type of pain crisis that lands patients in the hospital, she says, adding that this medication has also helped lessen patients' pain. And L-glutamine has also been shown to reduce the number of pain crises.

"None of the treatments is 100 percent effective. We still have a long way to go," she says. Three of the four medications available today prevent severe pain, but researchers are still working to find "something that gets rid of the pain episodes entirely."

A small 2021 study in *Complementary Therapies in Medicine* shows that integrated holistic treatments — acupuncture, therapeutic touch and psychological care — along with the standard treatment options, were effective at treating pain. Medical insurance typically doesn't cover non-pharmaceutical treatments, such as heat therapy and reiki, so they're not routinely offered

as part of the standard treatment, Andemariam says. Historically, many SCD patients have trouble completing higher education and holding full-time, high-wage jobs because their pain causes them to miss so much school and work, so most patients can't afford the out-of-pocket costs of integrative medicine, she says. "I think patients would be happy to have an alternative to medication — meditation, massage, acupuncture. These are non-reimbursable expenses.

"We're a little bit more fortunate in Connecticut: Our state Medicaid program is far more on top of what the standard of care and treatment is compared to other states," she says. Her colleague at Connecticut Children's Medical Center who treats children with SCD says that after a medication called hydroxyurea was approved for children as young as 9 months old, it changed the lives of today's kindergartners compared to their peers who did not have access to the drug. Thanks to hydroxyurea and other medications, children today are not missing school because of pain like earlier generations, she says.

Paying for this treatment saves money, since hospitalizations and emergency department visits are expensive, Andemariam says. Without treatment, patients suffer from bone destruction, kidney damage and silent strokes.

COVID And Sickle Cell

Life expectancy has improved to the mid-40s because of treatment advances, such as giving all children with SCD daily penicillin until adulthood to prevent infections, says nurse practitioner Genice Nelson, program director at the New England Sickle Cell Institute at UConn Health. Some SCD patients have spleens that don't function to ward off infection, and are at high risk for infectious diseases such as the common cold, flu or COVID-19, Nelson says. As a result, in February 2020, Nelson and her colleagues advised patients to wear masks, stay home and wash their hands frequently. "We told them to go into isolation and sequester yourself," she says. Patients were given plenty of pain medication so they could try to avoid the emergency room.

Facing Judgment, Stigma

When an SCD patient arrives at an ER, tells the doctor they have pain and what their normal opioid treatment

Q&A: ANTI-ABORTION LAWS AND IMPLICATIONS FOR PREGNANT PATIENTS WITH CVD

As the U.S. Supreme Court prepares to issue a decision that could potentially overturn *Roe v. Wade*, many states are preparing to restrict or eliminate abortion rights for patients, including those with CVD.

“CVD is the leading cause of pregnancy-related mortality in the United States,” Verity N. Ramirez, MD, a cardiology fellow at the University of Connecticut and Hartford Hospital, told Healio.

“Cardiologists must own abortion access as a topic that is important to our patients’ cardiovascular and reproductive health.”

Ramirez is a cardiology fellow at the University of Connecticut and Hartford Hospital.

As Healio previously reported, CVD and cardiomyopathy are the leading causes of maternal mortality up to 1 year after pregnancy, accounting for one-quarter of maternal deaths in the U.S., according to the Pregnancy Mortality Surveillance System.

Healio spoke with Ramirez about the risks for CVD during pregnancy, the impact of lack of access to abortion care and the importance of preconception planning and counseling. Ramirez, along with Melissa Ferraro-Borgida, MD, of Hartford HealthCare Heart & Vascular Institute, and Sarah Lindsay, MD, of Hartford HealthCare Medical Group, co-wrote a viewpoint article on anti-abortion laws and implications for patients with CVD in pregnancy, published in *JAMA Cardiology*.

Healio: What led you and your colleagues to write this viewpoint now?

Ramirez: We started working on this article in December 2021, as the arguments for *Dobbs v. Jackson Women’s Health Organization* were happening. We felt

level is, Nelson says, “They are immediately labeled as drug seeking.” Patients will be given a sixth of what they need and be made to suffer, she says. “There is no test to tell whether someone is in pain. The level of resistance and pushback I get is phenomenal. SCD is a disease that primarily affects brown and Black people. ... You have a young white man, the same age, who says he thinks he broke his leg; they’re going to give him something for the pain. If it’s a young Black man who comes in, the staff will ask, ‘Were you drinking, smoking, doing drugs?’ ”

Nelson had a patient visiting Las Vegas who contacted her from an emergency room on a Saturday, saying the hospital staff didn’t believe she had sickle cell disease. “I happened to know someone who lived in Vegas who is a nurse of some prominence. I called her. She knew someone who was a resident with her who worked at that hospital, and she made a call so that my patient received the treatment she deserved,” Nelson says. “It shouldn’t be that this patient needed to rely on me to get them the relief that they required.”

Nelson often has to write letters of accommodation for patients who are written up for frequent bathroom breaks necessitated by the fact that they need to hydrate a lot to avoid pain. Patients don’t tolerate cold temperatures well, and they need to be kept away from cold drafts and allowed a heater and a blanket. “They face ridicule, disbelief and comments like, ‘Why don’t you go get a job someplace else?’ ” she says.

Hope For The Future?

In Connecticut, Andemariam says, doctors and researchers hope to conduct gene therapy clinical trials, in which patients’ cells are removed, manipulated in a dish and returned to their body. Patients receive chemotherapy to wipe out the bone marrow that’s contributing to sickle-shaped red blood cells. But that option is still in the early stages of research. Andemariam is hopeful, despite the expected pushback over the cost, saying, “That’s the future of sickle cell disease.” ●

there was an urgency, as there was a case before the Supreme Court that could overturn Roe v. Wade. That sense of urgency prompted us all to consider what might happen to patients with CVD in pregnancy if they lost access to abortion care.

Healio: Can you outline some of the risks for pregnant women with CV conditions?

Ramirez: Pregnant patients with conditions like aortopathies, cardiomyopathies, valvular heart disease and congenital heart disease are at high risk for pregnancy complications. There are many physiological changes that occur during pregnancy that can be poorly tolerated in patients with underlying or undiagnosed CVD. With pregnancy, there is an increase in total blood volume and cardiac output that is poorly tolerated, particularly for patients with HF, stenotic valvular disease and congenital heart conditions. The increase in volume along with increase in heart rate, hormonal changes and triggering of the autonomic system can stress the heart and trigger arrhythmias. Even with conditions like aortopathies, pregnancy can weaken the aortic wall, increase aortic diameter and risk for dissection. Additionally, CV decompensation during pregnancy can affect a patient's functional status, ability to raise children and future CV health.

Healio: What is the shared decision-making process like for patients with CVD who are pregnant?

Ramirez: Cardiologists may engage in shared decision-making on pregnancy termination for patients with CVD when there is high maternal risk or when pregnancy interferes with medical or surgical treatment. There are different risk calculators used in cardio-obstetrics. One commonly used is the modified WHO classification of maternal cardiovascular risk. Using this framework, class III to class IV conditions are defined as those that pose significantly increased risk for maternal mortality or severe morbidity during pregnancy. Class IV conditions, such as pulmonary arterial hypertension of any cause, severe systemic ventricular dysfunction (a left ventricular ejection fraction < 30%), previous peripartum cardiomyopathy or severe symptomatic mitral or aortic stenosis, confer extremely high risk for maternal mortality or severe morbidity. For these women, pregnancy should be discouraged during the preconception period.

We have individualized discussions with patients about their specific conditions and the risk to their CV health, risk to the fetus, what medications they are taking, if their medications could or should be changed, and what risks any medication changes pose to the pregnant patient or the fetus. We discuss the relative safety of undergoing pregnancy termination as an option to the risk posed by pregnancy. For people with a class IV CV condition, discussion regarding pregnancy termination should occur immediately, but many patients discover their pregnancy after 6 weeks. In states with abortion bans after 6 weeks' gestation, these women are at risk for CV complications.

Healio: As you and your co-authors wrote, over 500 state laws already reduce or restrict access to abortion care across the country. How does this already complicate care for these patients? What might be the impact of no longer having access to abortion care?

Ramirez: There are hundreds of laws restricting abortion access already. They add many non-evidence-based restrictions on abortion providers, clinics and patients.

Abortion bans, such as Mississippi's 15-week law, do not consider changes in CV symptoms and risk that can occur throughout pregnancy. Even in currently compensated CV conditions, pregnancy can cause decompensation or recurrence in any trimester. In peripartum cardiomyopathy with recovered EF, there is a 20% chance of recurrent HF with subsequent pregnancies. Recurrence can have a more malignant outcome, such as the need for heart transplant or death. For patients with Turner or Marfan syndrome, the aorta can become significantly dilated as pregnancy progresses, putting them at risk for possible dissection or rupture.

In areas of the U.S. with the highest burden of abortion restrictions, data are clear: We see increased maternal mortality. These laws disproportionately affect patients of color, those living in rural areas and patients of lower socioeconomic status, all of whom are more likely to die during pregnancy and experience adverse CV complications yet are less likely to have access to an abortion. Not having any access — removing that right — will worsen what we already see with restrictive abortion laws.

Healio: How should cardiologists who practice in areas where restrictive legislation is being proposed and/or passed counsel patients who have CV conditions?

Ramirez: Particularly in areas where restrictive legislation exists or will further exist, it is important to focus on the preconception period. The contraception discussion must happen earlier, starting with pediatric cardiologists and continuing through the transition into adult care. As cardiologists, we must be discussing effective and safe contraception methods, particularly for the patients we care for with CVD, and encourage our patients to consider these methods.

It is also imperative to improve the transition period from pediatric to adult cardiology care, which occurs during the reproductive years, for adolescents and young adults with congenital heart disease.

Another important aspect of preconception care is better access to primary care. Chronic health conditions are often not well managed during the preconception period.

We also must work to address social determinants of health and increase access to comprehensive care for those who need it most. Having all of these risk factors better controlled is so important. ●

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DATA SUGGESTS CONNECTICUT'S COVID DEATH TOLL HAS BEEN LARGER THAN OFFICIAL NUMBERS SAY

By Alex Putterman

Officially, Connecticut has recorded 10,972 COVID-19 deaths over the past two-plus years, a devastating total that once would have seemed unimaginable.

Staggering as that figure is, however, the pandemic's true death toll in Connecticut might be even higher.

According to statistics measuring "excess mortality," or the number of deaths relative to what is typical in a non-crisis time, Connecticut has likely experienced hundreds of deaths — whether from the disease itself or from its indirect impacts — that remain uncounted in official totals. These deaths, research suggests, have been spread highly unevenly, with large cities suffering downstream effects of the pandemic that suburban and rural areas did not.

"The excess death stats show that we've been through a really horrific time," said Dr. Harlan Krumholz, director of the Center for Outcomes Research and Evaluation at Yale New Haven Hospital, who has researched excess death extensively. "These are people who died who wouldn't have died otherwise in normal times."

While it's difficult to quantify exactly how many people have died as a result of COVID-19 and the many ways it has disrupted society, experts say comparing all-cause death data during the pandemic with comparable numbers from before the pandemic offers a useful approximation.

In this way, researchers can account not only for recorded COVID-19 deaths but also for those linked indirectly with the disease. This might include, for example, people who delayed care early in the pandemic and later died of preventable illnesses, people whose struggles during the multi-year crisis drove them to drug overdoses or suicide, people who died in car accidents owing to a rise in reckless driving and people who were murdered during a 2020 spike in homicide.

"Excess deaths give you a full picture both of the impact of the virus itself as well as potentially these secondary impacts of all the disruptions we've seen during the pandemic, through social disruptions as well as disruptions to health care," said Dan Weinberger, a Yale School of Public Health professor who has studied excess death.

Here is what excess mortality statistics tell us about COVID-19 in Connecticut.

The State's Death Toll Is Likely Higher Than Official Numbers Say

According to an estimate from the Centers for Disease Control and Prevention, Connecticut experienced about 11,120 more deaths from late March 2020 through mid-

May 2022 than would be expected during a typical, non-pandemic time. Because there is sometimes a lag in when deaths are reported, and because the CDC's total does not include recent weeks, the agency cautions that its estimate may under-count the true figure.

As of this week, Connecticut has officially recorded 8,976 confirmed COVID-19 deaths and another 1,996 marked as "probable," meaning the state can't say for certain whether they're attributable to the disease. That means if the CDC's estimate is roughly accurate, Connecticut's official death count modestly undersells the true impact of COVID-19, even when including both confirmed and probable fatalities.

Data from Connecticut's Vital Records Office tell a similar story. According to a Hearst Connecticut Media review of those numbers, the state recorded more than 10,800 more deaths from March 2020 through February 2022 than would be expected based on death levels for the three years prior — or about 400 more deaths than were reported in its official COVID-19 death toll during that period.

This figure also likely represents an under-count, as death totals from 2021 and 2022 are considered provisional and are subject to adjustment as further deaths are reported to the state.

Connecticut has recorded a highly abnormal amount of death over the past two years — and COVID-19 numbers alone don't appear to account for all of it.

Connecticut's Spring 2020 Wave Was Even Worse Than You Thought

Spring 2020, when the Northeast was slammed with COVID-19 before anyone knew how to contain or treat the disease, was the deadliest phase of Connecticut's pandemic experience. This is true when looking at official COVID-19 death statistics and even more so when examining excess death numbers.

Officially, Connecticut recorded 2,254 COVID-19 deaths in March and April 2020. The CDC, however, estimates that the state experienced about 2,900 excess deaths during those two months, meaning the official total under-counted Connecticut's death toll by nearly 30 percent.

Weinberger says this is likely owed in large part to lack of COVID-19 testing, which left many cases — including some fatal ones — undiagnosed.

"What became clear early on was that the official counts for COVID deaths were likely an underestimate in many places, in that there were considerably more COVID deaths that were occurring than were being recorded in the official statistics," Weinberger said.

According to a 2021 study led by UConn professor Cato Laurencin, a disproportionate number of these uncounted deaths were Connecticut's Black and Latino residents, for whom excess mortality far exceeded the number of deaths officially attributed to COVID-19. Laurencin's team concluded this was likely due to a lack of access to testing in Black and Latino communities, which led a large number of cases to pass undetected.

Excess Death Has Come From More Than Just The Disease Itself

But while some of the difference between Connecticut's official COVID-19 death count and its excess death numbers may owe to deaths from the disease that went unrecorded, other factors likely contributed as well.

Early in the pandemic, a main driver of excess death may have been delayed care for unrelated health issues. At a time when hospitals were overburdened and many residents were afraid to leave their homes, some likely died from illnesses that could have otherwise been treated.

"People weren't coming in for cancer screenings, weren't coming in for routine health checkups, which could potentially lead to people dying from other conditions that are not directly caused by the virus," Weinberger said.

State numbers reveal other drivers of excess death as well. Overdoses were already on the rise in Connecticut before the pandemic but have since spiked to historic highs, according to data from the Office of the Chief Medical Examiner, possibly accounting for hundreds of excess deaths. Homicides increased as well, though more modestly.

Despite fewer cars on the road at certain points during the pandemic, motor vehicle fatalities increased in both 2020 and 2021 as well, totals from the National

Highway Traffic Safety Administration shows, likely resulting in another few dozen excess deaths.

Connecticut's Cities Have Been Hit Hardest By Indirect COVID-19 Effects

From early in the pandemic, it has been clear that Connecticut's urban areas, which tend to have large numbers of poor residents and residents of color, have experienced COVID-19 most acutely. As of this week, the state's five largest cities (Bridgeport, Stamford, New Haven, Hartford and Waterbury) account for more than a quarter of Connecticut's recorded deaths from the disease, despite accounting for only about 18% of its population.

Now, new excess death data suggests this split is even more extreme than was previously known.

According to previously unpublished analysis by the Connecticut-based nonprofit DataHaven, COVID-19 accounted for virtually all excess mortality in most parts of the state but only about 80 percent in the state's five largest cities. In those cities, another 13 percent came from "accident and injury" deaths — a broad category that includes motor vehicle crashes, overdoses, gun deaths and more — while the remaining 7 percent owed to other causes such as cancer, heart disease and lung disease.

In other words, a few cities alone have borne the overwhelming brunt of COVID-19's indirect effects.

"In urban areas, there were also these [non-COVID] factors that led to other causes of mortality being elevated," said Kelly Davila, a senior research associate at DataHaven. "All of these mitigating circumstances just happened to be seen in higher quantities in urban areas."

Some Causes Of Death May Have Decreased During The Pandemic

Given all these factors, it may seem as though Connecticut's excess death numbers should be even higher, far outpacing official counts.

Experts, however, note that some causes of death have not risen during the pandemic but have decreased, mitigating the increased death due to COVID, drug overdoses, car accidents and more.

For example, Connecticut recorded 109 influenza deaths during the 2019-20 flu season, just before the pandemic hit — then recorded only one the following winter, when most residents were wearing masks. Even this past winter, when masking was less widespread, the state tracked only 10 flu deaths.

During some periods when viral transmission was low, Connecticut actually recorded fewer deaths than would have been expected if not for the pandemic. While that phenomenon may owe in part to gaps in data, Weinberger says it may also have to do with certain pandemic control measures.

"For a long time ... a lot of the other seasonal viruses that caused a lot of hospitalizations and deaths every year just were completely absent," Weinberger said. "So if you're comparing rates to previous years, that's going to depress the overall death rates as well."

Besides, Krumholz notes, many who have died of COVID-19 have been older and in poor health and therefore may have died of other causes even if the pandemic had never arrived. This doesn't take away from the tragedy of their deaths, he says, but could account for dips in certain non-COVID causes of death.

Moving forward, Krumholz thinks it's likely that excess deaths will drop again, simply because so many sick and vulnerable people are already gone.

"There probably will be a rebound for a little bit of time where the death rate goes beyond what it is expected, Krumholz said, "because we've [already] lost so many people." ●

PATHWAYS TO DENTISTRY: RESEARCHERS MOVE DENTAL PROFESSION FORWARD

Contributions have lasting impact on oral health care

By Mary Beth Versaci

From examining the connections between oral and overall health to evaluating the behavior of materials used in dentistry, researchers ask the questions and do the work to inform how dentists care for their patients every day.

"Dentistry is an amazing profession that has offered so many of us the opportunity to improve patients' lives. It is critical that we continue to evolve and expand our understanding of the diseases and conditions that affect our patients and continue to work to optimize the treatments that they receive," said Mia Geisinger, D.D.S., professor and director of the Advanced Education Program in Periodontology at the University of Alabama at Birmingham School of Dentistry. "My goal in research is always to change the way that we treat patients for the better, and while the pace of scientific discovery may be incremental, we continually strive to improve oral and overall health for all."

The American Dental Association recognizes the importance of research — like Dr. Geisinger's on the impact of periodontal disease and treatment on overall health — to the practice of dentistry. One of its core values is to be a science- and evidence-based organization, a goal that is supported by the ADA Science & Research Institute, which conducts research and produces evidence-based resources for dentists.

"Scientific research is so important to the health and advancement of the dental profession. That's why I'm really proud of the work ADASRI does," said Marcelo Araujo, D.D.S., Ph.D., chief science officer of the ADA

and CEO of ADASRI. "At ADASRI, our work runs the gamut of scientific research — everything from basic science, like the creation of novel dental materials, to applied science that tests and refines dental materials, to clinical and translational research that communicates that basic and applied science in a way that is easy to implement chairside. As a whole, the work of ADASRI's researchers, and really the work of all dental researchers, has a profound impact on improving dentistry."

The ADA also has two scientific journals: The Journal of the American Dental Association and JADA Foundational Science.

"The ADA continues to demonstrate its strong commitment to the health sciences through many avenues, including the dissemination of basic, translational and clinical research through its journals and other media offerings," said Jack L. Ferracane, Ph.D., editor-in-chief of JADA Foundational Science. "It all boils down to creating new and better pathways to oral health, and we all find it exciting and gratifying to play our different roles in the process that links discovery to successful clinical care."

A New Day for Dentistry, a campaign launched by ADA President Cesar R. Sabates, D.D.S., celebrates the ADA's diverse community of dentists by recognizing their personal differences and the varied career paths they have chosen within the profession.

"Researchers are essential members of the dental workforce," Dr. Sabates said. "Clinicians strive to provide the best care they can to their patients, and researchers provide the evidence they need to make informed decisions. Their work also helps to expand dentistry's knowledge base, driving innovation and advancement in our profession. The contributions of researchers have a lasting impact on all facets of oral health care."

For dentists who choose to pursue research as part of their career, a natural curiosity is key.

"I was exposed to research and science when I was in high school, and ever since, I was always interested in learning the underlying mechanisms of diseases," said Hatice Hasturk, D.D.S., Ph.D., director of the Center for Clinical and Translational Research and senior member of the staff at the Forsyth Institute. "I believe that without knowing what is really involved in tissues or

structures we are working with, we cannot provide an effective and long-lasting solution."

Dr. Hasturk, who won the ADA's 2020-21 Norton M. Ross Award for Excellence in Clinical Research and serves on the ADA Council on Scientific Affairs, teaches at the Boston University Henry M. Goldman School of Dental Medicine and Harvard School of Dental Medicine and practices once a week as a staff dentist/periodontist at the Forsyth Faculty Associates Clinic. Her research focuses on periodontology and immunology.

Dr. Hasturk's studies have shown that changing the body's response to infections and diseases can reduce the oral disease it is experiencing, provide better stability and lead the body to produce more beneficial molecules that can help improve its defense system against other infections and diseases.

"As a dentist/periodontist, my goal is to provide the best prevention and best treatment to my patients," Dr. Hasturk said. "As a researcher, this goal drives me to better understand health and disease, not only to improve oral health, but also overall health."

For Rajesh Lalla, B.D.S., Ph.D., professor of oral medicine and associate dean for research at the University of Connecticut School of Dental Medicine, his favorite part of being a researcher is the ability to create new knowledge.

"It is extremely satisfying to be able to go through the process of having an idea, designing a study to test that hypothesis and determining what the truth really is," said Dr. Lalla, who studies the oral side effects of radiation therapy and chemotherapy used in the treatment of cancer.

His research team is working to publish results from a multicenter clinical study that enrolled more than 500 patients undergoing radiation therapy for head and neck cancer.

"One of the novel findings is that the radiation treatment led to a striking increase in gingival recession," said Dr. Lalla, who is the immediate past president of the Multinational Association of Supportive Care in Cancer — the first dentist to hold the role. "It was known that these patients tend to get cervical caries after radiation therapy, but the reasons were not clear. Our finding indicates that exposure of the cervical

areas of teeth due to gingival recession may explain the increased risk for cervical caries."

At the University of Connecticut, Dr. Lalla developed the dental school's course on evidence-based decision making, which emphasizes the importance of evidence to the practice of dentistry.

"Dentistry is a scientific profession. The care we provide for our patients must be evidence based," said Dr. Lalla, who won the ADA's 2020 Evidence-Based Dentistry Accomplished Faculty Award. "Research provides that evidence, so research is the very foundation of our profession."

With a background in engineering, Nathaniel Lawson, D.M.D., Ph.D., performs applied dental materials research at the University of Alabama at Birmingham School of Dentistry, where he is an associate professor, director of the biomaterials residency program and director of the division of biomaterials. He and his team devise testing equipment and protocols to evaluate dental materials to best predict their clinical performance, and they are perhaps most well known for performing wear testing. His lab is currently testing the wear of new 3D-printed materials being developed for dentures, crowns and occlusal guards.

"There are many different types of dental research. Many dentists may think of the incredible scientific work conducted by basic and translational scientists who are working to develop new treatments, materials and drugs to treat dental and oral conditions," said Dr. Lawson, who won the ADA's 2016 John W. Stanford New Investigator Award. "However, there is still research needed to evaluate the materials that are already in clinical use in order to determine the best uses of these materials. This information can help the clinician better perform work in their office."

Dr. Lawson began conducting research when he was applying to dental school at the University of Alabama. After a brief stint in clinical practice following graduation, his dental school research adviser asked if he would be interested in returning to his alma mater for an academic position performing research and teaching.

"Within a couple years of working in the position, I realized that I really loved what I was doing," Dr. Lawson said. "I really enjoy thinking of clinical problems, performing a study to try to better understand the best

clinical treatment, trying what I learned in practice and then sharing that information through teaching."

Sharing knowledge: Mia Geisinger, D.D.S., teaches alumni in the postgraduate periodontal clinic at the University of Alabama at Birmingham School of Dentistry. Photo courtesy of UAB Media.

Dr. Geisinger, too, was initially unsure of her career path and thought she would go into private practice until she began volunteering as a faculty member at a dental school.

"When I thought about the opportunity to make an exponential impact on our profession through education, research and service, I knew that I had to try to make the biggest impact I could on the oral health of patients and communities," she said. "And it is the research part of that mission that allows me to have the widest reach — impacting the global delivery of dental care through incremental discovery."

Dr. Geisinger, who is a member of the ADASRI Board of Directors and secretary-treasurer of the American Academy of Periodontology, is currently involved in a project examining best practices for delivering oral hygiene care to people with dementia in skilled nursing facilities, as well as the impact of periodontal health on the development and progression of dementia.

The research dentists perform has a lasting impact on not only the profession but public health as well.

"Dentists are an integral part of health care, and as an important health care provider, we need to base what we do on science and biology in order to offer evidence-based, scientifically proven and solid approaches to our patients," Dr. Hasturk said. "They are hungry to learn from us to do better at home and in their lives and to be examples to their children and young generations. We can only be better prepared for the future with proper education, and proper education is a result of research." ●

DENTAL CLINIC HOPES TO FILL HOLES IN RURAL CARE

By Zachary Lanning

ELLSWORTH — Friday, June 10 capped off a busy week for the team at the Caring Hands of Maine Dental Clinic.

With options for dental care in rural parts of the state dwindling, most days are busy for the director, Dr. Timothy Oh, and his staff. But with 13 "externs" on site, students nearing the end of their time at various dental schools around the country and looking to get some real-world experience, this is the busiest week of the year. In a good way.

"Having this extra workforce, especially in a time when it's hard to get licensed dentists to move to rural Maine, allows us to help more people," Oh explained as future dentists bustled in and out of examination rooms behind him.

The Caring Hands clinic is a nonprofit started by Oh back in 2010 with the goal of improving the oral and dental health of the community. The clinic sees patients who are primarily on MaineCare or Medicare and focuses mainly on children. On top of the number of patients it provides care for, Oh sees the clinic's role as a teaching facility as a huge part of its mission.

"The higher calling is to recruit some of these dental students to come back to the rural parts of the country," Oh explained. "The past two years have been the worst I've ever seen in terms of a shortage of care, so we're hoping some of these folks decide to stay."

The clinic has at least three externs on hand throughout the year for periods of about 4-12 weeks. It has had over 300 externs, students generally in the fourth year of their doctoral programs, come through the facility so far. Currently, the clinic has externs from the Tufts University School of Dental Medicine, the College of Dental Medicine at the University of New England and the Arizona School of Dentistry and Oral Health.

Their ranks were bolstered this week by 10 students from the UConn School of Dental Medicine. Students, under the supervision of Oh and other faculty members, are able to perform a wide range of dental procedures for patients such as cleanings, extractions, fillings, exams, even root canals.

The group also took their act on the road earlier in the week, setting up a clinic at a roller rink in Houlton. Oh and the clinic have been accumulating gear over the years and have traveled to 36 sites, including five different islands, to provide dental care in the community.

That's one of the aspects of dentistry that most appeals to Nicole Colon Cruz, a student at the UConn Dental School helping out at the clinic this week.

"I've always known I wanted to help people and dentistry was the most fitting option for me," said Colon Cruz, who one day plans to go back and help out as a dentist in her native Puerto Rico.

And while these students have provided a benefit to the community, they are also receiving valuable training that they can't get in the classroom.

"It has honestly been a great learning experience for me," said Colon Cruz. "It's good to get out of school and into the community."

And Oh, who says he receives 20-40 calls a day from people looking for dental care, hopes that some of these students enjoy working in the community so much that they come back and set up shop. ●

WITH AT-HOME TESTING READILY AVAILABLE FOR COVID, WILL RAPID TESTS FOR FLU, CANCER OR OTHER DISEASES FOLLOW?

By Jordan Nathaniel Fenster

There has been increased reliance on at-home rapid COVID-19 testing in recent months, allowing individuals to learn in real-time whether they contracted the virus rather than having to wait to learn via PCR testing.

The rapid tests can regularly be obtained at the local pharmacy and households around the country are eligible to receive up to 16 tests from the federal government. The presence has not only been convenient, but it's proven reliable enough that schools and many companies aren't requiring PCR testing to prove their health status.

The effectiveness of at-home COVID-19 testing begs the question of whether similar rapid tests are possible in the future for diseases ranging from flu to even cancer. Some experts say that kind of at-home test could be a "game changer," but there are plenty of hurdles to overcome.

"At-home tests will change diagnostics, and they make a lot of sense for public health," Yale researcher Nathan Grubaugh said. "I think that this will be especially helpful for school-age kids to know if that cough is flu/COVID/RSV or something else."

It's not only school-based pathogens. UConn researcher Changchun Liu's lab has been developing both point-of-care and at-home tests for cancer.

"Oral cancer patients, you can collect your saliva sample by yourself and then you put the saliva into the diagnostic device," he said. "After the device processes the samples, maybe it takes 15 or 30 minutes, they will tell you whether or not there are cancer biomarkers detected by this device."

David Peaper is a clinical pathologist and medical microbiologist by training and director of Yale New Haven Hospital's microbiology lab and a faculty member in the Department of Laboratory Medicine at the Yale School of Medicine.

Peaper agreed that widespread, free diagnostic testing "is a game changer," though there are some caveats to that.

Diagnostic tests, for COVID or any disease, are only as good as they are accurate, however.

"My training, my job, is testing in general," Peaper said. "COVID testing, microbiology testing. There is no perfect test ever."

That's why confirmatory tests are so important, Peaper said. The more tests you administer, the likelier you are to have a false positive or a false negative.

That becomes less of a problem when there is a reason to test. We are in the midst of a coronavirus pandemic, so, if you test positive for COVID you're likely COVID-positive. If it's flu season and you test positive for flu, there's a good reason to think you've got the flu.

"That's a pretty big deal," Peaper said. "For things like sexually transmitted infections, if, depending on the risk factors of whatever population you're in, or whatever population you're in a relationship with, even if it's just for one night, if you can have a home STI test, there's actually tremendous information that could be gathered there and cut out potential chains of transmission."

Sheldon Campbell is an expert on diagnostic testing, a professor of Laboratory Medicine at Yale School of Medicine and the director of clinical labs at VA Connecticut Healthcare.

He said rapid antigen testing is nothing new.

"In principle, COVID home tests are very similar to pregnancy tests. The technology is really old, actually," he said. "We've been using these tests for flu, this class of tests, these rapid antigen tests for flu for 20 years."

But unlike COVID antigen tests, similar flu tests have never been approved for home use. When asked why, Campbell said it was for two reasons: "One was that they kind of suck."

"The test for flu was like 40 to 60 percent sensitive," he said. "If you've really got flu, the rapid antigen test will say you've got flu 40 to 60 percent of the time."

The insensitivity of at-home flu tests raised an important question for regulators: What would a patient do after they take a test? A negative test might not mean much.

"So, if you get a negative, you may still have flu," Campbell said.

At-home COVID testing has been valuable because it has been administered in such huge numbers. Even if the tests are not 100 percent accurate, every person who gets a positive test and isolates is a COVID patient who does not transmit the disease onward.

"What's driven COVID testing at home is not as much diagnosis as it is infection prevention," Campbell said. "We're diagnosing COVID at home primarily to try and limit spread."

At-home, rapid testing has applications, but it matters how you use it, Campbell said. Rapid testing for HIV exists but it's relatively expensive. Rapid testing for malaria exists worldwide, but it's only valuable if you have access to treatment for malaria.

"Do we know that pregnancy tests get women into prenatal care sooner? I don't think we do, actually," he said. "The potential of widely available rapid tests to improve health care, improve health, depends on the right ecosystem."

So it matters not only how sensitive a test might be, but how accessible it is, how it's deployed and then what happens after you get the results.

"You have to get the test into the hands of the people who need it, who can benefit from it," Campbell said. "Then once you have the results, you have to be able to use them to change something to change what you do."

Peaper said COVID testing has whetted the appetite of researchers and developers for widespread testing for other diseases, but it may not be right around the corner.

"For COVID, we're in a public health emergency and the FDA pathway for authorization of tests under an emergency are different than regular business," Peaper said. "But I think that people have seen a lot of the promise and potential of home testing like this, that I

think it probably has created a market and an interest in exploring that much further.”

Testing With Light

The first thing to understand about Bahram Javidi’s research is that when you have a disease, it actually changes the appearance and movement of your red blood cells.

“Our hypothesis, and this was confirmed later on, was that when people get sick, at a very, very small scale, it leaves a signature inside of these red blood cells,” he said. “We can’t see it with the naked eye. But if you have a system that’s powerful enough, it can extract information from these red blood cells.”

Javidi is a distinguished professor at the University of Connecticut, with appointments not only in the electrical and computer engineering departments but also with the biomedical engineering department.

Beginning with the hypothesis that a COVID infection could be visibly detected by changes in the red blood cells, Javidi and his colleagues have developed a simple, cheap system that detects those changes.

“For a particular disease infection, it changes not just the morphology, but the behavior of these red blood cells,” he said. “That’s what the system is trying to do. The system is like a very miniaturized holographic system.”

You start with a laser source. It could be a simple laser pointer. You shine that laser pointer through a drop of a patient’s blood and into an inexpensive, 3D-printed image sensor, a mechanism that records “the diffraction of light through these cells,” Javidi said. That image is then captured by a digital camera, attached to any computer which interprets the image.

The result is a COVID diagnosis.

“COVID-infected red blood cells become much stiffer, and they look jagged,” he said. “Healthy red blood cells look nice and tubular and smooth and have a strong reading,”

It’s not just COVID. “I designed the system not for COVID. Initially, my concern was malaria,” Javidi said, but it could be applied to many, if not every viral or bacteriological disease. “Malaria consistently, on an

annual basis, has killed millions. Particularly troubling was that most of the fatalities are in children.”

The system is cheap and replicable, so that it can be implemented in poorer countries that might lack access to widespread diagnostic testing. All you need is a computer, a cheap laser printer, a 3D printer, and a digital camera. “The light source can be a laser pointer. It doesn’t have to be anything fancy,” Javidi said. “The camera can be the camera on your laptop, can be a camera on a phone.”

“I designed this to be very low cost, very simple, very compact, something that I can send a 3D print to some contact in Africa and Asia, they can put it together quickly,” he said.

There are limitations. Javidi said his system cannot yet detect different COVID variants. But that is probably a surmountable problem. All Javidi lacks is data. His system can definitively say, yes, a patient has COVID or malaria or sickle cell disease, but he can’t get more specific than that -- yet.

“I’m working on getting more data,” he said. “I’m working on improving the reliability, fine tuning the algorithms. So we are, you know, we are continuing to work on it, maybe optimize the design, to find ways to make the system more reliable, more cost effective, more stable. But having more data will be really helpful.”

Cancer Screening

Changchun Liu’s lab at UConn is solely devoted to developing low-cost, point-of-care screening for infectious diseases and cancer.

Though he’s been focused on this work long before the COVID pandemic, it began because of a different pandemic.

“We developed a point-of-care diagnostics device for Zika virus detections because of that pandemic,” he said.

His research has some widespread applications. Liu has shown that the presence of HPV can indicate oral and cervical cancer, and that HPV can be tested at home.

“HPV virus is a reliable biomarker for these cancers,” he said. “We can tell whether or not these patients have a high risk for cervical cancer.”

But Liu acknowledged that there are different applications when it comes to infectious disease screenings, as opposed to tests for cancer.

“For the infectious disease like the COVID-19, this is very clear. You can run the test at home, you can get the result as soon as possible, maybe 30 minutes,” he said. “In this case you can control yourself and don't spread the virus to other people.”

“For the pandemic, for infectious diseases, to add home-based tests, it's clear and really urgent,” he said.

But even though cancer is not transmissible, cheap, at-home or point-of-care testing can also have a huge impact.

“Think about developing countries or resource-limited areas. They do not have the access to expensive equipment like the U.S.,” he said. “So, if there's some rapid or point-of-care cancer or screen technology, it will save a lot of life.” ●

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VIRUSES CAN CHANGE YOUR SCENT TO MAKE YOU MORE ATTRACTIVE TO MOSQUITOES, NEW RESEARCH IN MICE FINDS

By Penghua Wang

Mosquitoes are the world's deadliest animal. Over 1 million deaths per year are attributed to mosquito-borne diseases, including malaria, yellow fever, dengue fever, Zika and chikungunya fever.

How mosquitoes seek out and feed on their hosts are important factors in how a virus circulates in nature. Mosquitoes spread diseases by acting as carriers of viruses and other pathogens: A mosquito that bites a person infected with a virus can acquire the virus and pass it on to the next person it bites.

For immunologists and infectious disease researchers like me, a better understanding of how a virus interacts with a host may offer new strategies for preventing and treating mosquito-borne diseases. In our recently published study, my colleagues and I found that some viruses can alter a person's body odor to be more attractive to mosquitoes, leading to more bites that allow a virus to spread.

Viruses Change Host Odors To Attract Mosquitoes

Mosquitoes locate a potential host through different sensory cues, such as your body temperature and the carbon dioxide emitted from your breath. Odors also play a role. Previous lab research has found that mice infected with malaria have changes in their scents that make them more attractive to mosquitoes. With this in mind, my colleagues and I wondered if other mosquito-borne viruses, such as dengue and Zika, can also change a person's scent to make them more attractive to mosquitoes, and whether there is a way to prevent these changes.

A number of factors can make you more attractive to mosquitoes, including the odors you emit.

To investigate this, we placed mice infected with the dengue or Zika virus, uninfected mice and mosquitoes in one of three arms of a glass chamber. When we applied airflow through the mouse chambers to funnel their odors toward the mosquitoes, we found that more mosquitoes chose to fly toward the infected mice over the uninfected mice.

We ruled out carbon dioxide as a reason for why the mosquitoes were attracted to the infected mice, because while Zika-infected mice emitted less carbon dioxide than uninfected mice, dengue-infected mice did not change emission levels. Likewise, we ruled out body temperature as a potential attractive factor when mosquitoes did not differentiate between mice with elevated or normal body temperatures.

Then we assessed the role of body odors in the mosquitoes' increased attraction to infected mice. After placing a filter in the glass chambers to prevent mice odors from reaching the mosquitoes, we found that the number of mosquitoes flying toward infected and uninfected mice were comparable. This suggests that

there was something about the odors of the infected mice that drew the mosquitoes toward them.

To identify the odor, we isolated 20 different gaseous chemical compounds from the scent emitted by the infected mice. Of these, we found three to stimulate a significant response in mosquito antennae. When we applied these three compounds to the skin of healthy mice and the hands of human volunteers, only one, acetophenone, attracted more mosquitoes compared to the control. We found that infected mice produced 10 times more acetophenone than uninfected mice.

Similarly, we found that the odors collected from the armpits of dengue fever patients contained more acetophenone than those from healthy people. When we applied the dengue fever patient odors on one hand of a volunteer and a healthy person's odor on the other hand, mosquitoes were consistently more attracted to the hand with dengue fever odors.

These findings imply that the dengue and Zika viruses are capable of increasing the amount of acetophenone their hosts produce and emit, making them even more attractive to mosquitoes. When uninfected mosquitoes bite these attractive hosts, they may go on to bite other people and spread the virus even further.

How Viruses Increase Acetophenone Production

Next, we wanted to figure out how viruses were increasing the amount of mosquito-attracting acetophenone their hosts produce. Acetophenone, along with being a chemical commonly used as a fragrance in perfumes, is also a metabolic byproduct commonly produced by certain bacteria living on the skin and in the intestines of both people and mice. So we wondered if it had something to do with changes in the type of bacteria on the skin.

To test this idea, we removed either the skin or intestinal bacteria from infected mice before exposing them to mosquitoes. While mosquitoes were still more attracted to infected mice with depleted intestinal bacteria compared to uninfected mice, they were significantly less attracted to infected mice with depleted skin bacteria. These results suggest that skin microbes are an essential source of acetophenone.

When we compared the skin bacteria compositions of infected and uninfected mice, we identified that a

common type of rod-shaped bacteria, *Bacillus*, was a major acetophenone producer and had significantly increased numbers on infected mice. This meant that the dengue and Zika viruses were able to change their host's odor by altering the microbiome of the skin.

Reducing Mosquito-Attracting Odors

Finally, we wondered if there was a way to prevent this change in odors.

We found one potential option when we observed that infected mice had decreased levels of an important microbe-fighting molecule produced by skin cells, called RELM α . This suggested that the dengue and Zika viruses suppressed production of this molecule, making the mice more vulnerable to infection.

Vitamin A and its related chemical compounds are known to strongly boost production of RELM α . So we fed a vitamin A derivative to infected mice over the course of a few days and measured the amount of RELM α and *Bacillus* bacteria present on their skin, then exposed them to mosquitoes.

We found that infected mice treated with the vitamin A derivative were able to restore their RELM α levels back to those of uninfected mice, as well as reduce the amount of *Bacillus* bacteria on their skin. Mosquitoes were also no more attracted to these treated, infected mice than uninfected mice.

Our next step is to replicate these results in people and eventually apply what we learn to patients. Vitamin A deficiency is common in developing countries. This is especially the case in sub-Saharan Africa and Southeast Asia, where mosquito-transmitted viral diseases are prevalent. Our next steps are to investigate whether dietary vitamin A or its derivatives could reduce mosquito attraction to people infected with Zika and dengue, and subsequently reduce mosquito-borne diseases in the long term. ●

PERMANENT BIRTH CONTROL IS IN DEMAND IN THE US—BUT HARD TO GET

After the Supreme Court's *Dobbs* ruling, more people are seeking to get their tubes tied—assuming they can find a sympathetic doctor.

By Grace Browne

THE FALL OF *Roe v. Wade* stands to dramatically shake up contraception trends. In the days following the US Supreme Court's *Dobbs* ruling, clinics began to report a surge in people requesting tubal ligations—more commonly known as getting one's tubes tied. This is a procedure in which the fallopian tubes are surgically blocked or sealed to prevent future pregnancies, one that is very difficult to reverse.

But those requesting the procedure often encounter a big barrier: doctors. Despite the American College of Obstetricians and Gynecologists (ACOG) advising that “respect for an individual woman's reproductive autonomy should be the primary concern guiding sterilization provision,” people who can get pregnant are often refused the procedure. By and large, the decision still lies very much in the hands of the physician.

A doctor will typically refuse to perform a sterilization procedure on the grounds that the person is too young, that they don't have enough children, or that they might come to regret the decision—or a combination of these factors. Without a partner or any children, a person's chances of obtaining the procedure drop even lower. (There is no existing ethical guidance from the male counterpart to ACOG—the American Urological Association—on the provision of vasectomy services.)

The attitudes of today's doctors are grounded in a history of pro-natalism that's existed for decades in the United States. In the 1970s, the criteria for allowing sterilization were even stricter: A woman would be denied access to the procedure unless their age

multiplied by the number of children they had equaled 120 or greater—if you were 40 years old with three children, you would be approved for the procedure, for example. In essence, a woman's reproductive autonomy was decided on the basis of a mathematical calculation. Even today, doctors often require the sign-off of the patient's partner.

Lisa Harris, an ob-gyn and professor at the University of Michigan, has seen an influx of young women requesting tubal ligations at her institution since the fall of *Roe*. Many of the patients have come to her after having been refused by other doctors. It's a different manifestation of society not trusting women to know what they need, Harris says, and “probably related to the same distrust that leads to things like abortion bans.”

For Kayla, who lives in Chicago, a traumatic experience when she gave birth prematurely to her daughter last year meant she is sure she never wants to have another child. “I can't see myself going through that again,” she told her doctor. When her physician suggested birth control, Kayla pleaded for something more permanent. “And she told me, ‘No, I'm too young ... Maybe my daughter will want siblings.’” Since then, Kayla has visited at least three doctors requesting a tubal ligation, and all have refused, for similar reasons.

The concept of the risk of regret is a significant barrier to access and is based on the subjective opinion that people who can become pregnant will always want to bear children. In reality, this isn't true. The largest study to look at rates of reported regret in sterilized women—the Collaborative Review of Sterilization—followed 11,000 sterilized women for 14 years after having the procedure. It found that childfree women who had been sterilized reported the lowest rates of regret among all groups of patients. “And yet this myth that women, especially women without children, will come to regret their decision to be sterilized persists,” says Elizabeth Hintz, an assistant professor of health communication at the University of Connecticut.

All of these reasons for denying sterilization are in direct contradiction of ACOG's ethical guidance. Yet doctors face no repercussions for refusing to perform procedures; the US does not track data on how many sterilization requests are denied. “So there's no accountability—there's no capacity to enforce a consequence,” Hintz says.

Access to the procedure isn't equitable across society. Echoes of sterilization's checkered past—in which marginalized groups of women were forced to undergo the procedure, including women of color, women who were poor, and those living with disabilities or mental illnesses—still linger today. Black, Latina, and Indigenous women in the US are up to twice as likely as white women to be approved for sterilization, while women with public or no health insurance are about 40 percent more likely to have the procedure than privately insured women.

“The bottom line is that the way that this is legislated around—and the way that these very subjective sorts of assessments are able to be made—is just a means of perpetuating this very white, wealthy, able-bodied, and cisgender idea of who ought to have children,” says Hintz.

One corner of the internet in which those seeking the procedure can find advice and tips is the r/childfree community on Reddit. The subreddit has folders with extensive information on how to request the procedure, a collated list of doctors who will perform it, and a sterilization binder that members can take to their doctor with a template consent form and a form to list their reasons for wanting the procedure.

Alongside rising requests for permanent forms of birth control, the overturning of Roe has already triggered an uptick in the number of people seeking longer-lasting but nonpermanent birth control, such as intrauterine devices (IUDs). But the idea itself that birth control—permanent or otherwise—could replace access to abortion is inherently flawed, says Krystale Littlejohn, an assistant professor of sociology at the University of Oregon whose work explores race, gender, and reproduction. Despite the fact that the majority of people who can get pregnant use some form of birth control, one in four women will have an abortion in their lifetime. This is why the “just get your tubes tied” or “just get an IUD” rhetoric that has emerged in the wake of Dobbs isn't helpful, she says.

For one, choosing these forms of birth control is not a trivial medical decision: Heavier, more painful periods and a potentially painful implantation procedure—often with no pain relief—are among the possible consequences of getting an IUD. Tubal ligations require an invasive surgical procedure and, as with any surgical procedure, can lead to complications.

In fact, the advice to use birth control can be seen as just another form of policing people's bodies, Littlejohn says. “When it comes to people suggesting that their friends or their loved ones get on long-acting birth control, I think that people believe that they're helping other people, but what they're really doing is encroaching on their human right to bodily autonomy,” she says. Roe's fall won't just mean that people with uteruses are forced to give birth, she says; it's also about compelling them to use longer-acting or permanent forms of birth control.

A person living in a restrictive part of the US may now feel compelled to seek out longer-term contraception or get their tubes tied—which is tantamount to compulsory birth control. “That's not the solution right now,” she says. “I think it's really important that we don't try and fight reproductive injustice with reproductive coercion.” ●

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HERE'S HOW TO STABILIZE A SHARK ATTACK VICTIM IN REAL TIME

By Shiv Sudhaker, Fox News

Chance encounters with sharks tend to increase as the start of summer brings more people into the water.

In the event of such an attack, experts have some very helpful recommendations on how bystanders can stabilize a victim of a shark attack.

“In terms of treatment, we treat shark bite injuries as we would any other trauma with hemorrhage,” said Gavin Naylor, director of the Florida Program for Shark Research at the Florida Museum of Natural History.

“Pressure, tourniquet, minimize blood loss [and] treat for shock,” he added. “Speed is of the essence. Secondary concerns are infection.”

Many shark attacks occur close to the shore because sharks tend to feed on seals — which are near the shallows. Sometimes it's simply a case of mistaken identity when a shark bites a human, experts also note.

Apply Pressure Over A Wound

“For life-threatening injuries, call 911,” said Nancy Strand, MPH, RN, a senior manager of surgical patient education in the Division of Education for the American College of Surgeons in the greater Chicago area.

“Then, applying pressure over a wound is effective in slowing and stopping bleeding, as is packing a deeper wound,” she added. “For severe wounds of the limbs, an effective way to stop bleeding is to apply a tourniquet.”

If the victim is still in the water, notify the beach patrol or lifeguard immediately, said Bernard J. Fisher II, director of health and safety at the American Lifeguard Association.

“Using a boat or other watercraft to approach [victims] is best,” he said. “Remember that a rescuer should always ensure the scene is safe to approach and always try to reach, throw or row to them — but do not enter the water unless you are a trained lifeguard and have the proper equipment to assist,” he also said.

Dr. Lenworth Jacobs, a professor of surgery at University of Connecticut and someone who has treated patients with shark attacks, said that in the event of a shark bite, “the first order of business is to stop [the] bleeding.”

If there are no gloves available, Jacobs recommended using your hands — and removing any clothing to apply to the location of the bleed.

Jacobs said applying firm pressure to the bleeding vessel should be done by crisscrossing the hands and straightening the elbows — but it must be done for at least five minutes.

Many lifeguards have bleeding control kits that contain gloves, a tourniquet and a hemostatic dressing — which is 10 times more effective than a gauze dressing, explained Jacobs, who is also the director of Stop The Bleed program for the American College of Surgeons.

“A person can die from blood loss within five minutes. It's often the nearest bystander who has the best

chance of saving that person's life,” according to information from the University of California San Diego Health.

Jacobs also warned that the biggest problem is people will often stop applying pressure to examine the wound before a full five minutes is over. This is why he recommended counting to 500 before releasing pressure if a watch is not available.

A tourniquet, however, is ideal to stop the bleeding because it frees up the hands to help get the patient out of the water — but this may not be possible when resources are limited.

He said a tourniquet should only be placed for a maximum of an hour. Any longer time period than that may lead to a complete lack of blood flow to the tissue — which will make the loss of a limb more likely.

Get The Person Out Of The Water

The second important step when taking care of a shark bite victim is to get the person out of the water as soon as possible. Sponsored

“You don't want ongoing bleeding while in the water, [as] it will attract other sharks. You want the patient out of the water as soon as you can,” said Jacobs.

He compared someone who is bleeding to a garden hose that is spraying water everywhere.

To stop the water immediately, first kink the hose — then later shut off the main faucet.

“Stop the bleeding first, keep the blood inside the body and get the patient as quickly as possible to the hospital,” Jacobs advised.

Protect The Victim From Cold

Once out of the water, try not to move the victim unless necessary — but remember to protect the victim from the cold by wrapping the person in a blanket to limit heat loss, Fisher advised.

“Stay with the victim, continue to control the bleeding, monitor vital signs and wait until the emergency medical services [team] takes over,” Fisher added.

What if you have a chance encounter with a shark?

“If you see a shark, remain calm, keep the shark in sight whenever possible and exit the water slowly,” Fisher cautioned.

But if attacked, do not “play” dead.

Fight back with anything available, such as a paddle, a boogie board, a surfboard, dive gear or fishing equipment, said Fisher — and try not to use your hands to attack the shark, he added.

‘I thought it was following me.’ Lifeguard bitten by shark during training exercise in Ocean Beach. Ocean Beach village officials say a shark bit another Long Island lifeguard Thursday morning. John Mullins was attacked around 11 a.m. during a lifeguard training exercise about 150 feet offshore in Ocean Beach on Fire Island. The 17-year-old was bitten on the foot by a tiger sand shark.

Fire Island Lifeguard Bitten By Shark, Beaches On High Alert

He said it’s wise to pay particular attention to attack the eyes, nostrils and gills of the shark.

After an attack, attempt to stop the bleeding before leaving the water by applying direct pressure on the wound while also leaving the water quickly and calmly as possible, Fisher added.

“Remember, you have a greater chance of dying from a lightning bolt than a shark attack,” said Fisher.

“With this said, always be aware of the weather and your surroundings at the beach.”

“Always swim near a lifeguard and check the current local weather and water conditions before going,” he said.

“Also, before heading out, ensure your beach destination has a beach patrol and operating hours.” ●

THE VIEWS EXPRESSED BY CONTRIBUTORS ARE THEIR OWN AND NOT THE VIEW OF THE HILL

To restore trust in science, make it accessible; here’s how.

By Linda Sprague Martinez and Doug Brugge

American trust in medical science is waning. Less than a third of adults — just 29 percent — report having “a great deal of trust” in medical researchers, according to a report from the Pew Charitable Trust. For most of our careers, but accelerating during the COVID pandemic, there has been a worrisome gap between those of us who conduct research and the public.

It’s time for both researchers and research funders to rethink and strengthen how they engage the communities around them — and to work closely with those communities to articulate research in a more meaningful way.

Presenting research in arcane and overly technical ways that are nearly impenetrable to people without advanced training and a dictionary to decipher the jargon is harmful to building positive relationships between researchers, the public, and policymakers.

Did you ever stop to ask yourself why? Does it really need to be so complex? And should researchers, particularly those who are publicly funded, have some sort of obligation to share their findings with the public in easier ways?

While science can be complex, dissemination doesn’t have to be.

Plain language does not necessarily diminish rigor; instead, it can facilitate engagement and further learning. Overly technical language, on the other hand, excludes participation. People simply tune it out. It can also reinforce dominant narratives that privilege scientific knowledge over other forms of knowing and learning, which further separates science from the

public. The further apart we are, the greater the space for misunderstanding.

Both of us have been among a small, but rapidly growing and vibrant subset of researchers who recognize the harms of the academy and the need for community leadership in research. Typically called community-based participatory research, this approach has been supported to some extent by the National Institutes of Health and other research funders, but remains a tiny fraction of research conducted in the United States.

One feature that stands out from our experience is that working directly with community members or stakeholders on the science can help create co-learning opportunities and the development of lasting relationships built on trust and mutual understanding. This happens because community-researcher collaborations require that each party spend a lot of time learning to communicate in the language of the other. However, it can't and won't happen if we researchers stay within the walls of the university.

We need to get out into the community and learn about local priorities and identify shared interests. We also know that it doesn't happen overnight and it's not easy. Relationships by nature require time and effort. They generally involve give and take, discomfort, and sometimes hurt feelings along the way. The benefits are the learning that happens as we grow together.

For example, we have been working in partnership with communities on the study of traffic-related air pollution for more than a decade. While the science of air pollution and its impact on the body are indeed complex, we have worked closely with community leaders and residents across all phases of the research process. This has resulted in broad participation and the development of meaningful air filtration interventions, as well as the development of culturally relevant health communication materials.

Our community partners have stuck with us for years, listening and participating in discussions about collecting, processing, analyzing, and interpreting data. Over the course of time, we have all had to compromise and learn from each other. The public and social issues we are working to address are pressing and vitally important. Research is one important tool that can make real change; however, it is challenging, time-

consuming and uncertain. Even impressive research efforts usually do not fully resolve an issue we are trying to tackle.

We worry about the low level of public trust in medical science and research, as well as the lack of opportunities for participation in research given the amount of public tax dollars invested in this area. This public trust issue calls into question whether our current model of research funding is the most effective approach.

Organizations fund academic institutions and expect them to have the capacity to involve the public, despite the gulf between the public and those of us embedded in the academic research enterprise. How do we solve this?

- Expand community involvement in research decision-making and agenda-setting at the federal level through the re-establishment of the NIH Director's Council of Public Representatives.
- Establish greater research accountability by disseminating research findings well beyond academic journals in simple, clear language through funding guidelines that require research findings be communicated to the public and translated into action.

These changes can ensure that research is responsive to community priorities, involves community partners, and effectively communicates important findings to the audience that needs them. ●

THE DANGER OF SKIPPING YOUR COVID BOOSTER IS RISING—AND MORE THAN 100 MILLION AMERICANS ARE AT RISK

By Renée Onque, CNBC

If you haven't gotten your Covid booster shot yet, public health experts say BA.5 is a prime reason to get it — and soon.

The Covid subvariant appears to be the virus's most transmissible strain thus far, powering a nationwide surge in new cases that hasn't slowed since March. That's a problem, even as hospitalizations and deaths remain relatively low: The longer Covid circulates, the more likely it is to mutate into a form that's both transmissible and severe.

Experts say booster shots are key to stopping BA.5 in its tracks, and all Americans age 5 and older are eligible five months after completing their primary vaccine series. But only 48.1% of eligible people in the U.S. have actually gotten boosted, according to Centers for Disease Control and Prevention data. More than 100 million lag behind, a problem for health officials already mulling the authorization of a second booster for most U.S. adults.

"The danger of not vaccinating, over the last couple of weeks, has significantly increased because the prevalence of the illness has gone up substantially," Kevin Dieckhaus, chief of the division of infectious diseases at UConn Health, tells CNBC Make It.

Here's how well booster shots protect against BA.5, what side effects to watch out for and how the omicron-specific booster shots likely coming this fall factor in.

Can Boosters Protect Against BA.5?

The main job of a Covid vaccine is to prevent severe illness in case you get sick. It does help prevent

infections in the first place, but it's not perfect in that regard — no vaccine is.

Booster shots essentially amplify those same benefits, says Ross Kedl, a professor of immunology and microbiology at the University of Colorado School of Medicine. He says booster-induced protection against severe illness holds up over time against every known Covid variant and subvariant, including BA.5.

The protection against infection wanes a bit after three or four months, Kedl says, but that's no reason to avoid getting the shot: Some help is better than no help, and there aren't any significant drawbacks for most Americans.

A second booster dose has also proven valuable for the Americans currently eligible. In adults over age 50, vaccine effectiveness against Covid-associated hospitalization dipped to 55% four months after a first booster shot, according to a recent study published by the CDC. A second booster restored that protection to 80% in just one week, the study noted.

Kedl says you should get a new booster the moment you become eligible for one. "The durability of your protection sustains even more each time you get a booster," he says. "Every time you get a booster, you get a little bit better protection against variants even as divergent as BA.5."

Will Getting A Booster Now Prevent You From Getting An Omicron-Specific Booster In The Fall?

The short answer, according to a CDC statement last week: No.

"Getting vaccinated now will not prevent you from getting an authorized variant-specific vaccine in the fall or winter when they are recommended for you," the agency wrote. "Given recent increases in deaths and hospitalizations associated with the BA.5 variant, everyone should stay up to date with recommended Covid-19 vaccinations."

Dieckhaus says getting your first booster shot now could line up nicely with the anticipated timing of omicron-specific boosters in the fall by acting as a coverage bridge: Your temporary antibody boost against infection will likely decline right as those updated shots come out.

He notes that he used to advise people to consider waiting for omicron-specific vaccines, but that's no longer a safe option due to BA.5's transmissibility.

"If there's 'not a problem' or minimal problem, you can bide your time and wait. But unfortunately, now the virus is more active," Dieckhaus says.

Is There Any Downside To Getting A Booster?

After a booster shot, you can expect common symptoms like arm soreness at the injection site, muscle aches and fatigue, says Dieckhaus. Serious adverse effects are extremely uncommon, he adds.

Myocarditis, an inflammation of the heart muscle, sometimes occurs in young men after a Covid mRNA vaccine — but you're actually more likely to develop the condition by catching Covid than getting vaccinated against it, according to the CDC. Kedl says that if you didn't experience symptoms after your primary series, you probably won't from your booster, either.

The good far outweighs the bad, Kedl says. If you're worried about side effects — or simply experiencing vaccine fatigue — he recommends thinking about how the vaccines have already moved most Americans from panic mode to some level of normalcy.

"It's good to remember that it's really the vaccine side of things that have kept us able to operate normally in society," Kedl says, "It's made that safe, and continues to make that safe on an ongoing basis." ●

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IS IT TEENAGE ANGST OR SOMETHING MORE SERIOUS?

BY Cassie Hurwitz

Parenting an adolescent—just like being a teenager—has its peaks and its valleys. And while hormonal changes and emotional turmoil are to be expected, the

current state of the world is having a massive impact on the mental health of young people. This has led to a tricky conundrum for parents of teens because it is more difficult than ever to decipher between what is typical developmental angst and what could be a sign of something more serious.

"In the teenage years, your body goes through more dramatic changes than at any other time in your whole life," says John Mayer, PhD, a licensed clinical psychologist and author of *Family Fit: Find Your Balance in Life*. "We often forget that kids are walking around like a bag of chemicals shaken up." That's undeniably unpleasant—and can significantly alter a child's mood. But these changes are completely expected, says Ariana Hoet, PhD, a pediatric psychologist at Nationwide Children's Hospital and the clinical director of *On Our Sleeves*, a movement advocating for children's mental health support.

"Part of destigmatizing mental health is acknowledging that we all feel emotions and that those are normal," Hoet says.

"Teens are finding their identity, navigating social relationships, worrying about school and their future, all while their brain is still in development and their bodies are going through hormonal changes."

Along with that, they're beginning to want independence but are in that fuzzy space between kid and adult, says Melissa Santos, PhD, associate professor of pediatrics at the University of Connecticut School of Medicine and division chief of pediatric psychology at Connecticut Children's Medical Center.

At the onset of the pandemic, remote school rocked the very foundation of adolescents' lives. It also halted crucial development. "School is an epicenter of identity development and personality interests," Mayer says. "What we've lost in this pandemic is critical life skills and developmental journeys that we need to go through during these teenage years." Missing out on that can cause a slew of problems—like lower confidence and self-esteem, loss of identity, developmental delay, and immaturity. Mayer says these things can fuel mental illness. ●

IS IT TEENAGE ANGST OR SOMETHING MORE SERIOUS?

By Cassie Hurwitz

The stress is even higher for people of color and those living in poverty. Santos points to Black youth currently having higher rates of depression and anxiety and Black girls having the highest rates of attempted suicide.

“They’re being disproportionately impacted by mental health, Covid, and racism—it creates this perfect storm,” she says. “Children who reported experiencing racism also reported negative mental health outcomes and difficulty with school and social relationships,” adds Hoet. “Unfortunately, these children are often misdiagnosed and have less access to treatment.”

Hoet also points to early data that shows a rise in depression, anxiety, and eating disorders during the pandemic—with LGBTQ+ and female teenagers more highly at risk for these conditions.

Interestingly, rates of youth mental illness were steadily rising before the pandemic. “According to the CDC, between 2009 and 2019 there was an increase in sadness, hopelessness, and thoughts of suicide in children,” Hoet says. Many children with mental health disorders were not receiving treatment. “It’s important to realize we had a mental health crisis prior to Covid—all Covid did was amplify it,” Santos says. “It highlighted all the problems we have with mental health treatment and access to care.”

The thought of teenage mental illness is a source of anxiety for many parents and caretakers—with many saying they don’t know how to address it. Checking in with your child about their mental health doesn’t have to be scary. And not every teenage outburst is reason for concern. “We all have a continuum of what our sadness, nervousness, and anger is like,” Santos says. “With mental health, just like physical health, we have good and bad days.” In other words, your kid telling you they want to be alone doesn’t necessarily mean they are depressed.

Instead, be on the lookout for long-lasting personality changes. “When it comes to a mental health disorder, we look for persistent patterns that cause impairment,” says Hoet. This can manifest as behavioral shifts that happen every day for over two weeks. “You know your child the best,” Santos says. If they’ve done a complete 180 from how they used to be, it could be more than just hormones. If they are no longer interacting with their friends, their sleep is off, you’re concerned about self-harm—those are signs of something significant. Mayer also says that a more serious problem will show up in many areas of your child’s life—school, home, extracurriculars, friends’ houses, etc.—rather than just one place.

Along with emotional disturbances, mental health disorders can come with physical symptoms. “When they have a lot bottled up inside, your child may report tummy aches and headaches,” Santos says. If something like this is happening and you’ve crossed off any medical reasons for it occurring, consider the timing of the symptoms. For example, your teen may get nauseous every day before school—that could be an amplified Sunday scaries.

Some specific signs of mental health struggles in teens include:

Irritability, Worry, Sadness

Withdrawal from their usual activities and a lack of interest in most things

Difficulty focusing or finding motivation, especially causing a drop in grades

- Changes in sleep and appetite
- Getting into trouble or conflict with friends and family
- A decline in taking care of their hygiene or cleanliness

Headaches, Stomachaches, Vomiting

If these symptoms are reading like a checklist of your child’s current status, don’t panic. “The first step is having a conversation with the child,” says Hoet. “By talking to them, you can assess and problem-solve together on next steps.” If you aren’t sure what that next step should be, speaking with your child’s

pediatrician can help—they can help you assess and point you in the direction of mental health providers.

Another place to find resources is Hoet's program, OnOurSleeves.org, which offers guides and strategies for those discussions. "We want to encourage adults to build the habit of talking to children so that when difficult conversations come up, such as being worried about their mental health, the conversation can feel a lot easier," she says. The more we talk to kids about the importance of brushing your teeth, green vegetables, and being able to label your feelings, the more this gets incorporated as everyday language, which is what sets up a family for success, Santos adds.

Talking the talk is great, but you should also walk to the walk when it comes to taking care of your own mental health. "Your kids watch you and model what you do," Santos says. "There's nothing more powerful than for a child to see a parent or caregiver have a bad day and problem-solve." Show them the things that help you feel better when you are anxious or feeling sad—maybe it's taking a walk outside or watching your favorite comedic movie.

"If there's anything good that is coming out of this pandemic, it's that we are talking about kids' mental health a lot more," Santos says. And where there's more awareness, there's a real opportunity to get ahead of mental health issues before they become truly problematic. ●

THE FLU KILLS OLDER ADULTS MORE THAN ANYONE ELSE. UCONN AND JACKSON LAB ARE STUDYING THE IMMUNE SYSTEM TO LEARN MORE.

By Stephen Singer

COVID-19 has dominated global attention for more than two years, but the flu also is deadly, particularly among older adults.

The University of Connecticut and Jackson Lab are now researching age-related changes in the immune system and will recruit and follow 60 older adults who will receive three influenza vaccines over three years.

The \$9 million study funded by the National Institute of Allergy and Infectious Diseases will examine changes in the immune system that reduce individuals' responses to the influenza vaccine and try to determine if immune responses can be boosted with next-generation vaccines.

"Older adults are the most likely to be hospitalized or die from any infection, but particularly an influenza infection or COVID for that matter," said George Kuchel, a professor of medicine and director of the UConn Center on Aging.

Influenza causes about 36,000 deaths each year in the U.S. and disproportionately affects adults over the age of 65, researchers say. The vulnerability to infections is due to an age-related decline in the immune system, Kuchel said.

Changes due to age weaken the immune system, placing older people at greater risk for severe illness from influenza. Aging may also reduce the body's ability to mount a strong immune response after receiving the influenza vaccine.

Jackson Lab, which specializes in genomic research — sequencing and analyzing an organism's genome, or the DNA content within one cell of an organism,

contributing to personalized medicine — is participating by using genomic technology.

By profiling blood antibodies and immune cells over time, the study will associate age-related immune changes that will, or will not, respond to vaccines. It will allow researchers to identify biological pathways to make the vaccine effective, said Duygu Ucar, an associate professor at Jackson Lab and a faculty member at the UConn School of Medicine Genomics and Genome Medicine.

Kuchel said researchers will test which vaccines work best and those that are best for each person. “That gets to the issue of the personalized, the precision component,” he said.

Researchers are looking for volunteers to participate in the three-year study. To participate, participants must be 65 or older by Sept. 1, must have no history of heart disease, kidney failure, diabetes requiring insulin, autoimmune disorders, immunosuppressive disorders or be on immunosuppressive medications.

Participants will receive a standard vaccine the first year. In the second year they will receive FLUAD, a vaccine that adds an immune stimulant. In the third year, participants will receive a Messenger RNA, or (mRNA) using anti-COVID-19 technology, to induce cells to make a protein triggering an immune response.

Volunteers will make six visits in each of the first two years, and seven visits in the third year and blood samples will be collected at 16 visits.

Flu cases rose in Connecticut last winter after posting little activity the previous year. In January, 76 hospitalizations and three deaths related to the flu were recorded, up from 14 hospitalizations and one death the previous year’s entire flu season.

Nationally, 20,000 to 50,000 deaths are recorded in a typical flu season, according to the Centers for Disease Control and Prevention.

Ucar said researchers have learned from studying COVID-19 that age and sex are factors in the severity of the virus. Researchers want to improve their predictions of who will respond to which vaccine and “who might benefit from which vaccine,” she said.

The studies will help researchers understand what predicts strong responses to each vaccine and

eventually personalize vaccine recommendations, she said. ●

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CANDY, CASH, GIFTS: HOW REWARDS HELP RECOVERY FROM ADDICTION

By Carla K. Johnson

Harold Lewis has been fighting drug addiction for years, but only recently started thinking recovery could be fun.

The 59-year-old former cook earned small prizes — candy, gum, gift cards, sunglasses and headphones — for attending meetings and staying in treatment for opioid addiction during a 12-week program in Bridgeport, Connecticut.

“Recovery should be fun because you’re getting your life back,” Lewis said.

For an increasing number of Americans, addiction treatment involves not only hard work, but also earning rewards — sometimes totaling \$500 — for negative drug tests or showing up for counseling or group meetings.

There’s brain science behind the method, which is known as contingency management. And barriers to wider adoption of reward programs, such as government concerns about fraud, are starting to crumble.

“We’re in a state of desperation where we need to pull out all the stops and this is something that works,” said Dr. James Berry, who directs addiction medicine at West Virginia University.

U.S. overdose deaths climbed to a record high during the pandemic. While opioids are mostly to blame, deaths involving stimulants such as methamphetamines also are climbing. Often, people die with multiple drugs in their system.

Medication can help people quit abusing opioids, but stimulant addiction has no effective medicine. Rewards programs — especially when the dollar value increases with consistent performance — are widely recognized as the most effective treatment for people addicted to stimulants.

Since 2011, the U.S. Department of Veterans Affairs has used the method with 5,700 veterans. Rewards are vouchers the vets redeem at their local canteen. Over the years, 92% of the urine tests done on these veterans have been negative for drugs, said Dominick DePhilippis of the VA's substance use disorders program.

When done right, reward programs can be a bridge from the difficult days of early recovery to a better life, said Carla Rash, associate professor of medicine at UConn Health, who studies the method. It helps people make better decisions in the moment, tipping the scale when the immediate rewards of using drugs are difficult to resist.

The rewards can “provide a little bit of recognition for people’s efforts,” Rash said.

For Casey Thompson, 41, of Colville, Washington, the first month after quitting meth was the worst. Without stimulants, he felt burned out and exhausted.

“Even standing up, you could fall asleep,” Thompson said.

Earning gift cards for passing drug tests helped, he said. During his 12-week program, he received about \$500 in Walmart gift cards he spent on food, shirts, socks and shampoo. He’s a trained welder and is looking for work after a recent layoff.

“I’m a totally different person than I was,” said Thompson. “I was already planning on being clean, so it was just extra.”

More than 150 studies over 30 years have shown rewards work better than counseling alone for addictions including cocaine, alcohol, tobacco and, when used alongside medications, opioids.

The method is grounded in brain science. Psychologists have known for years that people who prefer small, immediate rewards over larger, delayed ones are vulnerable to addiction. They may vow to quit each morning and start using again by afternoon.

And neuroscientists have learned from imaging studies how addiction takes over the brain’s reward center, hijacking dopamine pathways and robbing people of the ability to enjoy simple pleasures.

“It’s very much using that same dopamine reward system that’s the basis for addictions to promote healthy behavior change,” said psychologist Stephen Higgins of the University of Vermont, who pioneered the method in 1991. His recent research shows it helps pregnant women quit smoking and improves the health of their newborns.

“Biologically, the use of substances lights up the same part of the brain that is lit up when a person wins the lottery, falls in love or experiences something really positive and exciting,” said psychologist Sara Becker of Northwestern University.

The same pathway is lit up if someone wins a reward.

“That’s part of what’s powerful about these programs,” Becker said.

Support has never been stronger. The Biden administration backs the method in its National Drug Control Strategy. This fall, California will launch a pilot program designed to reward \$10 gift cards passing drug tests for stimulants. Oregon will use tax revenue from the state’s legal marijuana industry to pay for similar incentives. Montana launched a program in March using a federal grant.

The U.S. Department of Health and Human Services is working to revise its guidance on how much government grant money can be spent on prizes, rewards and cash cards. Researchers say the current \$75 limit per patient is arbitrary and ineffective and should be raised to \$599.

The method “is a widely studied and proven intervention that has been successful in treating people with a variety of substance use disorders,” said Dr. Yngvild K. Olsen, who directs the U.S. government’s Center for Substance Abuse Treatment.

Reward programs can be low tech — slips of paper drawn from a fish bowl — or high tech — using “smart” debit cards programmed so they cannot be spent at liquor stores or converted to cash at an ATM.

Maureen Walsh is a 54-year-old Philadelphia flower shop owner who stays off opioids with help from a

smartphone app called DynamiCare. When she passes a saliva test, she earns cash on a smart card. She uses the money to treat herself to a new pair of shoes or make a donation to a favorite cause.

“The reward to me was knowing that I was clean and the test showed it,” Walsh said.

For Lewis, the Connecticut man in recovery from opioids, a weekly prize drawing became a way for him to bring home gifts for his mother.

“The prizes make me feel good,” he said. “But the prizes make my mother feel great. I’m talking Tony the Tiger GREAT!”

On a recent summer day, Lewis had earned the chance to pull 10 slips — 10 chances to win prizes, including a tablet computer. The big prize eluded him, but he won six small prizes and \$20 in grocery gift cards.

“Recovery is just not all balled-up fists and clutched teeth, you know what I mean?” Lewis said later. “It can be fun, where you can exhale and you can breathe and get excited — because you don’t know what you’re going to win today.” ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE HARTFORD COURANT ON SEPTEMBER 12, 2022

UCONN STUDENTS BUILT AN AIR PURIFIER OUT OF FURNACE FILTERS, A FAN AND DUCT TAPE AND IT TRAPS COVID-19 VIRUS. HERE’S HOW THEY DID IT.

By Ed Stannard

Take four air filters, like you use in your furnace. Tape them together so they form a cube.

Buy a box fan of the same size — 20 by 20 inches — and attach it to the top of the cube.

Don’t throw away the box but use one side of it as the bottom of the cube, the other on top of the fan with a hole cut in the round shape of turning fan blades.

What have you got? An air filter that traps 99% of the particles in the room, including those as small as the coronavirus that causes COVID-19, according to University of Connecticut researchers.

Leading a multidisciplinary team at UConn is Marina Creed, a neuroimmunology nurse practitioner in the UConn Health Multiple Sclerosis Center.

“This is a cross-campus initiative to study air pollution, both indoor and outdoor, and engage our undergraduate and community K-12 students in learning how, through simple materials available at a hardware store, they can create, in about 30 minutes, a high-efficacy portable air cleaner for only about \$65 that works as well as the \$500 air cleaners,” Creed said.

The units use about as much electricity as a 60-watt light bulb (the old incandescent kind, not LED) “and they remove fine particulate matter from the air,” Creed said. “So we’re talking larger molecules like pollen, mold, dust and then smaller molecules ... that can be laden with COVID-19 viruses. And so they actually remove COVID from the air, along with influenza, along with mold, dust, allergens, cockroach allergens, you name it.”

A group of students recently presented a box, decorated to look like the White House, to President Joe Biden’s Office of Science and Technology Policy, which offered its official support in May. And they’ve received a \$300,000 donation of cryptocurrency (pegged to the dollar so it won’t fluctuate) from the Balvi Foundation, established by Vitalik Buterin, co-creator of Ethereum.

Creed is excited about the air filter, known as Corsi-Rosenthal box after its inventors, but she’s also enthusiastic about the number of UConn groups involved, as well as the ability to engage grade-school students in building them. Besides the UConn Health Center, there are team members from the schools of medicine, nursing, engineering and education, plus the CT Area Health Education Center.

It’s something Creed envisions “students doing as a STEM science project in schools, for schools, so that when the children are done making these you simply

plug it into the wall and, boom, you have immediately improved indoor air quality, which is a solution to our country's long-standing indoor air-quality issue in K-12 schools."

UConn students have given 200 of the boxes to the Coventry Public Schools, one for every room in the schools. And they've given 100 to the West Hartford Public Schools for their dining halls and 10 to the Hartford Public Library. Creed and Dr. Kristina Wagstrom, associate professor of chemical and biomolecular engineering, recently taught a class on air pollution and helped fifth-graders make the boxes at the Noah Webster Microsociety Magnet School in Hartford.

"Some of the proposed science projects that I see children doing with this is how to make a machine, what is a machine, how to make a machine out of simple objects, understanding the physics of fluids, how air is a fluid and how it will travel through the path of least resistance and what is particulate matter? What is air pollution?" she said.

The tightly woven filters are rated MERV 13, which will remove 90% of particles between 1 and 3 microns in size. The shroud is meant "to improve the aerodynamic performance of this so that there was no dead air in the spaces in the corners," creating better pressure inside the box, Creed said.

"In some of these commercial air filters, the air will go upon the path of the least resistance," she said. "So sometimes air goes around the filter. In this case the negative pressure created inside the box by the draw of the fan ... is sucking the air in. The air has nowhere to go but through these very tight filters. What happens to the stuff in the air when it goes through the filter? It gets stuck in the filter and clean air is discharged out of the top."

Watching the filters get dirty over time reinforces the idea that invisible particles are being taken out of the air, which Creed said is important to drive home the issue of air quality. "I think one of the problems that people have with indoor air quality or air pollution is that, because we can't see it, we don't appreciate it," she said "Unless you have asthma or allergies, you don't realize that it's affecting you."

Once the filters get really dirty, the box is taken apart and a new one built.

Wagstrom said the boxes were tested in UConn classrooms with similar conditions to elementary school classes, including students, and "we saw that these boxes were really effective at removing particles from the air. ... Now, in the real world, the effectiveness is going to depend on a lot of different things. But in the preliminary tests we've done, we've seen decreases, pretty rapid decreases."

The effectiveness is not just near the boxes. "We're seeing them across the entire room," Wagstrom said. "And we're seeing pretty rapid decreases. Sometimes, down below 50 [percent] decreasing by 50 to like 85%. So, some pretty large decreases."

She said the next step is more tests in real-world classrooms.

Fayekah "Faye" Assanah, assistant professor of biomedical engineering, taught her Foundations of Engineering students how to make the boxes as part of the core curriculum. More than 400 students built 100 of the boxes during last spring's semester.

"As you can imagine, they were all first-year engineering students, and they just got out of COVID," Assanah said.

"When the schools were shut down, they were probably high schoolers, so they have lived through that pandemic situation where schools had to be shut down and they weren't able to go to class. So they have lived through this pandemic, and ... making these DIY boxes for the new-generation students in the elementary schools, they really felt like they are giving something to their community."

Douglas Brugge, chairman of the Department of Public Health Sciences in UConn's School of Medicine, said there's an even larger need for the do-it-yourself air filters.

"There's a need for these outside the U.S. and low-income communities here," he said. "In the entire world, people are breathing air that's polluted or has COVID in it or mold or whatever. So there's a global

need for low-cost air purifiers that can be deployed broadly in people's homes and schools and workplaces."

Closer to home, the boxes have filled another need, Brugge said. "I think it's admirable that UConn is engaging with communities and trying to help them," he said. "I think that's part of our mission as a public university. We should be out there working with the communities and in trying to help them address problems, in this case, a public health issue."

Carson Kehmna, a civil engineering student, said in an email, "To me, the most important thing I learned while building the Corsi-Rosen filters is the capability I have as an engineer to make a tangible impact on the lives of others."

"This is the first project I have ever worked on where it has made a real impact on somebody else, and it made me recognize that I will have the opportunity to improve the lives of so many different people in my career as an engineer." ●

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DIY AIR FILTRATION SYSTEMS HELP CLEAR THE AIR IN CONNECTICUT PUBLIC SCHOOLS

'Corsi-Rosenthal boxes' already placed in hundreds in Connecticut schools

By Julie Martin Banks

Gov. Ned Lamont announced last week that his administration will release \$150 million to help upgrade heating, ventilation and air conditioning systems in Connecticut public schools to improve air filtration.

But medical staff and scientific researchers working on the University of Connecticut's Indoor Air Quality

Initiative say schools can improve the quality of their air with a \$64 purchase at their local hardware store.

The program – led by Marina Creed, a nurse practitioner at the UConn Health Comprehensive MS Center – has already provided 200 so-called 'Corsi-Rosenthal boxes' to Coventry public schools, 100 to elementary school cafeterias in West Hartford, 10 at the Hartford Public Library and more at the South Park Inn Shelter in Hartford.

The boxes – a grouping of a box fan, cardboard, high-rated filters and duct tape – provide a quiet and effective way to reduce particles in the air that cause the transmission of viruses like COVID-19.

"This can't occur during the school year. This is major surgery," Creed said of the recently-announced HVAC improvements. She added the work will also likely kick up a bunch of minerals and other troubling materials including asbestos and lead paint. These boxes at least would help ease that impact, she said.

"Obviously it needs to happen, but why not have these in the classroom as a bridge to that long term solution?" Creed said. "I can't imagine why we would want to spend the next two to three years with the same known problem when this could be on Monday."

The idea for the boxes came during the pandemic, Creed said. Her patients battling Multiple Sclerosis – a disease of the brain and spinal cord – have been suffering disproportionately. The disease also predominantly affects women more than men, Creed said.

"So many of my patients are educators in Connecticut public schools, or mothers with children within the Connecticut public schools," Creed said. These parents alerted her that the schools were not using portable air cleaners as part of a mitigation effort in contrast, she said, with what schools in Rhode Island are doing.

Creed decided to look into the matter, and went to the social media platform Twitter to investigate. Dr. Richard Corsi – Dean of Engineering at the University of California, Davis – put out a tweet wondering if four good air filters and a box fan put in a certain configuration, could work to help filter the air.

Thus, in August 2020, the Corsi-Rosenthal Boxes – named after its inventors and Jim Rosenthal – were born, and scientific researchers say they remove 90% of

virus-carrying aerosols from the air, as well as dust and allergens. Putting one together only takes a half hour.

UConn's Air Quality Initiative team, which began their work in September 2021, also includes Dr. Kristina Wagstrom, associate professor in chemical and biomolecular engineering,

Wagstrom said the boxes were tested in a classroom at UConn that was about the size of a public school K-12 classroom.

"We are looking at particles that are smaller. So, when you speak you're producing droplets, which are larger, but you are actually producing actual respiratory aerosols which are smaller particles," Wagstrom said. Higher-rated filters are effective in grabbing smaller particles, which is where researchers are seeing infectious disease transmission, she added.

"They are doing a really good job of mixing the air and removing some of those particles," Wagstrom said, adding there is a significant drop in those particles between before the fan is turned on and when it has been turned off. The reduction, she explained, is anywhere between 50 to 80 percent.

"That's a pretty big reduction just by using off-the-shelf stuff from a local hardware store," Wagstrom said.

Creed said the fans are quiet and unobtrusive to have in a classroom and pose no safety hazard. While they can be run on low speed when children are in class, teachers can turn up the fans to a high speed when kids are out to lunch or at recess.

"It's as quiet as a refrigerator, and uses about as much electricity as a 60-watt light bulb," Creed said. "For about \$65, you have the power to clean your own air."

Creed recommends a filter change every nine months.

"When the filters are dirty, it's still working and working well," Creed said.

Students can also put together their own boxes as part of a science project. Creed just became a Girl Scout leader for her daughter's second grade troop, and she plans on working with Girls Scouts of America to make a merit badge for creating a box.

"This has been shown, in both a lab and a real world setting, to perform as well as a commercial HEPA filter

for one third of the cost, and it's a science project for kids," Creed said.

UConn's Air Quality Initiative continues to grow, recently receiving a \$300,000 grant – funded through cryptocurrency from Balvi, an investment and direct giving fund which was formed to fund COVID-19 projects.

The Initiative is also bringing this science to K-12 classrooms and college courses with STEM lesson plans for students and staff, coordinators said.

Creed said the benefits of improving air quality are better attendance and academic performance.

"We have a choice about the water we drink. We can choose to drink and filter our water," Creed said. "We do not have the ability to choose the air we breathe."

The Initiative is organized by UConn Health and its Comprehensive Multiple Sclerosis Center, with the UConn Schools of Nursing, Engineering, Medicine, the Department of Public Health and Sciences and the Connecticut Area Health Education Center Network. ●

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HARTFORD MOVES TO REDUCE THE CITY'S FOOD DESERTS, ESPECIALLY IN THIS HARD-HIT NEIGHBORHOOD

By Ted Glanzer

Hartford — Taking aim at Hartford's notorious food deserts, particularly in the Northeast end, the city council on Monday evening unanimously passed a resolution to work on having a full-service grocery store open in the city by July 2023.

The resolution notes the well-documented data that the urban poor — often due to high prices combined with a

lack of transportation — are the most vulnerable to not having access to healthy foods

“Access to food which is nutritious and affordable is a challenge for many Americans, especially in areas where there is a concentration of poverty,” the resolution said, adding that “significant sections of Hartford are more than half a mile away from the nearest supermarket and have a poverty rate over 20%.”

Hartford currently has two full-service grocery stores — Stop & Shop on New Park Avenue and Key Food in Parkville — but the majority of the Northeast section of Hartford is more than a mile away from a supermarket and has one of the highest concentrations of poverty in the city, the resolution said.

Toward that end, the resolution called for officials to work toward finding a suitable location, assisting with locating financial resources for a full-service grocery store and identifying a store operator.

The resolution had the overwhelming backing of residents and others — some of whom said the lack of a grocery store has been a decades-old problem — during public comment prior to the meeting.

Dr. Kristen Ek, who practices internal medicine at UConn Health in Farmington said she has treated the “downstream” effects of the lack of nutrition.

“When we see what food is available in Hartford and that there is a lack of a full-service grocery store ... we can’t help but think that what we are treating in the hospitals and the clinics is often the sequelae of very unhealthy choices that are available.

“On a day-to-day basis, we treat hypertension, hypertension emergency, heart attacks, strokes, diabetes leading to amputations, blindness [and] wounds. We notice that good nutrition is directly linked to healthy outcomes. ... It is absolutely critical to the health of Hartford.”

The healthiest communities, Ek said, have food options with fewer packaged foods and foods laden with salt, preservatives, MSG and high-fructose syrup.

Ek noted that data shows residents in West Hartford and Avon, who live just a few miles away from the North End, have life expectancies of 16 to 20 years longer than residents of the North End of Hartford.

“That’s just not right,” she said.

Brother Calvin X. Lovejoy noted that residents in some Hartford neighborhoods have greater access to prepared, processed foods than they do fruits and vegetables.

“Adults in urban areas tend to be more obese but they have a greater access to fast food, especially when it comes to feeding their children,” he said. “For many people, the reason for not being able to get nutritious food is a lack of supermarkets, full-service supermarkets, grocery stores and healthy options in our own community. When supermarkets are inaccessible, it has been shown that fruits and vegetable consumption are low.”

Angela Harris, a resident who was also speaking on behalf of the Greater Hartford African American Alliance, Hartford Promise and other organizations, noted that more than 60% of North End residents do not have access to their own transportation.

“They are put at a disadvantage for acquiring [and] accessing affordable quality fresh fruits, vegetables, meats, which is why we are seeking full-service grocery stores,” she said, adding that the current smaller stores often raise their prices at the beginning of the month so their “captive” customers have no choice but to pay for food at inflated prices.

Harris added that a full-service grocery store in the North End would give young people the economic opportunity to work in it, so they “can develop work ethic and also meet their needs.”

“It is unconscionable to me that we would have continuous development of all of these housing projects and not put in the basic services that our community needs,” she said, adding that some residents use the bus to acquire their groceries out of the city. “We really need to be doing better.”

One resident, business owner Max Kothari, said he was frustrated with the ongoing issue of the North End being a food desert. He told the council he acquired a 10-acre parcel on Main Street and secured an operator and financing to open a grocery store. He claims he has

spoken to city officials but has not heard back from them.

“Since then all you hear is crickets at home,” he said.

Councilor Josh Michtom of the Working Families Party voted for the resolution, even though, he said, it doesn’t require the council to really do anything.

“We committed to nothing,” he said in a telephone interview.

Michtom said he wants to draft an ordinance to commission a study to look into having Hartford open and operate its own full-service grocery store, thus taking out the profit margin needed to attract outside developers and operators.

He said during the meeting that other municipalities — such as St. Paul, Kansas; and Baldwin, Florida — that are food deserts have opened their own stores.

“This is a problem that has affected us for decades,” Michtom said. “Maybe we need to try something else.” ●

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A CT WOMAN WITH A PAINFUL DISEASE WAS TOLD SHE COULDN'T HAVE A BABY. UCONN HEALTH HELPED HER BECOME A MOTHER.

By Ed Stannard

When she was younger, Daisha Dillon was told she couldn’t have a baby. Or that it would be dangerous to get pregnant. That she could put her life or her baby’s at risk.

Dillon has sickle cell disease.

Despite the warnings, Dillon gave birth to Kinsley Dillon on Aug. 19, a healthy girl who does not have sickle cell

disease, although she does have one of the associated traits.

Dillon has the New England Sickle Cell Institute at UConn Health to thank, but, even more, she can be proud of her own courage and willingness to do what it took to have a baby.

“They really worked with me,” she said of the staff at NESCI. “And to be honest, I had an amazing pregnancy. It was hard sometimes, but to sum it up altogether, I will say it was great, you know, for someone like me that has sickle cell.”

On Aug. 19, Daisha Dillon gave birth to her daughter, Kinsley Dillon, but it wasn't a normal pregnancy. Dillon’s pregnancy was high risk because she has sickle cell disease so she required blood transfusions and other measures. Her daughter does not have sickle cell. (Douglas Hook / Hartford Courant)

On Aug. 19, Daisha Dillon gave birth to her daughter, Kinsley Dillon, but it wasn't a normal pregnancy. Dillon’s pregnancy was high risk because she has sickle cell disease so she required blood transfusions and other measures. Her daughter does not have sickle cell. (Douglas Hook / Hartford Courant) (Douglas Hook)

Dillon said it took a lot for her to decide to become pregnant.

“Growing up, I always heard since I had sickle cell I couldn’t have kids,” she said. “It wasn’t good for me to have kids. And if I did have kids I would have to have a C-section; it would send me into a pain crisis. I’ve heard all this stuff.”

“They’re oftentimes discouraged by their physicians as well as their family members who love them that are worried about their health to not have children,” said Dr. Biree Andemariam, founder and director of NESCI, whom Dillon met when she was 17. “So, you know, it takes a bit of courage and resilience to push on and have a baby despite being told that you’re taking significant risks.”

Dillon said she felt some fear, but she went ahead because of her lifelong dream to be a mother and because of her faith.

“I know God is not going to put anything on me that I can’t handle, and if I pray about things and continue to serve him, it’ll be fine,” she said.

Kinsley Dillon was born Aug. 19. Her mother, Daisha Dillon, has sickle cell disease but said she set aside her fears to reach her lifelong dream of being a mother. (Douglas Hook / Hartford Courant)

Kinsley Dillon was born Aug. 19. Her mother, Daisha Dillon, has sickle cell disease but said she set aside her fears to reach her lifelong dream of being a mother. (Douglas Hook / Hartford Courant) (Douglas Hook)

Dillon, 32, a Manchester resident, was required to get monthly blood transfusions throughout her pregnancy, and she had to deal with the “pain crises” that come with the disease, as well as chronic pain.

When she needed to go to the hospital, “I couldn’t go to the ER; I had to go to labor and delivery because they had to watch me and the baby,” Dillon said. “I was automatically a high-risk pregnancy. So automatically I had to go to the doctor more frequently than anyone else.”

She was also on Lovenox, a blood thinner that doesn’t pass through to the placenta. “I had to shoot myself with a needle every day. Twice a day,” she said.

On Aug. 19, Daisha Dillon gave birth to her daughter, Kinsley Dillon, but Daisha’s pregnancy was high risk because she has sickle cell disease so she required blood transfusions and other measures. Her daughter does not have sickle cell. (Douglas Hook / Hartford Courant)

On Aug. 19, Daisha Dillon gave birth to her daughter, Kinsley Dillon, but Daisha’s pregnancy was high risk because she has sickle cell disease so she required blood transfusions and other measures. Her daughter does not have sickle cell. (Douglas Hook / Hartford Courant) (Douglas Hook)

While the doctors had hoped to have Dillon deliver at 37 weeks, she developed preeclampsia, so she had her C-section a couple of days early. It would have been sooner, but she had to be off the blood thinner before they could deliver Kinsley.

She stayed at John Dempsey Hospital for 24 hours, “and then they did the C-section the next morning,” Dillon said. “I had an amazing doctor who did it. She was awesome. The whole team was awesome.”

Specialized Care

September is designated Sickle Cell Disease Month in order to increase awareness of the blood disorder, which affects mostly Blacks and Hispanics but also, to a lesser extent, groups such as South Asians and those from the Mediterranean.

The disease is characterized by misshapen red blood cells, which are flat and curved, resembling a farmer’s sickle, larger than a normal cell. They don’t carry hemoglobin well and will clog up small blood vessels, which can cause the pain crises associated with the disease.

Bone marrow transplants can cure the disease, but not many with sickle cell disease undergo the procedure, partly because of the risks, including infertility, dealing with the required chemotherapy, and because people with sickle cell can live for decades, Andemariam said.

Also, finding a donor who matches a sickle cell patient is difficult, she said. Parents often will defer the decision of having a bone marrow transplant for their child until the child can make the decision for herself, she said.

Another technique, now in clinical trials, is gene therapy, in which the patient’s own stem cells are edited or corrected and returned to the patient. NESCI doesn’t do transplants at this point, Andemariam said, but is gearing up to do gene therapy once it’s approved.

Dillon said she met Andemariam in the hospital and talked to her about the specialized care NESCI could give her.

“I was able to ask her all the questions that I had, and she made me feel very comfortable about going to UConn,” Dillon said. “So when I did come over here, I felt very comfortable. And then when I got over here, it was even better. All the nurses were great.”

Genice Nelson, a doctor of nursing practice, also “has been really influential in my care,” Dillon said. Andemariam said there are several risks for both the mother with sickle cell and her baby.

“There can be increased complications like something called preeclampsia, increased risk of preterm delivery, increased risk of low birthweight ... an increased number of pain crises, an increased risk of a very serious lung complication called acute chest syndrome, an increased risk of being hospitalized during the

pregnancy,” Andemariam said. Death of the mother is also a risk.

For the baby, premature birth and miscarriage are the main risk factors, she said. Dillon said the idea of not being at NESCI is “scary” and that she has gotten healthier to the point of not having to go to the hospital as often.

“When I go to the ER now, people [say], ‘Oh my God, it’s been so long,’ rather than before, they think, ‘Oh, you don’t feel well again,’” Dillon said. “That feels good to put some spacing between hospitalizations and come in for regular routine doctor visits rather than come in for pain crises. Whatever we’re doing, it’s working.”

She credits her caregivers at NESCI for letting her know that she would be OK, even when she had to come off a medication during her pregnancy that helped her avoid pain crises.

They told her, “I’m not the first person to have a baby with sickle cell, and I’m not the last,” she said.

Andemariam said NESCI plays an important role in caring for patients with sickle cell disease.

“Research has shown us that your odds of doing well in pregnancy with underlying sickle cell disease are dramatically improved if you’re receiving care at a place where you have experts in sickle cell disease and you have experts in high-risk pregnancies,” Andemariam said.

“And this gets to her courage,” she said of Dillon. “This is her resiliency. She was going to do whatever it took to get that care.”

She said the center, staffed by “fantastic” nurses, social workers and assistants, has cared for almost 100 pregnant women, with no serious problems, offering blood transfusions, prenatal diagnostic testing and genetic counseling.

More help may be on the way, as a bill has been introduced in Congress to create a \$535 million annual grant program to hospitals with sickle cell disease programs to expand services to community health and outpatient centers. Andemariam is on one of the councils that helped develop the bill.

Dillon has always wanted to be a mother, Andemariam said. “She actually shares a very special relationship and bond with her own mother, Carmen, who has always

been by her side and supportive of her in everything that she’s done, and I can only see that Dashia will want to be able to replicate what Carmen has given to her to her own child.”

‘Always Perseveres’

Since sickle cell is individualized — there are a number of variations of the disease — Dillon has a written and signed pain plan that she can present to any doctor if she has a pain crisis. It spells out the best treatment for her.

“It takes the guessing game out,” she said. “The doctor doesn’t have to ask you all of the questions. It’s all written down, ABC type of things.” If a doctor questions the plan, Dillon’s doctor’s phone number is there.

“It reassures me and reassures the doctor that a hematologist is watching me and she knows what she’s doing,” Dillon said.

As for Kinsley, “She’s such a good baby. Honestly, I am blessed. ... God is so good. I prayed because I do take pain medication. I thought that she would have withdrawal symptoms from the pain medication. And she had no withdrawal symptoms. She was born a happy, healthy baby. ... When she wakes up she opens her eyes wide and looks at me. I know that everything’s going to be OK.”

Dillon said Kinsley’s father keeps his privacy and doesn’t want to be named. She said he doesn’t have sickle cell or the genetic traits. They’re not married, but “hopefully there will be an engagement soon,” Dillon said.

Dillon works as care coordinator in the detox unit at InterCommunity Health Care in Hartford and is working on a master’s degree in social work, hoping to work with people with substance use disorder.

“Daisha, no matter how sick she has been, and she has been sick throughout her life, always perseveres,” Andemariam said. “She is always holding down at least two jobs. She is always taking care of herself, providing for herself. She was always a support to her family.

So it doesn’t surprise me that she would have the courage to take the risk to try to accomplish one of her lifelong goals, which is to be a mother.” ●

WHY RACE MATTERS IF YOU HAVE MAJOR DEPRESSIVE DISORDER

Millions in the United States have major depression, but the difficulty overcoming it can be higher for people of color, research shows.

By Julie Lynn Marks and Medically Reviewed by Allison Young, MD

Depression, also known as major depressive disorder (MDD), is the leading cause of illness and disability worldwide, per the World Health Organization (WHO). And while depression can affect anyone, a growing body of research shows people of color in the United States are often hit hardest by this condition.

Marginalized racial and ethnic communities, such as Black and Hispanic Americans, are more apt to experience severe and debilitating symptoms of major depression and are less apt to receive beneficial treatments, according to a May 2022 report from the Blue Cross Blue Shield Association, a federation of American health insurance companies.

Without treatment, depression often worsens, increasing the risk for other serious health issues like chronic pain, substance abuse, self-harm, or suicide, warn experts at Mayo Clinic in Rochester, Minnesota.

The causes and contributors of these unfair and preventable differences in the burdens of depression and other mental health conditions are multifaceted and deep rooted. As a result, solutions aren't straightforward. "It's sort of like any other disparity that we see — the adage that when white America catches a cold, all the other groups get the flu," says Wisdom Powell, PhD, MPH, chief social impact and diversity officer at Headspace Health, and director of the Health Disparities Institute at UConn Health in Farmington, Connecticut.

Here's what researchers know about race-related disparities in the diagnosis and treatment of MDD, as well as some potential steps that could lessen these disparities.

Why Are Marginalized Racial and Ethnic Groups Less Likely to Be Diagnosed and Treated for Depression?

Studies of depression risk among people of color have had somewhat mixed results, likely due to a lack of high-quality studies including people of color, underreported cases of depression among people of color, and widespread misdiagnoses, according to a review article published in the journal *Frontiers*.

Some studies show that depression and other mental health conditions happen in Black and African American people at about the same rate or less often than in white people, say experts at Mental Health America. Similarly, Hispanic and Latino people appear to have the same risk of developing depression and other mental health conditions as the general population, reports the National Alliance on Mental Illness (NAMI).

But other research, such as a large study published in May 2018 in the journal *Preventive Medicine*, found that African American and Latino people were more likely than white people to have depression.

While the exact relationship among race, ethnicity, and depression rates isn't fully understood, what is known is that when people belonging to racial and ethnic minority groups develop depression, they tend to report more serious symptoms. For instance, although people of color are less likely to experience acute episodes of major depression than white Americans, they're more likely to have chronic, prolonged, and severely debilitating depression that affects their ability to function, according to a paper published in February 2019 in *Neuropsychiatric Disease and Treatment*.

Similarly, a study published in the journal *Archives of Psychiatry* showed that when MDD affects African American and Caribbean Black people, it's usually more severe and disabling for them compared with non-Hispanic white people.

"What this means is the burden of disability from depression is much more pronounced in individuals from Black, indigenous, and communities of color," Dr. Powell explains. "And the consequences of these mental health conditions are far more significant and negative for these populations."

Despite these statistics, only 1 in 3 Black adults with a mental health condition receives treatment, say NAMI experts. And according to the same study published in

Archives of Psychiatry, only 45 percent of African American people and 24.3 percent of Caribbean Black people who met the criteria for depression received any type of treatment. Likewise, more than half of young Hispanic-Latino people ages 18 to 25 who have serious mental health conditions like depression don't receive treatment, according to NAMI.

Black people are also more likely to seek help from emergency rooms or primary care doctors rather than mental health specialists, who are better trained to treat conditions like depression, NAMI reports.

When people in Black and Hispanic communities do receive treatment for major depression, they're less likely to get counseling or medication, the aforementioned May 2022 Blue Cross Blue Shield Association report found.

Left untreated or insufficiently treated, depression can worsen, increasing the risk of more severe and persistent mental health issues, as well as suicide. Troublingly, suicide was the second leading cause of death among Black and African American people ages 15 to 24, per the U.S. Department of Health and Human Services Office of Minority Health. And from 1991 to 2017, African American high school students experienced a 3 percent increased rate in suicide attempts, whereas the suicide attempt rate decreased among white youths during the same time period, a study published in November 2019 in the journal *Pediatrics* found.

What Factors Drive These Disparities?

A combination of factors likely cause these disparities, Powell says. "We don't have a clear connection between race and depression that we can determine under a microscope, like a biological link," she explains.

Instead, various exposures, experiences, and accessibility issues appear to contribute to the inequalities in diagnosis and care. Also known as "social determinants of health," these factors have a significant impact on health and well-being, according to the U.S. Department of Health and Human Services.

Historical Mistrust In Health Systems And Unequal Care Play A Role

People of color have historically been mistreated by healthcare systems in the United States. One well-known example is the U.S. Public Health Service (USPHS) Syphilis Study at Tuskegee, in which nearly 400 African American men who had syphilis were intentionally denied treatment. Experiences like these have created mistrust among people of color toward the U.S. medical system, lessening the likelihood of many to seek care.

Some research shows that Black people today continue to encounter more negative experiences when they seek mental health treatment compared with white people. For instance, a study published in December 2018 in the journal *Psychiatric Services* found African American people were more apt to receive a misdiagnosis of schizophrenia than white people when they reported symptoms of mood disorders like depression. In contrast, non-Latino white people were more likely to be diagnosed with major depression.

Shortage Of Mental Health Experts Of Color Is Another Barrier

A study published in November 2020 in the journal *JAMA Network Open* found that patients who shared the same racial or ethnic backgrounds as their doctors were more likely to report a better care experience than those who did not. However, there's a shortage of racially-diverse mental health care providers in the United States — another possible reason people in marginalized racial and ethnic communities don't seek treatment for depression.

"In the field of psychology, about 85 percent to 90 percent of psychologists identify as white," says Erlanger A. Turner, PhD, an associate professor of psychology at Pepperdine University in Malibu, California, and the author of *Mental Health Among African Americans: Innovations in Research and Practice*. "If someone prefers to work with someone from their own racial background, it may be difficult to locate a mental health professional in their community."

Language or cultural barriers between doctors and patients of different ethnicities may also be a factor. A 2022 Pew Research Center survey found that 44

percent of Hispanic people felt communication problems related to language or cultural differences were major reasons they have worse health-related outcomes than other adults in the United States.

Stress And Trauma Caused By Racism Increases The Risk Of Depression

A review of nearly 300 studies, published in PLoS One, found a significant association between racism and mental health issues like depression among people of color.

People of color often experience forms of stress from racism and inequality that white people do not experience — and stress is a strong predictor of depression, according to research published in PLoS One.

“The kind of stress that plagues the lives of people who occupy more marginalized social positions are stresses that are associated with being discriminated against, and we know that these kinds of stressors are notably different and separate these groups from non-Hispanic white people in our society,” says Powell.

Cultural Stigma Related To Mental Health Reduces Outreach

Although stigmas — negative beliefs or attitudes toward someone based on a notable characteristic like mental health issues — are common among many communities, they may be particularly pronounced in Black and African American communities. A study published in Nursing Research found that many African American adults view mental health disorders, especially depression, as a sign of weakness. That stigma and related ones can deter people of color from seeking treatment.

Stigma toward mental health is common in Hispanic and Latino communities, too. According to NAMI, many people within these communities consider talking about mental health challenges to be taboo.

Financial Instability Is Both A Cause And A Deterrent

In the United States, Black and Hispanic people are more likely to live below the poverty line than white people, with 19.5 percent of Black people and 17

percent of Hispanic people experiencing poverty in 2020 compared with 8.2 percent of white people, according to Statista, a provider of market and consumer data.

Financial instability is both a predictor of serious mental health issues and a significant barrier to treatment. According to NAMI, Black adults who live below the poverty line are more than twice as likely to report serious psychological distress compared with those in more secure financial situations.

However, people affected by poverty are the least likely to be able to access mental health care, per a review article published in January 2017 in Pediatrics.

“Despite our best efforts, we still have significant income and wealth inequalities in our nation,” explains Powell.

“This type of financial strain can create a real challenge for people in terms of prioritization. There are a lot of trade-offs that people who occupy lower socioeconomic positions make around their mental health, which exacerbate these disparities.”

Lower Rates Of Health Insurance Reduce Access To Care

Hispanic people and African American people have lower rates of insurance coverage and less access to health services, which contributes to inequalities in care, according to The Commonwealth Fund, an organization that aims to improve health equity in the United States and other countries.

Potential Solutions: Where Do We Go From Here?

Although the solutions for solving racial disparities in mental health care aren't simple and will likely take time, experts have pinpointed some focused strategies and efforts that may improve the situation sooner rather than later.

Telemedicine

Telemedicine can be used to increase access to mental health treatment. “In many states, therapists can do therapy online, which makes it more accessible for people who may have difficulties with transportation or

who may not have access to a therapist in their city, but can find someone within their state,” Dr. Turner says. In addition, telemedicine may, in some cases, be more affordable than traditional in-person care.

Online platforms that offer virtual mental health counseling include:

Ayana Therapy, a platform specifically for marginalized and intersectional communities

- Betterhelp
- Talkspace
- Teladoc
- Community-Based Interventions

It’s important to meet people in marginalized communities where they are when it comes to mental health care, notes Sidney Hankerson, MD, an associate professor and vice chair of the department of psychiatry, and the director of mental health equity research at the Institute for Health Equity Research at the Icahn School of Medicine at Mount Sinai in New York City.

“One way I am doing this is to partner with Black churches, barbershops, and other trusted settings to screen people for depression and connect them to care,” he explains. “This strategy, if it proves successful, could go a long way to reach Black Americans who would otherwise not engage in traditional mental health services.”

Powell, too, sees this type of approach as a promising way to take mental health care into marginalized communities, instead of waiting for patients to reach out on their own.

“We’re going to have to reimagine what an inclusive mental health system can look like,” she says.

One example is the mental health care system in Rwanda, Africa, which Powell says has only two psychiatrists throughout the entire country.

“They are doing less with more,” Powell explains. “They are using the full range of human potential where they are training community health workers and lay health people to do mental health screenings, triage, and referrals, and that’s what we need. We need bridge builders, and to me, these bridge builders are right in our communities.”

Environmental Interventions

In addition, an effective model can’t ignore the environmental conditions among people of color, Powell says.

“You’ve got to address the features in the environment that are depressionogenic. You’ve got to address poverty. You’ve got to address community violence. You’ve got to address racism, as hard as it is for us to say it out loud,” she adds.

How To Get The Help You Need Right Now

While research shows issues surrounding mental health disparities are multidimensional and challenging to overcome, they’re problems that must be addressed.

“What’s on the other side of this, is radical healing for everyone, not just people of color,” she explains. “When you raise the mental health and wellbeing of those who are the least advantaged, you raise the health and well-being for everyone.”

If you’re a part of a marginalized community and you’re struggling with depression, there are ways to boost your odds of receiving appropriate care.

Finding the right therapist for your specific needs often begins with asking questions. “It’s okay to ask questions about their experience working with individuals from your community,” Erlanger says.

“For example, I encourage people to ask therapists, ‘How many clients have you worked with that identify as Black or African American?’ This can help potential clients get an idea about a therapist’s level of experience with understanding depression within certain groups.”

Some online directories that could help you find a therapist who works with specific marginalized racial and ethnic communities are:

- Melanin and Mental Health
- Latinx
- Innopsych

If you’d prefer to see a therapist who isn’t in your care network, Erlanger suggests calling your insurance company to request a single-case agreement to see if your insurance provider would agree to cover the cost. ●

370,000 PEOPLE IN CONNECTICUT HAVE ASTHMA. THERE ARE WAYS TO REDUCE RISK.

By Ed Stannard

There are many causes but no cure. There is no vaccine to prevent it.

The disease is asthma, and 25 million people nationwide, children and adults, suffer from it.

In Connecticut, 71,900 children and 298,000 adults, more than one in 10 overall, have it, according to the state Department of Public Health, although the rate has been dropping from its most recent peak in 2015-17.

Asthma is more common among males, Black and Hispanic people and those who live in cities, largely because of the old houses, schools and factories with poor ventilation.

Asthma is the most common chronic disease of childhood, said Dr. Alex Hogan, a pediatric hospitalist at Connecticut Children's medical center.

"If you have asthma and you're over the age of 5, you really, truly have asthma," he said. "There's a lot of kids who have an asthma-like syndrome that may or may not stay if they're younger than that."

Hogan said for 60% to 70% of children with asthma, the cause is some type of allergic reaction, though it is the same disease as adult asthma.

"So you have a nice open airway," he said. "Normally people with asthma have chronic inflammation of those airways, and so that chronic inflammation makes the airways narrower, if untreated." Then, a trigger, can set off an asthmatic reaction. Hogan said that might include "cigarette smoke, pollen and, most commonly for hospitalized kids, it's like a cold virus."

The allergens affect the smooth muscle in our lungs, which constricts the airways, "and you now have a really hard time breathing, you're having air pass

through a small hole because the muscles are so constricted," Hogan said.

In the Occupational and Environmental Medicine clinic, Paula Schenck, a research associate at UConn School of Medicine, meets with Dr. George W. Moore, the director of Employee Health and Clinical Occupational Medicine in Farmington. (Douglas Hook / Hartford Courant)

In the Occupational and Environmental Medicine clinic, Paula Schenck, a research associate at UConn School of Medicine, meets with Dr. George W. Moore, the director of Employee Health and Clinical Occupational Medicine in Farmington. (Douglas Hook / Hartford Courant) (Douglas Hook)

'Astronomical'

To make things worse, those with asthma are at greater risk of getting seriously ill from COVID-19, the health department says.

In the hospital, albuterol is the first line of treatment, to relax the muscles. Later, inhaled steroids may be given in acute cases, Hogan said.

Connecticut Children's normally has 40 to 50 admissions during the winter months, when cold weather and being around other children make asthma more common, and 20 or fewer the rest of the year. But when COVID-19 hit in March 2020, "our admissions per week dropped like a stone," he said.

Lately, admissions have been more normal, "but in the last two months, cases have been astronomical," Hogan said. "Because there's an outbreak epidemic of likely enterovirus, which is like a seasonal virus that just comes around every now and then. But it's causing a lot of kids to be admitted to the hospital for virus-induced wheezing, which is likely related to asthma."

September brought in 100, he said.

Dr. Carrie Redlich, director of the Yale Occupational and Environmental Medicine Program, said asthma, "no matter what causes it, tends to look the same. It's a disease that can start in childhood. It can continue into adulthood. It can go away and come back as an adult or it can just start new as an adult."

She said about 15% of new asthma in adults is related to work. For example, she's seen bakers exposed to airborne flour who tend to be from small bakeries.

But it can also be a preexisting case that the work environment makes worse. However, she said it's widely unrecognized as a work-related disease by physicians, who focus more on treatment and medications than on causes.

"It's really important to recognize, to try and prevent the disease or prevent the disease from getting worse by reducing the exposures that are causing the problem, rather than by giving more medication," Redlich said.

Patients may be reluctant to say their asthma is related to work because they're afraid of losing their job, she said. And it's not always clear what the trigger for the disease is.

"For any of the illnesses like asthma that are related to work, there isn't one test that will identify it specifically as being related to work," she said.

Asthma In Connecticut

Connecticut, like other Northeast, urban states, has a higher-than-average rate of asthma. The disease, which constricts the airways to the lungs, can cause wheezing, shortness of breath and make COVID-19 a more serious illness than it would otherwise be. Here are statistics on asthma nationwide and in Connecticut.

25.2 million »

People affected nationwide by asthma, 4.2 million children and 21 million adults

299,000 »

People in Connecticut who had asthma in 2020

7.80% »

Percentage of the U.S. population affected by asthma

10.20% »

Percentage of Connecticut population affected by asthma (tied with other states for top 12 nationwide)

» 71,900: Number of children with asthma.

» 298,000: Number of adults with asthma.

» 6.4: Number per 10,000 people hospitalized for asthma.

» 54.2: Number per 10,000 who visited emergency departments for asthma.

» \$105.6 million: Total acute care charges for asthma as a primary diagnosis

» \$55.3 million: Amount charged for hospitalizations.

» \$50.3 million: Amount charged for emergency department visits.

» \$74 million (73%): Amount charged to Medicaid or Medicare

Sources: State Department of Public Health Asthma Program, Centers for Disease Control and Prevention

Old or poorly maintained homes also can be a source of mold and other irritants that can cause or exacerbate asthma.

"The Church Street South housing project near the train station in New Haven that was condemned because of the conditions ... a big driver of that was so many people living there had asthma," Redlich said. It affected as many as 40% of residents.

'Biological Soup'

Paula Schenck is an environmental specialist and assistant director of UConn Health's Center for Indoor Environments and Health. She advises physicians about the effects of indoor conditions, and years ago worked with the Hartford Public Schools on how to keep students, teachers and staff safe from threats such as mold and dust.

"By addressing indoor environments, we certainly saw a significant decrease in kids coming to the nurse's office," Schenck said. "Kids come to the nurse's office to get their asthma meds in elementary school all the time. So that's a matter of control, which is very important.

"But what we saw was a real reduction when the indoor environment was addressed with respect to moisture ... and other kinds of things that lead to asthma exacerbations and to developing asthma."

She calls indoor air, with its mold-promoting moisture, dust mites, paint flecks and other particulates a "biological soup."

“Chronic leaks or humidity that isn’t controlled, and then having an environment where the ventilation is inadequate, it’s a perfect storm for an environment that creates all kinds of biological growth that then can become sensitizers for asthma and for other respiratory illness,” Schenck said.

She said water is often a problem when there are leaks, but also in many 1980s and 1990s office buildings that were built with indoor gutters to avoid them showing on the outside.

“And what’s happened is those interior gutters, whether they’ve ruptured or whether there’s been a roof leak that then has forced the water through the gutters, you’ve kept moisture inside,” she said.

In homes, she’ll look at how water is draining off the roof, and whether it’s going into the basement.

Improving the environment should be considered a treatment for asthma because it reduces the need for medications, Schenck said. “In the early 2000s, all the great controller meds came out, where people take their puffer every morning,” she said, as opposed to inhalers used when someone has an asthma attack.

“And then they did a study, an [epidemiological] study, looking at what happens with time, and they found that there was a difference in height. It did affect the children,” Schenck said.

If there was a focus on the indoor environment “early on, they wouldn’t have needed as much medication. So it’s a part of treatment,” she said.

Some help is coming from the state, as Gov. Ned Lamont announced Sept. 14 that \$150 million in grants would be given to schools to upgrade heating, ventilation and air-conditioning systems, in addition to \$165 million schools have committed from money they received from a federal school emergency relief fund.

While the money is focused on preventing COVID-19, it will help with asthma, too.

Reducing Risk

Another issue is chemicals, especially in a factory that uses isocyanates, used in manufacturing foams, fibers, paints and varnishes, as well as in the auto industry and building insulation, according to the National Institute for Occupational Safety and Health.

Schenck said isocyanates are “a causative agent for asthma.” Proper ventilation and maintenance are vital, she said.

Schenck works with doctors whose patients are showing asthmatic symptoms, talks about what may be causing them, “and then I work with the employer to say, what can we do to reduce the risk,” she said. “So hopefully that person will be able to stay at work before they get asthma chronically. We want to see our patients before it’s a chronic process.”

An example is blown insulation in a house. While the person working with the insulation may wear the proper suit to avoid breathing in the fumes, “there’s a carpenter 20 feet from that person who has no protection, working on that same construction site,” she said. This can put the carpenter at risk of asthma, Schenck said.

Schenck said there has been improvement in environments but said, increasingly, “there is a tension between energy management and environment for health.” An example might be that ventilation is turned off at night, causing humidity to rise too high. “And so, we do see continuing patients from office buildings and schools because energy conservation has won out,” she said.

Another factor that can increase asthma is higher temperatures as the result of climate change. A 2020 report from the Yale Center on Climate Change and Health reported that a later winter and earlier spring can increase the amount of ragweed pollen, which exacerbates asthma, as can more ground-level ozone and wildfire smoke.

Tim Morse, professor emeritus in occupational and environmental health at UConn Health, puts together an annual Labor Day report for the state Workers’ Compensation Commission. It includes worker’s compensation claims and physician reports of occupational illness to the state health department.

“Occupational illnesses has always been known to be greatly underreported, so what this report tries to do is pull together what we do know about it,” Morse said.

The 2022 report, including data from 2020, does not list asthma as a major claim in workers’ comp, partly because it’s focused on COVID-19, but claims did rise for asthma and bronchitis from 28 in 2019 to 31 in 2020.

Physician reports, which include reactive airways dysfunction syndrome, dropped from 20 to 12.

While the numbers are not large — and underreported — Morse said the drop in reports could have to do with the pandemic.

“A lot of things were affected by COVID in 2020, and so there are a lot of people working remotely,” he said. “If you’re not going into the office, then you’re not getting exposed to that indoor air quality problem or mold or so on. ... You could at least hypothesize that COVID had an impact on occupational asthma.”

Repeated exposure to chemicals and mold can lead to asthma, Morse said. “There’s a sensitization reaction, where if you are exposed to a relatively large amount of something, then you could get an asthma reaction. And then once you’ve had that reaction, then you get more sensitive to it, kind of like with poison ivy,” he said.

Both in the home and workplace, bleach or a substitute, known as quaternary ammonium compounds, can also bring on an asthmatic reaction, Morse said, which can be avoided by using microfiber mops, which don’t require disinfectants but pick up particles using just water.” ●

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2022 POWER 25 HEALTH CARE: DR. BRUCE LIANG

By Greg Bordonaro

This is Hartford Business Journal's third annual Power 25 Health Care list, which identifies leaders who have had a significant impact on the industry and public health.

This isn’t an awards section. HBJ’s Power 25 Health Care class was chosen by HBJ’s news team. To make the list, individuals must not only be in a position of power, they need to wield it in such a way to have an outside impact on the community. The rankings include a mix of

established players as well as some fresh faces to our region.

Dr. Bruce Liang

Dr. Bruce Liang has been dean of the UConn School of Medicine since 2015. During his tenure, the medical school has seen extensive growth, having received record-breaking research grant funding of over \$100 million year after year.

His success in that role landed him a promotion: In February, he was named interim CEO of UConn Health, the parent of John Dempsey Hospital in Farmington. It’s a challenging job overseeing an academic hospital that often operates in the red and is in need of extra state funding to balance its books.

Liang has been associated with UConn Health since 2002, when he first joined as a physician-scientist faculty member.

Liang oversaw the school’s implementation of a new team-based and patient-centered four-year curriculum that aims to better prepare future physicians for the constant changes in health care.

During Liang’s tenure, UConn was also the first medical school in the nation to eliminate lectures, while continuing to offer early, hands-on clinical care exposure at the start of medical school along with the integration of basic sciences education.

Also, under Liang’s leadership, the medical school has helped train more than 100 postdoctoral fellows and 100 Ph.D. students. It also has one of the nation’s largest Master of Public Health programs, graduating more than 1,000 students with MPH degrees.

UConn Health has about a \$1.6 billion budget, including \$418.9 million in state funding.

Prior to joining UConn Health two decades ago, Liang was an associate professor of medicine and pharmacology at the University of Pennsylvania School of Medicine for 13 years.

Liang received his bachelor’s degree from Harvard University in biochemistry and molecular biology and his medical degree from Harvard Medical College. ●

UCONN HEALTH JOINS NAACP IN CAMPAIGN TO EMPLOY FORMERLY INCARCERATED IN HARTFORD AREA

By Ed Stannard

Those who have been released from prison or have an arrest record need training even for entry-level jobs, and then to know where the jobs are.

It's the best way to keep people from breaking the law and going back to jail, said Scot X. Esdaile, president of the state chapter of the NAACP.

The Million Jobs Campaign aims to provide that training and has teamed up with UConn Health to open the door to entry-level jobs at the public hospital and research center. It has committed to a goal of hiring people who have had contact with the criminal justice system to fill 5% of its entry-level jobs over the next three years.

"Martin Luther King and Malcolm X both agreed that the greatest social program that you could ever create in the community is a job program of creating meaningful opportunities, meaning economic opportunities, for individuals to stay away from criminal activity," he said.

"If you wanted to be a fireman or be a police officer or be a correctional officer and you have a blemish on your record or you have been arrested — sometimes you don't even have to go to jail or be convicted," Esdaile said. "You've just been arrested. If it shows up on your record, it can affect you from being hired for jobs."

That number totals 13,000 to 14,000 people in Greater Hartford alone, Esdaile said. And Hartford has the most people incarcerated of any Connecticut city, at 1,065 per 100,000 population, according to the state Office of Police and Management, so that means a high number of formerly incarcerated people as well.

A 16-year-old who is arrested can have that on his record for the rest of his life, Esdaile said. And while

employers can hire ex-convicts, it doesn't help if they don't have the skills to do the job.

This is where the Million Jobs Campaign comes in, working with the Capital Workforce Partners, which will provide the training. UConn Health is the third of four Hartford-area medical centers to join the campaign, Hartford Hospital and Connecticut Children's Medical Center have also signed on.

St. Francis Hospital will be the next to join, Esdaile said. The campaign began with Yale New Haven Hospital in New Haven. He estimated 1,000 to 1,500 jobs at the four Hartford Hospitals. The NAACP has an ultimate goal of 10,000 jobs across the state and 1 million jobs nationwide.

"Once they finish the training, then they come back to the NAACP," Esdaile said. "And then we set up the interview with the four hospitals. And then the person will take the best offer. So we have a pool of individuals after they finished training that the human resources department from all four hospitals will start setting up interviews for them."

The campaign will begin ramping up with public service announcements and radio and TV advertising next week, Esdaile said, after the grand opening Oct. 18 of the campaign's offices in the Gold Building, 755 Main St., Hartford.

Corrie Betts, outreach coordinator for the NAACP, who has been incarcerated himself, said his role "is making sure that I connect the dots, making sure that we give them the services that are available, but once those services that I'm able to connect them to that there's employment connected to those services."

He'll work with UConn Health and other partners "making sure that these employers are seeing these people as being individuals who have definitely put in the work to change in their lives and giving them opportunity," he said.

Besides job skills, creating a good resume, preparing for interviews are also vital, Betts said. "Setting the person up to go in front of an employer and they're able to tell their story and tell it effectively and honestly, it creates that opportunity," he said.

Employers, like the hospitals, need to be open to hiring those who have served their time, Betts said. "I don't think it should hold them from being able to be

employable, being able to be productive members of society. And if we don't correct that, and we continue to create barriers for them, we just create a recidivism. Where does it stop?"

Lakeesha Brown, vice president of human resources at UConn Health, said the program will help the medical center in hiring people for what is a larger number of openings since the COVID-19 pandemic and the "great resignation."

"This particular initiative is good for not just the hospital and UConn Health as a whole ... but it certainly is good for the state," she said. With post-incarceration recidivism rates running at 27%, "that has a direct effect on re-offense. People come out of jail, they want to do something with their lives for the most part, and then they can't get a job. And so it sort of perpetuates that cycle of crime."

"As a citizen, I'd much rather participate in advocacy for and support for post-incarceration, job readiness and training programs so that people can get a job," Brown said.

"This isn't a handout," she said. "This isn't a pipeline of just NAACP program graduates into positions. They still have to come in and compete."

Dr. Bruce Liang, interim CEO of UConn Health, said "there are many benefits to this collaboration. It will help give a fair second chance and strengthen equity and the economic status of formerly incarcerated individuals.

Additionally, hiring a formerly incarcerated [person] has the potential to provide an added benefit of millions of dollars in economic impact for the state." ●

HOW TO 'SKIN CYCLE' IN FOUR EASY STEPS

A popular TikTok skin-care routine advocates giving your face a regular break from too many treatments.

By Teddy Amenabar

Is it time to give your face a break?

Proponents of a popular skin-care routine dubbed "skin cycling" think it is. Skin cycling has gained popularity on TikTok for its less-is-more approach to skin care.

At its most basic, skin cycling is a four-night skin-care routine that includes two nights of treatments followed by two nights of recovery.

Here's how it works.

- Night #1: Cleanse, exfoliate, moisturize.
- Night #2: Cleanse, apply a treatment called a retinoid, moisturize.
- Night #3 and 4: Give your skin a break. These are recovery nights, so just cleanse and moisturize.
- Now repeat.

The term "skin cycling" was first coined by Whitney Bowe, a New York-based dermatologist with more than 985,200 followers on TikTok. It's been more than a year since Bowe first started posting videos of the routine on TikTok, which has since caught on in the United States and abroad. Videos with the hashtag #skincycling have been viewed a collective 110.6 million times on TikTok.

While there is no published research yet on whether skin cycling really works, dermatologists say the concept is based on a number of sound principles. The regimen encourages people to cleanse and moisturize their face every night and space out harsher treatments that can irritate the skin.

Cecelia Jinks, a 23-year-old music teacher who lives in Lancaster, Pa., said her skin was never bad enough to see a dermatologist, but she started skin cycling

because she's getting married in October and wants to have healthy skin for the ceremony.

She said she has tried other skin-care trends she saw on social media, including a peeling solution and a micro-needling roller that gave her a rash. And Jinks recently posted a six-week "before and after" video with the caption: "I'm so happy I found skin cycling."

Beauty Experts Are Fed Up With Celebrities Cashing In On Skin Care

The skin-cycling craze comes at a time when high-end skin-care brands offer complicated nightly regimens. All nine products in Kim Kardashian's SKKN line cost a total of \$673. The cleanser, which is a little over four ounces, costs \$43. While most skin-care routines haven't been studied in controlled trials to determine their effectiveness, consumers have spent an estimated \$6.8 billion in the past 12 months on a quest for clearer, more youthful skin, according to the market research company NPD Group.

Fans of skin cycling appreciate the simplicity.

"You just really need a cleanser, a moisturizer and sunscreen to use during the day," said Paris Terrell, 27, an elementary school therapist who posts her own skin-care videos on TikTok. "If you're looking to start your skin-care journey, I always say: Just start with the basics."

Bowe said she is planning a study to test and measure the results of skin cycling. She said she started developing her skin-cycling routine a couple of years ago when she noticed people were taking a "kitchen-sink approach to their skin care." Her patients were layering ingredients that weren't "designed to work well together" or buying products with the highest percentage of certain ingredients, opting for a "more is better" approach.

"Unfortunately, it was ending up with a lot of irritation, rather than driving results," Bowe said. "People were mixing, matching and layering all these skin-care products."

While Bowe, like many dermatologists, sells her own skin-care products, including a \$95 moisturizer, skin cycling doesn't require a particular brand. Consumers can choose high-end skin-care brands or cheaper

drugstore varieties. And skin cycling encourages people to use less of their products to see results.

"The concept of skin cycling pretty much goes against any marketer's instinct," Bowe said.

Tatyana Lafata, a 26-year-old skin-care influencer based in Boston who has been posting her own skin-cycling tutorials on TikTok, said many people have a variety of products but don't know how to best use them together.

"People like structure," Lafata said. "Especially if you're new to skin care. It gives you a routine for you to get the results."

Is Exfoliation Even Necessary?

Bowe's skin-cycling routine starts with chemical exfoliation, which is a chemical wash using hydroxy acids or fruit enzymes that dissolves a layer of dead skin cells from your face. Studies show glycolic acid, one chemical exfoliant, is effective at both treating acne and minimizing discoloration or scarring caused by acne. Bowe said exfoliants help your skin achieve that "beautiful, healthy glow" by removing the dead skin cells that absorb and scatter the light hitting your face, causing you to have a duller complexion.

Exfoliating isn't necessary. But if you do it, follow the tips from these dermatologists.

But some dermatologists say exfoliation isn't necessary because your skin already naturally sloughs off and exfoliates over time. Over-exfoliation can damage the skin, causing irritation, dryness and even more acne, she said.

Bowe said exfoliants are a "classic example" of a product people tend to overuse. The fine-print instructions on some skin-care products direct consumers to "use it twice a day or use it every single night," but that often isn't good for the skin, Bowe said. She recommends people use a chemical exfoliant rather than "a gritty scrub" or brush, which can be harsher on your skin.

What Are Retinoids?

Retinoids are compounds derived from vitamin A that stimulate the skin's turnover and collagen production, said Hao Feng, a dermatologist and professor at the

University of Connecticut. A prescription-strength version is used for treating severe skin conditions, such as psoriasis. Tretinoin is the generic name for Retin-A, a prescription drug commonly used to treat acne and scarring. Lower concentrations that are less irritating to skin can be found in over-the-counter skin-care products.

A prescription retinoid costs around \$20 to \$30 for a 20-gram tube, and Feng said it should last a good while if you are only using a pea-size amount for the entire face. Although insurance will cover most acne treatments, companies typically don't cover topical retinoid use if it is "purely for cosmetic purposes," Feng said.

Retinoids remain the gold standard for fighting acne and wrinkles. Here's what you should know.

You should not use a retinoid-based product if you're pregnant or planning to become pregnant. And retinoids, especially the stronger products that require a prescription, can cause your skin to dry out, peel and burn.

Some dermatologists recommend starting with a mild over-the-counter retinol and building from there.

"It may be less effective, but it's usually better tolerated," said Suchismita Paul, who is based in Santa Ana, Calif., and shares her skin-care advice on TikTok. "For most people, with sensitive skin or skin of color, I always recommend anything less than 0.3 percent and then slowly increase the strength."

The key to any skin-care routine is consistency, dermatologists say. Whether your skin-care regime is on a four-, five- or seven-day cycle, dermatologists stress you want to form a habit of washing and moisturizing your face at the start and end of the day, and using a good sunscreen before you walk out the door in the morning.

"There are lots of different ways to skin cycle, and it's not one method that's the end-all-be-all," said Jenny Liu, a dermatologist at the University of Minnesota. "It's just finding one that works well for you."

You won't see immediate results. It's going to take at least two months to see "the true benefits" from a retinoid, said Ivy Lee, a Los Angeles-based dermatologist.

"Any time you build a structure to promote habit formation, that's fantastic," Lee said. "You can always ramp up from there, depending on your skin needs." ●

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UCONN HEALTH IS TRYING TO SAVE LIVES WITH STROKE RESEARCH. AN 'ENTIRELY DIFFERENT APPROACH' MIGHT BE THE ANSWER.

By Ed Stannard

Researchers from UConn Health are investigating a new way to treat stroke that focuses on reducing inflammation caused by the attack and limiting the damage to the brain.

"For 20-plus years now, there has not been any new medical therapy to treat patients with stroke," said Dr. Bruce Liang, a cardiovascular clinical scientist and one of two UConn authors of a new study in the *Journal of Medicinal Chemistry*.

"What we have uncovered is an entirely different approach to develop a new medicine to treat stroke, which has this huge unmet medical need because there's been no new medicine for so long, and patients with stroke still suffer," Liang said. "And it's the leading cause of disability in the country."

According to the American Stroke Association, stroke is the fifth-leading cause of death in the United States and a leading cause of disability.

The traditional method is to dissolve the clot that has blocked blood flow to the brain or to repair a ruptured artery. "Our medical approach is to treat the inflammation associated with the stroke," Liang said.

STANDING UP STRAIGHT MIGHT NOT BE AS BENEFICIAL AS WE THOUGHT

We're told to stand up straight from a young age, but experts say there's more to spinal health than good posture.

By Jillian Wilson

From a young age we're told to stand up straight. Many people probably even have memories of walking around the house with a book on their head to help improve their posture (I know I do).

But why is it even important to do this? What exactly does "good posture" mean for you health-wise anyway?

It may be a little aesthetic — we're taught that models with perfect posture are what we should aim to resemble — and it has some science-backed perks.

But, based on the years of posture reminders and even at-school posture checks, there are probably fewer benefits than you thought.

Here, experts weigh in on posture and whether having good posture is truly beneficial for your health or total B.S.

First, What Is Good Posture?

According to Dr. Scott Mallozzi, a spine surgeon at UConn Health, having your head centered above your pelvis and your feet is considered proper posture. Your neck and head shouldn't be slouching forward or backward — instead, you should be up straight with your head, pelvis and feet in alignment.

That said, one posture does not fit all, added Dr. Mark Queralt, medical director at the Musculoskeletal Institute at the University of Texas at Austin. Due to conditions like arthritis of the spine, slumping over feels better for some people — particularly for older individuals.

"So after the patient develops a stroke there is a huge amount of inflammation in the brain, which causes damage," he said. "So if we could block that inflammation with this new medicine, we could decrease the size of the stroke. And we know if you decrease the size of the stroke, patients will do better."

Besides stopping inflammation, "you also help resolve it, so that the brain has a better chance of recovering," Liang said.

"What happens is, during the stroke, a lot of cell death occurs immediately," said Dr. Rajkumar Verma, a neuroscientist at UConn Health. Those cells release a molecule known as ATP, for adenosine triphosphate.

When the cell dies, "it just spills over everything that it has inside," Verma said. And the released ATP binds to neighboring cells' energy receptors, called P2X4, he said, leading to an influx of the calcium ions that damage the brain cells.

The result is the spread of inflammation in the neighboring cells, "so this is like a cascade of events," he said.

P2X4 is what the new compound targets.

"When ATP is too much, it leads to too much influx of the calcium," Verma said. "A normal amount of calcium is required for normal activity of the cells. But if it is too much, it will activate the cellular system, which activates several enzymes." One of those enzymes leads to release of cytokines, which cause the inflammation.

"So this compound ... blocks these receptors, so that ATP doesn't work on it," Verma said. "The extra ATP, which is released from the dying cell, will not be able to activate the neighboring cells," stopping the spread of the damage to those cells, he said.

The drug being studied is "a new chemical entity," Liang said. "It's small [molecules] so we can get to the brain of the stroke subjects and block the inflammation and help resolve the inflammation."

So far, the molecule, known as MRS4719, has been tested in animals. The next step is a safety study in animals, Liang said.

"This is at the early stage; a lot more work is needed," he said. "But because it's different and novel, we think right now it's piqued the interest of the scientific community." ●

“To have that person sit straight and arch their back all day long would be painful,” Queralt said. So, what is good posture for one person may not be possible for another.

Plus, when it comes to our bodies, age-related change is part of life, Queralt explained. It’s natural for your spine to evolve and require different postures throughout your life.

“What would you think your spine is going to look like at 60? Would you expect it to look like you’re 30 or would you expect changes?” Queralt asked. Good posture for you may shift, and that’s totally normal.

Is Standing Up Straight Good For Our Health?

The answer to this differs.

Dr. Amit Jain, minimally-invasive spine surgery chief in the department of orthopaedic surgery at Johns Hopkins Medicine, noted that “good posture results in reduced wear and tear of the spine.” According to the National Institutes of Health, slouching can cause your spine to become more fragile and make it more prone to injury.

While good posture doesn’t necessarily mean you won’t develop back issues one day, having good spinal strength could help you better manage if you do have to deal with these conditions in the future, Mallozzi added. Your muscles will have to work harder if your posture results in an uneven distribution of weight or an unfair strain on your body.

For example, people who droop their necks to look at their phones or other handheld devices often suffer from “text neck,” which creates additional strain on the body.

Ciara Cappo, a chiropractor in California, told Healthline that “the human head weighs 10 pounds. For every inch your head is tilted forward, the weight your neck has to carry doubles.” So, that hunched over texting posture is certainly not doing your neck muscles any favors.

But standing up straight may not fix any health problems, either. It also won’t necessarily save you from any existing back issues.

“There is very little, if any, evidence to support posture and either reduction in current pain or prevention of future pain.”

In fact, Queralt pointed to a study that notes that “the practice of generic public health messages to sit up straight to prevent neck pain needs rethinking,” and found that slumped posture in teenagers resulted in less neck pain in young adulthood.

So, Should I Not Care About ‘Good Posture’?

Instead of constantly reminding yourself to stand up straight, you may want to focus on strengthening specific muscle groups. By working out, you’re allowing these muscles to better support your spine and help your body comfortably stand up straight without forcing it or making you feel uncomfortable.

“There are two muscle groups that work well to help you with posture,” Mallozzi said. The first group is your paraspinal muscles, which are the muscles that surround your spine from your neck to your lower back. If you have a strong group of muscles around your spine, your discs and joints will have to do less work because they’re better supported, he said. The other muscle group that’s important to work is your core, which will further help support your back.

You can work out these muscle groups by doing yoga, pilates or general strength exercises like planks, crunches, bridges and shoulder-blade squeezes.

These exercises “really do help people achieve this musculature that is supportive of good posture,” Mallozzi said.

He added that some factors that impact posture can’t be corrected with exercise. Issues like arthritis or stiffness of the hips won’t just go away, but if you start prioritizing strength exercise early in life, you’ll be more set up for success. “The more you have [of] that good base to start, the more you’ll be able to compensate if you do develop other issues,” Mallozzi said.

Plus, by strengthening your spine, you’re reaping the benefits of exercise, of which there are many. “We know exercise is good for cardiovascular health — it’s good for osteoporosis prevention, and people who exercise tend to have better mental health scores,” Queralt said.

All in all, having good posture isn't going to be a cure-all, and the pressure you feel to stand up straight is likely unwarranted.

Instead of focusing so much on standing up straight or sitting up straight, it's more important to incorporate different movements into your day.

"We think the fluidity of not being in the same static movement — sitting all day or standing all day" is important, Queralt said. It doesn't really matter if you sit up straight in these positions or slump in these positions, just being in one static position for eight hours a day is not ideal, he added. For example, you'll get tight from sitting all day in front of your laptop, and you'll likely be hunched forward with your neck poking forward while doing so.

Jain recommended taking scheduled breaks from sitting at work or adding a standing desk to your at-home work setup. Ultimately, while sitting or standing up straight may feel right for you, it doesn't feel right for everyone — and that's OK. Good posture has debated benefits, including pain reduction and less strain on surrounding muscles, the pressure people get from family members about their posture is probably a little exaggerated.

Hunching over in high school doesn't mean you'll have a hunched back for the rest of your life, but prioritizing good muscle strength through fitness and movement can help relieve some of the pressure that's put on our spine every day. ●

WHY OLDER ADULTS NEED SPECIAL FLU SHOTS

If you're 65 or older, ask for Fluzone High-Dose, Fluad, or Flublok when you get vaccinated this year.

By Catherine Roberts

For many years, people who are 65 or older have had the option to get a flu shot that's specially formulated for them.

But the Centers for Disease Control and Prevention declined to recommend that older adults get these shots instead of the standard flu shot options. This flu season, that has changed.

The CDC is now recommending that people 65 or older try to seek out one of these specially formulated vaccines.

"That's a very exciting change," says Jenna Bartley, PhD, an assistant professor in the department of immunology who's with the Center on Aging at UConn Health. "What we've seen in multiple research studies now is that both the high-dose and the adjuvanted flu vaccine have superior antibody induction in older adults and result in overall better protection from flu."

The change reflects an extensive review of the evidence on how well the different kinds of flu vaccines work for older people, according to Alicia Fry, MD, chief of the CDC's Epidemiology and Prevention Branch. The picture that emerged from this review made clear what scientists had long suspected: Some vaccines provide better protection against the flu than others for older adults, and for the best protection during the flu season, older people should seek them out.

The season has already begun, so if you haven't gotten your flu vaccine yet, the time is now. And if you're 65 or older, you should try to find one of these three shots: Fluzone High-Dose, Fluad, or Flublok. Here's why.

What's Different About These Flu Vaccines?

One thing to note: These vaccines have the word “quadrivalent” in their name. That means they provide protection against four different strains of influenza. A few years ago, “trivalent” vaccines, which protect against three strains of flu, were more common. But today, all the flu shots available are quadrivalent types.

Fluzone High-Dose Quadrivalent: Fluzone High-Dose has been available in the U.S. since 2010. This vaccine contains four times the amount of flu antigen—or the molecule that provokes the immune system to create antibodies against the flu—as the standard flu shot.

According to the CDC, of the three vaccines recommended for older adults, this vaccine has the most evidence supporting its superior efficacy over the regular shot. For example, a 2014 study in *The New England Journal of Medicine* found that this high-dose flu shot was 24 percent more effective at preventing the flu in people 65 and older than the standard vaccine.

Fluad Quadrivalent: It has been available in the U.S. since 2015 (and it's been used widely in Europe since the late 1990s). This vaccine contains the same amount of flu antigen as the standard shot but also contains something called an adjuvant. That's a substance that's added to a vaccine in order to provoke a stronger response from the immune system.

A 2020 study in the journal *Vaccines* found that during the 2017-2018 flu season in the U.S., Fluad provided better protection than the standard shot against flu-related visits to a doctor and against flu- and pneumonia-related hospitalizations. Other evidence from Europe, where this vaccine has been in use for a longer period of time, shows that it consistently outperforms the standard shot in older people.

Flublok Quadrivalent: Flublok was first licensed for use in the U.S. in 2013. Unlike Fluzone and Fluad, it's also approved for use in younger adults and is recommended for older people. This shot is what's known as a recombinant vaccine, which means it's made using a different technological process than most other flu shots.

Flublok is similar to Fluzone High-Dose in that it contains more flu antigen, although Flublok contains only three times (rather than four times) the amount of

flu antigen as the standard vaccine. But don't think that means it's less effective than the other high-dose vaccine. A 2017 study in *The New England Journal of Medicine* found that it reduced the chances of catching a flu-like illness by 30 percent among people 50 and older compared with the standard vaccine.

Which Flu Shot Is The Best?

There isn't enough evidence yet to indicate whether one of these three vaccines provides superior protection over the other for older people.

A CDC advisory committee reviewed all the research it could find comparing these vaccines. It found only one study that suggested the recombinant shot (Flublok) might have a slight edge in effectiveness over the high-dose and adjuvanted vaccines, though that study covered only a single flu season. The agency considered this low-quality evidence, in part due to the possibility of bias in the results.

As for side effects from these shots, they are generally mild and include symptoms like arm pain, head or muscle aches, and malaise. Research has found that these side effects tend to occur more frequently among people who receive the Fluzone High-Dose and Fluad shots than people who get standard flu vaccines. However, as with other flu vaccines, these side effects usually aren't severe. For people who receive the Flublok shot, side effects seem to appear about as often as they do with standard vaccines.

Still, overall, the CDC says there's no reason to seek out one of these three vaccines over the other two, and your provider may offer just one of them.

Why You Need A Special Vaccine Later In Life

As with COVID-19, those who are most at risk for getting seriously sick with the flu are older people. “They have more hospitalizations than any other age groups; they have more deaths than any other age groups. So it's very important that we do everything possible to protect this very vulnerable group,” says Fry at the CDC.

One factor: Your immune system weakens with age. To mount an immune response to a vaccine, many different types of cells in your body work in an

orchestrated way to create protection against a disease. “As you get older, that communication between cells doesn’t work as well. We have this general dysregulation of the immune system,” says Bartley from the Center on Aging at UConn Health. That means older people may not develop as much protection against flu with the standard shot as a younger person would. The high-dose and adjuvanted shots are meant to compensate for that less robust immune response and provoke a higher level of protection in older people.

Fluzone High Dose and Fluvad are available only for people 65 and older. If you’re younger than 65, you generally don’t need the extra boost to your immune system. For people who aren’t immunocompromised, your system will probably produce a good immune response from the standard shot, and getting one of the others might only invite additional side effects for little extra benefit, Bartley says.

A few preliminary studies have suggested that the Fluzone High-Dose vaccine may also provide a better immune response in certain groups of immunocompromised people, including those who have received or donated organs or stem cells, and people with HIV.

Those studies only looked at the immune response as measured in participants’ blood, however, rather than at how effective Fluzone was at preventing actual cases of the flu, and more research is needed on the high-dose vaccine’s effectiveness in these people. If you’re immunocompromised, you may want to ask your doctor about the best flu vaccine strategy for you.

Flublok, also a higher-dose vaccine, is approved for all adults 18 and up. So while it’s an option for younger adults, it’s only preferentially recommended for people 65 and older. Some researchers have hypothesized that this shot might provide better protection for younger adults, too, but existing evidence doesn’t show that yet. That’s why the CDC’s Advisory Committee on Immunization Practices (ACIP) only preferentially recommended it for older people, Fry says. So far we only have data that it provides superior protection in that age group.

Where Do You Find These Shots?

Check to see if the doctor’s office or pharmacy where you usually get your annual flu vaccine carries them. If

they don’t have one of these three, it’s worth trying some other places. You can search for one at [vaccines.gov/find-vaccines](https://www.vaccines.gov/find-vaccines) (enter your ZIP code and check the box for “Flu Shot (65+, high-dose or adjuvanted).”

If you can’t find a place to get one of these three shots, don’t go without a flu shot this season altogether. The standard vaccine is still much better than nothing.

And how far you go to get a special shot may depend on just how high your risk is of complications from the flu. Bartley notes that the extra boost to the immune system from one of these high-dose or adjuvanted vaccines is more important the more vulnerable you are to the flu. “If you’re an older adult who is frail or has COPD or other lung issues that would put you at high risk,” she says, “then I would drive that hour to get the better vaccine.” ●

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HOW TO TALK TO YOUR KIDS ABOUT YOUR MS DIAGNOSIS

Tips for having the conversation in an honest—and reassuring—way.

By Korin Miller and Medically reviewed by Ryan Howes, PhD

Being diagnosed with a health condition like multiple sclerosis (MS) is a lot to take in. If you have kids, it’s understandable to wonder how you’ll talk to them about living with a chronic illness and what it means for your future as a family.

MS is a neurological disease that can cause a range of symptoms, including overwhelming fatigue, muscle spasticity, slurred speech, vision problems, pain, muscle weakness, and difficulty walking, among many others, according to the Mayo Clinic. Those are things your child will very likely notice, now and in the future. MS

can also be an unpredictable disease and communicating that to kids is tricky.

Still, experts stress that this is an important discussion to have with your younger loved ones. Once you've had time to process your diagnosis and are ready to share it with your kids, consider following the tips below to help you navigate the conversation.

Don't wait too long to talk to them about it.

Odds are high that you'll be having conversations about your diagnosis in the vicinity of your kids, whether you're talking to a partner, parent, friend, or doctor. It's a good idea to talk to your child sooner rather than later "so kids don't overhear conversations and find things out before you have a chance to tell them," Melissa Santos, PhD, associate professor of pediatrics at the University of Connecticut School of Medicine and division chief of pediatric psychology at Connecticut Children's, tells SELF.

How To Use Vision, Hearing, Taste & More To Recognize Epilepsy

Even if you feel confident that you can keep your child in the dark, it's really best to be open about your diagnosis, Brenda Banwell, MD, chief of child neurology and codirector of the Neuroscience Center at The Children's Hospital of Philadelphia, tells SELF. "Children know when parents are worried," she says. "When parents try to hide that from their kids, children worry more—even those as young as five or six notice."

Try to communicate on their level.

It can be tough even for adults to wrap their minds around chronic illness—so imagine how difficult it can be for kids. Sure, you know how to talk to your child about a lot of things, but this is likely uncharted territory for you. So it's important to meet them where they're at. "When talking to your child, it's important to not only take into account their age, but also their maturity level and how they have done in the past if you have had to share important information with them," Dr. Santos says.

For example, if you have younger children, she suggests using books to help talk about the diagnosis. For example: *Ani's Light*, which tells the story of a child whose mother has a serious illness, can help, Dr. Santos says. Dr. Banwell also recommends a book called

Benjamin: My Mum Is Special, which can be downloaded. One part of the book talks about how Benjamin's mom had trouble eating spaghetti because of her MS, so the entire family decided to eat left-handed to make her feel more comfortable, among many other similar scenarios.

Overall, Dr. Santos says, it's crucial to find a time when you can focus on your child to have this conversation—meaning, not when you could be distracted by a work call or when their soccer practice starts in five minutes—and to try to plan the conversation for a time when you think you'll have the energy for it.

Tell them the truth about what MS is and isn't.

"Honesty is the best policy," Dr. Banwell says, which means getting your child's biggest fear out of the way upfront: Tell them very clearly that you're not dying. After that, be honest about what this diagnosis means for you and how your health and daily functioning may change. "You can say that you might have trouble with balance and issues walking in the future," Dr. Banwell says. Or you can take a page from Benjamin and say that you might get messy while trying to eat spaghetti to try to make the experience relatable.

For teenagers and older kids, "really sit down and talk to them about what MS is and isn't," Dr. Banwell suggests. That includes having an honest conversation about what a relapse is—a flare-up of symptoms—and what you've decided to do about treatment.

If your child asks you a question, Dr. Banwell recommends that you're open with your answer, even if it's "I don't know." That may include some sensitive topics, like saying there's a chance you may need a wheelchair in the future, if they ask. "You can say, 'I'll tell you what I've been told and what I know. We'll learn together,'" Dr. Banwell says.

Don't feel like you need to tell them everything.

Many adults prefer to learn as much as they can about a disease when they or a family member are faced with it, Dr. Banwell says. In her experience, children and teenagers often do not, she says, noting that many of her teenage patients say that they don't necessarily want to know everything about their illness.

"It's important to say that this is a serious diagnosis and talk about what a relapse might be—relapses are what children will see in the coming years," Dr. Banwell says.

“But with respect to future neurodegenerative potential, it’s not necessarily the first thing you need to talk about.”

And, again, don’t feel like you need to have all the answers. “It’s okay to say you don’t know the answer to something,” Dr. Santos says. “It’s better to say ‘I don’t know’ than to answer wrong.”

Address what this might mean for them.

It’s normal to wonder if you’ll develop a health condition that a family member has. Though the risk of developing MS is higher for siblings or children of a person with the condition than it is for the general population, it’s still fairly low. “If a parent has MS, the lifetime risk of their child developing MS is less than 5%,” Dr. Banwell says. “Meaning, there is over a 95% chance they won’t be affected.” She says that sometimes it’s helpful to phrase it in this more positive way instead: “I have this condition, but there is a 95% chance you’ll live without it.”

Share your feelings about your diagnosis (if you want to).

You’re probably feeling overwhelmed with the news of your diagnosis, and it’s okay to share that with your child—especially if they’re older or mature enough to process what that means. “You can say, ‘I’m scared, I’m upset,’” Dr. Banwell says. What you don’t necessarily need to do is say, “Here’s everything that can happen to me,” she says. That can be overwhelming. “Not all kids have the emotional bandwidth to handle that,” Dr. Banwell points out.

But, “as a parent talking to a teenager, it’s good to say out loud how you’re feeling—and to say that you’re going to get help from a specialist who knows about the disease,” Dr. Banwell says.

Talk about what you may need from them.

Obviously, you don’t have all the answers here, but you probably have some indication of how you typically feel during MS flares. Dr. Banwell says this is a good time to talk to your child about what you may need help with.

Maybe it’s that you don’t have your normal energy level during flares and will need help with the laundry or entertaining younger siblings. “Kids rise to that challenge,” Dr. Banwell says. “When you give [them] an

opportunity to be helpful, they feel like they’re doing something.”

Make it clear who you do—and do not—want to know about your diagnosis.

Dr. Banwell stresses the importance of having a conversation about “whose news this is to share.” If you’re comfortable talking about your MS diagnosis with anyone, it’s fine to say that to your child. But if you know you’d rather not have the news broadcast around the neighborhood, it’s important to at least let your child know so they can try to keep your diagnosis as quiet as you’d like.

“Lots of people are private about how they manage their health, and they don’t want others talking about it,” Dr. Banwell says. If that’s you, that’s totally fine, but you’ll want to make sure to communicate that to your kids (and anyone else you choose to share with, for that matter).

Let them know you’re there to talk about this whenever they want.

Just like you thought of a bunch of questions after speaking with your doctor and absorbing the news of your diagnosis, your child will probably have a similar experience. “This won’t be a one-time conversation,” Dr. Santos says. “Let them know you will keep talking to them and that they can come to you at any time with questions.” That, she says, “is how you can reassure them during this time.” ●

DOCTORS PREDICT COVID

Refugees need medical care when they arrive in CT from overseas. UConn Immigrant Health has seen more than 1,000 patients and counting.

By Ed Stannard

When refugees arrive in the Hartford area, one of their first stops is UConn Immigrant Health.

That's because each refugee must have a health assessment within 30 days of arrival. UConn Immigrant Health, led by Dr. Susan Levine, has seen more than 1,000 refugees from more than 40 countries for that assessment, as well as follow-up care.

"I am somebody who has had a very longtime interest in global health and I do some regular work overseas," said Levine, director of the program she launched in 2017. The program has three parts: clinical care, education of residents and medical students and advocacy for refugees and immigrants, she said.

"The clinical care piece is providing newly arrived refugee health assessments, which is really a sort of CDC-guided specific set of screenings that has to happen for any refugee to the U.S. within 30 days of arrival," Levine said.

"Oftentimes, the resettlement agency is reaching out to me directly to say, hey, we have this family from wherever they arrived in the U.S. two weeks ago. They need an exam within a week," she said.

The guidelines call for identifying significant diseases that might threaten public health and updating vaccinations. "A lot of times people may migrate over years through a variety of camps, and they may have little or no record of what vaccines they've had before. So there's a lot of sort of catching up of that," Levine said.

However, many refugees will stay with Levine as their primary care doctor, she said, and they are given more extensive exams to find out whether they need treatment for a disease such as hepatitis B. The result is a thriving refugee community in Farmington, where UConn Health is located, Levine said.

"I'm actually boarded in tropical medicine, knowing what are the endemic diseases where they come from," she said. "And could that migration story have anything to do with ongoing health risks? So that's part of the medical care piece."

The residents at John Dempsey Hospital and students at the UConn School of Medicine are given training in treating refugees through UConn Immigrant Health.

"Medical students get exposed to refugee and immigrant health and they get to learn about how migration impacts someone's health care, how it's important to think about where you were born and where have you lived," Levine said.

There is a six-month elective at the medical school that focuses on the topic. Among the diseases students study are leishmaniasis, a parasitic skin disease found in Afghanistan, and latent tuberculosis. People from the Mideast may have thalassemia, an inherited blood disorder.

"These patients are fascinating because they can have two or three or four different infections at the same time," Levine said. "So you kind of have to know when to go looking a little bit further when you have symptoms that just are not completely explained by the data you have so far."

Many refugees have not received the human papillomavirus vaccine that prevents cervical cancer, for example. A pap smear or mammogram may be given to an elderly woman because she's never had one, even though pap smears are not given to older women in the United States.

The advocacy part of the program is for those seeking asylum, who do not have the same rights as other refugees until their asylum status is granted, Levine said.

"If an immigrant is seeking asylum, that's much harder to be successful at than getting a refugee visa," she said. "In both cases you have to prove that you have a well-founded fear of persecution on account of very specific grounds, either race, religion, ethnicity or belonging to a particular social or political group."

For refugees, that is "nailed down before someone sets foot on U.S. soil," she said, so they have federal health benefits and other rights as soon as they arrive.

AS POLICE ARREST MORE SENIORS, THOSE WITH DEMENTIA FACE DEADLY CONSEQUENCES

By Christie Thompson.

Contributing: Data reporter Weihua Li of The Marshall Project

One night in October 2021, Armando Navejas wandered away from his home in El Paso, Texas. The 70-year-old had Parkinson's disease and dementia, and his family said he could barely speak. Scared for his safety, his wife, Josephine, called 911 for help tracking him down.

By 2 a.m., Navejas was back in front of his house, shirtless and ambling around. According to a video from a neighbor's home security camera, an officer approached, shining a flashlight in Navejas' face. Navejas appeared agitated, picking up a string of wooden blocks and walking toward the cop, who retreated behind a parked car. Navejas threw the wood limply toward the officer; it landed on the windshield.

When Navejas turned away, the officer walked around the vehicle and fired a stun gun at Navejas' back. His body went rigid. He fell face-first onto the sidewalk.

Navejas arrived in the emergency room that night with multiple facial fractures and bleeding around his brain, medical records show. He never came home.

He died in a rehabilitation facility in March of unrelated natural causes, according to a death certificate. The El Paso Police Department found the use of force was "reasonable and necessary," a spokesperson said in an email. But Navejas' daughter, Debbie Navejas Aguilar, is suing two officers and the city for the "extreme physical and psychological injury" to her father.

"They acted like he had a gun," she said in an interview. "This is a 70-year-old man who is lost in his own head. I just don't understand it."

As the U.S. population ages and more people develop dementia, older people are increasingly running into problems with the police. Any use of force or arrest can

"But if somebody's seeking asylum, they don't have access to any of those things," Levine said. "They still have to prove that they have been persecuted on those same grounds, but they end up getting referred to immigration court and then ... it can take a couple of years to get your date in court and, in between, they don't have access to health care and all these other benefits."

Those seeking asylum must go to federally qualified health clinics or a hospital emergency department to receive their care, Levine said.

While students run the asylum program, act as scribes during asylum interviews and draft medical affidavits, specially trained faculty consult with immigration attorneys, which greatly improves refugees' chances of being granted asylum, Levine said. Having a doctor consulting with the attorney improves the odds from 30% to close to 90%, she said.

"We are partnered with something called Physicians for Human Rights, which is a big international organization that trained physicians on how to provide forensic evidence," Levine said. "So the attendings that work with me do a training with PHR as to the students." UConn is one of 19 medical schools in the country that has a PHR-sanctioned asylum clinic.

Nargis Safi of East Hartford came to the United States with her family on Nov. 18, 2021, with her husband, Waheedullah, who worked with the U.S. Army in Afghanistan, and their three children, ages 1, 3 and 6 (the youngest was 1 month old when they arrived).

She said she appreciates what UConn Immigrant Health has done for her family. "When we come here, the doctors help us very much. They do our vaccinations" and other exams, she said. A dentist performed an oral exam and removed two of her daughter's teeth, Safi said.

Waheedullah Safi was working in the U.S. Embassy when the Taliban arrived in Kabul. A teacher in Afghanistan, Nargis Safi works part-time at Hockanum early-childhood learning center, filling in for teachers at lunchtime. ●

be devastating for someone who is already physically and mentally fragile, like Navejas. While many cities are changing how they respond to mental health calls – including whether police should be present at all – less attention has been paid to the unique risks in cases involving people with Alzheimer’s and other brain diseases.

There’s no national count of how many people with dementia are arrested each year. But an analysis of U.S. crime data by The Marshall Project shows that the number of arrests of people over 65 grew by nearly 30% between 2000 and 2020 – at the same time that overall arrests fell by nearly 40%. The number of elder arrests is growing faster than the population is aging. Older Americans are still a small portion of overall arrests – less than 2%.

National data from the Centers for Disease Control and Prevention also estimates that from 2010 to 2020, more than 12,000 people 65 and older ended up in a hospital emergency room for injuries caused by police or private security.

Serious cases have come to light across the country, often captured on police body cameras. In Loveland, Colorado, in 2020, 73-year-old Karen Garner, who had dementia, was violently arrested for trying to steal \$14 worth of merchandise from Walmart. The officer who pinned her to the ground and broke her arm was sentenced to five years in prison. In 2021, police in Tulsa, Oklahoma, taunted a 70-year-old woman with late-onset bipolar disorder before tackling and jailing her.

In Las Cruces, New Mexico, this April, an officer shot and killed 75-year-old Amelia Baca, who had dementia, as she stood holding two large kitchen knives in the doorway of her home. Her family has since settled a \$2.75 million lawsuit with the city.

Police are often called to track down people who have gotten lost, arrest confused shoplifters, or intervene in domestic disputes. But many officers may not have adequate training on dementia.

Some older people can still pose a real threat, regardless of age or cognition. But interactions with police can also escalate simply because someone is confused or can’t follow an officer’s instructions. Dementia and Alzheimer’s can make it difficult for

people to communicate. That confusion can seem aggressive if the person is overwhelmed or afraid.

“Even handcuffing a person with dementia could be extremely traumatic,” said Eilon Caspi, a gerontologist and dementia behavior specialist at the University of Connecticut. From transport in a police cruiser to interrogation to jailing, any part of an arrest “could really be a terror,” he said.

In Largo, Florida, where more than 1 in 4 residents is 65 years or older, Joel Quattlebaum is the senior services officer for the city police department. While he mainly supports older adults who are victims of crime, he gets sent to a wide range of calls involving older residents.

“Nowadays law enforcement is used as a social resource,” Quattlebaum said as a call for a welfare check on a woman in crisis rang out from his police radio. He is certified through the National Council for Certified Dementia Practitioners and helps train new recruits. “People just need help out there now. They try and call other places, and they get voicemails or on waitlists that are years long.”

Rough Arrest Of Driver With Dementia

Best practices for dealing with dementia patients – staying calm, patient and flexible – may go against officers’ need for compliance when making an arrest, experts say.

“We know what works best is to talk slowly and calmly, ask simple questions, don’t argue with the person,” said Monica Moreno, a senior director at the Alzheimer’s Association.

Along with the U.S. Justice Department, the association has provided online training for more than 31,000 emergency responders on how to recognize and respond to people with the disease.

“The techniques are drastically different from what (officers) may be learning in their everyday training,” she said.

That disconnect can have grave consequences. This spring, deputies with the Warren County Sheriff in Front Royal, in Northern Virginia, stopped 77-year-old Ralph Ennis for erratic driving. The sheriff’s office said Ennis, who had dementia, initially refused to pull over and follow deputies’ orders. When Ennis got out of the car, bodycam footage captured by the Front Royal Police

Department (a separate agency) shows a deputy slammed Ennis' head against the truck while pinning his arms behind his back. A second deputy then tackled Ennis to the ground, hitting the older man's head on the concrete, according to bodycam footage cited in a lawsuit filed by his son. "Please let me up!" Ennis cried out, with two officers on top of him. "Let me go!"

A Front Royal police officer who watched the arrest was shaken by what he'd just seen.

Ennis was hospitalized with a massive brain bleed and died two weeks later. (A medical examiner found he died of natural causes.) The lawsuit by Ennis' son, filed in August against the two deputies, claims they used excessive force that caused his father's death. In court filings, both officers denied any wrongdoing.

Chief Deputy Jeffrey Driskill with the Warren County Sheriff's Department said in an email that he could not comment on the case because of the pending lawsuit and criminal investigation, but he confirmed one of the officers involved is no longer with the department. A Virginia prosecutor is still reviewing the case.

All officers in Virginia receive basic training in "communicating with persons with cognitive impairments," Driskill wrote. "Our agency prides itself in being proactive in dealing with the elderly."

Concerns About Tactics And Force

Navejas was living with his wife in Austin, Texas, when it became clear his mind was deteriorating, his daughter said. He started leaving ice cream in the fridge or throwing away the trash can along with the bag. His walk turned to a shuffle, and he lost weight. Bright lights and loud noises overwhelmed him. His voice thinned until it all but disappeared, leaving him with nothing but hand gestures and his distinct laugh. The couple decided to move back to El Paso, Navejas' hometown, to be closer to family.

He began leaving home, waiting until Josephine was in the bathroom to slip out the back door. Josephine, who had glaucoma and used a wheelchair, had to call 911 for help because she could not drive at night or travel without a car. His daughter said officers would find Navejas walking in a nearby apartment complex or sitting on the curb at a gas station down the street and simply bring him back.

El Paso Police say their officer was responding to "a call of an assault" the night of the tasing. Josephine Navejas told local reporters and her attorney that she called 911 over a missing person and that she alerted the dispatcher that her husband had dementia and Parkinson's. The department has refused to release the 911 call from that October night or the bodycam footage from officers on the scene, saying it would interfere with an "open case."

The officer who used a stun gun on Navejas had been with the force less than three years, records show, and had received training on crisis intervention and dealing with people who have a mental impairment.

The department launched a Crisis Intervention Team in 2019, pairing officers with a licensed clinician to respond to mental health calls. When the local Fox TV station asked why police didn't send a crisis unit to the Navejas' house that night, the department responded, "Dementia is not considered a mental health issue that CIT would respond to."

In an email to The Marshall Project, department spokesperson Sgt. Enrique Carrillo said the crisis team wasn't sent that night because the "first available unit" is sent to calls "of violence."

El Paso Police, like many departments, doesn't have a specific policy for calls involving dementia. But according to its policy on mental health calls, officers are supposed to approach people "in an unhurried, deliberate, calm, and friendly manner" and guide them to a "safe and quiet area." When deciding what level of force, if any, to use, they should consider the threat posed by the individual, the risk of injury, and the person's "age, size, (and) relative strength."

Carrillo said force was needed to control the situation after Navejas threw something toward the officer. "The officer opted for a less lethal use of force to mitigate the risk of injury to himself and to the offender assaulting him," Carrillo wrote. "The use of force in any case is never a pleasant experience for anyone involved, unfortunately at times it becomes necessary."

Police often encounter people living with dementia when other support systems have failed, especially as public budgets for aging and social services dwindle. Some walk away from home when caregivers aren't watching. And the number of people over 65 who are homeless – a group that is a frequent target of police

stops – is expected to nearly triple in the next decade. Officers may also be called into nursing homes or assisted living facilities when employees are overwhelmed or lack sufficient training. In a recent survey by the American Health Care Association, 98% of nursing home providers reported they were understaffed, which can make it harder to defuse conflicts between residents.

Records from multiple police departments show these nursing home incidents can easily escalate. In Columbus, Ohio, in 2020, police pepper-sprayed a 97-year-old man with dementia in the face and pinned him to the ground. He had failed to comply with orders to drop a pair of small scissors that officers said threatened his wife, according to a police report. The man only spoke Mandarin Chinese. In another incident in Columbus in 2018, police were called to help with an 84-year-old woman with Alzheimer's who was agitated and hitting staff and other residents; she ended up handcuffed so tightly her wrist bled, and she was put on a psychiatric hold, a police report shows.

In an email, a spokesperson for the Columbus Police Department would not comment on specific cases but said the department provides regular training on the use of force and interacting with people with dementia, autism, and other conditions.

Police are called to nursing homes “more often than we think,” said Caspi, the gerontologist. The first responder needs “to be the one who creates calm and reassures the person. Can we create a model where there is a designated social worker each time an officer goes to a nursing home, who can create the conditions for this to go well?”

Some cities are trying to do just that and questioning whether armed police are the right people to send to calls of people in mental distress. A growing number of communities have launched crisis response programs to handle nonviolent 911 calls involving mental illness or cognitive impairment. The teams, often made up of paramedics and counselors, have more time to spend on each call, are specially trained in navigating crises, and can connect people with social services for more long-term support.

Tianna Audet leads the Community Assistance and Life Liaison program in St. Petersburg, Florida, which launched last year. So far, 17% of their clients have

been 65 years or older, including two 100-year-olds, several 99-year-olds and a handful of nursing home calls. The team is dispatched to “non-criminal” calls, but is also called in as backup when officers decide the crisis team would be a better response.

“Officers go with a gun and a badge and handcuffs,” Audet said. “They just weren't trained to be social workers. We're filling the gap where they don't have the training or the time.”

For the Navejas family, life got even harder after his run-in with the police. A month after he was hospitalized, his wife fell while at home alone and broke both of her hips and a knee. She was hospitalized and died in February of liver cancer, on the opposite end of the same nursing home hallway from her husband, their daughter said. Armando died just six weeks later.

Aguilar filed a lawsuit in June, seeking monetary damages and claiming that her father's death was largely due to his injuries from being shocked with a stun gun. Aguilar said what she really wants is an apology – something a settlement likely won't give her. In their response to the lawsuit, city attorneys denied that excessive force was used.

“It's been a nightmare,” Aguilar said. “If I was there, I could have spoken for him, or been there for my mom. It just repeats in my head all the time. This did not have to happen.” ●

DOCTORS PREDICT COVID AND FLU COULD MAKE WINTER MISERABLE. ‘COVID IS STILL OUT THERE AND STILL A THREAT.’

By Ed Stannard

Early signs point to a winter with COVID-19 and flu both making life miserable for those who contract one of the viruses, but this year doesn't appear to be worse than last when it comes to COVID, doctors say.

The numbers for COVID are up since Thanksgiving, likely because of the holiday gatherings, which is similar to last year, according to Dr. Ulysses Wu, chief epidemiologist at Hartford HealthCare.

"It's going to rise. It's going to be complicated by influenza as well," Wu said. "I think the peak will probably happen sometime in January. ... We're already starting to see a rise in the percent of positivity."

The positivity rate, released weekly by the governor's office, was 9.21% as of Thursday, with 413 people in the hospital with COVID. And 15 deaths were reported in the previous week.

On Nov. 23, the day before Thanksgiving, the state had a 7.13% positivity rate, 378 hospitalized and 13 deaths the previous week.

Wu said, "I don't think we're going to have a worse year than last year" for COVID.

When it comes to flu, though, he said, "Anything's worse than last year and the year before. That's because people are not vaccinated. People are exhibiting social behavior that's not consistent with staying away from flu."

Besides those two reasons, Wu said people likely "have less influenza immunity, natural immunity, so they're more likely to get it."

He said while vaccines are most important, masking is only advised for people "indoors in a strange place."

Dr. David Banach, hospital epidemiologist at UConn Health's John Dempsey Hospital, said, while omicron subvariants BA.4 and BA.5 are circulating this year, "BQ.1 is another important one."

"It seems that it can cause infection in people that have been previously infected with older variants," he said. "It does seem to be highly transmissible, similar to the other omicron variants."

Also, monoclonal antibodies, an early treatment for COVID, are not effective against BQ.1, Banach said, "so we no longer offer those to patients who have COVID." It was mostly used for patients who could not tolerate the medication Paxlovid, he said.

He said it's possible those who have had COVID will have more protection against another case. "I think what we're seeing is that people who have reinfections probably have some element of protection and have milder infection associated with the more recent infections," he said.

But flu and respiratory syncytial virus are also circulating, "But I think, in terms of keeping COVID in the forefront, we have to also look at it in perspective with other respiratory viruses now, including the flu, that are having a very significant impact on individuals and health at large," Banach said.

While many are predicting an increase in COVID infections, Banach said, "maybe, but not necessarily to the degree that we saw last January, February. I do think that having flu and RSV increases as well could be very impactful with regard to the overall amount of respiratory illness that we're seeing in the community."

Both COVID boosters, including the bivalent vaccine that fewer people have been getting, and the flu vaccine, "which fell off many people's radar the last couple of years," are important, Banach said.

"Flu vaccine is really critical at this phase," he said. "And COVID boosters also are important, particularly for older individuals who are at higher risk for severe infections."

Dr. Richard Martinello, medical director for infection prevention at Yale New Haven Health, said it is hard to

predict how bad COVID will be this winter, but “it’s really worrisome.”

“You look at the last two winters, and of course we had these big waves that came through,” he said. “And over the last four months we have had a steady to high amount of COVID without that typical pattern of seeing a new variant come in a big wave and then the the wave ends.”

The number of patients in Yale New Haven Hospital with COVID is about the same as other years at this time, Martinello said, but there are 11 patients in intensive care of 94 total, and nine of them are on ventilators. “And that is a challenging number to continue to take care of because ... it just detracts from other needs that our patient population in our community has.”

Martinello added, “What’s important for people to know is ... COVID is still out there and still a threat.”

He recommended wearing masks and cracking open windows to increase ventilation, as well as vaccinations. “All those things help to prevent the spread of illnesses that could really wreck somebody’s holidays,” he said. ●

THE ROAD HOME PROGRAM SHORTCHANGED LOW-INCOME HOMEOWNERS IN LOUISIANA. NEW DATA PROVES IT.

From the Disaster After Disaster series: The grant formula left homeowners with lower property values with fewer resources to rebuild.

By Jeff Adelson, Richard A. Webster, David Hammer, WWL-TV, and Sophie Chou

The complaints started as soon as Louisiana launched its massive program to help homeowners rebuild after hurricanes Katrina and Rita in 2005. Community leaders said the largest rebuilding program in U.S. history would be unfair to the state’s poorest residents.

Activists and real estate experts spoke out at meetings of the Louisiana Recovery Authority, which designed and ran the Road Home program. An attorney representing poor homeowners testified before Congress. A fair housing group sued the state and federal governments.

State officials made tweaks and settled the lawsuit, but they never changed a core part of the formula that determined how much homeowners received.

Now a groundbreaking analysis of nearly 92,000 rebuilding grants statewide shows critics were right all along: Road Home shortchanged people in poor neighborhoods while giving those in wealthy neighborhoods more of what they needed.

People in the most impoverished areas in New Orleans — those with a median income of \$15,000 or less — had to cover 30% of their rebuilding costs after Road Home grants, Federal Emergency Management Agency aid and insurance. In areas where the median income was more than \$75,000, the shortfall was 20%, according to the analysis by ProPublica, The Times-Picayune | The Advocate and WWL-TV.

Poverty tracks closely with race in New Orleans, so the shortfalls in the city hurt Black people. Road Home also underpaid residents of St. Bernard Parish, a mostly White, working-class community devastated by the hurricane.

Had properties in the lowest-income parts of New Orleans been covered at the same rate as the wealthiest, each of those households would have received about \$18,000 more on average. Across the city, covering all homeowners' repair costs at the rate of the highest earners would have resulted in another \$349 million for rebuilding.

The Road Home program was hugely consequential for Louisiana, and much more so for its largest city, most of which flooded after Katrina's storm surge overwhelmed its levees. Most homeowners didn't have adequate insurance. Facing the possibility of a mass exodus, state leaders devised Road Home to cover the gap and encourage people to rebuild.

Road Home also allowed homeowners to sell their property to the state and move elsewhere, though housing was scarce in the region. If homeowners didn't stay in Louisiana, they forfeited 40% of their home's value.

New Orleans was the biggest beneficiary of rebuilding grants, and half of all owner-occupied homes in New Orleans received rebuilding grants, with \$3.3 billion awarded citywide. Some neighborhoods rebounded quickly. Others languished.

Housing advocates say that's due to the original sin of the Road Home program: It calculated each grant based on a home's value before the hurricane or on the cost of repairs — whichever was less.

The value of most homes in poor areas was lower than the cost of rebuilding them, so the resulting grants didn't cover all repairs. But for most people in affluent areas, the rebuilding cost was lower than the value of their homes. They got grants that came closer to covering their needs.

"The practical effects of how this program shaped the city can still be seen today," said Davida Finger, an attorney who testified to Congress in 2009 about unfairness in the Road Home program.

Poor New Orleanians had a much harder time covering the costs. For a homeowner in the lowest-income areas,

it would have taken more than 43 months at the average annual salary to pay the cost of repairs not covered by Road Home, FEMA and insurance, the news outlets found. In the highest-income areas, it would have taken less than eight months.

The shortcomings in the Road Home program are part of a broader tapestry of failures in the ways America helps people affected by catastrophes. A yearlong investigation by ProPublica, The Times-Picayune | The Advocate and WWL-TV has found that disaster programs often shortchange the people who need it most, worsening inequities in the wake of disaster.

Finger said the news organizations' findings were "shocking but not surprising."

"What Black homeowners, what lawyers, what advocates, what community organizers, what reporters were telling the program designers all along was completely accurate," Finger said. "They simply didn't want to hear it."

The state Office of Community Development took issue with the analysis, but none of the points it raised affected the news organizations' findings.

Two officials who were in charge of the recovery, however, told the news outlets that the findings were troubling.

Andy Kopplin, the first executive director of the Louisiana Recovery Authority, stressed that state officials took pains to steer more money to poorer homeowners through a second grant program. But Kopplin acknowledged in a written statement that the findings show that low- and middle-income households should've received more.

That's "upsetting to those of us who were working to create more equitable outcomes and especially to those families who needed and deserved more resources for their recovery," he wrote.

Walter Leger, who was a key board member of the LRA, said the findings should spur the state to seek more federal aid from Congress to fill the gaps.

De'Marcus Finnell, deputy press secretary for the U.S. Department of Housing and Urban Development, declined to address the findings directly. But in a statement he said HUD's experience after Katrina led it to favor programs that guide homeowners through

rebuilding rather than giving homeowners money “and letting them manage the recovery process on their own.”

In fact, federal rules no longer allow homeowners to be compensated for losses after a disaster, and Leger said using property values to determine aid after Katrina now appears to have been a misstep.

“The plan was to help the homeowner repair his home or her home and get back in the home,” Leger said. The news organizations’ analysis shows there were disparities, he said, and “that’s something that should have been, and maybe should be, addressed.”

One City, Two Recoveries

Before Katrina, the neighborhoods of Lakeview and Gentilly Woods had a lot in common. Both sat below sea level on reclaimed swampland near Lake Pontchartrain. They boasted similar post-World War II housing stock.

Lakeview was almost entirely White, and Gentilly Woods was more than two-thirds Black. Lakeview residents had higher incomes, and their homes commanded higher prices.

Both neighborhoods were swamped when the floodwalls along New Orleans’ drainage canals buckled after Katrina. Water reached the eaves of many homes.

Road Home appraised the average Lakeview home at \$326,000 and the average repair cost at \$286,000. With a grant based on the repair cost, the average homeowner received 83% of what was needed to rebuild, according to the news organizations’ analysis.

In Gentilly Woods, the average property was valued at \$121,000, with \$203,000 in rebuilding costs. With a grant based on the home’s value, the average homeowner ended up with just 73% of what was needed to rebuild.

Among those served well by Road Home was Lakeview retiree Rita Legrand, 86. She had to gut her modest ranch home. But she was determined to rebuild.

With \$53,000 from insurance in hand, Legrand applied for a Road Home grant in fall 2006. Road Home estimated her home’s value at \$320,000 and her repair costs at \$188,000. Her grant, based on repair costs

minus what she’d already gotten from insurance, was \$135,000.

The grant and insurance proceeds covered her entire loss, as it was supposed to, and by April 2007 she had completely rebuilt. “The program worked great for me,” she said.

The experience was quite different for Cynthia and Charles Heisser of Gentilly Woods. Like Legrand, the Heissers had a small ranch house, and they had a similar repair estimate: \$190,000. But their initial grant was just \$32,000.

Charles Heisser, a 90-year-old Korean War veteran, still has the documents explaining how Road Home arrived at that figure.

Program officials estimated the pre-storm value of their home at \$83,000. The state subtracted \$40,000 in insurance proceeds, which their lender had made them use to pay off their mortgage, and \$10,500 in FEMA aid they had received for living expenses.

Charles Heisser appealed, arguing Road Home had failed to factor in tens of thousands of dollars in improvements they had made before the storm. Their home was reappraised for \$135,000.

That increased their grant to about \$83,500. Even then, their total compensation including insurance and FEMA grants was \$135,000 — just 70% of Road Home’s original estimate of what it would take to make their home livable.

The Heissers spent some of the Road Home grant to convert their garage into living quarters so they could move out of the FEMA trailer in their front yard. For most of the next 10 years, the house sat with a new roof and an unfinished interior where they hung laundry.

Cynthia Heisser couldn’t help but notice how differently things went in mostly White parts of New Orleans.

“It was unjust, more unjust to the Blacks than it was to the Whites,” she said. People used to ask her, she recalled, “‘Oh, you don’t have your house yet?’ Or ‘You’re not in your home yet?’ And we’d say, ‘It isn’t because we’re not fighting for it. We are.’”

A nonprofit called Rebuilding Together New Orleans eventually provided labor and materials to help finish

repairs. The Heissers finally moved back into their house in 2018 — 13 years after the storm.

Victims Of Katrina Were 'Victimized Again'

From the beginning, Road Home had a problem. On the one hand, thousands of residents desperately needed rebuilding aid. On the other, Road Home, like many disaster aid programs, had guardrails to make sure people didn't end up better off than before the storm.

The idea was that "it would be illegitimate for somebody whose house only had a market value of \$100,000 to get \$120,000, even if that was how much it would cost to repair," said Andy Horowitz, a history professor at the University of Connecticut and author of "Katrina: A History, 1915-2015."

When people complained that using home values to calculate grants would help some people more than others, officials argued that pre-storm value had been part of the formula from the start. Besides, Leger said at the time, it was required by the federal government, and there wasn't enough time or money to change the rules.

In a June 2006 interview shortly after the program was approved, Louisiana Recovery Authority chair Norman Francis dismissed the very problem many poor homeowners would soon face — that the cost of rebuilding could far exceed the value of their homes.

"That money is going to cover the difference between your damages and how much insurance you got," Francis said. "Now, if you had a \$50,000 home, not likely that you had \$200,000 worth of damage. So the formula has to take into consideration your home value."

A family member said Francis, now 91, was unavailable to comment for this story.

Melanie Ehrlich, who lived in Baltimore while her Gentilly home was rebuilt, said she quickly saw the problem with the formula. She founded a grassroots organization, the Citizens' Road Home Action Team, and became a thorn in the side of Road Home officials.

"It was crystal clear how very unfair the program was in its design," said Ehrlich, a Tulane University genetics professor. "What I saw is that the victims of Hurricane Katrina were being victimized again."

In October 2006, shortly after Road Home was launched, Ehrlich met with officials in charge of the recovery and argued their formula for calculating grants was unfair. She followed up with examples. Basing grants on the pre-storm value of homes, she wrote, would "justifiably anger the middle and lower economic classes, or, more specifically, everyone who does not have an expensive house or lot."

As homeowners received their grant letters over the course of 2007, hundreds showed up at Finger's low-income law clinic at Loyola University. She attended dozens of public meetings in Baton Rouge, New Orleans and Washington to ask officials to fix the inequity baked into the calculations.

In August 2009, Finger told a congressional committee that the formula hurt Black residents because their homes tended to be valued for less. "Road Home's grant formula design assured that some homeowners would not receive sufficient rebuilding funds," she said.

Six state officials involved with the recovery effort said they didn't ignore these complaints. But they noted that they were building a program of unprecedented scope and dealing with unforeseen problems, all while under intense pressure to get money to homeowners quickly.

Leger said he took Ehrlich's complaint about pre-storm value to HUD officials and asked to use higher repair estimates instead. "We were told no," he said.

Soon after the program launched, state officials said, they made changes that increased grants for all applicants: factoring land value into appraisals, using the highest of several appraisal methods and increasing rates for repair estimates.

They originally envisioned an affordable loan program to fill any gaps between grants and the actual costs of rebuilding, but it never got off the ground.

In 2007, they created another grant for less affluent homeowners whose initial grants didn't meet their damage estimates. That enabled the state to meet a HUD requirement to pay at least half of grant money to low- and moderate-income households.

Three years later, after Black homeowners sued the head of the LRA and HUD alleging the program was discriminatory, Francis said, "That did not pass on my radar screen. If it had, I would have questioned why the program wasn't treating people equitably."

Francis was a revered civil rights leader and longtime president of Xavier University, a historically Black school, and Finger said she does not believe he and the other architects of Road Home intended it to be discriminatory.

Nonetheless, Finger said, “It is very difficult to look at a system that’s trying to roll out that much money as quickly as possible and to not do it in a way that replicates historic, systemic inequities.”

\$297,000 In Damage, \$3,468 In Aid

The plaintiffs in the suit included Almarie Ford, who said the hurricane shutters that adorn her New Orleans East home are all she ever got from Road Home.

A month after Katrina, Ford returned to find her Kingswood subdivision in ruins. The now-73-year-old social worker recalled walking into her house and gagging on the smell of black mold. She turned around, locked the front door and left, unsure what to do next.

Like many homeowners, she expected significant government assistance, but it never came. Road Home officials assessed her damage at about \$297,000 but based her grant on her home’s value, \$150,000. They gave her just \$3,468 after subtracting about \$146,500 in insurance payments.

If the grant had been based on rebuilding costs, she would have received the maximum Road Home grant of \$150,000. Instead, Ford took out a loan and exhausted her savings.

“I was shocked,” Ford said of the size of her grant. “But what could you do? You could complain that you only got \$3,500. But they said, ‘Well, those are the rules.’”

She wasn’t willing to accept what she described as an injustice without a fight. So she went to the Greater New Orleans Fair Housing Action Center.

In 2008, the housing center had joined with PolicyLink, a California nonprofit, to collect examples that showed Road Home’s formula disproportionately hurt poor communities and people of color.

Ironically, PolicyLink had teamed with the LRA two years earlier to present the state’s initial recovery plan. In a sign of just how unexpected the inequities were, a PolicyLink representative spoke at an LRA board meeting in April 2006 and “applauded the board for the

design of the housing action plan,” according to meeting minutes.

James Perry, the head of the housing center, said his organization examined two nearly identical homes: four bedrooms, two bathrooms, brick construction. Each had flooded with 6 feet of water and had damages estimated at more than \$200,000. But one house was in a White neighborhood and the other in a Black neighborhood.

Each homeowner received a grant based on their home value. Perry said the White homeowner got \$150,000; the Black homeowner, \$90,000.

Perry said his organization gave that information to Road Home and HUD, but neither took immediate action. Perry said he was shocked by what he perceived to be their lack of interest. “It wasn’t easy to remedy, but it seemed to me they would want to.”

In the resulting lawsuit, attorneys cited 2000 census data to prove their case: About 93% of Black-owned homes in New Orleans were valued at less than \$150,000, compared to 55% of White-owned homes.

The homeowners secured an important victory before a federal district judge in 2010. The next year, the U.S. Court of Appeals for the D.C. Circuit overturned that ruling and sent the case back to district court, rejecting claims the grant formula was discriminatory.

The appeals court ruled that any gap in grants for Black families had been eliminated when, after the lawsuit had been filed, the state removed a \$50,000 cap on the additional grant for low-income homeowners.

But the news outlets’ analysis shows the appeals court’s assessment was wrong. The additional grants did help homeowners in lower-income, nonWhite areas in New Orleans, most of which are majority Black. Thanks in part to the program, the average grant to a Black homeowner in Louisiana was slightly larger than the average grant overall, according to state records.

But in the end, the additional grants merely boosted the average share of damage covered by grants and insurance from about 51% to about 70% in those parts of New Orleans. That meant poor, non-White areas ultimately fared about the same as middle-income non-White areas, but not as well as even the poorest White ones.

The analysis backs up what U.S. District Court Judge Henry Kennedy wrote in 2010 in a preliminary ruling: “The Court does not take lightly that some African American homeowners received lower awards than they would have if their homes were in predominantly White neighborhoods.”

Louisiana and HUD “offered no legitimate reason for taking pre-storm home values into account” when calculating grants, he wrote.

While the appeals court accused plaintiffs of cherry-picking their data by focusing on majority-Black New Orleans, the news outlets’ analysis shows the disparity between wealthy and poor neighborhoods statewide was similar to that in New Orleans.

Three months after the appeals court ruling, Louisiana and HUD settled the lawsuit. The state agreed to put \$62 million aside for yet another program, this one for people who made too much money to qualify for additional grants but needed more help.

It was a drop in the bucket. According to a state analysis in 2010, 25,000 New Orleans homeowners received a total of \$1.2 billion less from the Road Home because their grants were calculated using pre-storm value rather than the cost of damage.

Despite being a plaintiff in the suit, Ford said she didn’t receive anything from the settlement. Fewer than 500 people did.

It took more than three years for her to complete repairs. During that time, she rented an apartment in Baton Rouge and continued to pay her mortgage, a strain that she said nearly broke her.

“It didn’t work for the people it was supposed to work for,” Ford said of the recovery program. “None of the people that I know in New Orleans East actually got any Road Home money. A lot of people, especially people who are more elderly, they just didn’t come back.”

Silence in the Seventh Ward; McMansions in Lakeview

One morning in September, Lynette Boutte picked up a piece of artwork in her Seventh Ward beauty salon. In the middle was a photo illustration of hundreds of Black people near the intersection of North Claiborne and Orleans avenues.

It depicted Super Sunday in 2003, two years before the storm. Boutte gazed wistfully, as if she could still hear

the calls of the Mardi Gras Indians that day. Since Katrina, there hasn’t been such a raucous Super Sunday celebration in her neighborhood.

Music was once the lifeblood of the Seventh Ward, a working-class Creole neighborhood near the French Quarter. It has produced musical greats such as Jelly Roll Morton and John Boutte, one of her nine siblings.

After school, the sound of children playing trumpets would echo through the streets. In the evenings, musicians would fill her house for jam sessions.

The Seventh Ward doesn’t sing like it used to, she said. “There are no children in this neighborhood anymore.”

Boutte didn’t receive a dime from Road Home to rebuild, she said, because the state lowballed her property value and repair costs.

It took her nearly a decade, but she managed to rebuild with the help of relatives and church volunteers. Many weren’t so lucky.

Lynette Boutte, center, shows Rebuilding Together New Orleans staff the damage to her house. (Photo by Chris

Families who had lived in the neighborhood for generations were unable to return because they couldn’t afford to fix their homes. In the two decades after 2000, the number of children in the Seventh Ward dropped by more than a third, according to the Data Center, a community research nonprofit. The Black population in the Seventh Ward decreased by about 19 percentage points.

When asked how much responsibility the Road Home program shares for these changes, Boutte didn’t hesitate. “They are responsible for it all,” she said.

William Stoudt, executive director of Rebuilding Together New Orleans, which focuses on the Seventh Ward, said over the past 15 years his staffers have witnessed many people living in “completely substandard conditions.” Road Home’s grant formula is partly to blame, he said.

Residents who got shortchanged had to cut corners, often hiring subpar contractors and using cheaper materials, he said. Some abandoned their properties because they couldn’t afford to rebuild; others sold them to predatory developers at below-market prices.

“Most of the homeowners that we help work their entire lives for 11 bucks an hour at a hotel in the Quarter cleaning rooms day after day and have no savings,” he said. “They never had a chance.”

The community is now pockmarked with empty lots and abandoned homes. Nearly 1 in 4 Seventh Ward houses were vacant in 2020, a 51% increase compared to two decades prior, according to the Data Center.

In Lakeview, where Stoudt grew up, the post-Katrina recovery looks dramatically different.

Stoudt remembers standing in his street three weeks after the storm amid uprooted trees and abandoned cars covered in dried mud. The waterlogged front door of his family home had swollen shut. To get inside, his parents climbed a ladder and went in through a second-story window.

It was the silence, though, that haunted him. Stoudt said it seemed as if everything had died. “It was the quietest place you’ve ever been in your life.”

That silence was soon replaced by the sound of hammers and saws. His parents’ flood insurance policy covered the cost of repairs, so they didn’t need a Road Home grant. Construction began almost immediately. Within a year, their home had been rebuilt.

Today, he said, Lakeview is largely unrecognizable. People didn’t just rebuild, they expanded — replacing their ranch houses with multistory, modern homes.

“Now it’s McMansions, 4,000 square feet, double-lot monsters,” Stoudt said. “If you were in the right neighborhood, you got what you needed to rebuild.”

About The Data

To evaluate the impacts of the Road Home program, The Times-Picayune, ProPublica and WWL-TV obtained a novel dataset of more than 130,000 grants from the Louisiana Division of Administration. The anonymized dataset included, for each grant recipient in the state, the grant amounts, the pre-storm value of the property and any insurance and FEMA payouts. The analysis was conducted on a subset of 91,771 rebuilding grants that

had valid grant and damage amounts, were not part of a lawsuit over errors in grant calculations and did not fall under a limited number of other circumstances that could yield incorrect information. Our analysis focused on 30,188 records from Orleans Parish and 5,911 from St. Bernard Parish.

For our analysis of demographics and income, we used data from Summary File 3 in the 2000 U.S. Census, downloaded from IPUMS NHGIS, University of Minnesota. This dataset contains survey responses from the longform census questionnaire, which was sent to approximately one in six households, and is available on the block group level. In the city of New Orleans, additional analysis using 2000 census data was conducted using Neighborhood Statistical Areas provided by the New Orleans Data Center, a nonprofit research center that defines those boundaries. Any use of “neighborhoods” refers to these boundaries. The word “areas” refers to census block groups. ●

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AS POLICE ARREST MORE SENIORS, THOSE WITH DEMENTIA FACE DEADLY CONSEQUENCES

By Christie Thompson

One night in October 2021, Armando Navejas wandered away from his home in El Paso, Texas. The 70-year-old had Parkinson’s disease and dementia, and his family said he could barely speak. Scared for his safety, his wife, Josephine, called 911 for help tracking him down.

Key Points

- Any use of force or arrest can be devastating for someone who is already physically and mentally fragile.
- An estimated 12,000 people 65 and older ended up in the E.R. for injuries caused by police or private security from 2010-20.

- Police are often called to track down people who have gotten lost, arrest confused shoplifters, or intervene in domestic disputes.
- Many officers may not have adequate training on dementia.

By 2 a.m., Navejas was back in front of his house, shirtless and ambling around. According to a video from a neighbor's home security camera, an officer approached, shining a flashlight in Navejas' face. Navejas appeared agitated, picking up a string of wooden blocks and walking toward the cop, who retreated behind a parked car. Navejas threw the wood limply toward the officer; it landed on the windshield.

When Navejas turned away, the officer walked around the vehicle and fired a stun gun at Navejas' back. His body went rigid. He fell face-first onto the sidewalk.

Navejas arrived in the emergency room that night with multiple facial fractures and bleeding around his brain, medical records show. He never came home. He died in a rehabilitation facility in March of unrelated natural causes, according to a death certificate.

The El Paso Police Department found the use of force was "reasonable and necessary," a spokesperson said in an email. But Navejas' daughter, Debbie Navejas Aguilar, is suing two officers and the city for the "extreme physical and psychological injury" to her father.

"They acted like he had a gun," she said in an interview. "This is a 70-year-old man who is lost in his own head. I just don't understand it."

Debbie Navejas Aguilar, about her father with dementia who was hit with a stun gun by police

As the U.S. population ages and more people develop dementia, older people are increasingly running into problems with the police. Any use of force or arrest can be devastating for someone who is already physically and mentally fragile, like Navejas. While many cities are changing how they respond to mental health calls – including whether police should be present at all – less attention has been paid to the unique risks in cases involving people with Alzheimer's and other brain diseases.

There's no national count of how many people with dementia are arrested each year. But an analysis of U.S. crime data by The Marshall Project shows that the

number of arrests of people over 65 grew by nearly 30% between 2000 and 2020 – at the same time that overall arrests fell by nearly 40%. The number of elder arrests is growing faster than the population is aging. Older Americans are still a small portion of overall arrests – less than 2%.

National data from the Centers for Disease Control and Prevention also estimates that from 2010 to 2020, more than 12,000 people 65 and older ended up in a hospital emergency room for injuries caused by police or private security.

Serious cases have come to light across the country, often captured on police body cameras. In Loveland, Colorado, in 2020, 73-year-old Karen Garner, who had dementia, was violently arrested for trying to steal \$14 worth of merchandise from Walmart. The officer who pinned her to the ground and broke her arm was sentenced to five years in prison. In 2021, police in Tulsa, Oklahoma, taunted a 70-year-old woman with late-onset bipolar disorder before tackling and jailing her.

In Las Cruces, New Mexico, this April, an officer shot and killed 75-year-old Amelia Baca, who had dementia, as she stood holding two large kitchen knives in the doorway of her home. Her family has since settled a \$2.75 million lawsuit with the city.

Police are often called to track down people who have gotten lost, arrest confused shoplifters, or intervene in domestic disputes. But many officers may not have adequate training on dementia.

Some older people can still pose a real threat, regardless of age or cognition. But interactions with police can also escalate simply because someone is confused or can't follow an officer's instructions. Dementia and Alzheimer's can make it difficult for people to communicate. That confusion can seem aggressive if the person is overwhelmed or afraid.

"Even handcuffing a person with dementia could be extremely traumatic," said Eilon Caspi, a gerontologist and dementia behavior specialist at the University of Connecticut. From transport in a police cruiser to interrogation to jailing, any part of an arrest "could really be a terror," he said.

In Largo, Florida, where more than 1 in 4 residents is 65 years or older, Joel Quattlebaum is the senior services

officer for the city police department. While he mainly supports older adults who are victims of crime, he gets sent to a wide range of calls involving older residents.

“Nowadays law enforcement is used as a social resource,” Quattlebaum said as a call for a welfare check on a woman in crisis rang out from his police radio. He is certified through the National Council for Certified Dementia Practitioners and helps train new recruits. “People just need help out there now. They try and call other places, and they get voicemails or on waitlists that are years long.”

Rough Arrest Of Driver With Dementia

Best practices for dealing with dementia patients – staying calm, patient and flexible – may go against officers’ need for compliance when making an arrest, experts say.

“We know what works best is to talk slowly and calmly, ask simple questions, don’t argue with the person,” said Monica Moreno, a senior director at the Alzheimer’s Association. Along with the U.S. Justice Department, the association has provided online training for more than 31,000 emergency responders on how to recognize and respond to people with the disease.

“The techniques are drastically different from what (officers) may be learning in their everyday training,” she said.

That disconnect can have grave consequences. This spring, deputies with the Warren County Sheriff in Front Royal, in Northern Virginia, stopped 77-year-old Ralph Ennis for erratic driving. The sheriff’s office said Ennis, who had dementia, initially refused to pull over and follow deputies’ orders. When Ennis got out of the car, bodycam footage captured by the Front Royal Police Department (a separate agency) shows a deputy slammed Ennis’ head against the truck while pinning his arms behind his back. A second deputy then tackled Ennis to the ground, hitting the older man’s head on the concrete, according to bodycam footage cited in a lawsuit filed by his son. “Please let me up!” Ennis cried out, with two officers on top of him. “Let me go!”

A Front Royal police officer who watched the arrest was shaken by what he’d just seen.

Ennis was hospitalized with a massive brain bleed and died two weeks later. (A medical examiner found he

died of natural causes.) The lawsuit by Ennis’ son, filed in August against the two deputies, claims they used excessive force that caused his father’s death. In court filings, both officers denied any wrongdoing.

Chief Deputy Jeffrey Driskill with the Warren County Sheriff’s Department said in an email that he could not comment on the case because of the pending lawsuit and criminal investigation, but he confirmed one of the officers involved is no longer with the department. A Virginia prosecutor is still reviewing the case.

All officers in Virginia receive basic training in “communicating with persons with cognitive impairments,” Driskill wrote. “Our agency prides itself in being proactive in dealing with the elderly.”

Concerns About Tactics And Force

Navejas was living with his wife in Austin, Texas, when it became clear his mind was deteriorating, his daughter said. He started leaving ice cream in the fridge or throwing away the trash can along with the bag. His walk turned to a shuffle, and he lost weight. Bright lights and loud noises overwhelmed him. His voice thinned until it all but disappeared, leaving him with nothing but hand gestures and his distinct laugh. The couple decided to move back to El Paso, Navejas’ hometown, to be closer to family.

He began leaving home, waiting until Josephine was in the bathroom to slip out the back door. Josephine, who had glaucoma and used a wheelchair, had to call 911 for help because she could not drive at night or travel without a car. His daughter said officers would find Navejas walking in a nearby apartment complex or sitting on the curb at a gas station down the street and simply bring him back.

El Paso Police say their officer was responding to “a call of an assault” the night of the tasing. Josephine Navejas told local reporters and her attorney that she called 911 over a missing person and that she alerted the dispatcher that her husband had dementia and Parkinson’s. The department has refused to release the 911 call from that October night or the bodycam footage from officers on the scene, saying it would interfere with an “open case.”

The officer who used a stun gun on Navejas had been with the force less than three years, records show, and

had received training on crisis intervention and dealing with people who have a mental impairment.

The department launched a Crisis Intervention Team in 2019, pairing officers with a licensed clinician to respond to mental health calls. When the local Fox TV station asked why police didn't send a crisis unit to the Navejas' house that night, the department responded, "Dementia is not considered a mental health issue that CIT would respond to."

In an email to The Marshall Project, department spokesperson Sgt. Enrique Carrillo said the crisis team wasn't sent that night because the "first available unit" is sent to calls "of violence."

El Paso Police, like many departments, doesn't have a specific policy for calls involving dementia. But according to its policy on mental health calls, officers are supposed to approach people "in an unhurried, deliberate, calm, and friendly manner" and guide them to a "safe and quiet area." When deciding what level of force, if any, to use, they should consider the threat posed by the individual, the risk of injury, and the person's "age, size, (and) relative strength."

Carrillo said force was needed to control the situation after Navejas threw something toward the officer. "The officer opted for a less lethal use of force to mitigate the risk of injury to himself and to the offender assaulting him," Carrillo wrote. "The use of force in any case is never a pleasant experience for anyone involved, unfortunately at times it becomes necessary."

Police often encounter people living with dementia when other support systems have failed, especially as public budgets for aging and social services dwindle. Some walk away from home when caregivers aren't watching. And the number of people over 65 who are homeless – a group that is a frequent target of police stops – is expected to nearly triple in the next decade. Officers may also be called into nursing homes or assisted living facilities when employees are overwhelmed or lack sufficient training. In a recent survey by the American Health Care Association, 98% of nursing home providers reported they were understaffed, which can make it harder to defuse conflicts between residents.

Records from multiple police departments show these nursing home incidents can easily escalate. In Columbus, Ohio, in 2020, police pepper-sprayed a 97-

year-old man with dementia in the face and pinned him to the ground. He had failed to comply with orders to drop a pair of small scissors that officers said threatened his wife, according to a police report. The man only spoke Mandarin Chinese. In another incident in Columbus in 2018, police were called to help with an 84-year-old woman with Alzheimer's who was agitated and hitting staff and other residents; she ended up handcuffed so tightly her wrist bled, and she was put on a psychiatric hold, a police report shows.

In an email, a spokesperson for the Columbus Police Department would not comment on specific cases but said the department provides regular training on the use of force and interacting with people with dementia, autism, and other conditions.

Police are called to nursing homes "more often than we think," said Caspi, the gerontologist. The first responder needs "to be the one who creates calm and reassures the person. Can we create a model where there is a designated social worker each time an officer goes to a nursing home, who can create the conditions for this to go well?"

Some cities are trying to do just that and questioning whether armed police are the right people to send to calls of people in mental distress. A growing number of communities have launched crisis response programs to handle nonviolent 911 calls involving mental illness or cognitive impairment. The teams, often made up of paramedics and counselors, have more time to spend on each call, are specially trained in navigating crises, and can connect people with social services for more long-term support.

Tianna Audet, who leads the Community Assistance and Life Liaison program in St. Petersburg, Florida

"Officers go with a gun and a badge and handcuffs. They just weren't trained to be social workers. We're filling the gap where they don't have the training or the time."

Tianna Audet leads the Community Assistance and Life Liaison program in St. Petersburg, Florida, which launched last year. So far, 17% of their clients have been 65 years or older, including two 100-year-olds, several 99-year-olds and a handful of nursing home calls. The team is dispatched to "non-criminal" calls, but is also called in as backup when officers decide the crisis team would be a better response.

“Officers go with a gun and a badge and handcuffs,” Audet said. “They just weren’t trained to be social workers. We’re filling the gap where they don’t have the training or the time.”

For the Navejas family, life got even harder after his run-in with the police. A month after he was hospitalized, his wife fell while at home alone and broke both of her hips and a knee. She was hospitalized and died in February of liver cancer, on the opposite end of the same nursing home hallway from her husband, their daughter said. Armando died just six weeks later.

Denver, Colorado - October 28, 2022: Debbie Navejas Aguilar holds the cremation pendant that she bought to have both her father and mother’s ashes close to her heart. Aguilar’s father, Armando Navejas, died after five months of rehabilitation as a result of an encounter with a police officer in El Paso, Texas. Naveja’s had Parkinson’s and dementia when he got tasered by the officer that showed up at his home after his wife Josephine called 911 to report a missing person.

Debbie Navejas Aguilar holds the cremation pendant that she bought to have her father and mother’s ashes close to her heart. She keeps a polaroid of her parents, Armando and Josephine Navejas, from a Christmas celebration many years ago.

Aguilar filed a lawsuit in June, seeking monetary damages and claiming that her father’s death was largely due to his injuries from being shocked with a stun gun. Aguilar said what she really wants is an apology – something a settlement likely won’t give her. In their response to the lawsuit, city attorneys denied that excessive force was used.

“It’s been a nightmare,” Aguilar said. “If I was there, I could have spoken for him, or been there for my mom. It just repeats in my head all the time. This did not have to happen.” ●

A MOM ALMOST DIED GIVING BIRTH WHEN SHE WOULDN’T STOP BLEEDING. SHE’S FINE NOW, AND HERE’S WHY SHE CHOSE HANUKKAH TO NAME HER DAUGHTER.

By Ed Stannard

Connecticut — Sara Farber and Esther Smigel have a beautiful, healthy baby girl with a full head of hair.

The baby, born Nov. 29, does not yet have a name. She’ll receive that today.

But she almost lost one of her mothers just after she was born. Only an emergency hysterectomy kept Farber from bleeding out.

“Baby Peanut” will be given her English and Hebrew names in a Simchat Bat ceremony — Hebrew for “celebration for a daughter” — followed by a Hanukkah-themed party, with jelly doughnuts, chocolate gelt and dreidels. The holiday begins at sundown today.

Sara Farber, left, looks on as her wife, Esther Smigel, holds their infant daughter at a follow-up visit with Dr. Nicole Gavin (off camera) at the UConn Health Outpatient Pavilion in Farmington, Dec. 13, 2022. Gavin delivered the baby by caesarian section, but Farber hemorrhaged because of a condition called placenta accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant

Sara Farber, left, looks on as her wife, Esther Smigel, holds their infant daughter at a follow-up visit with Dr. Nicole Gavin (off camera) at the UConn Health Outpatient Pavilion in Farmington, Dec. 13, 2022. Gavin delivered the baby by caesarian section, but Farber hemorrhaged because of a condition called placenta

accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant (Cloe Poisson / Special to the Courant)

“There will be families and children, so it’s nice,” Farber, 37, said. “The whole community gets to welcome her. In the age of COVID, it’s a little bit different. It will be fully masked and the food will be outdoors, even though it’s going to be 35 degrees.”

The party is possible because Farber’s life was saved by the doctors and medical staff at UConn’s John Dempsey Hospital when she suffered a hemorrhage after giving birth. She was given 13 units of blood, as well as 13 units of fresh frozen plasma and three packs of platelets.

The couple credits Farber’s surviving her emergency hysterectomy to their choice of Dempsey, though they live in Northampton, Mass.

They have been married for seven years and have another daughter, Libby, 4½, who will have her own sister ceremony today. “She wants to hold the baby. She wants to care for the baby,” Smigel, 36, said. “She would like to walk across the room with the baby, which we don’t let her do. So she’s going to be great.”

Both girls were born by caesarian section, and scarring from Farber’s first birth made the second pregnancy more risky, she said.

“The pregnancy I would say from the get-go was challenging,” she said. She had “really severe morning sickness for the first 16 weeks. And then I had COVID for three weeks.”

Two weeks later, a fetal echocardiogram showed she might have a condition known as placenta accreta, in which the placenta attaches too deeply to the wall of the uterus. But it wasn’t clear she had the condition until the C-section. The placenta was removed easily, despite the attachment.

They had planned to have the baby near Northampton. “And then when this diagnosis was made at that echocardiogram, there’s not a specialist, per se, for accreta up in Northampton or Springfield,” Farber said.

“So we started looking for doctors, and we looked at New York hospitals ... We have an apartment in the city, so we thought maybe we would relocate to New York

for a few weeks and deliver there,” she said. They also looked at Boston.

Then Farber’s aunt, Lena Godfrey, an OB/GYN and labor and delivery nursing manager at Dempsey, told the couple the hospital had recently hired a maternal fetal medicine specialist from Johns Hopkins, Dr. Nicole Gavin.

Dr. Nicole Gavin, left, looks at Sara Farber, center, and Esther Smigel and their infant daughter during a follow-up visit at the UConn Health Outpatient Pavilion in Farmington, Dec. 13, 2022. Gavin delivered the baby by caesarian section, but Farber hemorrhaged because of a condition called placenta accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant

Dr. Nicole Gavin, left, looks at Sara Farber, center, and Esther Smigel and their infant daughter during a follow-up visit at the UConn Health Outpatient Pavilion in Farmington, Dec. 13, 2022. Gavin delivered the baby by caesarian section, but Farber hemorrhaged because of a condition called placenta accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant (Cloe Poisson / Special to the Courant)

“So we met with Dr. Gavin at 25 weeks and really connected with her,” Farber said. “She’s a really excellent doctor. She has amazing bedside manner and is super, super smart. And I felt really comfortable in her hands.”

“When she came to see me, that’s when I agreed with the other providers that it was concerning that she could have a placenta accreta,” Gavin said. “She has had one C-section before. And this pregnancy was IVF, which are both risk factors.”

Gavin said Farber’s risk was less than 1%, “so we just followed her, looked at her placenta and it sort of looked stable throughout the rest of the pregnancy. And so we made a plan for an earlier delivery to avoid bleeding, with a goal to save her uterus if possible, which ultimately was not possible.”

They planned to deliver at 36 weeks because Farber had hemorrhaged during her first pregnancy as well.

Usually, an accreta requires a hysterectomy, but the doctors thought they could avoid it in her case.

To remove the placenta, “they kind of did a little bit of a pull and it came right out and they’re like, OK, great. It wasn’t particularly adhered,” Smigel said. Farber did bleed some so she was given blood and brought to the recovery room. She even began breast-feeding the baby, born at 6 pounds, 7 ounces, who was doing exceptionally well.

Sara Farber and Esther Smigel, of Northampton, Mass., center and right), chat with Dr. Nicole Gavin during a follow-up visit at the UConn Health Outpatient Pavilion in Farmington, Tuesday, December 13, 2022. Gavin holds their newborn baby, whom she delivered Nov. 29 by caesarian section. Farber then hemorrhaged because of a condition called placenta accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant

Sara Farber and Esther Smigel, of Northampton, Mass., center and right), chat with Dr. Nicole Gavin during a follow-up visit at the UConn Health Outpatient Pavilion in Farmington, Tuesday, December 13, 2022. Gavin holds their newborn baby, whom she delivered Nov. 29 by caesarian section. Farber then hemorrhaged because of a condition called placenta accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant (Cloe Poisson / Special to the Courant)

“And then I started having really extreme pain in my abdomen,” Farber said. “And I started bleeding. And my blood pressure started rapidly going down and we rushed to the OR.”

Gavin called in Dr. Molly Brewer, a gynecological oncologist who has specialized training for difficult surgeries. Godfrey also was present.

For Smigel, it all started out fine. “I was holding the baby, watching them weigh the baby ... showing Sara the baby things, things partners do in the C-section room, but it happened to be an actual OR and I witnessed a lot of blood loss,” she said. “It’s pretty gross. Yeah, just a lot of blood on the ground.”

In the recovery room, though, when Farber started to bleed heavily, “The speed at which the nurses moved,

and they were yelling to each other to get her back to the OR, was one of the things that you can hear in someone’s voice, how serious it is,” Smigel said.

Farber had run out of clotting factor. “We still think about all the different hospitals that we could have been delivering at where she wouldn’t have survived. Any hospital without the blood and also without the expertise,” Smigel said.

But Brewer, along with nurses and anesthesiologists, took over and started making decisions.

Dr. Nicole Gavin checks Sara Farber’s C-section incision while Farber’s wife, Esther Smigel, watches, holding their newborn baby during a follow-up visit at the UConn Health Outpatient Pavilion Dec. 13, 2022. Gavin delivered the baby Nov. 29 by caesarian section, but Farber hemorrhaged because of a condition called placenta accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant

Dr. Nicole Gavin checks Sara Farber’s C-section incision while Farber’s wife, Esther Smigel, watches, holding their newborn baby during a follow-up visit at the UConn Health Outpatient Pavilion Dec. 13, 2022. Gavin delivered the baby Nov. 29 by caesarian section, but Farber hemorrhaged because of a condition called placenta accreta. The baby will be named on Sunday with a Simchat Bat, a traditional Jewish naming ceremony. Photo by Cloe Poisson/Special to the Courant (Cloe Poisson / Special to the Courant)

Brewer said placenta accreta happens most often with a prior C-section or other disturbance to the uterus, and Farber had had a C-section with her first baby. The procedure has increased 40% to 50% over the years, Brewer said.

She said it can be so serious that the placenta can break through the uterus and can “invade the bladder and invade the bowel.”

“Sometimes, as in this case, there was only a very small area that looked abnormal. They weren’t 100% sure, so they asked me to be on standby in case we needed to do a hysterectomy.”

In Farber’s case, the removal of the placenta did not require Brewer’s services, but she returned when Farber began hemorrhaging.

A hysterectomy on a postpartum uterus is difficult, Brewer said, “because your uterus is so big and the blood supply is so big.”

“Think about the size of the uterus. It’s about 6 centimeters. And a pregnant uterus is about 40 centimeters. ... And it’s got at least 20 times the blood supply. And so instead of having vessels that are 2 or 3 millimeters, you have vessels that are 2 or 3 centimeters. And they really bleed.”

Farber bled so much and so quickly, “that we had to basically get her stabilized. ... She had started to use up all of her clotting factors,” Brewer said. Someone can bleed out in as little as 30 minutes if they aren’t given more red blood cells and platelets with clotting factors, she said.

“She was essentially a patient that just got bad very quickly,” Brewer said.

Each surgery took about an hour, Gavin said.

After Farber was placed in intensive care and intubated, Smigel arrived and told Farber how much blood she had lost and that she had had a full hysterectomy.

“It was a lot more serious than I think anyone was anticipating” because her blood had stopped coagulating, Farber said. It was the rapid transfusions of platelets and red blood cells that kept her alive.

“I saw her later that afternoon and she was still on the ventilator,” Brewer said. “By the next morning she was off and I saw her late the next afternoon and she looked like a million dollars. She had completely reversed.”

While the couple and the doctors all believe Farber could have died, she recovered quickly after the surgery.

“I improved really rapidly,” Farber said. “I think in the first 24 hours my blood levels stabilized. ... I started walking, I think the second day, short distances.”

Meanwhile, “the baby is wonderful,” Gavin said. “The baby came out beautiful and crying and happy, and the fact that this little 36-weeker could breastfeed right away was pretty amazing. The baby was amazing the whole time.”

“It’s a really intense recovery,” Farber said. “I’ve had surgeries before. This one definitely takes the cake in terms of physical toll. I think that was a very close call

and the transfusions are life saving and my energy is very depleted.”

“It was definitely a massive surgery,” Farber said. “But I think every day I’m doing better and getting more energy and having a new baby ... she’s wonderful.”

Gavin emphasized that the entire team, including two sets of anesthesiologists, were essential to the success of the case.

“A number of people and nurses just came into the hospital room during the subsequent days just to see Sara,” Smigel said. “They knew that she was OK, but I think they wanted to see her. ... I think it was a challenging day for everybody. I think that it was a real group effort, and I think that everyone’s recovering in a way.”

“I think that it’s really hard to quantify gratitude, the gratitude I have for each person in that room,” Farber said. “It’s sort of immeasurable that I got to come home and be with my family. It’s really a measure of all the gratitude I have for every doctor and every nurse and the people who gave blood.”

They plan a blood drive to benefit the Maternal-Fetal Medicine group. “How do you give back after something like this happens?” Farber said. They ask that anyone who wants to give a gift donate to that high-risk pregnancy practice at <https://bit.ly/3HK4c3s>.” ●

BARKING DOGS AND A CHAIN OF FORTUNATE EVENTS HELPED SAVE A BRISTOL MAN FROM DYING OF A MASSIVE HEART ATTACK

By Pam McLoughlin

A Bristol man was brought back to life by state-of-the-art medicine at UConn Health, but he likely wouldn't have gotten there on time if not for three barking dogs at home who wanted to go outside.

Kirk Valencis, a fit 57-year-old 5-foot-10, 185-pound man, suffered a massive heart attack on Sept. 20. Once at the hospital, he was not expected to survive and had to be resuscitated before emergency open heart surgery.

"The doctor said it was an absolute miracle, They said it over and over," Valencis said of his survival.

But in his case, it was as much the luck of perfect timing of circumstance.

The ordeal began when Valencis went to his aunt's house to move some things, accompanied by his best friend, Robert Prims, to help.

Valencis wasn't feeling well that day — he was tired and nauseous but never dreamed it was a sign of a heart attack. Prims urged Valencis to go home and rest, so the men left Valencis' aunt's house. Prims was going to leave right away, but the Valencis' dog and two dogs he and his wife were watching were barking like crazy to go out.

Prims told his best friend since high school to lie down and he'd take the dogs out.

"He wasn't feeling well, and if I was in his position, I wouldn't want dogs bothering me," Prims said.

After Prims came back in with three happy dogs, Valencis told him he had developed pain in his left arm.

Prims, 56, who had a mild heart attack in 2013, gave his friend an aspirin and said he was calling an ambulance.

Dawn Valencis, Kirk Valencis' wife, said if it wasn't for her husband's aunt needing something moved, Prims wouldn't have been there. And if it wasn't for the dogs' persistent barking, Prims would have gone home and left Kirk to rest.

"I would have come home to find him dead in the bed," said Dawn Valencis, who was at work that day. The two dated in high school, went their separate ways, had families and reconnected romantically 11 years ago, marrying about seven years ago. "It's just a chain of events gone right."

The chain of fortunate events continued. Dawn Valencis said the EMT's came and were going to bring him to Bristol Hospital, but the more experienced EMT did an EKG and determined UConn Health would probably be better.

Once there, Kirk Valencis' lucky streak continued, doctors said.

Cardiac surgeon Dr. Chittoor Sai-Sudhakar said "everything was blocked" to Valencis' heart and it was operating at only five percent. He went into cardiac arrest several times, the surgeon said.

"The stars were aligned for him all along the way — at home and here with a great team," said Sai-Sudhakar. "This was someone who was expected to die. It was because of the team we have that he survived. ... We were able to make the judgment calls. Time was of the essence."

Cardiologist Dr. Juyong Lee said Kirk Valencis went into cardiac arrest once in the catheterization lab and required electric cardioversion and CPR once during a procedure.

Lee said Valencis also developed severely low blood pressure from this massive heart attack and required a special mechanical circulatory support device, an IMPELLA, to maintain his blood circulation because his heart didn't have enough power to circulate his blood through his body. It was their first time using the device — and it was successful.

He had a seven-hour emergency surgery and spent 10 days at UConn Health's Pat and Jim Calhoun Cardiology

Center followed by 20 days of recovery at Hartford Hospital.

Without knowing it, Annie, left, and Peter were instrumental in saving Kirk Valencis' life when he was having a massive heart attack. The two dogs, who belong to Valencis' son, were staying at Valencis' house because his son was on vacation.

Without knowing it, Annie, left, and Peter were instrumental in saving Kirk Valencis' life when he was having a massive heart attack. The two dogs, who belong to Valencis' son, were staying at Valencis' house because his son was on vacation.

Dawn Valencis said she and Kirk were watching his son Tom's dogs at the time of the heart attack — a black Lab, Peter, and a white mixed breed, Annie. The Valencis' dog, Cooper, a corgi, was also in the mix, making for the chaos that no sick person wants to handle.

When Tom, who was traveling in Italy, found out about his dad's close call, he expressed regret about not being there. Dawn Valencis told him not to worry at all because if not for the chorus of barking dogs, Prims wouldn't have stayed to hear of Kirk Valencis' left arm pain.

Kirk Valencis hadn't been feeling well for about six months. He was having shortness of breath when he laid down at night, but it was attributed to anxiety attacks. Kirk Valencis thought maybe it was related to sleep apnea.

He had also been tired, and the doctor attributed that to getting older, the couple said.

He was on blood pressure medication and his blood pressure still read high in the doctor's office, but Kirk Valencis said he attributed that to "white coat syndrome" — a situation where blood pressure goes higher because of the anxiety of being in a doctor's office.

Kirk Valencis said he doesn't remember anything about the heart attack ordeal.

"The odds were totally against him," Dawn Valencis said.

Kirk Valencis, who formerly owned a flooring company that required heavy physical work, now cares for his mother-in-law at home during the day. He's known as

the guy who friends, family and anyone else in need can call for help. He even volunteered on a farm baling hay.

Dawn Valencis said she had a wonderful support system while he was in the hospital because he's so popular. She received texts from 25 people a day checking on his condition.

Kirk Valencis is now back to walking a mile a day with his heart function up to 50 percent and said he counts his blessings every day.

"How thankful I am to have the friends and family that I do. As you do unto others as they do unto you," he said. "I'm so blessed to have everyone in my life. I'm very lucky."

Dawn Valencis said she's thankful every day that her husband survived.

"I'm very fortunate to have him here," she said. ●

University News

INTERIM PRESIDENT MARIC LEADS UCONN'S EFFORTS TO BECOME A TOP-FLIGHT RESEARCH UNIVERSITY

By Robert Sorace

Competition among U.S. colleges to win an increasing share of the billions of dollars in federal and private research funding available annually has reached a fever pitch in recent years, as schools look to boost their reputation, recruit top talent and use the money to spur economic development, including potential startup companies.

UConn has put itself squarely in the middle of that battle, and has seemingly doubled down on efforts to raise its profile as a research university by recently naming Radenka Maric interim president.

Prior to the new role, the 55-year-old Maric oversaw UConn's research efforts as vice president for research, innovation and entrepreneurship, and she's not wasting time in making bold predictions.

She said UConn can reach its goal of hitting \$500 million in annual research funding in the next five years; in 2019 former President Thomas Katsouleas predicted the school would reach that mark in a decade.

UConn is off to a good start, having earned a record \$375.6 million in federal research grants in fiscal year 2021, up significantly from the previous year's record of \$285.8 million.

Maric, who spent years as a chemical and biomolecular engineering professor, has been a central player in those efforts, lobbying donors as well as state and federal officials for more funding (fundraising increased to a record high of \$93.3 million in fiscal year 2021), and retaining and recruiting top research faculty.

For example, Maric spearheaded the recruitment of Fumiko Hoeft, a professor in UConn's Department of

Psychological Sciences and director of the Brain Imaging Research Center. Hoeft is a leading researcher on dyslexia, who said Maric is the reason she left the University of California, San Francisco, in August 2019.

"I was not looking for another job and I was very happy where I was," Hoeft said. "Radenka was the main reason I came here. It was her presence and charisma and how down-to-earth she was and her willingness to listen that was powerful and really made me think that we can make changes [at UConn]. Her style blew me away."

It didn't hurt that Maric, who is fluent in four languages, spoke and wrote to Hoeft in Japanese, her native tongue.

Since arriving at UConn, Hoeft has doubled her research funding from \$10 million to \$20 million, she said.

Gov. Ned Lamont, who recently appointed Maric to Connecticut Innovations' board of directors, said her work in research has been vital to both UConn and the state.

"Over the last several years, Radenka Maric has been instrumental in strengthening UConn's research and innovation programs, which go hand-in-hand with our administration's economic development and job growth goals," he said.

Opportunities, Challenges

Martin Van Der Werf, associate director of editorial and postsecondary policy for the Center on Education and the Workforce at Georgetown University, said there are many reasons why universities seek to beef up their research funding.

"Research is widely celebrated and sought after in higher education as the highest demonstration of intellectual curiosity," he said.

The hope is some of that research translates into new discoveries in medicine and other fields, yielding not only potential life-saving drugs but new companies that can grow jobs.

One major goal for schools looking to ramp up their research bona fides is to join the Association of American Universities (AAU), which is made up of 66 leading research colleges across the U.S., Van Der Werf said.

UConn is not currently an AAU member. Yale is the only Connecticut school in the association.

“Institutions that have large research budgets and reputations arguably have a better chance of attracting top professors, those who might enhance the reputation of a university,” Van Der Werf said. “The attraction of those top professors might, in turn, attract more donors to support a university.”

In some ways, UConn is in a prime position to become an East Coast answer to the Silicon Valley-adjacent Stanford University, and to give its in- and out-of-state neighbors — Yale, Harvard and MIT — a run for their money when it comes to earning research funding and midwifing new, innovative companies.

But UConn still has a long road to travel. For example, in 2020, Harvard and the University of Washington topped the list of most National Institutes of Health (NIH) research funding, raking in \$1.7 billion and \$1.3 billion, respectively, according to U.S. News & World Report. UConn that year recorded \$160.7 million in NIH research funding, ranking 42nd nationally.

UConn does rank first among New England public universities in external research funding and has some significant R&D infrastructure, including lab space and equipment, most of it supported by billions of dollars in taxpayer investment over recent decades.

There are challenges as well, including a multibillion-dollar unfunded pension liability that makes UConn a more expensive place for entrepreneurs to base their operations compared to other research universities.

It can also be expensive to attract and retain top talent, and further taxpayer investment in UConn can become a political hot potato at the state Capitol.

Maric said top schools watch closely where grant money is awarded and can be aggressive in trying to poach faculty. That’s why she said her No. 1 priority is retaining the school’s current roster of staff and researchers.

Maric said UConn can’t match the salaries of a Harvard, but has other ways to keep talented faculty.

“Other than salary, they want new equipment and more space to recruit students,” she said. “We can provide that, to some extent.”

Last year state lawmakers authorized \$47 million in bond funding over five years for UConn to hire 10 new innovation faculty. Maric said the school is actively working on details of the plan and expects to submit it to the state legislature by April 1.

UConn wants to target researchers in areas such as data science, fintech, clean and renewable energy, genomics and advanced manufacturing — all sectors crucial to Connecticut’s economy, she said.

Startup Efforts

As UConn boosts its research efforts, it will likely need to add more research and lab space to accommodate faculty and, hopefully, an increasing number of startups in the school’s Technology Incubation Program, Maric said.

Some of that work is already underway.

Maric noted that additional research space will be available at the new science quad at Storrs, which is expected to open this fall. There are also several renovation projects at various UConn properties that will expand lab space, she said.

Over the past 10 years about 50 startups have been birthed at UConn’s Technology Incubation Program (TIP), which provides lab space, equipment and advisory services to faculty and others looking to convert research and ideas into actual business ventures. Maric said UConn expects to double the number of startups in the next few years.

And there have been success stories. In 2020 TIP startups raised a record \$420 million, an amount nearly equal to the funding earned over the previous four years combined.

Frequency Therapeutics, which is developing a drug-based therapy to restore hearing loss, raised \$230 million that year, while Rallybio — a rare disease drug developer now based in New Haven — raised \$167 million.

In 2021 TIP startups raised \$170 million, the school said, and five new companies launched.

In addition, about a year ago UConn launched a new incubator space at its Stamford campus — TIP Digital — that focuses on helping artificial intelligence and

machine learning startups grow their business in the state.

Thirteen startups have joined that program and about half are already generating revenue, Maric said. The companies, Maric added, have also collectively raised more than \$3 million.

Another major focus area for Maric is climate change, she said.

The university has launched a climate lab with faculty and students who are looking into research and innovation when it comes to addressing the issue.

“Climate change is the pressing issue for generations to come, absolutely,” she said.

At A Glance

Radenka Maric
Interim President
UConn

Education: Bachelor’s of science in materials science, University of Belgrade; Master’s of science in materials science and energy, Kyoto University in Kyoto, Japan; Ph.D. in materials science and energy, Kyoto University

Age: 55

Previous Job Titles: Vice President for Research, Innovation and Entrepreneurship at UConn; Professor of Chemical and Biomolecular Engineering at UConn; Program Manager of the National Research Council, Vancouver

Resident: West Hartford

Born: Yugoslavia

Good to know: Fluent in English, German, Japanese, Croatia

Hobbies: An accomplished cook who is well-known at UConn for her culinary skills; skilled in sewing and design and makes many of her own clothing.

Interests: Climate change, the humanities, developing novel materials for fuel cells. Next year will also mark the beginning of a free tuition program Katsouleas announced in October that will provide students whose families have an annual income of \$50,000 or less with the ability to come to the school tuition-free. ●

BEST & WORST ENTRY-LEVEL JOBS

By John S Kiernan and Beth Settje

Graduation season is a time of big dreams and high pressure for soon-to-be job seekers across the country. This year, graduates have a distinct advantage as many jobs are desperate to hire in the midst of the COVID-19 pandemic, and applicants have a lot of leverage to secure a solid package of compensation and benefits. Employers plan to hire over 26% more graduates from the Class of 2022 than they did from the Class of 2021.

Ultimately, many job-market entrants seek a career, not just a job. They want the attractive combination of a high starting salary and high growth for compensation and responsibility. They also want stability while doing what they love. The question is how to go about obtaining such things in the current job market.

In search of answers and actionable information for the Class of 2022, WalletHub took stock of the first-timer job market by comparing 108 entry-level positions based on 12 key metrics. Our data set ranges from average starting salary to projected job growth by 2030 to median tenure with an employer.

Ask The Experts

The job market can be a very confusing place for new entrants. For tips that will help young people make the best possible career decisions, we asked the following questions to a panel of career counselors and human-resource experts. You can check out their bios and responses below.

How can one tell from a job description whether or not that entry-level job will result in a career versus a dead end?

I would suggest reading for clues in the way the position description is listed. If the organization indicates there are future leadership options in the company, a rotational program, or a development program, it is likely with a place that wants to promote from within. The posting might list some benefits upfront; if the company mentions retirement options, tuition

reimbursement, benefits, etc., so pay attention to those types of items.

I would also suggest doing research on the company through sites like Vault, Salary.Com, and LinkedIn, to see informal reviews and career progressions for people who work at the organization.

How long should a new graduate stay in an entry-level job before looking for new opportunities?

It can depend on whether the individual wants to stay with the organization, if the environment is healthy (vs. toxic), and if there are procedures in place for a person to move up the career ladder once they worked a certain number of months/years.

If it is a solid work experience that provides continuous learning and challenges, and the person finds fulfillment, 2-3 years is a good amount of time to establish oneself with the organization. That stated, there are some positions that a person might outgrow within a year while it could make sense for someone to stay in an entry-level position for four years.

Career paths in certain industries may also dictate the average number of years that make sense to stay, so doing research first is going to be helpful. Some jobs are not intended to be kept for more than 1-2 years, so if the person stays 3 or 4, it might not make sense to do so.

What advice do you have for young people choosing between an unpaid or low-paid opportunity in their preferred industry versus a job with a higher starting salary?

When put in this position, I think it is helpful to weigh out the pros and cons, understand one's financial wants vs needs, and create SMART Goals (SMART-Strategic, Measurable, Action-oriented, Realistic, Timely) to assess all options. There are some jobs and fields where the unpaid or underpaid option is part of the industry, and an individual may have to take one to stay in the field, get certified, finish a degree, etc. Even if part of the occupation is to have one of these experiences, students will want to do their research on the organization (see preceding question), they will want to make sure that they do not get exploited by too many hours or other unreasonable job demands.

What jobs or sectors are likely to disappear in the next 20 years?

This question is hard to answer, as the job market continually changes. I would suggest that people do their research on their chosen field and see what is predicted as well as investigate the possibility of AI doing the job instead.

In light of the pandemic and work-from-home recommendations, what are the best entry-level jobs for long-term job security?

This question is also hard to answer, as the job market continually changes. The pandemic introduced some new jobs and demonstrated that others could be done in an automated manner or potentially were not needed at all. That stated - certain fields are growing, and those include many in healthcare and public health, as well as data analytics and finance.

Beth Settje, Associate Director, College to Career Transitions, Experiential Learning; Career Center Lead Instructor for SYE, Internship, & Co-op Courses – University of Connecticut

Methodology

In order to identify the best and worst first-timer jobs, WalletHub compared 108 entry-level occupations across three key dimensions:

1) Immediate Opportunity, 2) Growth Potential and 3) Job Hazards.

We evaluated those dimensions using 12 relevant metrics, which are listed below with their corresponding weights. Each metric was graded on a 100-point scale, with a score of 100 representing the most favorable conditions for entry-level workers.

We then determined each entry-level position's weighted average across all metrics to calculate its total score and used the resulting scores to rank-order our sample.

Immediate Opportunity - Total Points: 40

Average Starting Salary: Full Weight (~13.33 Points)

Number of Job Openings: Full Weight (~13.33 Points)

Unemployment Rate: Full Weight (~13.33 Points)

Growth Potential - Total Points: 40

Occupation Viability Score: Triple Weight (~14.12 Points)

Note: This metric measures the probability of a certain occupation being replaced with a computer.

Projected Job Growth by 2030: Full Weight (~4.71 Points)

Income Growth Potential: Full Weight (~4.71 Points)

Typicality of On-the-Job Training: Full Weight (~4.71 Points)

Median Annual Salary: Full Weight (~4.71 Points)

Work Experience in Related Occupation Needed: Full Weight (~4.71 Points)

Median Tenure with Employer: Half Weight (~2.35 Points)

Job Hazards - Total Points: 20

Fatal Occupational Injuries per 100,000 Employees in Past Three Years: Full Weight (~10.00 Points)

Typicality of Working More than 40 Hours per Week: Full Weight (~10.00 Points)

Sources: Data used to create this ranking were collected from the U.S. Bureau of Labor Statistics, Oxford Martin School at the University of Oxford, Indeed.com and Salary.com. ●

Katharine Morris Is Using Her Environmental Activism To Raise Awareness About Public Health And The Local Ecosystem In Her Neighborhood

By Alex Hughes, Jordan Walker, Alexandra Katsoulis

Sometimes, changing the world starts at home! For activist and student Katharine Morris, that means raising awareness about climate change and environmental racism in her Connecticut community.

Katharine is the founder of UConn Collaborative Organizing (UCCO) and works with students and activists in her community to raise awareness about the ways in which social justice issues and climate activism are inextricably intertwined. Katharine's goal is to address climate issues in her home of Bridgeport, Connecticut, and to connect and collaborate with climate activists across the state.

Katharine first became aware of the connection between racism and climate change when she moved to Bridgeport as a teenager. "When I moved to Bridgeport, Connecticut for my high school years, that's when I noticed all the plumes and various air pollution sources," she tells In The Know. "My air was more polluted and my water was more polluted. I didn't have access to nature in the way that I was most familiar with."

Katharine began volunteering for organizations in her community as a high school student, and founded UCCO upon enrolling at the University of Connecticut. "It's about shifting the culture on campus to one where people recognize what they can do together, and feel that sense of responsibility towards each other, and feel the strength of collective action in a way that hopefully will last long after I've graduated," she explains.

Katharine works hard to make her community aware of local environmental issues and how they're connected

to racial inequality. She tells In The Know that sources of pollution like power plants and incinerators disproportionately affect people of color and low income communities.

According to Katharine, incinerators fill the air with harmful particulate matter which can cause higher rates of cancer and asthma. She notes that asthma rates are 5 times higher for Black children in Connecticut. “Social injustices, structural injustices, environmental racism, health inequities—this connection should be accounted for in the fight for environmental justice and climate action overall.”

In her work with UCCO, Katharine focuses on community engagement and awareness-raising tactics. “I am engaging with other [environmental justice] activists who are doing great work around the state of Connecticut,” she says. “I’m also working on community engagement projects to really ground the community members of Bridgeport with a sense of pride and responsibility for their environment.”

Katharine also works on fundraising projects for UCCO. She is currently raising money via a GoFundMe for “Seaside Sounds for Environmental Justice,” a cultural celebration and fundraising event which will showcase local artists and entrepreneurs, and raise awareness about local environmental issues.

Katharine believes that tackling environmental racism takes persistence, creativity, and teamwork. “It really starts with being creative, but also most importantly paying attention to the needs of the environmental justice communities in your surroundings, because there’s no one size fits all solution for these issues,” she says. “We’re all people surrounded by other people, interacting with other people, and if we don’t work together collaboratively, we’re not going to solve the gigantic problem that is climate change and environmental racism.” Salary.com. Salary.com. ●

UConn Dining Dish Wins Best Vegan Recipe at National Colleges Contest

By Susan Dunne

A variation on a Venezuelan corn pancake served in one of UConn’s dining halls won a gold medal this week in a nationwide competition for the best vegan recipe served on a college campus, UConn announced.

Cinnamon Chipotle Cachapas with Black Bean Avocado Salsa and Pickled Red Onions, created by Robert Landolphi, was honored by the National Association of College and University Food Services.

Landolphi, assistant director of culinary development on the Storrs campus, said even those who aren’t students can taste his award-winning dish. In the fall, it will be placed on the menu rotation at McMahon dining hall, which is open to the public.

Landolphi said when the vegan recipe contest was coming up, he altered a nonvegan recipe.

“I added a little more spice to the pancake itself, with the cinnamon chipotle spice flavor. Then I made it like a quesadilla, the pancake folding over with cheese in it, a tofu-based cheese that melts beautifully and is really creamy,” he said.

“The contest rules were that it had to have at least seven grams of protein. So I added the black bean avocado salsa, with corn and lime,” he said. “Then I topped it with pickled red onions to give it more tang.”

The plant-based options at UConn are growing. Last year the campus opened its first entirely meatless cafe, CrossRoads, in the Wilbur Cross Building. Landolphi said it has been popular. Vegetarian and vegan options are at every campus dining spot. Landolphi said the expanded choices focus not just on vegetarians and vegans, but flexitarians, people who eat meat but who lean toward plant-based options.

“They are trying some of these dishes and saying, ‘I’d give up a meat dish once or twice a week and eat this’,”

he said. "There has been an increase in demand for tofu, legumes, produce and the popular plant-based products such as vegan chicken filets and nuggets, burgers, sausages."

Landolphi said about 1.4% of the UConn community is vegan and about 5% are vegetarian.

Another of Landolphi's vegan recipes, the Not So Crabby Vegan Crab Cakes with Remoulade Sauce, won the gold medal in 2016. It is on the menu rotation at all eight dining halls.

Two other recipes won NACUFS prizes in the past and are no longer on the menus, a vegan meatball banh mi, which won gold in 2018, and a white bean gnocchi with Brussels sprouts, which won bronze in 2020. The contest is held every two years.

Those who want to make UConn's dishes at home can find recipes at dining.uconn.edu/recipes. Those who want to see the currently available menu rotations can visit dining.uconn.edu. Salary.com. ●

Stowe Library at UConn Health on Jan. 14. (Sean Flynn/UConn Photo) (Sean Flynn/UConn)

Out of a pool of 150 candidates, including sitting university presidents, provosts and chief academic officers from three continents, UConn selected one of their own, preaching a message of stability after three years of leadership changes and pandemic.

Trustees described Maric as a "change agent," a "strong yet empathetic leader," and the "right president" to lead UConn into its next chapter.

"She is a force of nature: deeply committed to UConn, determined to get results, and all-in when it comes to leading this institution into a future that will be defined by success and achievement,"

Board of Trustees Chair Daniel Toscano said.

Andrea Dennis-LaVigne, the board's vice-chair, described this moment as a "critical point" for UConn in its "progression towards excellence."

Among other core priorities, Maric said that during her tenure as president, she will focus on building trust, maintaining affordability, improving environmental sustainability, embracing diversity equity and inclusion, enhancing economic development, and, above all, putting students first.

"We need to keep UConn affordable and accessible: A college degree and the college experience has never been more important for motivated leaders of our future," Maric said. "I love UConn and I believe in UConn."

Maric joined UConn in 2010 as a professor in the School of Engineering. From 2017 to 2022, she served as UConn's vice president for research, innovation and entrepreneurship, where she is credited with advancing the university's research funding and reputation as a research institution. During that time, awards to UConn and UConn Health doubled from \$184 million in 2017 to \$376 million in 2020, according to the university.

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COURANT ON SEPTEMBER 28, 2022

UConn Names 17th University President: 'I Love UConn and I Believe in UConn'

By Alison Cross

The University of Connecticut Board of Trustees appointed Interim President Radenka Maric as the university's 17th president in a unanimous vote Wednesday morning

Radenka Maric, named president of the University of Connecticut on Wednesday, is photographed at the Stowe Library at UConn Health on Jan. 14. (Sean Flynn/UConn Photo)

Radenka Maric, named president of the University of Connecticut on Wednesday, is photographed at the

Before that, she served as executive director of the UConn Technology Park and Innovation Partnership Building from 2015 to 2017.

Prior to joining UConn, she worked as a program manager for Canada's Institute for Fuel Cell Innovation and is a highly regarded expert in clean energy innovation.

Since coming to Connecticut, all three of her children have graduated from UConn.

Maric, who was born in Yugoslavia and educated at Kyoto University in Japan, is fluent in four languages (Croatian, English, German and Japanese) and is also a painter, pianist and designs and sews many of her own clothes.

Maric assumed her current role on Feb. 1, following the departure of Interim President Andrew Agwunobi. The university started its search for a new president after Thomas Katsouleas stepped down from the role in June 2021, less than two years into the job. [Salary.com](#). ●

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EDITORIAL: NEW PRESIDENT OFFERS A FRESH START AT UCONN

For the first time in two years, the state's flagship public university has a noninterim president.

By the Hearst CT Media Editorial Board

Radenka Maric was approved by the University of Connecticut's board of trustees on Wednesday to take the job she had been filling on an interim basis. She took the job earlier this year after taking over from interim president Andrew Agwunobi, who was himself filling in after the departure of Thomas Katsouleas, who resigned in 2020.

Even people who pay close attention to such issues could be forgiven for having a hard time following along.

It's important, though, that the university get this right. UConn was plagued by a string of missteps that led to Katsouleas' departure, and in such an important position it's vital to make certain the right person is in place.

By all indications, Maric can be that person. She has reportedly done the job ably so far, and she was chosen over a wide field of potential candidates. It's no small thing to lead the top-ranked public university in New England, one with a growing reputation nationwide, and so the best that can be hoped is that Maric has a long and successful tenure.

It's worth remembering, though, that Katsouleas, too, began with great promise. Arriving from the University of Virginia, he was chosen early in Gov. Ned Lamont's term to succeed former president Susan Herbst in leading UConn onto the global stage. Katsouleas was described as a "great catch" by the chairman of UConn's board of trustees.

It was all the more disappointing to see that promise fizzle out. Katsouleas resigned only two years into a five-year contract amid reports of disagreements with the board that hired him. Nothing was easy about that period, which included the onset of COVID-19 and the accompanying uncertainty of remote learning, but that didn't serve as an explanation.

Making matter more complicated was that Katsouleas stayed on as a professor while maintaining his president's salary. That was his right, but it made for a poor look for the people who brought him on board.

Now UConn gets a fresh start. The challenges of COVID have not ended, but the situation is far different now than it was two years ago. UConn continues to earn high marks for its academics, and its physical plant has been in a state of constant upgrading for going on a generation now. The future is bright in Storrs.

That doesn't mean there aren't issues that need to be figured out. The football team costs a lot of money for very few wins, and though an established coach in Jim Mora may have the team pointed in the right direction, it will be a long rebuild. The questions of UConn athletics' relationship to Hartford, including the basketball teams playing at the XL Center and the football team's home in East Hartford, have been in

need of an answer for years, and are no less urgent today.

Still, there is plenty of promise in UConn's latest hire. Maric has impressed everyone who has worked with her, and she has a chance to make a real difference in Connecticut. The state is rooting for her. ●

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HOW 2 SCOTUS CASES COULD CHANGE AMERICAN UNIVERSITIES

By Kate Murphy

The Supreme Court is set to hear two cases on Monday challenging race-based admissions policies at Harvard University, the nation's oldest private college, and the University of North Carolina, the nation's oldest public university.

The plaintiff in both cases, Students for Fair Admissions, is asking the Supreme Court to overturn its prior precedent (*Grutter v. Bollinger*) that allows the narrow use of race in college admissions decisions.

Cases like these aren't anything new to the Supreme Court. In 2003 and 2016 cases, the high court previously upheld that race and ethnicity can be considered in the college admissions process at the University of Michigan Law School and at the University of Texas.

But the makeup of the Supreme Court changed significantly during the Donald Trump presidency. The court now has a six-to-three conservative majority, which could potentially reverse 40 years of precedent of race conscious admissions processes for colleges and universities.

Poll numbers show that majorities of basically every identifiable group (Republicans, Democrats, Blacks, Whites, Hispanics and Asian Americans) don't agree with using racial preferences in college admissions, Jess Bravin, Supreme Court reporter at The Wall Street Journal said in an interview with the Yahoo News

podcast, "Skullduggery." "If you can overrule *Roe v. Wade* and move on, this is relatively small potatoes to [the Supreme Court]," Bravin said. "I think [with] this case [it] is a lot easier to envision them overruling the precedents than [it was with] *Roe*."

Although the decision on the case is expected sometime before next summer, educational institutions are readying for their admissions process to change.

In an effort to better understand the cases surrounding affirmative action in the college admissions process, Yahoo News also spoke with Vern Granger, director of admissions at the University of Connecticut, and Derek Black, professor of law at the University of South Carolina, about how each case is different and what the implications are for the potential outcomes.

Read the discussions below. (Some responses have been edited for length and clarity.)

Why are there two different cases before the Supreme Court?

Derek Black: There is potentially an important difference between the North Carolina case and the Harvard case. Because Harvard is a private institution, it is not subject to the United States Constitution. [The plaintiffs] are suing Harvard for violation of Title VI of the Civil Rights Act of 1964. Title VI applies to all recipients of federal funds. So that means that whatever the court decides in regard to that case applies to private and public institutions — basically anyone receiving federal funds. So one is the private side, which is a Title VI claim. The other is the 14th Amendment claim [in the University of North Carolina case].

The legal argument in both is: Diversity shouldn't be a compelling interest, therefore it can't survive scrutiny under Title VI or the 14th Amendment. But those are two separate laws.

Title VI is one law, and it really goes to what Congress's intent was in 1964: What does the statute itself mean or not mean? And then the 14th Amendment says, "No state shall deny any person equal protection of the law." They're two different laws with two different legislative histories. So that theoretically could lead to different results, although the court has tended over the last 20 years to treat them as coextensive. So even

though they were passed in radically different periods of time, it has basically applied the same rules to both.

How will the makeup of the 2022-23 Supreme Court affect these case decisions?

Black: The composition has changed quite a bit since the last time the Supreme Court took up these issues: Fisher v. Texas [in 2016], and Justice Kennedy was still on the court. In two cases he voted to uphold diversity, and Justice Ruth Bader Ginsburg was still on the court then. So both of those yes votes for diversity are gone, and both of them have been replaced with more conservative members of the court.

In the Harvard case, you potentially lost a third of the vote. Justice Breyer retired and was replaced by Justice Jackson, who, based upon past writings, could be sympathetic to a diversity hearing, but because she serves on the [board of overseers] at Harvard, she recused herself from the Harvard case.

So there's only eight justices hearing the Harvard case and two of the previous yes votes are gone. Three, if you consider there's only eight people. So there's a pretty narrow path to victory in the Harvard case, but [Justice Jackson] is hearing the North Carolina case. So even though she's not on the Harvard case, they can't render cases that are constitutionally inconsistent with one another.

How will colleges and universities prepare for either outcome from the Supreme Court cases?

Vern Granger: We have to prepare ourselves for potential outcomes. One of those outcomes is going to impact how race is considered in our evaluation process. And there could be some changes with regards to that. But no matter what the decision is, I think two things are going to be constant. One of those is that you're going to continue to follow the law. So whatever the law comes out of the court cases as an institution, as a profession, it's going to be important that we continue to follow that. But also what is going to continue to take place — and we will amplify — is our commitment to diversity and how it is critical to the learning environment of the students at the university, and how we are going to continue to support that in all different forms. But it could impact how we are able to review and select applications.

And we're having conversations internally about what those potential implications could have in our review process. We are preparing for all the potential outcomes, but we're not by any means making any changes to our current processes and our outreach efforts until the results of the case.

If the Supreme Court overturns its precedent for affirmative action in higher education, will it have any impact on programs beyond race and ethnicity?

Granger: It is hard to say what impact these [cases] will have on programs beyond race and ethnicity. I think we're having conversations [around] the federally funded programs like Trio or Gear Up: Will the decisions have an impact on them? There's a lot of unknowns with this, but it is prudent for all universities to begin having these conversations about what are the ramifications based on certain decisions that may come from the Supreme Court.

The thing we've been doing at UConn, and what I'm hearing a lot of other NACAC [National Association for College Admission Counseling] member institutions have been doing, is documenting and reviewing all of our race-neutral outreach strategies that we have in place.

I think that is important that we should be doing regardless of what happens with the court and their decision. ●

ALUMNA'S HISTORIC DONATION PAVES WAY FOR NEW UCONN STUDENT-ATHLETE SUCCESS CENTER

By Alison Cross

The University of Connecticut announced plans Friday for a new state-of-the-art student-athlete performance and academic support center, thanks to the largest cash donation ever received from an alumnus.

Entrepreneur Trisha Bailey, who was a member of UConn cross country and track & field teams and graduated in 1999, made the donation for the new facility, which will bear her name, pending UConn Board of Trustees approval on Oct. 26.

Bailey, a current resident of Orlando, Florida, was born in Jamaica and raised in East Hartford. She is a business owner, philanthropist, public speaker and the founder of several successful companies such as Bailey's Pharmacy, Bailey's Medical Equipment and Supplies, Bailey's Scrubs, Bailey's Real Estate, Bailey's Ideal Choice Homes International Real Estate Division, Bailey Charitable Foundation, and Serenity Ranch.

"It's not so much the journey that I found to be most important," Bailey said in a UConn press release. "It's the way I treated those along the way that mattered the most, and when I look at the beginning of it all, UConn was right there."

Bailey's donation will help fund an 80,000-square-foot renovation and expansion of the Storrs campus' previous recreation center and parts of the Hugh S. Greer Field House.

Once completed, the Bailey Student Athlete Success Center will include "an academic center, clinical space for sports medicine and mental health services, kinesiology teaching space, a rowing practice tank, strength and conditioning apparatus, a communal kitchen and nutrition area, and a multipurpose training and meeting spaces," according to the press release.

The project will also feature new locker rooms, team offices and a landscaped pedestrian walkway.

In the release, David Benedict, UConn's director of athletics, said that it is an honor to have Bailey's name on the facility that will be an "enduring legacy for generations to come."

"Trisha Bailey is an American success story that has its roots in the classroom and in competition at UConn," Benedict said.

"She is the ideal model for our student-athletes to aspire to become champions in all they pursue well after their playing days are over. Her unprecedented and transformational generosity will dramatically elevate the academic, nutrition and mental wellness needs for all of our more than 600 student-athletes. It also will provide a new home to six of our Olympic sports — five of which are women's programs." ●

MOODY'S UPGRADES UCONN'S SPECIAL OBLIGATION REVENUE BONDS, AFFIRMS RATING, SAYS OUTLOOK 'STABLE'

By Hartford Courant Staff

Moody's Investors Service said it has assigned a Aa3 rating to University of Connecticut's proposed \$50 million of Special Obligation Student Fee Revenue Bonds, upgraded the university's outstanding student fee revenue bonds to Aa3 from A1, and affirmed its Aa3 issuer rating.

"The outlook remains stable," Moody's said in an online post. "The university had total outstanding debt of about \$1.9 billion in fiscal 2021."

The university said in a statement that while "the bond rating increase does not generate an immediate increase in revenue or reduction to interest expense on

existing debt, the vote of confidence in UConn bonds as a stable, attractive investment can help increase demand and reduce borrowing costs over time.”

“The Moody’s rating upgrade highlights the University’s strong academic and research profile, record student demand, and commitment to our financial bottom line,” Lloyd Blanchard, UConn interim vice president for Finance and CFO said, also in the statement. “We are proud to earn this rating upgrade, which we expect will reduce our long-term borrowing costs and allow us to invest additional resources on our students.”

Moody’s said in the post that the upgrade of UConn’s special obligation student fee revenue bonds to Aa3 from A1 is “largely driven by the material strengthening in pledged revenue coverage of debt service.”

Further, the rating agency found “favorable student demand will contribute to the maintenance of coverage levels at around 6x,” and also is “supported by the demonstrated evidence during the pandemic of active management of university finances to ensure the maintenance of strong capacity to cover obligations during periods of significant operational disruption.”

Moody’s also noted that “while the pledged revenues under the indenture constitute a moderate share of the university’s total revenue base, the board has the capacity to broaden the pledge. The university also maintains an internally restricted pool of funds, which when combined with repair and replacement funds, could alone cover annual debt service on special obligation bonds by about 2x.”

Moody’s said the stable outlook reflects its “expectations of continued favorable student demand, strong state financial support, and a return to balanced operations. It also reflects Moody’s expectations of continued active management of pledged revenue to provide robust coverage of special obligation bond debt service at around 6x.”

“Moody’s decision to upgrade UConn’s Student Fee Revenue Bonds is great news for Connecticut. It reflects Moody’s assessment of UConn’s importance to the State of Connecticut as both a research institution and an economic hub,” Connecticut State Treasurer Shawn T. Wooden said, in the university statement.

These are factors Moody’s said could lead to a ratings upgrade:

- Strengthening of state’s credit profile, along with an ongoing commitment to providing strong financial support to the university for operations and general obligation debt service.
- Substantial growth in financial reserves providing for materially stronger coverage of both adjusted debt and expenses.

These are factors Moody’s said could lead to a ratings downgrade:

- Deterioration in state credit quality or sustained reductions in state financial support
- Material softening in coverage of pledged revenue relative to special obligation debt service
- Meaningful erosion in the liquidity profile or downturn in operating performance. ●

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AT UCONN AND THROUGHOUT THE U.S., DIVERSE COLLEGE COMMUNITIES ARE ESSENTIAL

By Radenka Maric

On Oct. 31, the U.S. Supreme Court is scheduled to hear arguments in two cases that are vitally important to the University of Connecticut, to higher education broadly, and to America’s ongoing commitment to building a more just and equitable society.

The cases concern challenges to decades-old legal precedent that establishes the right of universities to take a holistic approach to setting admissions policies in the service of building a diverse, welcoming student body. This approach includes the ability to consider the race and ethnicity of applicants to address deeply rooted structural racism.

Since 1978, when the ability to implement a holistic, race-conscious admissions process was affirmed in the Supreme Court decision *Regents of the University of California v. Bakke*, successive Courts have continued to uphold the constitutionality of this practice, most notably in 2003 and as recently as 2016, in the case *Fisher v. University of Texas at Austin*.

This is not only a question of principle. Evidence abounds of the practical, concrete benefits to American society of enabling students to learn in a diverse community where they benefit from a wide variety of experiences, ideas, and perspectives.

The students learning in our classrooms and experimenting in our laboratories today will soon be our doctors and nurses, our lawyers and accountants, the teachers of our children and the elected officials of our communities, the innovators and creative thinkers whose ideas and energy will bring positive change and growth to our society for decades to come.

Moreover, we know that the best way to build a vibrant and diverse student body is to use the tested, reliable methodology of the holistic admissions process. In states where race-conscious admissions processes have been banned, such as Texas and California, universities have struggled to maintain diverse student bodies, with even the number of Black and Latino applicants dropping precipitously since the bans were adopted.

Therefore, it is essential to UConn's mission as a public university that we create and maintain a student body in which people of all races, ethnicities, and backgrounds can thrive.

Through the efforts of the Division of Enrollment Planning and Management, the Office of Diversity, Equity and Inclusion, and the individual schools and colleges that make up our university, we have made significant progress in this essential endeavor.

The Class of 2026, for instance, is the most diverse in the history of our institution. Forty-seven percent are students of color, and nearly 27% are from backgrounds historically underrepresented in higher education. This is not by accident, and it is not an anomaly: Prior to this year's first-year students, the classes of 2024, 2023, and 2022 were successively the most diverse in university history.

Our ability to recruit and retain a diverse student population is drawn from a dynamic learning environment that prizes inclusion and equity across academic, social, and cultural spheres:

Areas of study at UConn include Africana Studies, Human Rights, Judaic Studies, Latino and Latin American Studies, Urban and Community Studies, Asian and Asian American Studies, Native American and Indigenous Studies and Women's, Gender, and Sexuality Studies.

Our seven cultural centers and programs offer a rich experience of education, leadership opportunities, and the chance to forge lifelong bonds among peers.

Learning communities like SchOLA²RS House, La Comunidad Intelectual, and WIMSE House create meaningful relationships with faculty mentors and peers, and provide a welcoming environment for deeper learning and student success.

New initiatives across the university, such as the Office of Health Equity and Access to Care within Student Health and Wellness; the Vergnano Institute for Inclusion within the School of Engineering; the Justice, Equity, Diversity, and Inclusion Research Initiative within the Office of the Vice President for Research; the Constance Belton Green Diversity fund within the School of Law; and the creation of a Chief Diversity Officer position at UConn Health all demonstrate the breadth and depth of our commitment to inclusion and equity for our students, faculty, and staff.

It is not merely our belief, but our experience as a university, that recruiting a diverse student body brings benefits to the entire institution, and to society at large.

In the court's 2016 majority opinion on *Fisher v. Texas*, Justice Kennedy references one of the earliest cases on race in admissions, writing:

"A university is in large part defined by those intangible 'qualities which are incapable of objective measurement but which make for greatness.' *Sweatt v. Painter* (1950). Considerable deference is owed to a university in defining those intangible characteristics, like student body diversity, that are central to its identity and educational mission.

But still, it remains an enduring challenge to our Nation's education system to reconcile the pursuit of diversity with the constitutional promise of equal treatment and dignity."

Regardless of what the court ultimately decides in the two cases now before it, the commitment to that vital, unifying, and transformative diversity will remain one of our core values at UConn, and our actions – in admissions, in academics, in culture – will match our values. We have come too far as a university and as a country – and have further to go still – to abandon the progress which has been so painstakingly made.

Radenka Maric is the President of the University of Connecticut. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE ENERGY NEWS NETWORK ON NOVEMBER 2, 2022

AFTER ENERGY EFFICIENCY UPGRADES, UCONN TURNS ATTENTION TO RENEWABLE ENERGY

UConn President Radenka Maric cited the importance of deploying clean energy technologies on campus last week as she announced an accelerated target to make the university carbon neutral by 2030.

By Lisa Prevost

A new residence hall planned for the University of Connecticut marks the beginning of the campus' transition from gas-fired heating and cooling.

The new complex, consisting of three connected buildings with 258 apartments, will rely on hydrogen-powered fuel cells for most of its electricity, and geothermal wells for heating and cooling. It's expected to be the first of several projects that aim to phase out the campus' central utility plant.

"This is the beginning of a global strategy to try and reduce carbon emissions beyond what we've been able to do so far through energy conservation and efficiency

measures," said Robert Corbett, executive director of university planning, design and construction.

The school installed a natural gas-fired cogeneration facility in 2006 that was considered state-of-the-art at the time. It supplies more than 90% of the campus' electricity, heating and cooling and is projected to have a useful life up to 2040.

While the university has more than two dozen highly efficient, LEED-certified buildings and has undergone a comprehensive LED lighting retrofit, "we are a laggard in incorporating renewables into our energy portfolio," said Patrick McKee, senior sustainability program manager in the office of sustainability.

Geothermal systems utilize the earth, through an underground piping system, to act as a heat sink in the summer and a heat source in the winter. They don't require the use of fossil fuels or a lot of electricity.

The location of the planned residence hall on the southern end of campus is fairly remote from the central utility plant. The 16-acre property is large enough to accommodate an initial 180 geothermal wells going down to a depth of 800 feet, Mr. Corbett said.

"The well field and the pumping stations will really be a centralized energy plant," he said. "There will eventually be about 500 wells in that vicinity."

The residence hall will be powered by a 1-megawatt fuel cell, though a second one may be added later. Because a fuel cell supplies power around the clock, it will be connected to a network so that when the residence hall isn't using all its electricity it can be utilized elsewhere, Corbett said.

The complex will also be connected to the central utility plant so that there is a backup source of power when the fuel cell needs to be serviced. It will be built to accommodate a rooftop solar array in the future, a system that might be used for heating water, Corbett said.

The complex will be built in conformance with LEED Gold standards, a set of building guidelines intended to maximize conservation and efficiency, minimize waste and emissions, and ensure a healthy indoor living environment.

The plan is to get some experience in geothermal by gradually connecting the southern end of campus,

which has another dozen buildings, to the geothermal well system, and disconnecting from the utility plant.

Eventually, perhaps over the next eight to 12 years, the rest of campus will be converted. Converting the whole campus, with some 400 buildings, would require 10,000 wells and extensive retrofitting of mechanical equipment, Corbett said.

McKee noted that “we do have a ton of steam lines underneath the ground. If we could repurpose that existing infrastructure, that would cut some of the costs.”

UConn President Radenka Maric cited the importance of deploying clean energy technologies on campus last week as she announced an accelerated target to make the university carbon neutral by 2030. She also mentioned carbon-capture technologies that could reduce CO2 emissions at the central cogeneration facility.

A full Sustainability Action Plan will be released in the spring. To date, UConn has cut greenhouse gas emissions by 45% below the 2001 benchmark year, even while nearly doubling the size of its campus, according to the statement from Maric.

A new science building scheduled for completion later this year will be partially powered by a 520-kilowatt solar system, the first major solar array on campus. Construction on the residence hall is expected to begin next summer. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE FORBES
ON DECEMBER 12, 2022

PARENTING THE DISAPPOINTED COLLEGE APPLICANT

By Brennan Barnard

Amid the holiday cheer and joyous anticipation, mid-December often triggers a different kind of stomach churning: the arrival of early admissions decisions. Unfortunately, the positive news that is coming for

some will be matched by significant disappointment for others. This can be a difficult time for young people as they dream of their future, and consider their worth and place in the world. It is also a challenging time for the parents and supporters of applicants who want the best for their students, but cannot “fix” the discouragement of being denied admission.

It is hard to know how to lessen the sting when we as adults may also be trying to make sense of our child being denied. I have learned a great deal from watching this play out for thousands of families over the years. I also asked my colleagues in admission, who are making the decisions (and many who have had the experience with their own children), to share their thoughts. Fellow parents, consider the following tips:

Prepare thoughtfully. Do not wait until the decision is known to talk about what it will mean, or how your student is feeling. If they are willing, have a conversation about the potential outcomes and reiterate your pride and love for them and all they are. This may seem obvious but sometimes it helps to hear it out loud. Talking about the possibility of being denied or deferred beforehand can help to prepare them for whatever news is to come. Thyra Briggs, vice president for admission and financial aid at Harvey Mudd College says, “I’ve always loved how the former dean of studies at Sarah Lawrence College handled student requests. She would ask students “What would you do if I said no?” Students often surprised themselves by having a fairly well-thought-out plan.”

Briggs adds, “I’ve always thought parents or counselors should ask early decision students this question to show students how many backup plans they already had and that idea of a viable alternate path was already there.” As with everything admission related, don’t overdo it. Excessive discussion about the pending decision will likely raise their already elevated anxiety. Read the room!

It’s their decision. Colleges deliver admission decisions in different ways. Many release the news via online portals, and others through direct email. There are even some schools that still rely on the old standard of a physical letter that arrives in one’s mailbox (and only because the Pony Express no longer operates). Regardless of the way the decision lands, allow your student to choose when, where, and how they check. They might want to discover the outcome alone in their

room, surrounded by friends, or with family by their side. Ask about their preference and honor their wishes. Remember, this is not about you.

Control what you can control. Letting go of perceived control can be one of the hardest parts of parenting. Unfortunately, sometimes uncertainty and our growing lack of agency over our children's future get funneled into the admission experience as a last-ditch effort to cling on. Vern Granger is the director of undergraduate admissions at the University of Connecticut and the president of the National Association for College Admission Counseling (NACAC). He explains that a denial of admission "often leads to students feeling there must be something wrong with them, or the school thinks they are not capable of doing the work."

Parents wonder what could have been done differently. Granger explains that "universities will consider factors such as capacity and building a class to institutional mission, which can impact whether someone receives admission to a university." He adds, "I am a believer there is not one institution that is a perfect fit, but rather many can provide a student with the learning environment and experiences they are looking for. Ultimately, I try to get students and families to focus on what they have control over instead of an admission decision which is outside of their control."

Karen Richardson, dean of admission and financial aid at Princeton University agrees, telling parents to "remind your child that not being admitted to a particular school is not a reflection on their ability to be successful in college. There are so many factors that go into building a class and, often, there is an overabundance of talented applicants—many of whom could be successful at a given college or university." She adds, "while it's disappointing in the moment, know that they will find a place that is a great fit."

Pause and listen. It is tempting to want to react and comfort. When our child scrapes their knee, we want to stop the bleeding. Admission is different, even if our instincts are the same. Few denied students want to immediately launch into a "plan B" or get advice and questions about their next steps. Allow the bleeding to stop before you try to stitch up the wound. Adam Sapp, interim vice president & dean of admissions and financial aid at Pomona College, says, "many parents see themselves as real partners, sidekicks trying to help their student put their best foot forward." He explains,

"I meet so many parents every year who already know how to play the role of sidekick well—so if your student is denied, my advice is to keep doing what you do best. Moms and Dads usually have big, strong shoulders, don't be afraid to let your kid use those shoulders for a bit once they get the news of a denial." Sapp adds, "remember to listen more than you talk, encourage your student more often than you direct them. Your young person needs encouragement right now, so do your best to keep up the positive energy that they may be struggling to muster." Don't rush into a solve-it mode, give it time.

Don't compare. It can add to the despair. Sometimes in our effort to comfort our children, it is tempting to either draw parallels or contrast to other applicants or an older sibling. Making assumptions or projections about why a classmate might have been admitted is not helpful. Michael Pina, director of admission at the University of Richmond, warns parents to "avoid talking about what happened this year or last year to other students." He adds, "Your children want you to be happy and proud of them, and this exacerbates the problem."

Allow for loss (theirs and yours). Harvey Mudd College's Briggs says, "Let your child be sad and recognize the decision as a loss—a loss of what they thought their plans were, or how they thought this process would go. And with any loss comes a process of moving through it." She adds, "it's OK for parents to take a moment to be sad as well and even share that with their child, providing that the child knows that the sadness is in solidarity with them and not because of them."

The good, the bad, and the ugly. If your child gets good news and is admitted to college, celebrate. If they receive multiple acceptances, be mindful of your reactions and celebrate equally. They will internalize subtle signals from you about which acceptances you are more or less excited about, so try not to show your hand. If the news is bad, over time help reframe the outcome around opportunity. Pomona's Sapp advises, "do your best to be a cheerleader and supporter for all those new places that your student is now imagining where they could enroll." Finally, if your student is deferred (the ugly), reinforce that—while disappointing—this can also be a positive result. Make sure they are proactive with any follow-up necessary and that, in addition to remaining hopeful, they get excited about the other colleges on their list.

Whether you are managing your child's disappointment or your own (maybe both), keep things in perspective. College admission is not fair, nor was it designed to be. A denial can be a powerful learning opportunity and an important part of their journey forward. The path to college is not always linear. Though it might be hard to see our children hurt, all they need is our unconditional love and support as they find their way forward. ●

THIS ARTICLE WAS FIRST PUBLISHED IN THE STAMFORD
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NEW UCONN PRESIDENT RADENKA MARIC IS FUELING A LEAP INTO A CLEAN-ENERGY FUTURE

By Douglas P. Clement

With her corkscrew curls, dressed in white and sporting blazing-white, UConn-branded sneakers, Radenka Maric seems to glow as morning sunlight illuminates her Gulley Hall office on the sparkling autumn day we meet for an interview.

Like a "tell" in a poker game, the University of Connecticut's new president reveals her cards as we settle into comfortable sofas: Our interview couldn't begin until I agreed to let her properly welcome me by serving coffee, tea or water. Maric may be an internationally recognized expert in clean energy, but she's powered by the fuel cell of a soul with a European sensibility.

It's a soul that's been tested and forged by hardship beyond what many have known. Born in the former Yugoslavia, whose 1990s civil war tore apart both the country and her family and left her struggling to afford food while studying abroad in Japan, Maric took a unique path to becoming the 17th president of UConn (and only second woman to lead the institution) this past fall. Whether native to her character or earned through her life's experiences, Maric's trademark engagement, empathy, power to inspire, and pure positive energy radiates out onto those she encounters.

In likening Maric to a rock star, UConn Trustee Tom Ritter signaled that the earned qualities of respect and reverence have already rendered her a mononym. Like Madonna or Oprah, she's simply Radenka. (Asked for her take on Ritter's encomium, Maric speculates that he might also have been referring to her high energy, like that of Rod Stewart, perhaps.)

Either way, there's a new "rock star" commanding the stage in Storrs.

Flanked by a floral vase and a UConn Final Four basketball in her Storrs office, University of Connecticut President Radenka Maric brings worldly experience to an increasingly global job.

Flanked by a floral vase and a UConn Final Four basketball in her Storrs office, University of Connecticut President Radenka Maric brings worldly experience to an increasingly global job.

When Maric was named the permanent president in late September, after becoming the interim in February, it came at a time when world news remained fixated on the leadership crisis in the UK, a much louder echo of the uncertainty that has rippled through UConn's presidential politics in recent years.

Former university President Thomas Katsouleas, who found himself at odds with the Board of Trustees over his management style, resigned in June 2021 just two years into a five-year contract. The board appointed Dr. Andrew Agwunobi, then CEO of UConn Health, as interim president in July 2021, and only months later in January 2022, he announced his departure to become president of Humana's Home Solutions business.

Maric, who holds a Ph.D. in materials science and energy from Kyoto University, joined the UConn engineering department faculty in 2010 and served for five years as the university's vice president for research, innovation and entrepreneurship before being tapped as the next interim president beginning Feb. 1.

At the time she was hailed by UConn Today as "a distinguished UConn faculty member who has led UConn's surging research enterprise to new heights as an administrator," though it was also noted she was leading UConn as it searched for a permanent president.

Amid the presidential turbulence, is it troubled times for the state's flagship university? Just the opposite, actually.

Since 2000 the university has been rising in the U.S. News and World Report rankings, ascending from 38th into the top 25 among public universities, and holding at 26th in the latest rankings this past September. And on the most prominent reputation litmus test for big-time colleges and universities, UConn's marquee sports teams have bounced back in style after struggles in recent years.

With the interim tag from Maric's title now removed, it appears those presidential comings and goings were nothing but minor ripples on the Storrs campus' iconic Mirror Lake. The first internal candidate since 1990 to be named UConn's permanent president, Maric has the confidence of the school's Board of Trustees, which enthusiastically elevated her to lead the state's flagship public university to even bigger things.

Board of Trustees Chairman Dan Toscano told UConn Today, "She is a force of nature: deeply committed to UConn, determined to get results, and all-in when it comes to leading this institution into a future that will be defined by success and achievement."

All great leaders tend to exhibit equilibrium at a high level on three interrelated aspects: what they've accomplished (the foundation), the impressive things they can make happen (the potential), and who they are (the soul of the operation). Nurtured by a European upbringing, and the worldliness of studying and working in Japan, Maric is a master of that latter, often intangible quality.

She isn't the first UConn president to be born outside the U.S. (Her immediate predecessor, Agwunobi, was born in Scotland and raised in Scotland and Nigeria.) But she might be the only one who is fluent in four languages — Croatian, English, German and Japanese — and also paints, plays the piano, and designs and makes clothes, having been first inspired by receiving a sewing machine as a gift when she was a child.

She also loves to cook. "I like to bake. I'm a very old-traditional mother," Maric says. A cookbook passed down from her grandmother is a treasure, and challah bread is her favorite thing to bake for her family.

Four generations live in her house in West Hartford, including three sons who are graduates of UConn, a daughter-in-law, a granddaughter, and her mother-in-law. "We have a big family and I take pride in the community I have in my house and they give me great joy," she says.

Asked how well she plays piano and her favorite composer, she names Mozart and the "Moonlight Sonata," and says, "I play for myself, just for my soul."

One senses there's more to the music for Maric than mere enjoyment.

Born and raised in Derventa, then part of Yugoslavia, to parents who were doctors and highly valued education, she earned a Bachelor of Science degree in materials science from the University of Belgrade. She and her husband, Charles Maric, now director of technical business development and students' Senior Design Program projects in UConn's School of Engineering, met in college in Yugoslavia and moved to Japan to pursue advanced degrees.

The civil war that would break apart Yugoslavia began after they left. "It was very hard to envision war in the former Yugoslavia because we took such great pride in being multicultural, multi-faith, multi-ethnic people all living together peacefully," Maric says.

Her parents and brother remained in the war-torn country and were funneled through a series of Bosnian refugee camps, which Maric says took a tremendous physical and emotional toll on them. She located her brother and was able to get him to Japan but couldn't find her parents for a very long time, despite her brother traveling back from Japan several times to search for them. They were finally located and brought to Japan, but both died shortly afterward from the effects of the trauma they had suffered.

"They never recovered from the stress of the war. I always say, 'I brought their bodies out but could never bring their souls,'" Maric says.

"Everything we do, we ask the question, 'How does this help our students to succeed?'" Maric says in describing her guiding principle.

It's not just a leadership model but also a philosophy deeply informed by her personal experiences. Amid the war in Yugoslavia, the scholarships funding her studies in Japan suddenly vanished, leaving her with no

resources, a passport that was no longer valid, and struggling to even afford food at the same time she and Charles had been blessed with a child.

“In Japan when you’re poor and you get help, you get a completely different appreciation of life,” Maric says. “I’m very grateful for the people of Japan.”

Last July, she was inducted into the National Immigrant Heritage Center. Her inductee profile continued that story: “She told her mentor that she was broke and could not pay for school. ‘And that’s when he says, ‘I don’t care if you are American, German or Bosnian. I know you’re smart and hard-working, and I am going to help,’ ” Dr. Maric recalls. “I remember it like yesterday. He took me to his bank, he pulled out \$3,000 from his account, and he paid for me to go to school.”

Maric shares her promise to that mentor: “One day in life I want to give to my students what you’ve given to me.”

The challenges Maric has faced and overcome inspired her to establish more than \$100,000 in fellowship funds. One beneficiary, Arpita Kurdekar, a recipient of the Dr. Radenka Maric Fellowship Fund for Engineering, shifted the focus of her studies after a 2016 accident in which she was struck by a tree limb which left her paralyzed. Now a teaching assistant and research assistant at UConn, she is “developing a multidisciplinary interactive virtual reality educational experience ... that allows the user to learn the concepts through active participation in the virtual world,” according to her LinkedIn profile.

Maric inspired the confidence to pursue new challenges, Kurdekar told the UConn Foundation. “Dr. Maric said, ‘You need to do what your heart wants to do,’ and she supported me to follow my dreams.”

“It is our responsibility as successful women to stand at the door and let other women in,” Maric told the foundation, but her students-first philosophy also has no boundaries and plays no favorites.

UConn Today described Maric’s priorities when she was named interim president in January 2022: “What has always been most important to her is the process of mentoring students and ensuring their wellbeing, helping them discover their academic passions and create professional and personal lives in which they,

too, make their mark on the next generation as mentors.”

In working toward the goal of preparing students for successful professional lives, Maric says UConn must continually assess where students are today, contrast that status with what the world needs, and create harmonious alignment through an “experiential education” that complements core competencies and the rigors of varying majors with creativity, innovation and entrepreneurship, as well as social-emotional intelligence.

“Every student should have financial literacy during their education. Every student should have hands-on experience with a nonprofit or companies,” she says. “My goal is to have every student spend one semester abroad to gain experience, study global issues, and have a better understanding of the world.”

She also has top administrators meeting with student leaders once a month as part of an initiative focusing on “encouraging dialogue by being present.”

All of that adds up to seemingly monumental goals, given that total enrollment stood at 32,146 as of fall 2021 (the latest available figure), which included 23,837 undergraduates across all campuses, with the majority, 18,567, in Storrs. UConn had 569 law students, 452 medical students, and 211 dental students.

In-state tuition stands at \$15,672. That cost rises to \$33,056 when the meal plan, student fees, and on-campus housing costs are added. (In early December, the Board of Trustees approved new fee rates which, along with an already scheduled tuition increase, will raise the total annual in-state cost to \$34,362 for undergraduates for the 2023–24 school year.)

In the 2021 fiscal year, \$257.4 million in scholarships and grants were given to students, and excluding UConn Health, some level of financial aid went to 24,300 students on all levels.

Last fall, UConn’s 5,800 incoming first-year students across all campuses included a record of 4,075 at Storrs.

Maric also shares something in common with another recent former UConn president. Like Thomas Katsouleas, a physicist, engineer and inventor, Maric has a scientifically and mechanically tuned mind focused on results. Her research fields include the chemical and physical processes underlying the

synthesis of nanomaterials, alloys, oxide materials and structures, the relationship of the physics and chemistry of growth to the attainment of novel materials and structures, device enhancements for batteries, fuel cells and medical sensors, and alloys and oxide materials for catalyst and energy storage.

In short, her goal is to change the world by innovating in the field of clean-energy technology. She holds a number of patents, including one for making high-temperature, polymeric catalyst-coated membranes for use in fuel cells. She has published hundreds of articles in peer-reviewed scholarly journals, and has received more than \$40 million in research grants.

Maric arrived at UConn in August 2010 as a professor in the Department of Materials Science & Engineering, and was also the Connecticut Clean Energy Fund Professor of Sustainable Energy in the Chemical & Biomolecular Engineering and Materials Science and Engineering departments.

Before being named interim president, and then president, she served as executive director of UConn's \$132 million Innovation Partnership Building, described as a nexus for industry-academic partnerships and home to specialized equipment and research centers of excellence.

Next, as vice president for research, innovation and entrepreneurship, Maric oversaw management and implementation of a \$300 million research budget and the research and investment portfolios of UConn's 12 colleges and schools, including the medical school, dental school, and five regional campuses. Under her leadership, UConn brought in a record \$375 million in research funding in fiscal year 2021.

Maric's over-achieving continued as interim president, when she elevated UConn's profile on the national stage, hosting visits from high-ranking state and federal officials, including representatives of the U.S. Department of Energy, National Science Foundation, U.S. Department of Education, and National Oceanographic & Atmospheric Administration. Extending her efforts to the international stage, Maric went on a development mission to Israel with Gov. Ned Lamont and state leaders.

"UConn is the economic engine of the state," Maric says.

New evidence to support that assertion arrived with the Oct. 20 announcement that UConn reached an agreement to partner with the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) on a collaboration for clean-energy innovation and grid resilience. "The NREL will establish a research collaboration with UConn at the Innovation Partnership Building at the UConn Tech Park designed to leverage scientific knowledge and state-of-the-art facilities to address global energy challenges, including energy efficiency and resiliency, renewable energy technologies, and smart grid innovation," UConn said.

"I appointed Dr. Maric to serve on the board of Connecticut Innovations based on the incredible contributions made in improving and strengthening UConn's prowess in research," Lamont said when Maric was named president. "She understands that making Connecticut the most innovative state in the nation requires collaboration between the world's leading businesses and our higher-education institutions."

In tandem with UConn's strides as a leader in the field of clean-energy research and innovation comes a need to "brag about the achievement of our people," Maric says, mentioning that a 1996 Nobel laureate in physics, David Lee, holds a Master of Science degree from UConn.

The big business deal in the pharmaceutical world making news just after Maric was named president, Pfizer's acquisition of Biohaven, valued at \$11.6 billion, certainly gave UConn bragging rights. Biohaven CEO Vlad Coric earned his undergraduate degree as an Honors Scholar in physiology and neurobiology at UConn.

In mid-October, the spotlight shifted to alumnus Trisha Bailey, who came to campus in conjunction with the celebration of 50 years of Title IX. "Her time in Storrs & love of her mother & later her children, was [an] inspiration for her to achieve global entrepreneurship success," Maric tweeted (@UConnPresident), acknowledging Bailey's gift to UConn Athletics. The undisclosed amount, the largest for the athletics department and the largest cash contribution ever made by a UConn alumnus, will support a new student-athlete success center.

Speaking of sports, the UConn athletic department's widely reported \$47.2 million deficit for the 2021 fiscal

year caused great consternation and hand-wringing, especially as it followed several preceding fiscal years of \$40 million-plus deficits and came amid changes that were protested (cutting the women's crew program, which spurred a lawsuit and led to reinstatement).

"When I came as a faculty member, I was skeptical of the athletic department," Maric admits, recalling that she thought, "Why lose \$40 million? You should just focus on education."

Her views have changed over time as she has come to appreciate the salutary impact of UConn sports beyond win-loss records, tournament results, and national championships. Student-athletes tend to be more driven, focused and committed to success in all pursuits, which builds character, Maric found. She also cites studies showing mental health issues are far less prevalent in athletics than at the collegiate level generally as another factor that "completely changed my perspective."

That evolution of thought, flowing from her student-first perspective, is part of a bigger-picture shift. "When Jim Calhoun started to win, that changed the state's perception of UConn," says Maric, channeling the legendary coach who famously called athletics UConn's "front porch" which aids the growth and advancement of a university: "I think we have to have more wins, and I think we have to have more donors. On the weekend, do you want to watch baseball or football or do you want to watch a physics experiment? Sports are the porch for people coming to UConn; education is the living room. It's very important to balance that portfolio."

Maric takes the helm of a university with a \$3 billion annual budget and \$602.7 million endowment, anchored by the main campus in rural Storrs, with regional campuses in Hartford, Stamford, Waterbury and at Avery Point in Groton, as well as the UConn School of Law in Hartford and the UConn School of Medicine in Farmington.

She inherits a list of expected challenges in guiding UConn, and her position in the vanguard of clean and sustainable energy inspires other goals.

As a state institution, UConn must be ever vigilant about what percentage of its budget is coming from the state, Maric says, naming as a priority the need to look

for new ways to generate revenues. This might include development of summer programs, for example.

The challenge of increasing aid and scholarship money for students will involve an initiative to increase contributions and gifts from alumni and other donors.

UConn's role as a research institution leading the way on clean energy will increasingly harness private, government and state investment to help shape philosophy and policies at the intersection of sustainability and our role as humans on the planet, says Maric, citing the work being done at the Eversource Energy Center at UConn, a partnership in which research, technology and software are addressing challenges for electric customers caused by weather, climate and energy.

Another important question is how to put sustainability into practice in campus and technology development, including partnering with industry sources instead of asking the state for money. "On the UConn campus we commute 2,000 miles a day," Maric says. "How can we change this and reduce CO2 emissions? What are the steps? How many chargers? When do we replace buses with electric or fuel cell buses ...?"

The goal underlying those questions is for Storrs to become a carbon-neutral campus.

Maric upped the ante on achieving the goal in late October when UConn assembled educators, state and federal lawmakers and industry representatives for a conference, Navigating Climate Change & Energy Security in the Northeast. She pledged "to work with the state, the federal government, donors, industry and global partners to reduce UConn's carbon footprint to carbon neutral by 2030." In reporting on the conference, Energy News Network noted plans for a new three-building, 258-apartment housing complex that will rely on hydrogen-powered fuel cells for electricity, and geothermal wells for heating and cooling.

It was in Japan where Maric first learned that Connecticut was the birthplace of fuel cells, and her professional career began in Japan, including positions as a research scientist for the New Energy Development Organization Tokyo. In the mid- to late '90s, she even served as general manager for the Nagoya Grampus Japanese association soccer club, a role that arose from her participation in the leadership development

program of Toyota Motor Corp., which founded the club.

From Japan, Maric moved into a program-manager position at nGimat, formerly Micro Coating Technology (MCT), a fuel cell research company in Atlanta, and then on to a leadership position with the Institute for Fuel Cell Innovation in Canada, before coming to UConn in 2010.

“UConn is Connecticut, and Connecticut is UConn,” Maric declares in our interview. It might not be difficult to find someone to quibble with that assessment, but give her time. Anyone who meets Maric will understand the board’s confidence in her ability to advance UConn’s status and success.

As only the second woman at the helm of UConn since the university’s founding in 1881, Maric doesn’t feel the weight of the university’s long history on her shoulders. UConn 2000, the 10-year project begun in the mid-’90s to rebuild, restore and enhance the university’s physical infrastructure whose cost reached into the billions, was for her “the big marker for change.”

“We are the champions of a certain period of time and the university is larger than any of us,” she says, summoning thoughts expressed by President Emeritus Susan Herbst (2010–19) in a farewell speech. In other words, it’s the university’s bright future Maric is here to engineer, a journey she has been pioneering since arriving in Storrs. ●

Correction (12/28/22): An earlier version of this article included an incorrect total for UConn's total budget.

UConn

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