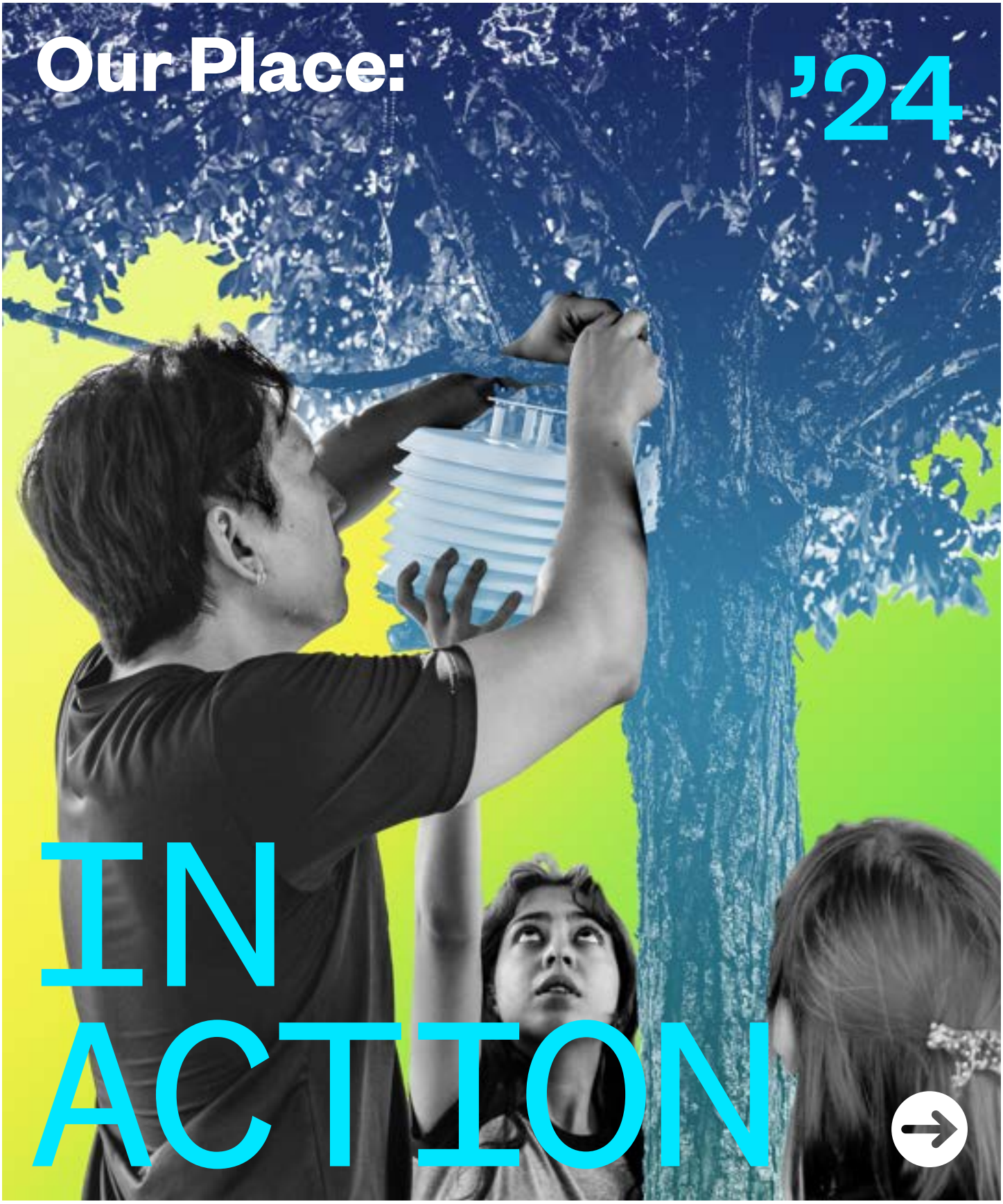

Our Place:
'24
IN THE
CLASSROOM

Our Place: IN RESEARCH '24

BOSTON UNIVERSITY

Our Place: '24



IN ACTION

BOSTON UNIVERSITY

OUR PLACE.

Here are the places where we are expanding the field of public health, learning in local communities, and creating a healthier world. This is where we think, teach, and do.

Contents

OUR PLACE.

OPPOSITE PAGE: JAKE BELCHER; MAP: ADOBE STOCK; BY OLINCHUK; BOTTOM BY: ADOBE STOCK/OLGA. THIS PAGE: TOP: ILLUSTRATION BY PEDRO OSSA; BOTTOM: ARTWORK CREATED WITH TEMPLATE BY ADOBE STOCK/PIXEL-BUDDHA STUDIO, PHOTO BY ADOBE STOCK/NOMAD_SOUL

Dear Colleagues,

What a wonderful place this school is.

We are the professional home to 320 faculty, 269 staff, 1,531 students, and, I like to think, a fond memory of home for 12,181 alumni. Over the years, this community has built itself into one of the world's premier schools of public health. We produce scholarship of consequence, we train the next generation for leadership in the field, and we meaningfully engage in the world of practice. This work rests, always, on a foundational commitment to health and health equity for everyone. Or, as we more succinctly put it, "Think. Teach. Do. For the health of all."

It has been a privilege to be part of this place, this community, this school, for ten years. It is, therefore, bittersweet indeed that this is my last note in *SPH This Year*. At the end of 2024, I will step down as dean of SPH. Even as I move on to the next phase of my journey, there is so much I shall miss here. I shall miss the Talbot Green, a wonderful place for reflection, for coming together as a community for special occasions, or for simply having lunch with colleagues in the open air. I shall miss the Talbot Building, with its unique history and architecture. I shall miss events in Hiebert Lounge—from our Public Health Conversations to our graduate receptions, to simply looking out the windows at a spectacular view of the city. Most of all, I shall miss the people who make SPH what it is. I cannot imagine a better group of passionate, kind, committed people to work with.

It has been the honor of a lifetime to serve in this role. But I step down knowing that the school is well positioned to be a leader in ideas, teaching, and practice for decades to come. Great institutions like SPH benefit from new leadership and the infusion of new ideas and energy that it brings. As the school approaches its 50th anniversary, it is my hope that this is just the right time for the school to start its next half century with a new leader, looking forward. I shall be watching with pride and admiration at what this school does next. As I have said many times before, I look forward to living in the healthier world that the students, staff, alumni, and faculty of this school create.

Thank you for your partnership over the past decade. It has been a joy to call you colleagues and friends.

Warmly,

Sandro

Sandro Galea, MD, DrPH
Dean and Robert A. Knox Professor

SPH TY 2024

OUR PLACE.

On Campus

01

CONTENT

On Campus

BOB O'CONNOR

JAKE BELCHER

The Talbot Building is a focal point for our work, from research to teaching to hands-on learning.

The Core Courses Equipping Students for Success

By Megan Jones

The core curriculum is a rite of passage for students in the on-campus Master of Public Health program (MPH). Since 2016, students enrolled in the program have started their graduate education with the same four courses designed to provide them with the groundwork to launch transformative public health careers, regardless of their backgrounds.

The result of a schoolwide initiative to better align with the needs of a changing student demographic and the demands of an evolving public health workforce, the core curriculum also serves to acquaint students with the breadth of public health.

On-campus MPH students select one of eight functional areas of study, then have the option to pursue complementary, specialized study in one or more of nine contextual areas. To round out their education, students undertake a Career PREP program to develop networking skills and prepare for the job market; a 240-hour practicum in a real-world public health setting; and an integrative learning experience, where they apply their acquired skills to complete a faculty-supported, independent project.

The introduction provided by the core curriculum can help students customize their BU MPH as they choose from 17 interdisciplinary certificates and more than 250 courses. For example, a student who enjoyed the quantitative methods course may pursue a functional certificate in epidemiology and biostatistics, delving deeper into disease surveillance methods and health data analytics. Or perhaps a student appreciated the teamwork and organizational skills taught in the core course on leadership and management, leading to the healthcare management certificate.

In either case, students may elect to add one of nine context certificates, such as in human rights and social justice, in which they will explore the legal, ethical, and moral dimensions of health. The core courses demonstrate to students that intersections and overlaps are essential for a well-rounded public health career, and are the perfect starting place for their career goals.

THE CORE CURRICULUM COURSES ARE

- PH 717 QUANTITATIVE METHODS FOR PUBLIC HEALTH
- PH 718 LEADERSHIP AND MANAGEMENT FOR PUBLIC HEALTH
- PH 719 HEALTH SYSTEMS, LAW, AND POLICY
- PH 720 INDIVIDUAL, COMMUNITY, AND POPULATION HEALTH

"Public health practitioners need skills and capacities to expand the scope and reach of public health to address all the factors that promote health and well-being."

— **Daniel Merrigan**, associate professor of community health sciences

"This Is Putting Our Mission into Action"

Lisa Sullivan, associate dean for education, chaired the latest Framing the Future initiative, a transformational approach to public health education that aims to help academic public health address 21st-century issues.

By Michael Saunders

In early 2024, the Association of Schools and Programs of Public Health (ASPPH) officially launched Framing the Future 2030: Education for Public Health (FTF 2030), an initiative designed to help schools navigate the ever-evolving landscape of public health and ensure graduates are well-equipped to address future challenges. As steering committee chair, SPH Associate Dean for Education Lisa Sullivan (GRS'92) shepherded the multi-year initiative, convening multiple experts to align university systems and structures, faculty, staff, students, and partners towards a stronger public health workforce.

ASPPH President Laura Magaña described FTF 2030 as "a significant transformation" intended to "redefine approaches to teaching, learning, and community engagement in public health." Detailed reports from three expert panels—each charged with addressing a specific area for transformation with the goal of completely revamping public health education by 2030—are at the core of FTF 2030.

Sullivan also served as cochair of the expert panel that created the foundational report, *Building Inclusive Excellence through an Anti-Racism Lens*, which proposes five key recommendations to "deliver a resilient educational system for public health that advances health equity and well-being for everyone, everywhere." The *Transformative Approaches to Teaching and Learning* report calls for an "educational overhaul to enhance public health engagement and restore trust in higher education." The *Fostering Community Partnerships for a Healthier World* report emphasizes the need for academic public health to bolster collaboration with community partners.

FTF 2030 acknowledges the increased need for students to be trained differently than in the past, and with different kinds of skills. For example, according to Sullivan, the *Transformative Education Report* "calls for students to be trained for more civic engagement, more advocacy, to be able to communicate across different perspectives respectfully and productively."

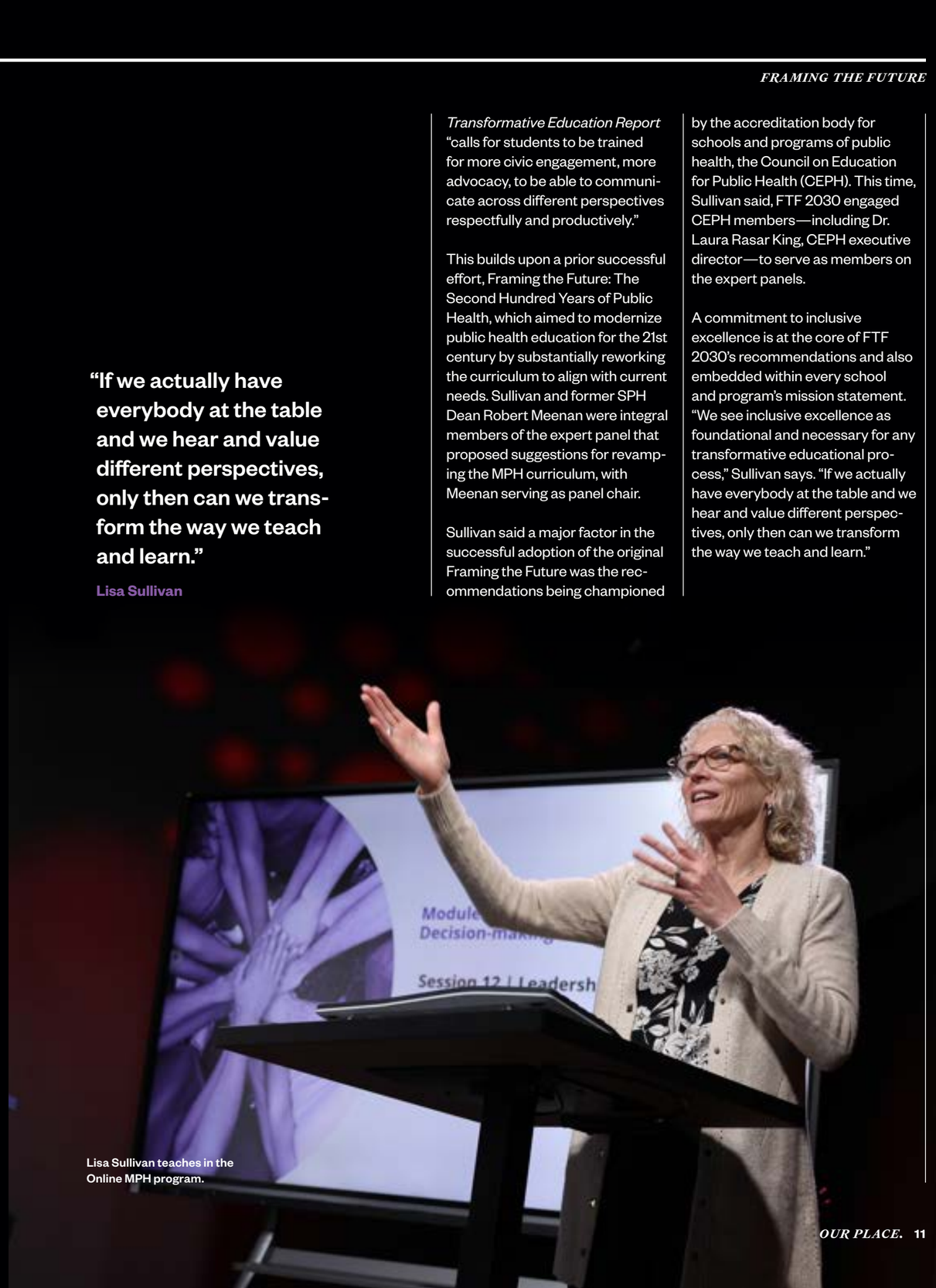
This builds upon a prior successful effort, Framing the Future: The Second Hundred Years of Public Health, which aimed to modernize public health education for the 21st century by substantially reworking the curriculum to align with current needs. Sullivan and former SPH Dean Robert Meenan were integral members of the expert panel that proposed suggestions for revamping the MPH curriculum, with Meenan serving as panel chair.

Sullivan said a major factor in the successful adoption of the original Framing the Future was the recommendations being championed by the accreditation body for schools and programs of public health, the Council on Education for Public Health (CEPH). This time, Sullivan said, FTF 2030 engaged CEPH members—including Dr. Laura Rasar King, CEPH executive director—to serve as members on the expert panels.

A commitment to inclusive excellence is at the core of FTF 2030's recommendations and also embedded within every school and program's mission statement. "We see inclusive excellence as foundational and necessary for any transformative educational process," Sullivan says. "If we actually have everybody at the table and we hear and value different perspectives, only then can we transform the way we teach and learn."

"If we actually have everybody at the table and we hear and value different perspectives, only then can we transform the way we teach and learn."

Lisa Sullivan



Lisa Sullivan teaches in the Online MPH program.

JANICE CHECCHIO

"WE'RE TRYING TO MAKE A DIFFERENCE IN PEOPLE'S LIVES"

An Epidemiologist by Training, Boston University's New President Melissa Gilliam Reflects on What's Next for Public Health

By Michael Saunders

Long before **Melissa Gilliam** was named the 11th president of Boston University, a role that she officially began on July 1, she trained as a physician with a keen interest in public health research.

During her residency in obstetrics and gynecology at Northwestern Memorial Hospital in Chicago, Gilliam saw firsthand how social determinants of health can have immediate and life-changing effects. In her clinical practice, Gilliam became interested in why some teenage mothers became pregnant again within a year of giving birth, despite all the societal cues against it. To help answer those questions, Gilliam earned a Master of Public Health from the University of Illinois at Chicago, and her research career primarily focused on adolescent health, reproductive justice, and health disparities. She later became head of the program in gynecology for children, adolescents, and young women at the University of Chicago Medical Center, and led more than 100 studies primarily aimed at understanding the social determinants of health that affect young people.

Since being named BU's president (and the first woman and person of color in that role), Gilliam spent time becoming reacquainted with Boston, where she spent an austere few years as a medical student at Harvard University. She returned to a familiar city in a new and significantly expanded role, meeting frequently with an array of civic leaders and academic heads of BU's 17 schools and colleges, often taking Zoom calls while walking on a slim treadmill beside her desk.

"It's often by hearing from faculty, and by understanding the barriers for our faculty, staff, and students, that you can make improvements," Gilliam says. "I'm a problem solver by nature, and you learn so much by hearing from the end user about what's working well and what's not."

Collaborative participatory research was a significant part of Gilliam's prior academic work before high-level administrative roles at the University of Chicago and The Ohio State University, where she served as provost. "What I've learned from working that way is that there is a lot of talent and ideas in different places. When you can build collaborative teams, you bring more ideas to a situation, and it leads to much more creative problem solving," Gilliam says.

The field of public health emerged from the COVID-19 pandemic having demonstrated both its strengths and its failings. As we move further into a post-pandemic world, Gilliam says, "There is absolutely an opportunity to make sure the strategies that we're applying in public health are impactful. Part of that will be sharpening our monitoring, surveillance, modeling, and data science. These are fields that are getting better and better, but I think we now understand how important they are."

Communicating health news responsibly is another key area where public health can make a difference, but Gilliam emphasized that this is not the sole responsibility of public health. "When it comes to communications, there's a signal and a noise issue, especially around what is true in high-quality science versus what people might believe that is not based on evidence," Gilliam says.

"There's another almost paradoxical piece, which is that we have to understand that knowledge does not necessarily result in changing of behavior. [For example] even if you know what to eat, it doesn't mean that you always eat the right thing," Gilliam says. "You have to take human nature into account in your strategy, whether it is global sustainability, or working through pandemics, or maternal and child health. There is a certain amount of human nature and human fallibility, so there will be aspects in which you have to design the system with the flexibility to deal with the way that we actually function."

“It is a gift to be immersed in a learning community that acknowledges education happens both in the classroom and outside of it. BU is wonderfully set up to support students who are working full time.”

Mikayla Hyman (SPH’26), strategic projects specialist with the Bureau of Equitable Health Systems in New York City’s Department of Health and Mental Hygiene

PHOTO COURTESY OF MIKAYLA HYMAN

A HANDS-ON EDUCATION, ANYWHERE

SPH’s Online MPH attracts an inclusive student body and removes barriers to public health education

MICHAEL SAUNDERS

Online MPH student **Luke Ascoli** (SPH’25) studying from his home in Rhode Island, where he is the lead director for pharmacy benefits strategy at CVS Health.

By Megan Jones

The School of Public Health’s Online Master of Public Health (MPH) Program aims to make higher education in public health possible for anyone, anywhere. Designed to be fully completed online in as little as 24 months—or up to five years for students who need additional flexibility—the program has attracted students from a variety of backgrounds across all stages of life.

The current population of more than 200 students features nurses, physicians, pharmacists, social workers, teachers, veterans, business consultants, and an array of other professionals. Together, they form a diverse and valuable global community of health equity scholars.

The program’s holistic curriculum is composed of six modules completed in sequence, all with an overarching focus on improving the health of populations and eliminating inequities. Lessons and assignments are completed asynchronously to accommodate full-time careers, with program modules progressing in real time. To encourage a close and collaborative atmosphere, weekly live sessions offer students the opportunity to connect virtually with SPH faculty experts and leaders.

Nafisa Halim, research assistant professor of global health, helped guide the team that was tasked with adapting current SPH coursework to best fit an online delivery model.

“What was exciting for me is how we, as a design team, were able to really translate the content from an in-person format to an online format without actually compromising the rigor,” Halim says. “As an educator, that was important to me because public health is such an important field. I take it very seriously that students have solid training because they’re on the ground, they’re facing people, they’re making decisions in their daily lives that impact people.”

While the online MPH is not intended to provide the full range of specialization options that are part of the in-person degree at the school, the $24,000 tuition is about a third of the price of a traditional MPH.

“If you think about it, all the indirect costs of accessing education are gone. It's offered for a reduced price, but the reduced price is not because the content is thin,” Halim says. “The reduced price is because the infrastructure is a little different. It’s comparable to an onsite, in-person MPH, redesigned for a different audience in a different format.”

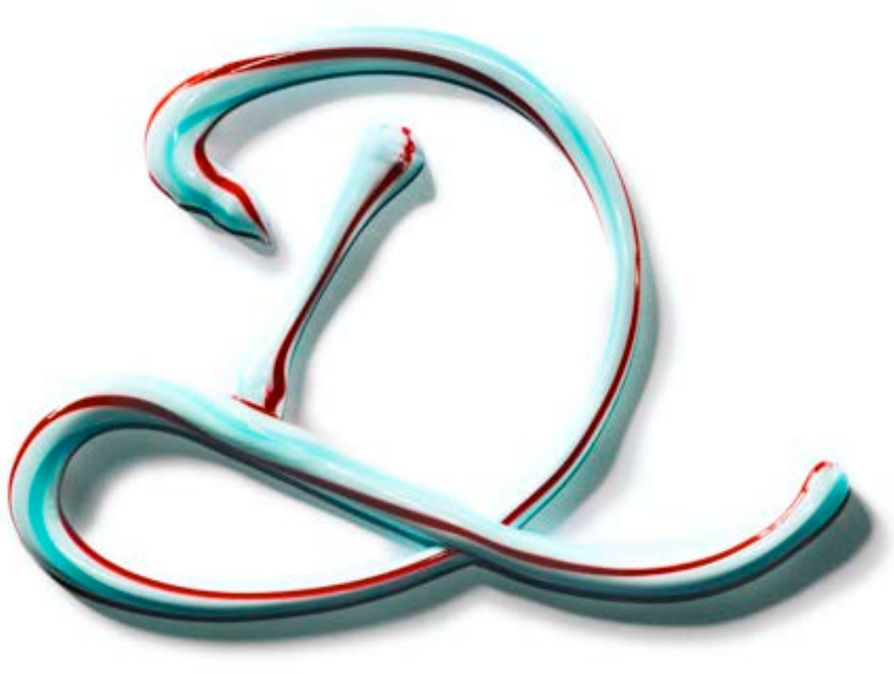
Info →

Learn more about the transformative Online MPH at **bu.edu/sph/education/degrees-and-programs/online-master-of-public-health**.

Four SPH Alums Are Drilling Down on Oral Health Disparities

By Megan Jones and Jillian McKoy

PHOTOS BY LEAH FASTEN



ental care has long been an overlooked category of public health—and increasingly, SPH students and alums are helping to change that.

After more than a decade volunteering to screen kindergarteners at rural health centers, dental hygienist **Katie Conklin** (SPH'23) began full-time work in dental public health to help expand access to pediatric oral healthcare on a larger scale.

As a student in the Executive Master of Public Health program (now the Online MPH program) at SPH, Conklin helped pilot a training initiative in a county health department on evidence-based strategies for implementing California's state-mandated Kindergarten Oral Health Assessment. The pilot went so well, Conklin says, her practicum project served as the model for implementing the system across California.

Conklin serves as a project coordinator at the California Oral Health Technical Assistance Center, collaborating with more than 20 counties across the state to help plan, implement, and evaluate data-driven oral health promotion programs. She also coordinates a postdoctoral grant from the Health Resources & Services Administration called the UCSF Open Smiles Collaborative that aims to increase the number of dentists trained in public health.

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Julia Bond (SPH'24) is researching the association between preconception periodontitis and reproductive health outcomes. During her time as a researcher with the BU-based Pregnancy Study Online, she published early findings in the *American Journal of Epidemiology* that indicated a positive association between a preconception history of tooth mobility and risk of spontaneous abortion, but little association for a preconception history of periodontitis diagnosis or treatment.

Gum health may be one of the last things on someone's mind when they are actively trying to become pregnant, but there's a well-known association between periodontitis during pregnancy and adverse birth outcomes.

While there is much that is still unknown about reproductive health outcomes, Bond says it is vital to explore the possible connections between oral health and outcomes such as infertility or spontaneous abortion.

She hopes her work will help highlight that the preconception period is an important window for individuals trying to become pregnant, and that they need to be cognizant of both their oral and overall health.

"People are thinking about their health . . . they may be more engaged with their healthcare providers, they may be making behavioral changes," she says. "If there is something to [the connection between preconception periodontitis and birth outcomes], it could be a really beneficial time period," says Bond.

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Experiences of racism may heighten dental fear and anxiety among Black women, according to another study by Bond, **Brenda Heaton** (SPH'05,'12), associate professor of epidemiology, and **Yvette Cozier** (SPH'94,'04), associate dean for diversity, equity, inclusion, and justice, and associate professor of epidemiology.

Published in the journal *Community Dentistry and Oral Epidemiology*, the study found that encounters with everyday or lifetime racial discrimination—from poor experiences in a store or restaurant, to unfair treatment at work, in housing, or by police—contributed to elevated dental fear and anxiety among nearly one in five Black women, more than double the prevalence of dental fear among white women. The findings also linked these heightened fears to a delay or avoidance of dental services and poorer oral health outcomes among a population that is already burdened by inequities in oral health and access to quality and affordable dental healthcare services.

In June, **Yvette Cozier**, associate dean for diversity, equity, inclusion, and justice, and associate professor of epidemiology, became president of the Society for Epidemiologic Research (SER), the nation's oldest and largest general epidemiology organization.

Cozier was voted president-elect in spring 2023 and became part of the SER executive committee responsible for the administration of the group. The committee includes a president, president-elect, and immediate past-president, each serving in their respective roles for one year.

Cozier joins several other SPH colleagues who have been elected to lead the organization during its history, including **Dean Sandro Galea** and professors **Martha Werler** (SPH'89), **Bernard Harlow, Lynn Rosenberg** (GRS'65), and **Kenneth Rothman**.

BOB O'CONNOR

Dean Galea engages in a meeting in Talbot's Executive Board Room.

"WHAT A PRIVILEGE IT IS TO BE A PART OF THIS COMMUNITY."

Sandro Galea to Step Down as Dean of Boston University School of Public Health at the End of 2024.

By Joel Brown

After a decade in Boston, Dean Sandro Galea will start a public health school at Washington University in St. Louis. "It's a unique opportunity to create something new," says Galea, who has been SPH dean since January 2015 and was named Robert A. Knox Professor in 2016. "It's the right time for me to take on a new challenge, and the right time for [SPH] to take on a new leader."

"Dean Galea has been an exceptional leader for the School of Public Health," says Kenneth Lutchen, senior advisor to Boston University President Melissa Gilliam. "He has developed a culture of pride and aspiration across the SPH faculty, advanced communications to the community that reinforced how SPH is impacting local and global health challenges, and developed new educational initiatives to expand the reach of SPH around the world."

Galea's accomplishments at SPH include overseeing the largest faculty hiring effort in the school's history, doubling its research funding ($73.7 million this past year, BU's

"IT'S THE RIGHT TIME FOR ME TO TAKE ON A NEW CHALLENGE, AND FOR SPH TO TAKE ON A NEW LEADER."

–SANDRO GALEA

second largest portfolio), and bumping up its rankings (No. 7 in *U.S. News & World Report*'s 2024 national ranking of public health schools).

Other achievements include improving opportunities for all students by eliminating the GRE requirement; creating Generation Health, a large effort to subsidize student work in the community; and launching a more affordable Online MPH focused on health equity.

"I've had this privilege of being in this great school and this great University in a city which is so progressive and committed to public health," says Galea, who was named chair of the Boston Public Health Commission Board of Health in 2022.

"Sandro Galea has brought the BU School of Public Health to a higher level of academic productivity and enhanced its reputation by his own numerous thoughtful publications on policy," says Karen Antman, dean of the BU Chobanian & Avedisian School of Medicine and provost of the Medical Campus.

"There is nobody like Sandro. He lifts up everyone around him, and did that for all of us at BUSPH in both the good and the difficult times over the last ten years," notes Jaimie Gradus (SPH'04,'09), professor of epidemiology and director of the SPH Center for Trauma and Mental Health. "I will be forever grateful for his leadership, mentorship, sponsorship, and friendship."

Dean Galea addresses SPH staff in Hiebert Lounge overlooking the Boston skyline.

SPH TY 2024

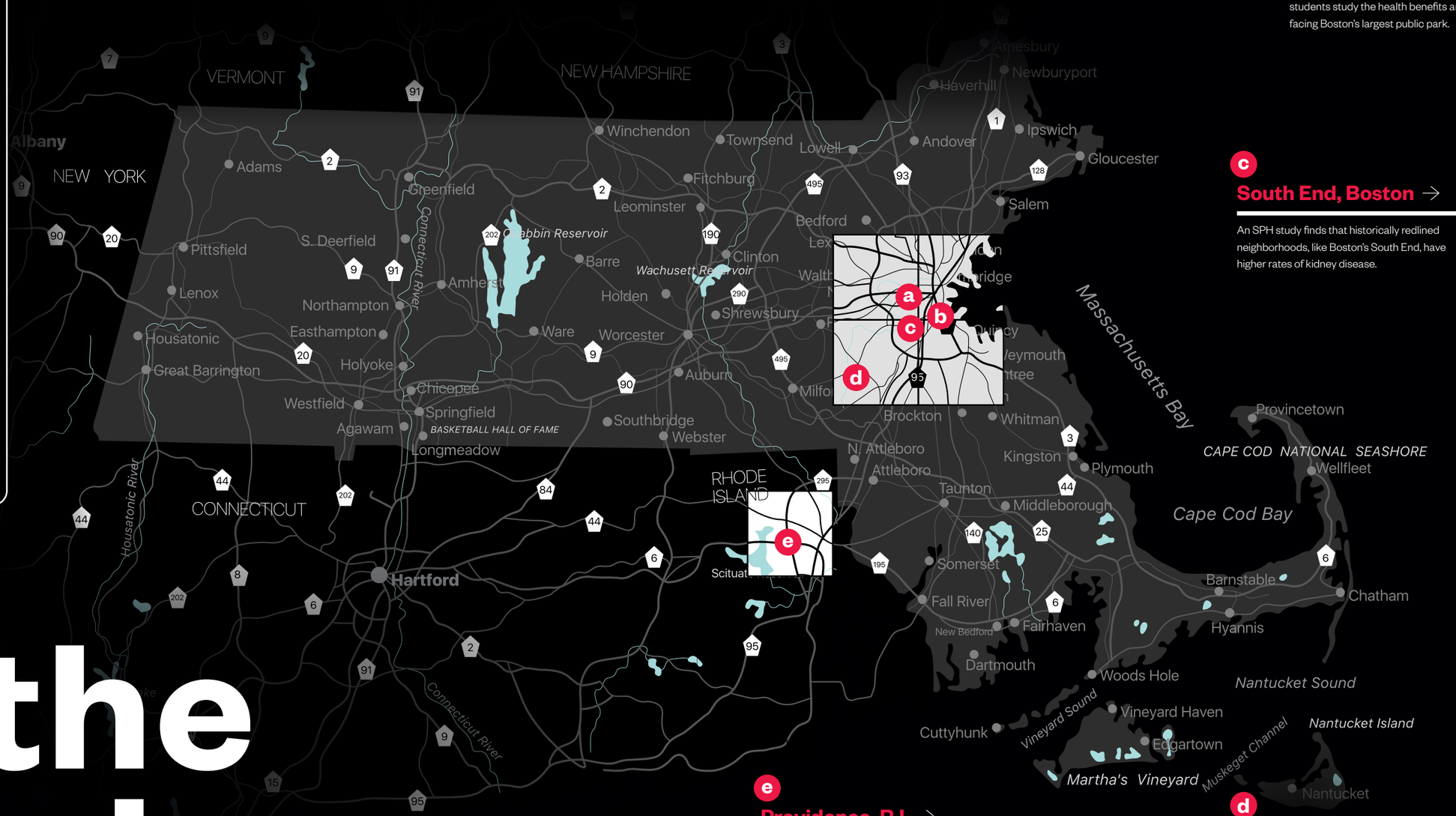
OUR PLACE.

In the Region

02

CONTENT

In the Region



MAP: ADOBE STOCK / BY OLINCHUK

a

Boston Public Schools →

Patricia Fabian's work with Boston Public Schools to study classroom air quality has yielded billions of data points.

b

Franklin Park, Boston →

Led by Assistant Professor Jonathan Jay, SPH students study the health benefits and challenges facing Boston's largest public park.

c

South End, Boston →

An SPH study finds that historically redlined neighborhoods, like Boston's South End, have higher rates of kidney disease.

e

Providence, R.I. →

Renewed NIH funding will allow a team including SPH faculty members to continue 25 years of AIDS research.

d

Holliston, Mass. →

SPH researchers find manganese levels in local water sources that may pose a risk to children and vulnerable communities.

Inside Classroom Air Quality

Professor Partners with Boston Public Schools to Study Classroom Air Quality

By Megan Jones

ILLUSTRATION CREATED WITH ADOBE FIREFLY; MICHAEL SAUNDERS

When **Patricia Fabian** learned that Boston Public Schools (BPS) had received federal coronavirus relief funding to install indoor air quality sensors in its more than 4,400 classrooms, she immediately appreciated the magnitude of opportunities—and data—the sensors could provide.

Fabian, an associate professor in the Department of Environmental Health, has studied indoor air quality for more than 20 years. Historically, she says, regulators have largely focused on limiting outdoor air pollution. There are relatively few standards for indoor air quality despite a growing body of evidence to suggest that pollutant levels indoors may be significantly higher than outdoors. In schools, poor indoor air quality may affect both the health and cognitive performance of students and staff. However, the pandemic has reshuffled priorities, Fabian says.

The airborne transmission of COVID-19 called attention to the safety of enclosed, shared spaces and generated increased interest in, and funding for, projects to implement or improve heating, ventilation, and air conditioning (HVAC) systems in aging public buildings such as schools, says Fabian.

Patricia Fabian, left, and Katherine Walsh.

"Fifty million children in the US attend school every day in grades K through 12. Many of us spend years inside school buildings during a period of life marked by rapid growth and development. This is a key time when we can really make a difference."

Fabian leveraged her year-long sabbatical in 2022 to cultivate a research partnership with Katherine Walsh, director of BPS's Sustainability, Energy, and Environment Program. BPS indoor air quality sensors measure and record six parameters: carbon dioxide, carbon monoxide, temperature, relative humidity, and inhalable particulate matter (PM_{10}, particles less than 10 micrometers in diameter, and $PM_{2.5}$, fine particles less than 2.5 micrometers in diameter, both of which have adverse health effects and are separately defined for regulatory purposes) every minute of the day, 365 days a year. The data are then shared in near real-time to a public dashboard.

"[This] is a really groundbreaking, one-of-a-kind dataset," says Fabian. "[BPS] can use it to make adjustments to

their systems and operations, or to find out when there are problems like a carbon monoxide leak, but they are resource-constrained to take the billions of data points generated every year and use them to support grant applications, decisions, and policies. That is where this partnership comes in."

Fabian, who is also an associate director of Boston University's Institute for Global Sustainability and an affiliated faculty member of SPH's Center for Climate & Health, has drawn on an array of BU and SPH resources to support the budding research partnership. BU's Information Systems & Technology (IS&T), BU's Research Computing Services (RCS), and SPH's Biostatistics Epidemiology & Data Analytics Center (BEDAC) helped her transfer, clean, and store nearly three years of classroom sensor records into a usable research database.

The pilot study was supported by $10,000 in seed funding from BU's Initiative on Cities and a $20,000 Established Investigator Innovation Award from idea hub, SPH's innovation accelerator, and paved the way for Fabian to seek larger grants and expand the partnership's portfolio of research. Moreover, students from multiple programs across BU have contributed to a variety of adjacent research activities using BPS's indoor air quality data.

In addition to presenting at conferences across the US and Europe, Fabian and Walsh have advised school stakeholders as far as New Zealand. In 2022, Fabian attended the White House Summit on Improving Air Quality, which resulted in the Clean Air in Buildings Challenge, a pledge BPS signed. The following year, BPS was named a Green Ribbon School District Sustainability Awardee by the US Department of Education and Best in Class for Energy Efficient Plus Health by the US Department of Energy's Efficient and Healthy Schools Campaign.

According to Walsh, Fabian and her BU team have been instrumental in helping BPS prioritize operational improvements, pursue investments in indoor environmental quality such as new HVAC systems, and communicate these efforts to the BPS community. Other school districts, government and public health officials, researchers, and advocates from all over the world have sought BPS's advice on how to implement similar indoor air quality monitoring programs in their buildings, Walsh says. "We have billions of datapoints with so much potential for improving the indoor environment and student and staff health, while advancing sustainability."

↓ Info.

Schools in which SGS Galson indoor air-quality sensors have been installed.

Classrooms where temperature, relative humidity, varying sizes of particulate matter, carbon dioxide, and carbon monoxide are measured by the minute.

"This is a really groundbreaking, one-of-a-kind dataset."

Patricia Fabian

Schools with the Highest Number of Air Quality Sensors

Horace Mann School for the Deaf and Hard of Hearing
101 Sensors

Boston Latin School
114 Sensors

Madison Park Technical Vocational School
162 Sensors

Boston Latin Academy
91 Sensors

Boston Community Leadership Academy
82 Sensors

MAP BY SNAZZY MAPS

View the public dashboard: **https://bostonschoolsiaq.terrabase.com/**

Info. →

A DELICATE BALANCE

Concerning Levels of Manganese Identified in One Massachusetts Town's Water

By Jillian McKoy

Researchers at SPH found that concentrations of manganese in a Massachusetts community's drinking water often surpassed maximum recommended levels stated in current guidelines. Published in the *Journal of Exposure Science & Environmental Epidemiology*, the findings also suggest that the observed manganese levels may be high enough to pose a risk to children and other vulnerable populations.

Manganese is both an essential nutrient and a toxic substance—so, too little or too much exposure can be harmful to health. Even though manganese is found in the drinking water of many communities across the US, it is not federally regulated. The US Environmental Protection Agency has developed guidelines for a maximum level of daily exposure to manganese for "aesthetic" purposes (i.e., color and taste), as well as for the overall health and safety of the general population. But these guidelines are only recommendations and cannot be enforced the way that established primary standards can.

"Some level of manganese is needed for health, but growing evidence suggests that excess levels of manganese can harm children's brains," says study lead author **Alexa Friedman** (SPH'22), a doctoral student at SPH at the time of the study. "Our findings suggest that the level of manganese that is present in public drinking water exceeded, on average, the aesthetic guidelines 40% of the time, and health-based guidelines 9% of the time. These data support the need for a legally enforceable primary drinking water standard for manganese to better protect children's health."

For the study, Friedman and colleagues, including senior author **Birgit Claus Henn**, associate professor of environmental health, examined residential tap water samples collected between September 2018 and December 2019 in the suburban town of Holliston, Massachusetts. Holliston residents had reported concerns about drinking water quality and the safety of children after noticing their tap water occasionally turned black or brown. Communities that receive tap water from shallow aquifers are especially vulnerable to being exposed to high levels of manganese, and Holliston residents rely on this source for almost all their drinking water.

But Manganese Exposure Could Be Beneficial Early in Life

A separate study by Friedman and Claus Henn explored the timing of manganese exposure among children and found that manganese exposure early in life may be beneficial for verbal learning and memory during adolescence. The level at which manganese shifts from beneficial to harmful to the developing brain remains unclear, and children's susceptibility to the neurotoxic effects of manganese may vary based on when they are exposed to this metal during their lifetime.

Published in the journal *Neurotoxicology and Teratology*, the study measured manganese levels through teeth and found that prenatal tooth manganese was linked with fewer memory and learning errors in adolescents, and childhood tooth manganese was linked with better memory recall. Postnatal tooth manganese (from birth to age one), however, was not associated with adolescent memory.

The study is the first to analyze manganese exposure from the prenatal period through early childhood in relation to verbal learning and memory in later childhood. The findings validate that the timing of manganese exposure is key to understanding how this metal may affect neurodevelopment and cognition.

A Failure of Policy A Problem for Public Health

Historical Redlining to Current May Be Linked Kidney Failure

By Jillian McKoy

Redlining, the discriminatory 1930's federal housing policy that discouraged mortgage lending in predominantly Black neighborhoods and led to neighborhood disinvestment, has been associated with current racial inequities in poor health outcomes—including an increased chance of kidney failure in the United States, particularly for Black people.

The findings shed light on the long-term negative impacts of historical racist policies on Black families today, and the need to fill a persistent gap in access to health and wealth resources in these communities.

Published in the *Journal of the American Society of Nephrology*, the study found that current-day cases of kidney failure were substantially higher in historically redlined neighborhoods as compared to other neighborhoods.

"Kidney failure disproportionately affects racial and ethnic minoritized populations, particularly Black individuals, and there is robust evidence linking neighborhood conditions to disparities in kidney disease," says study lead author **Kevin Nguyen**, assistant professor of health law, policy & management.

"In present-day neighborhoods, historical redlining could create conditions such as exposure to pollution, food insecurity, and worse healthcare, which have been shown to contribute to inequitable rates of kidney failure incidence."

For the study, Nguyen and colleagues used a national registry of nearly all US adults who received treatment for new kidney failure between 2012 and 2019 in 141 cities. They also examined digitized maps from the Home Owners' Loan Corporation (HOLC), the government-sponsored corporation that designed color-coded maps beginning in the 1930's to indicate which residential neighborhoods were safe to insure mortgages. Neighborhoods were assigned letter grades A ("best"—green), B ("still desirable"—blue), C ("definitely declining"—yellow),and D ("hazardous"—red; i.e., "redlined").

Compared to all adults in the study, Black adults had higher rates of kidney failure regardless of the neighborhood HOLC grade—but Black adults living in grade C and D neighborhoods had significantly higher rates of new cases of kidney failure compared to Black adults in grade A neighborhoods.

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BOSTON REDEVELOPMENT AUTHORITY PHOTOGRAPHS. COLLECTION #4010.001; CITY OF BOSTON ARCHIVES, BOSTON

For the Sake of Our Cities

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ALUMS AND FACULTY ARE MAKING A DIFFERENCE IN BOSTON AND ACROSS MASSACHUSETTS

By Megan Jones

Amy Ben-Arieh

For **Amy Ben-Arieh** (LAW'07, SPH'08), an alum of the law and public health (JD/MPH) dual degree program at Boston University, the universe of LGBTQIA+ research feels like home.

"Stars aligned," Ben-Arieh says of her appointment in April 2024 as executive director of The Fenway Institute, one of the world's preeminent LGBTQIA+ health and HIV research, education, and policy organizations. "It is rare in this life that you can spend your time doing what you love—what you are passionate about—and get paid to do it."

When Ben-Arieh was a child, her family moved to Minnesota with no connection to the area. An older couple took her family under their wing and shared their experiences as Holocaust survivors—including participation in the Nuremberg Trials—with Ben-Arieh, who was fascinated by the Nuremberg Code, a set of principles articulated in the aftermath of the Second World War to guide the ethical conduct of human-subject research. She decided early on to make research ethics the focus of her career, studying philosophy in college before coming to BU to complete a JD/MPH.

"I was very interested in the faculty, but also, at the time [BU] was one of the very few schools that was doing the joint degree in law and public health, and I really saw that as my path forward," says Ben-Arieh, who graduated from SPH in 2008. "[I saw] medical-legal partnerships as really crucial to how healthcare was going to be functional in the future, and I wanted to prepare for that."

After graduation, she worked her way up to chair the Institutional Review Board committee at Mass General Brigham (MGB), where she was responsible for all human-subjects research conducted at MGB-affiliated institutions, including Mass General Hospital, Brigham and Women's Hospital, McLean Hospital, and Spaulding Rehabilitation Hospital. Although the role encompassed nearly everything she had dreamed of, when she saw there was an opening at Fenway Health in 2016, "it was clear I had to jump," she says. "As much as I loved my time at MGB, [Fenway] was where I knew I wanted to be."

> "I was very interested in the faculty, but also, at the time [BU] was one of the very few schools that was doing the joint degree in law and public health, and I really saw that as my path forward."
>
> **Amy Ben-Arieh**

MICHAEL SAUNDERS

Jonathan Jay

The verdant expanse of Boston's Franklin Park became a classroom for **Jonathan Jay's** students to show how their research can help amplify community voices.

Jay, an assistant professor of community health science, assigned students in his Assessment and Planning course to conduct a community health needs assessment with the Franklin Park Coalition, a local nonprofit organization dedicated to the park's stewardship. At 527 acres and bordering five of the city's most populous and diverse neighborhoods, Franklin Park is the largest public park in Boston and has offered residents respite from urban life since the late 1800s. It is currently slated to undergo a $23 million facelift in an initiative that comes on the heels of decades of underinvestment.

Through primary and secondary data collection—including walking surveys of the land, interviews with key informants, and an extensive data review—Jay's students sought to understand both the health advantages and challenges facing nearby residents and visitors to the park. At issue was a controversial proposal to redevelop the deteriorating Lemuel Shattuck Hospital, a 13-acre medical campus on park grounds, and replace it with substance use and mental health treatment facilities and supportive housing rather than return the land to the park.

The proposal has pitted housing, mental health, and harm-reduction activists against environmental activists and has divided neighbors. It occurred to Jay—who lives in the area and frequently visits the park himself—that both his students and the community could benefit from further study of the public health and racial justice dilemmas at the core of the conflict. "This is the kind of problem we need to learn how to navigate as public health students and practitioners," he says.

Jeneczka Roman (left) and Alexis Walls.

Jeneczka Roman

Alexis Walls

While every student has their own story as to how and why they arrived at the School of Public Health, graduates—united by the school's mission to advance the health of all—often tread similar paths and engage in shared professional circles. This was the case for **Jeneczka Roman** (SPH'20) and **Alexis Walls** (SPH'17), MPH alums and colleagues at Massachusetts Public Health Association (MPHA).

Roman, MPHA assistant director of advocacy and communication, and Walls, assistant campaign director, met virtually in 2020 when MPHA was operating remotely due to the pandemic. After graduating from SPH and starting remote work at MPHA, Roman sat on the hiring committee that interviewed Walls, and they have worked together on MPHA's campaign policy and field team ever since. When they finally met in person for the first time in June 2021, Walls gave Roman a big hug. "It felt like seeing a long-lost friend," Walls says.

Though Roman and Walls lead different streams of work, Roman says the two now share an office and often converse with one another about the challenges they are experiencing and try to troubleshoot strategies to keep moving forward.

MPHA's staff work is guided by both a policy council and a board, each composed of people from a variety of backgrounds spread across Massachusetts, including **Craig Andrade** (SPH'06,'11), associate dean for practice and director of the Activist Lab at SPH.

"Policywork can be so incremental. While the goal is to pass a law, there are many little victories along the way, and I think our team has been so great at celebrating those victories and really supporting one another," says Roman. "When we feel a little bit discouraged, we give each other a pep talk and encourage one another to see the big picture of how far we have come and how the work that we are doing now is building toward success."

MICHAEL SAUNDERS

$9.2M MORE ROUTES TO RESEARCH

By Megan Jones

Providence/Boston Center for AIDS Research Receives Funding from National Institutes of Health

The Providence/Boston Center for AIDS Research (Prov/Bos CFAR) received renewed funding from the National Institutes of Health (NIH) with a five-year, $9.2 million award that ushers in years 25 through 30 of the historic program.

Founded in 1998 as the Lifespan/Tufts/Brown CFAR, Prov/Bos CFAR was first funded by the NIH in 2018 as one of 19 Centers for AIDS Research distributed throughout the country. The current Prov/Bos CFAR is a joint effort between institutions in Providence, R.I.—including Brown University, Brown School of Public Health, Warren Alpert Medical School of Brown University, and Lifespan-affiliated academic hospitals—and institutions in Boston, Mass., including Boston University, BU School of Public Health, BU Chobanian & Avedisian School of Medicine, BU Henry M. Goldman School of Dental Medicine, and Boston Medical Center (BMC).

Debbie Cheng, professor of biostatistics at the School of Public Health and associate director of the Prov/Bos CFAR, says the grant will allow the team to continue promoting a diverse array of multidisciplinary HIV research. The Prov/Bos CFAR aims to reduce the impact of HIV infection worldwide with a special focus on vulnerable and marginalized populations, such as men who have sex with men, people who use substances, justice-involved persons, women, gender minorities, and youth.

Cheng is joined by other SPH faculty also involved in work with the center, including **Laura White**, professor of biostatistics; **Sara Lodi**, associate professor of biostatistics; **Matthew Fox** (SPH'02,'07), professor of epidemiology; and **Michael Stein**, chair and professor of health law, policy, and management.

SPH TY 2024

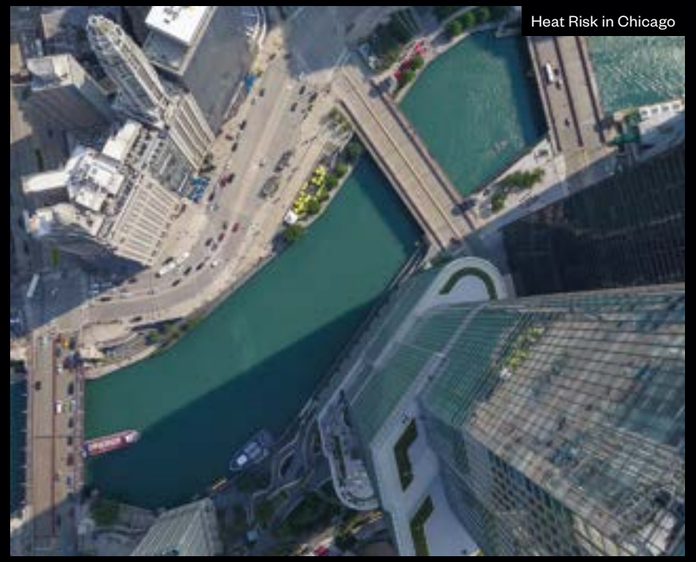
OUR PLACE.

Across the US

03

CONTENT

Across the US



Heat Risk in Chicago

Rural Mortality

TOP BY ADOBE STOCK/RAOYANG , BOTTOM BY ADOBE STOCK/OLGA

Pregnancy Risk

PHOTO BY STOCKSY/ANNA MALGINA

As Chicago Heats Up, So Does Inequality

SPH and the *Chicago Tribune* Collaborate to Map Heat Risk in the City

By Megan Jones

A collaboration between the *Chicago Tribune* and the School of Public Health's Center for Climate & Health (CCH) has produced the most comprehensive maps available to date of disparities in heat exposure across Chicago.

In under two months, a team of SPH researchers developed a publicly accessible data dashboard featuring interactive maps that show heat exposure, cooling infrastructure, and population demographics related to heat vulnerability in Chicago. *Tribune* reporter Sarah Macaraeg then incorporated content from the dashboard into her story "Mapping a threat: Climate change's deadly summer heat may deepen disparities in Chicago," which the paper published on its front page.

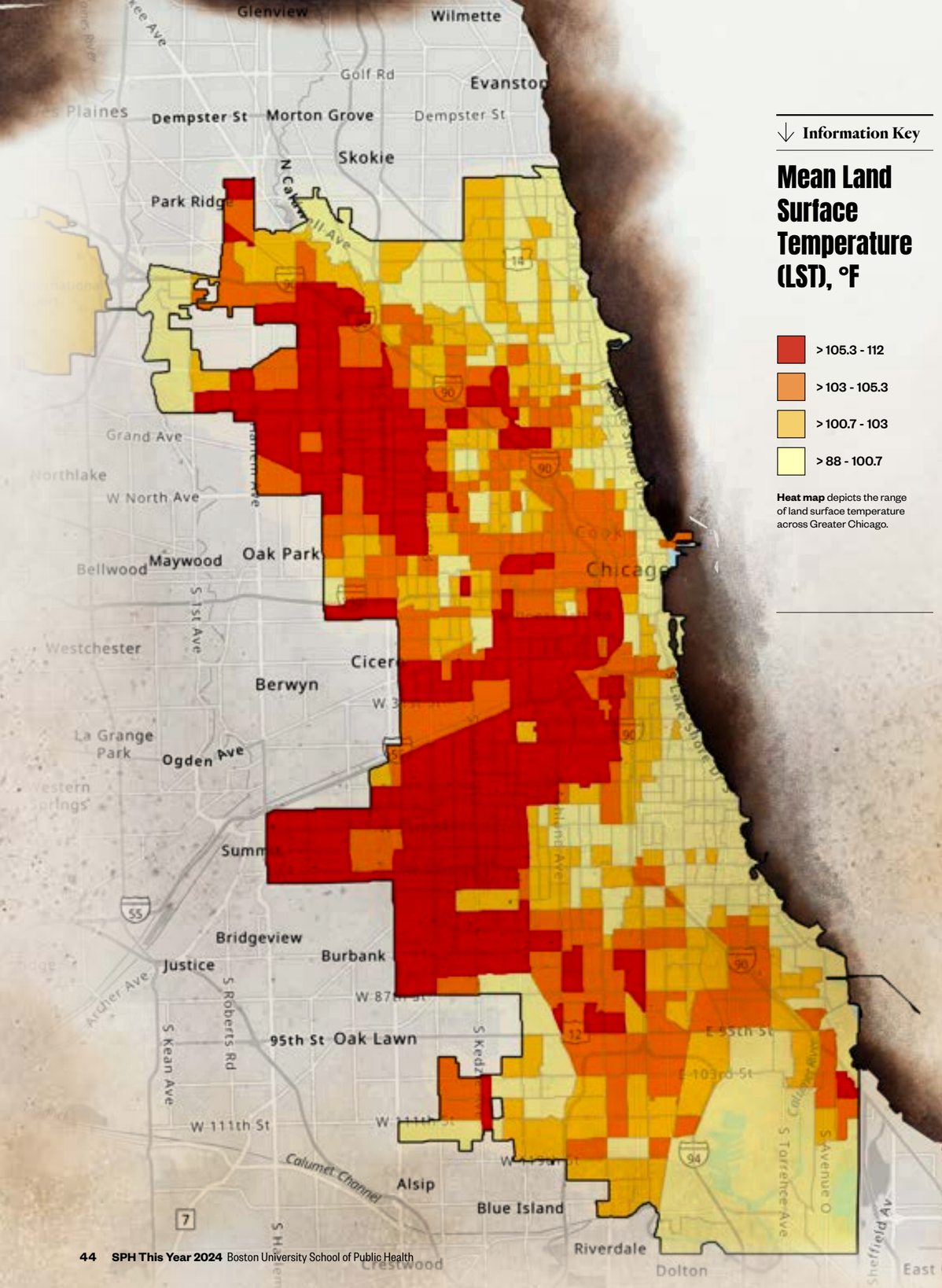
"In the past, what [researchers] have sometimes done is build [data] dashboards that cover everything under the sun, and their utility has fallen outside the time frame for taking important action. What we've done here is build a targeted set of maps that combine multiple existing datasets to pinpoint the gaps in the city's climate adaptation strategy that should be targeted first," says **Kevin Lane**, assistant professor of environmental health and project lead of the SPH team.

Lane's team included **Muskaan Khemani** (CAS'22) and **Jason Rundle** (SPH'23), as well as **Gregory Wellenius**, professor of environmental health and director of CCH, whose research has shown thousands of US deaths may be attributable to heat each year—not hundreds, as formerly believed.

Vanessa Boland Edouard (SPH'08, Questrom'14), director of idea hub, the SPH innovation incubator that facilitated the *Tribune* partnership, says Lane and his team were able to complete the project at speed by "relying on established methods and datasets to produce understandable and actionable public health information for the residents and policymakers of Greater Chicago."

BY ADOBE STOCK/ANA GRAM, NIK_MERKULOV

BY ADOBE STOCK/HELGIDINSON



Information Key

Mean Land Surface Temperature (LST), °F

- > 105.3 - 112
- > 103 - 105.3
- > 100.7 - 103
- > 88 - 100.7

Heat map depicts the range of land surface temperature across Greater Chicago.

BY ADOBE STOCK/PIXELROBOT

The project's tight turnaround enabled the *Tribune* to release "Mapping a threat" shortly after Chicago's mayoral election, drawing attention to the urgent need for the city's next policy agenda to include a comprehensive heat management plan.

"Local knowledge is of the utmost importance to diagnose and examine [climate] adaptation strategies," says Lane. "Reporters have that local knowledge because they're on the beat, they're talking with politicians, they're talking to community members. They're the ones that can put your information into the right context and be advocates for your science."

Chicago, like Boston, contends heavily with the urban heat island effect that leads some neighborhoods to heat up more than others. Densely developed areas, with an abundance of dark roofs and asphalt, absorb more of the sun's heat than greener areas with greater tree cover. Mapping local heat islands enables cities to tailor policies and target investments to cool vulnerable neighborhoods.

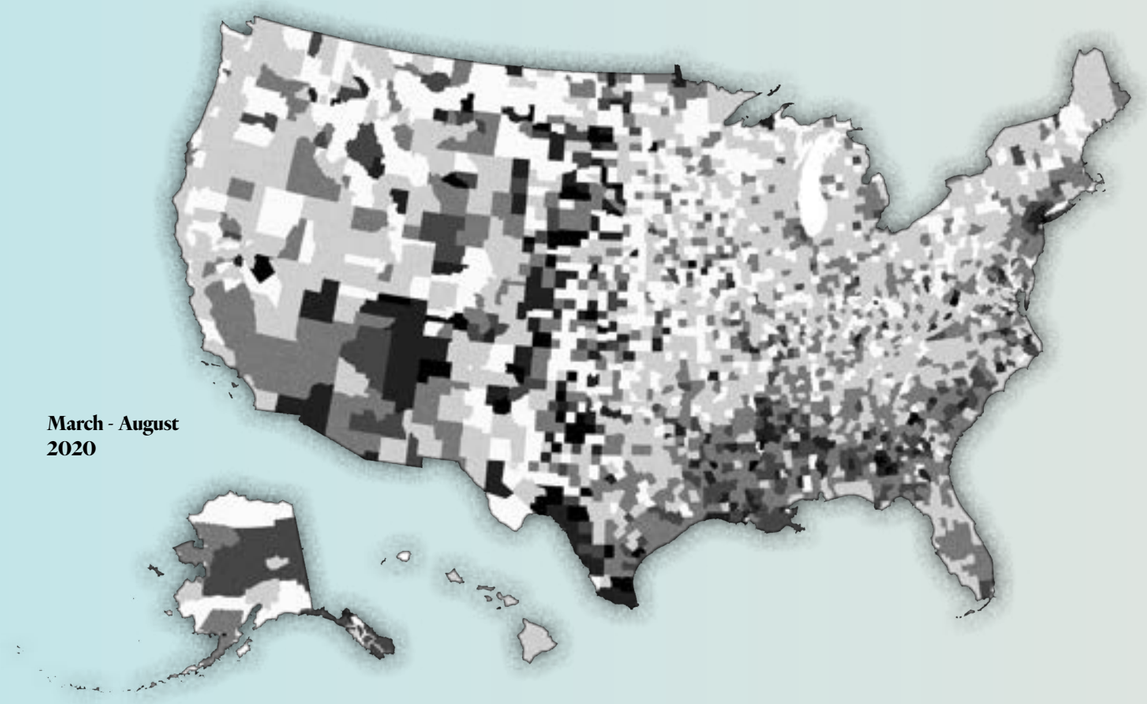
Using US Census data and satellite observations from NASA and the US Geological Survey, the SPH team calculated more than 300,000 people live in Chicago's hottest areas, where average summer surface temperatures are an estimated 5 to 10 degrees above the city average. These areas, hotter than 90% of the rest of Chicago, are disproportionately populated by Hispanic/Latino residents.

Inaugural BU-Harvard Climate and Health Conference Brings Together 1,300 Participants

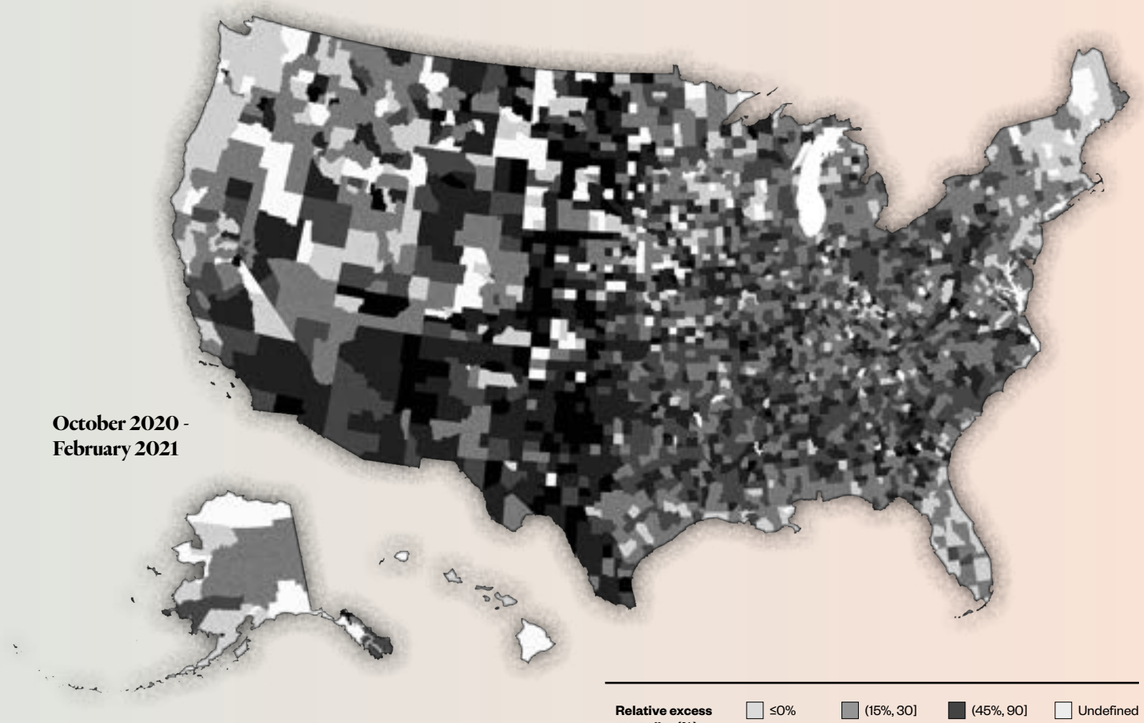
As the nation's first and only Climate Change and Health Research Coordinating Center, the $7.5M BU-Harvard "CAFE" aims to *Convene, Accelerate, Foster, and Expand* a global network of emerging and established researchers equipped with the knowledge and tools to advance climate and health scholarship—and deliver solutions. The 2024 inaugural BU-Harvard Climate and Health Conference—with over 1,300 participants, perhaps one of the largest climate and health conferences ever held—brought together a diverse slate of academics, policymakers, and industry representatives.

Mapping Excess COVID Mortality

By Jillian McKoy



March - August 2020



October 2020 - February 2021

Relative excess mortality (%)

≤0%	(15%, 30]	(45%, 90]	Undefined
(0%, 15]	(30%, 45]	>90%	

Map

The study identifies a total of **1,179,024 excess deaths** from March 2020 through February 2022, including an estimated **634,830 excess deaths** from March 2020 to February 2021, and **544,194 estimated excess deaths** from March 2021 to February 2022.

Info.

See these findings and more in the full paper, published in *Science Advances*. **science.org/doi/10.1126/sciadv.adf9742#sec-2**

New Estimates Show Increases in US Rural Mortality during Second Year of Pandemic

Between the first and second year of the COVID-19 pandemic, excess deaths decreased in large metropolitan counties and increased in rural counties in the United States, according to a study led by the School of Public Health and the University of Pennsylvania.

Excess mortality, which compares observed deaths to the number of deaths that would be expected under normal conditions in a given period, is a reliable estimate of the true mortality impact of the pandemic over time and across geographic regions that is unaffected by variability in cause-of-death assignment practices.

Published in the journal *Science Advances*, the findings show that the high excess death rates that burdened large metropolitan areas in the Northeast and Mid-Atlantic regions in the initial months of the pandemic began to shift to rural areas in the south and west as early as August 2020, with the sharpest increases occurring during the surge of the highly contagious Delta variant in the spring and summer of 2021.

This excess mortality data is now publicly available for researchers and the broader public to view in a first-of-its-kind online database and interactive tool researchers created to serve as a resource for people to further examine the social, structural, and policy drivers of excess mortality during the pandemic.

"Despite the availability of vaccines in the second year, there were nearly as many excess deaths as in the first year, prior to the vaccine era," says study corresponding author **Andrew Stokes**, associate professor of global health at SPH.

The total excess death count between March 2020 to February 2022 aligns with national excess death tallies from the Centers for Disease Control and Prevention and the World Health Organization. But by evaluating estimates for all 3,127 counties in the US, this new study exposes the hardest-hit communities and reveals how the burden of mortality evolved amid policy changes, vaccine development, and new COVID-19 variants over this time.

PHOTO BY STOCKSY/MILLES STUDIO

Where You Live Determines Risk of Severe Pregnancy, Postpartum Complications

By Jillian McKoy

SPH researchers are determined to identify and mitigate the conditions that raise people's risk of experiencing life-threatening complications from pregnancy, childbirth, and the often-precarious postpartum period.

Two studies published in the journal *Obstetrics & Gynecology* illustrate the stark differences in maternal health outcomes and reveal that depending on where a person lives and the quality and type of care they receive, these outcomes can vary widely.

Sarah Gordon, assistant professor of health law, policy & management, was part of a team that examined maternal health outcomes among Medicaid insurance recipients and found that rates of severe maternal morbidity (SMM), or "near miss" deaths, varied substantially by state and race/ethnicity.

Across the country, SMM rates were highest in Washington, DC, at 200 cases per 10,000 live births—nearly three times as high as Utah, the state with the lowest SMM rate (80 cases per 10,000 live births). In a subsample of 27 states and Washington, DC with adequate race and ethnicity data, the researchers found that the rate of SMM among Black birthing people was nearly twice as high as the rate for white birthing people.

In addition to DC, the top five states with the highest SMM rates were California, Nevada, New Jersey, and New York. Maryland, Rhode Island, Nebraska, and New Hampshire joined Utah as the states with the lowest rates.

For the study, Gordon and colleagues from SPH, the University of Michigan, Columbia Mailman School of Public Health, and the University of Minnesota School of Public Health examined nearly five million live births among Medicaid enrollees from 2016 to 2018, identifying adverse maternal health outcomes, overall and by state, that occurred within six weeks of delivery. The team utilized a novel data source called the Transformed Medicaid Statistical Information System, a national database of healthcare claims for Medicaid enrollees provided by the Centers for Medicare and Medicaid Services.

Nationally, most of the research and public discourse on maternal mortality focuses on pregnancy-related maternal deaths—deaths caused or accelerated by a pregnancy—rather than the broader category of pregnancy-associated maternal deaths, which are deaths from any cause during pregnancy or up to one year postpartum, including those that are pregnancy-related.

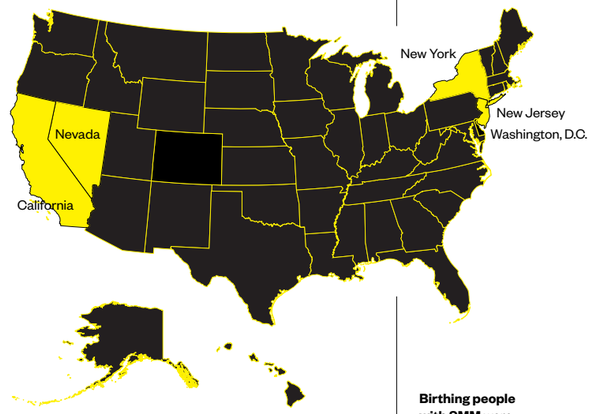
Eugene Declercq, professor of community health sciences, led a study published in the journal *Obstetrics & Gynecology* that examined deaths among Massachusetts birthing people during pregnancy or postpartum and found that nearly 70% of people who died during the postpartum period received hospital care after delivery and before death. Severe maternal morbidity, opioid use, and prior hospital care were linked to pregnancy-associated deaths (deaths from any cause during pregnancy or up to one year postpartum), but not pregnancy-related deaths (those caused or accelerated by a pregnancy). From the study period of 2002–2019 in the commonwealth, there were nearly four times as many pregnancy-associated deaths—which result from incidents such as gun violence, intimate partner violence, suicide, and drug overdose—than pregnancy-related deaths, which occur from complications such as stroke, heart attacks, preeclampsia, and heavy bleeding.

The results showed that birthing people with SMM (which includes hypertension, diabetes, blood clots, and infections, among other conditions) were more than nine times as likely to die of any cause during the pregnancy or postpartum periods, compared to birthing people without SMM. Birthing people who used opioids during pregnancy or postpartum were six times more likely to experience a pregnancy-associated death than those who did not use opioids.

Lack of access to healthcare services is an often-cited barrier in maternal health research, but these findings suggest that utilizing healthcare is not enough to prevent deaths for pregnant or postpartum people—the quality and type of maternal care that this population receives is just as important as the amount of care.

↓ SMM rates

States with the highest severe maternal morbidity (SMM) rates.



Birthing people with SMM were more than

9

times as likely to **die of any cause during the pregnancy or postpartum periods**, compared to birthing people without SMM.

Birthing people who used opioids during pregnancy or postpartum were

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times more likely to **experience a pregnancy-associated death** than those who did not use opioids.

Info. → *Obstetrics & Gynecology*, popularly known as "The Green Journal" **journals.lww.com/greenjournal/pages/default.aspx**

BY ADOBE STOCK/CEBALLOS

Care That Closes the Gap

New Research Shows Medicaid Is a Vital Lifeline for Adults with Down Syndrome

By Jillian McKoy

PHOTO BY STOCKSY/STUDIO FIRMA

Almost all adults with Down syndrome are enrolled in Medicaid, but there is very little knowledge about how this population with high healthcare needs actually utilizes healthcare services. A study led by a School of Public Health researcher is the first to explore this subject among a nationally and racially representative group of more than 120,000 people with Down syndrome.

Published in the journal *JAMA Health Forum*, the study found that individuals with Down syndrome were more consistently enrolled in Medicaid and utilized more healthcare services than people with no developmental disabilities.

The findings also shed light on racial disparities within this population, showing that white people with Down syndrome have greater access to and utilization of healthcare services than other racial and ethnic groups. The study underscores Medicaid's critical role in the health and well-being of adults with Down syndrome while also identifying subgroups of this population that are lacking equitable care.

"The Down syndrome population has not been enumerated like this before," says study lead and corresponding author **Eric Rubenstein**, assistant professor of epidemiology. According to Rubenstein, full-time employment—which usually leads to private health insurance—is rare among people with Down syndrome, so this analysis of Medicaid utilization represents almost all US adults with this genetic condition.

For the study, Rubenstein and colleagues from SPH and Massachusetts General Hospital utilized federal health data to examine Medicaid enrollment, healthcare usage, and costs among 123,000 adults ages 18 and older with Down syndrome, 1.2 million adults with intellectual disabilities but not Down syndrome, and 6 million adults with no diagnosis of developmental disabilities, from 2011 to 2019. Says Rubenstein, "As more people with Down syndrome survive to older ages, the Medicaid system needs to be ready to serve this population with tailored, sensitive, and comprehensive care."

A PICTURE OF PUBLIC HEALTH

Alum's Overdose Prevention and Recovery Work Featured in *Boston Globe* Editorial Cartoon

By Michael Saunders

In good weather, when the streets of Cambridge's Central Square are filled with noise and laughter, **Danielle McPeak** (SPH'20) usually props up a table in Carl Barron Plaza, the red-bricked triangle next to the Central Square T entrance that's been a neighborhood gathering place for decades. On the table: the opioid overdose reversal medication Narcan, test strips that indicate the presence of fentanyl in injectable drugs, and literature to support those seeking help beyond what's available from McPeak and her colleagues.

Many of those in the bustling plaza are insecurely housed, says McPeak, an overdose prevention and recovery specialist with the Cambridge Public Health Department (CPHD) whose work distributing knowledge and Narcan was featured in an editorial cartoon in the *Boston Globe*. Tree-shaded granite benches in the plaza offer a safe and familiar place for those experiencing homelessness or struggling with substance use.

"They hang out there with the people they know and feel safe with, so that's usually a pretty good place for us to set up," McPeak says.

On a blustery winter day, McPeak held a session indoors at a branch of the Cambridge Public Library that was observed by cartoonist Sage Stossel. In a few brief panels, Stossel portrayed the broad scope of interactions McPeak has experienced since they began conducting the sessions every few months since starting at CPHD May 2022.

While doing this outreach work, McPeak tries to hold two separate but related mindsets when considering the range of feelings people have about substance use. "You have people who have dealt with it themselves and feel totally marginalized by the system that we live and operate in, which does not see people who use drugs as full human beings deserving of compassionate support and understanding," she explains. "They're navigating a system that only really gives them that support if they totally go cold turkey, and any deviation from that approach can be met with so much stigma and visceral hatred from some people. I try to hold space for that."

And at the other end of the range, McPeak says, "I also try to hold space for the people who are just so scared of substance use and are so scared of the possibility that something like that could happen to someone they love, that they could fall into the spiral of addiction and have their lives potentially fall apart because of it."

Creating Policy in Community →

Noel Vest's past struggles with substance use and his journey to overcome them now guide much of his research as an assistant professor of community health sciences at SPH, where he studies how substance use disorders and mental health challenges intersect among a variety of populations. He also examines how to improve care and support services for people in substance use recovery by extending his research to recidivism, prison reentry interventions, and systemic, discriminatory issues that have long plagued the US criminal justice system.

"If I had one goal to accomplish in this lifetime, it would be to motivate and inspire individuals in prison to explore opportunities in higher education. The experience for me has been extremely transformative in ways I had never imagined," Vest says. He is senior author of a conceptual paper that encapsulates these thoughts, presenting the benefits of substance use treatment and recovery studies that include researchers with a lived experience of substance use and incarceration. The paper, published in *Implementation Research and Practice*, argues that researchers who have themselves struggled with drug or alcohol misuse are uniquely positioned to design and conduct these studies and recommend interventions with the insight, accuracy, and sensitivity that is best gleaned from personal experience.

Vest's own experience with substance misuse began after a breakup in his late teens and turned into a 14-year dependence on methamphetamine and alcohol, which then ballooned into multiple drug, fraud, and identity theft offenses that he committed to financially sustain this dependence. In the early 2000s, Vest served seven years in a Nevada state prison.

"Many implementation science studies involve community input but that is where inclusion often ends," Vest says. "We must also seek to include researchers who understand the experience of their study subjects and can build trust within these communities, identify appropriate study questions, and design interventions that are realistic and sustainable."

ILLUSTRATION BY SAGE STOSSEL
ORIGINALLY PUBLISHED IN *THE BOSTON GLOBE* ON JANUARY 5, 2024

Students Inform Intervention to Help Victims of Abuse

By Megan Jones

PHOTO BY ADOBE STOCK/ИРИНА ГУТЫРЯК

Instances of human trafficking or intimate partner violence are rarely detected, even in healthcare settings where providers are well-positioned to connect victims with services and may have specialized training to recognize signs of abuse.

To help address this problem, SPH students enrolled in Communication Strategies for Public Health have collaborated with the Tennessee Department of Health (TDH). Ami Mitchell, South Central regional director at TDH, challenged the students to develop strategies that would encourage individuals who might be experiencing abuse to confide in health department staff.

Over the course of the semester, students assumed the role of real-world public health consultants, says **Jacey Greece** (SPH'04, '11), clinical associate professor of community health sciences. They spoke with clinic staff to better understand clinic operations, attended educational seminars on human trafficking in Tennessee, and conducted interviews with key stakeholders. These efforts culminated in proposals so promising that Mitchell adopted some student ideas and implemented them at all local health departments in her 12-county region.

One particularly notable intervention is a simple, new disclosure process that TDH calls Red Dot to Disclose (RDD). Signs hung in specimen collection restrooms explain that patients seeking help can place a red dot sticker on their specimen cup before placing the cup in a collection window. The sticker indicates to healthcare providers that the patient: a) does not feel safe in their current relationship; b) is being hurt or threatened; and/or c) is being forced to do something sexual. Providers then ensure the patient is escorted to the exam room alone and receives the appropriate assessments and referrals.

Signs hung in specimen collection restrooms explain the Red Dot to Disclose process to patients. ***Photo courtesy of Ami Mitchell***

The process leverages an already private space and a common clinical procedure to give patients the utmost discretion in their decision to disclose. In summer 2023, Mitchell rolled out RDD for a pilot program across south central Tennessee, a mainly rural area that also encompasses the city of Chattanooga.

"I have been fortunate to be able to collaborate with students in [Greece's] class several times over the years," says Mitchell. "It has been a real asset to the local health departments I work with to apply the ingenuity of her students to real-world problems."

SPH TY 2024

OUR PLACE.

Around the Globe

04

CONTENT

Around the Globe

Japan

After the 2011 earthquake, online MPH student Kota Takayama organized psychological support for hearing-impaired communities.

Boston, USA

Home of Boston University School of Public Health

3D MODEL: ADOBE STOCK/NASA

Denmark

Epidemiology faculty AJ Rosellini and Jaimie Gradus received an NIMH grant to investigate mental and physical health outcomes for friends and family of those who die by suicide.

AR EXPERIENCE

Global Impact Map

Ar

Instructions

Open your smartphone camera and hold it close to the QR code above. When it appears, tap the link at the bottom of your screen.

Once Adobe Aero opens, follow the on-screen instructions (be sure to allow camera access) and place the globe on a desk or table in front of you.

Move your camera and tap the white buttons to explore the Global Impact Map.

Brazil

During the pandemic, Assistant Professor Salma Abdalla led a global study on mental health decline featuring participants from Brazil and several other countries.

Distinguished Alumni Awards Honor Extraordinary SPH Leaders

By Megan Jones

Muka Chikuba-McLeod (SPH'98) and **Kate Onyejekwe** (SPH'03), MPH program alums and global health leaders at John Snow, Inc. (JSI), were honored with 2023 Distinguished Alumni Awards. Since 1989, the Distinguished Alumni Awards have recognized SPH graduates who make outstanding contributions and exemplify dedication to the field of public health on a local, national, or global scale.

Chikuba-McLeod trained as a physician at the University of Zambia and served on the front lines of the country's HIV epidemic for seven years before pivoting to public health. After earning her MPH in international health at BUSPH and a MSc in epidemiology at Harvard T.H. Chan School of Public Health, she dedicated more than two decades to global public health consulting at JSI, leading five major global health initiatives. Currently, Chikuba-McLeod serves as interim president and CEO following her most recent role as chief of party for the JSI-implemented USAID SAFE (Supporting an AIDS Free Era) program. In an earlier role as JSI country representative, she was responsible for providing HIV treatment to more than 300,000 Zambians in three provinces. "There is nothing more rewarding than seeing the fruits of your work through the improved lives and livelihoods of other people, and sometimes in public health you get to experience that firsthand," she says.

In her prior role as JSI's chief partnerships officer, Onyejekwe, now vice president, program management, oversaw a portfolio of global programs and directed technical competency centers. A Rhodes Scholar, she holds a bachelor's in English Studies from the University of Ife, Nigeria, and a master's in English Studies from the University of Oxford. Before earning her MPH in international health at SPH, she spent her early career traversing Nigeria, gaining technical expertise in family planning, reproductive health, maternal health, youth programming, and institutional capacity building. Most recently, she served as deputy director of the MOMENTUM Integrated Health Resilience program, which works to improve the health and stamina of individuals, communities, and healthcare systems in fragile settings. "It is the way you instill trust with your colleagues," says Onyejekwe. "That is what makes this work, and what makes us across-the-board better implementers of public health programs."

"Muka Chikuba-McLeod and Kate Onyejekwe have both taken on some of the hardest challenges in global health—improving lives of people in low-resource settings—implementing programs and overseeing work that has made a tremendous difference for so many."

Sandro Galea, Dean of SPH

ILLUSTRATION BY PABLO PASADAS. PHOTOS BY HAKS MEDIA

SPH Researchers Launch Data Repository for Global Social Determinants of Health

Global Data for All

By Jillian McKoy

With funding from The Rockefeller Foundation, researchers at the School of Public Health launched a global data repository combining more than 70 national and international datasets on social determinants of health (SDoH) into one interactive, user-friendly platform.

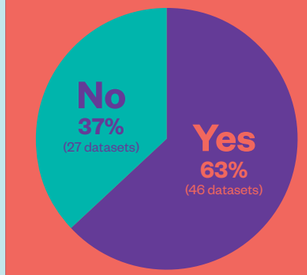
The Data for Global Health Equity website aims to help health experts, government officials, and other key decision-makers understand the social and economic factors that influence health in different countries, and inform evidence-based policies and programs that can reduce global health inequities and improve health outcomes.

The initiative builds on the work of The Rockefeller Foundation-BU Commission on Health Determinants, Data, and Decision-Making (3-D Commission), which released a groundbreaking report in 2021 on how to more effectively measure SDoH and foster better decision-making around health.

The idea for this data repository was born from the 3-D Commission team realization that many datasets are siloed and inaccessible to researchers—particularly researchers in low- and middle-income countries—due to limited costs, bandwidth, or resources. The datasets include information on 12 SDoH, including social position and networks, income, wealth, food security, education, occupation, social cohesion, neighborhood characteristics, religious/tribal/caste affiliation, political position, and governance impact.

"By launching this repository, our aim is to move beyond talking about social determinants of health in an abstract form to advocate for the use of actionable health data to develop analyses and inform health policies relevant to specific settings in different countries," says principal investigator **Salma Abdalla** (SPH'16,'22), assistant professor of global health, who is leading this project along with coprincipal investigator Dean **Sandro Galea**. "For example, certain social determinants of health may operate differently in a local community in India than in a metro city in the US or Europe—so researchers in India will be able to easily access datasets that are relevant to their specific communities and identify areas that require local data collection, rather than develop policies and programs based on data from high-income countries."

Is Global Health Data Publicly Accessible?



According to Data for Global Health Equity, one third of global determinants of health datasets are not.

Are Datasets Linked to Health Outcomes?

Africans are 61% more likely to be surveyed by an unaffiliated group than the rest of the global population, which can result in biased questions, results analysis, and interpretation.

Info →

Learn more about the Data Repository for Global Social Determinants of Health
https://dataforhealthequity.org/

ILLUSTRATION BY ADOBE STOCK/ STOCK.FOTOTOUCH

MEDICINE MUST NOT REMAIN SILENT

By Jillian McKoy

As the United States marks the 22nd year of the opening of Guantánamo Bay detention camp, the horrors of forced rectal feeding inflicted upon detainees at CIA secret prisons and the Guantánamo Bay detention camp have prompted two School of Public Health researchers to call for medical officers involved in this unethical and discredited practice to be held accountable.

In an article published in *JAMA*, **Sondra Crosby**, professor of health law, ethics & human rights, and **Leonard Glantz** (CAS'70, LAW'73), emeritus professor of health law, policy & management, equate rectal feeding to torture and argue that medical officers who authorized, ordered, or participated in this nonconsensual and medically ineffective practice have committed acts that meet the legal definition of rape. These officials have never been identified or formally punished for their actions.

"Medical officers are not absolved of ethical and legal responsibility for their actions when they commit heinous acts on behalf of and with permission of the state," Crosby and Glantz wrote. "We believe that any CIA physicians and all other medical officers who authorized or participated in the rectal feeding of these prisoners cannot be entrusted to protect the welfare of patients once they return to civilian positions."

Modern medicine has long rejected rectal feeding, which was once thought to be an alternative method of providing nutrition. CIA officials alleged that this forced feeding was a necessary action to end detainee hunger strikes, but a military judge has since ruled it an illegitimate medical practice.

"The sequelae of rape can persist for decades and even a lifetime," the authors wrote, stating that anal rape survivors often experience both physical and psychological harms from depression and post-traumatic stress disorder to rectal perforation, infections, and chronic pain.

CARETAKER TURNED CHANGE-MAKER

Alum's Global Health Nonprofit Answers Calls for Healing

By Megan Jones

In 2014, **Alex Gitungano** (SPH'19) volunteered to accompany a badly burned toddler named Leo from their home country of Burundi to Boston for life-saving medical care. At age two, Leo fell into an open cooking fire and sustained grave facial injuries, leading to an acute infection and permanent scarring requiring ongoing surgical procedures. Alex's leap of faith to leave everyone and everything he knew to care for a child he had just met—and his devotion to raising Leo over the tumultuous decade to follow—dramatically changed both their lives.

MICHAEL SAUNDERS

Leo (left) and Alex Gitungano. Alex's early struggles to provide for Leo's daily needs while Leo underwent pro bono surgeries in the US prompted Alex to found the Justice Health Initiative (JHI) to help others like Leo.

Since capturing hearts all over the world with their story and settling in Massachusetts to start their next chapter, Alex has established a nonprofit to help others like Leo. As the founder and executive director of the Justice Health Initiative (JHI), Alex connects patients who have severe and rare medical conditions to healthcare they would otherwise be unable to access or afford in their home countries.

Through budding partnerships with surgeons and hospitals in the US, Europe, and Africa, beginning with Leo's plastic surgeon Dr. Richard Ehrlichman at Shriners Children's hospital in Boston, JHI arranges low-to-no-cost consultations and procedures for patients. Inspired by Alex's early struggles to provide for Leo's daily needs while Leo underwent pro bono surgeries in the US, JHI coordinates and covers airfare, visa fees, lodging, and other essentials for patients whose care necessitates crossing borders.

Alex, Leo, and plastic surgeon Dr. Richard Ehrlichman at Shriners Children's Boston.

Photo courtesy of Alex Gitungano

Alex Gitungano says he feels that starting JHI " is the calling of my life."

Leo joined Alex and Dean Sandro Galea onstage at Alex's graduation from SPH.

KATHERINE TAYLOR FOR *BU TODAY*

"I would love to see JHI grow to expand more services and be able to help more patients."

Alex Gitungano

MICHAEL SAUNDERS

Alex discovered his love for helping patients during his undergraduate education in clinical and social psychology in Burundi. Upon arriving in the US with Leo, he pursued studies in global health and program management at SPH, hoping to one day make a broader impact and reach a larger number of people than he could by working with patients individually.

"I would love to see JHI grow to expand more services and be able to help more patients," he says. Coordinating care for complex cases is a tall order for an organization still in its infancy; established in 2021, JHI's team consists of just Alex and the six volunteers who form his board of directors. Board members say Alex's determination to help despite an often-overwhelming volume of calls has played a major role in buoying the fledgling nonprofit.

Alex outside Talbot at SPH.

Leo hopes to resume participating in sports now that some of his skin graft surgeries are complete.

After simultaneously leading JHI and working full time at the Massachusetts Department of Public Health for more than two years, Alex recently resigned his job to focus solely on building the nonprofit. The child he taught how to read is now a teenager. Following his upcoming surgery with Dr. Ehrlichman, Leo will attend summer camp, where he hopes to resume playing sports—something he has been unable to do with a bulb implanted under his scalp that has been growing a delicate new skin graft to replace some of his scar tissue and accommodate his growth. Already 5'9", Leo likes to brag to his nurses about outgrowing 5'8" Alex—but Alex likes to joke that at 35, he is still growing himself.

Leo demonstrates his soccer skills during an informal practice session with Alex.

MICHAEL SAUNDERS

Unregulated Spread

Without Evidence, 8 Latin American Governments Distributed Ivermectin to Treat COVID-19

By Jillian McKoy

In 2020, several Latin American countries rushed to distribute mass quantities of COVID-19 kits containing medicines—including ivermectin, an antiparasitic drug with common side effects including headaches, muscle pain, coughing, and vomiting—that were not approved for COVID-19 treatment by regulatory authorities.

Ivermectin received significant attention at the beginning of the pandemic after an April 2020 in vitro study alleged that the drug could fight, and prevent deaths from, COVID-19—but this study was conducted in a lab only and did not reflect real-world efficacy on humans. An analysis by SPH researchers shows that at least eight Latin American countries conducted mass distribution of ivermectin, despite insufficient data to support its use and lack of clinical evidence confirming the effectiveness and safety of the drug.

Published in the journal *BMJ Global Health*, the study found that the governments of Brazil, Honduras, Panama, and Peru distributed ivermectin before any randomized controlled trials were completed, with Honduras leading the way in June 2020 and the other countries quickly following.

According to the researchers, the findings have several public health implications, but broadly underscore the need for governments to strengthen their ability to implement evidence-informed public health policies.

"While the impulse to 'do something' is understandable, there was neither enough evidence nor guidelines or recommendations from recognized international organizations such as the World Health Organization to support ivermectin outside clinical trials," says study lead author and SPH alum **Jose Antonio Requejo Dominguez** (SPH'23), research fellow in the Department of Global Health.

LEAH FASTEN

FORECASTERS

Laura White, professor of biostatistics.

Kayoko Shioda, assistant professor of global health.

Professors Receive CDC Grant for Infectious Disease Predictive Modeling Project

INFECTION

By Jillian McKoy

SPH PHOTO

SPH researchers are working to help detect and prepare the public for future infectious disease outbreaks through a new innovation center that is part of a larger $250 million network advancing outbreak analytics, disease modeling, and forecasting through the Centers for Disease Control and Prevention's (CDC) Center for Forecasting and Outbreak Analytics.

Called "EPISTORM: The Center for Advanced Epidemic Analytics and Predictive Modeling Technology," the initiative, a multiinstitution collaboration funded by a $17.5 million, five-year grant from the CDC, is led by Northeastern University (NEU).

Laura White, professor of biostatistics, and **Kayoko Shioda**, assistant professor of global health, who both lead the Data Science & Surveillance research core at BU's Center for Emerging Infectious Diseases Policy & Research (CEID), are the lead collaborators from BU, which will receive $1.9 million from the award. The center will also bring together researchers from the University of California San Diego, Los Alamos National Laboratory, the Fred Hutchinson Cancer Research Center, Indiana University, the University of Florida, and Ginkgo Bioworks, as well as several hospital networks.

Researchers will tackle current challenges in epidemic modeling and analytics and develop innovative, practical, and equitable solutions to inform decision-making and policy during health emergencies. Among other tools, they will use wastewater surveillance and artificial intelligence to develop forecasting models that gather data on outbreaks before they occur, allowing hospitals and communities to prepare as much as possible for the outbreaks. The research will emphasize disease development and spread in rural communities.

A Risky Resurgence

Measles Deaths Increased 43% Worldwide in 2022

By Jillian McKoy

After years of decline in measles vaccinations during the COVID-19 pandemic, measles cases rose by 18% and deaths increased by 43% worldwide in 2022 compared to 2021 rates, according to a *Morbidity and Mortality Weekly Report* coauthored by **Allison Portnoy**, assistant professor of global health. Global measles vaccine coverage increased slightly in 2022 compared to 2021, but not in low-income countries, particularly among children—the population most at risk of severe complications and death. Measles vaccination coverage remains below prepandemic levels and well below the minimum coverage needed to successfully eliminate the disease on a regional or global level.

"To avoid the return or further spread of measles in countries where it had previously been eliminated, it is critical that we work to increase measles vaccine uptake and improve primary healthcare to reduce measles fatalities," says Portnoy, whose research focuses on vaccine decision science and policy, and particularly on increasing vaccination rates in high-burden settings.

The report found that low-income countries, where the risk of death from measles is highest, continue to have the lowest vaccination rates at only 66% for the first of the two-dose series, compared to 67% in 2021 and 71% in 2019. To achieve and maintain measles elimination, experts say vaccination coverage needs to reach 95% of the two-dose series.

The measles vaccine remains one of the most effective vaccines—with two doses, it is 97% effective at preventing measles infection for life—but nearly 33 million children around the world are un- or undervaccinated against this disease. Of the 22 million children who missed their first measles vaccine dose in 2022, more than half live in 10 countries: Angola, Brazil, Democratic Republic of the Congo, Ethiopia, India, Indonesia, Madagascar, Nigeria, Pakistan, and the Philippines.

PHOTO BY ALAMY STOCK PHOTO/RICCARDO LENNART NIELS MAYER

SPH TY 2024

OUR PLACE.

Online

05

CONTENT

Online

"Technology at the end of the day is a tool. It can help us or hurt us depending on how it's designed and how it's used."

— Surgeon General Vivek Murthy, in conversation with Senator Ed Markey (Hon.'04) at SPH Public Health Conversation event on youth mental health

ARTWORK CREATED WITH TEMPLATE BY ADOBE STOCK/PIXELBUDDHA STUDIO

Misinformation

Gone Viral

Nearly Half of Dog Owners Are Hesitant to Vaccinate Their Pets

By Jillian McKoy

Public confidence in vaccines declined during the pandemic, largely spurred by misperceptions and mistrust in the safety and efficacy of the COVID-19 vaccine. This hesitancy towards COVID vaccines may extend to pet vaccinations, as well—and at worrying levels.

A study published in the journal *Vaccine* found that more than half of dog owners expressed some level of skepticism about vaccinating their pets against rabies and other diseases. Approximately 45% of US households own a dog. According to the survey results, nearly 40% of dog owners believe that canine vaccines are unsafe, more than 20% believe these vaccines are ineffective, and 30% consider them to be medically unnecessary.

About 37% of dog owners also believe that canine vaccination could cause their dogs to develop autism, even though there is no scientific data that validates this risk for animals or humans.

Conducted among 2,200 dog owners who answered questions through the research sampling firm YouGov, the study is the first to formally quantify the prevalence, origins, and health policy consequences of concerns about canine vaccination.

Notably, the findings show indication of a COVID vaccine "spillover" effect in the US—that people who hold negative attitudes toward human vaccines are more likely to hold negative views toward pet vaccines as well. These dog owners are also more likely to oppose policies that encourage widespread rabies vaccination and less likely to vaccinate their pets.

These attitudes contrast with most state-level polices in the US, which almost all require domestic dogs to be vaccinated against rabies. The disease still poses a potential health threat, as it carries a near 100% fatality rate and the canine rabies vaccine is much less accessible in developing countries than in the US and other high-income areas. More than 59,000 people die from canine-mediated rabies across the globe each year.

"The vaccine spillover effects that we document in our research underscore the importance of restoring trust in human vaccine safety and efficacy," says lead author **Matt Motta**, assistant professor of health law, policy & management, who studies how antiscience beliefs and attitudes affect health and health policies.

> "The vaccine spillover effects that we document in our research underscore the importance of restoring trust in human vaccine safety and efficacy."
>
> **Matt Motta, assistant professor of health law, policy & management**

The American Animal Hospital Association calls vaccinations "a cornerstone of canine preventive healthcare" and recommends that all dogs—excepting those with certain medical conditions—receive a core set of vaccines for rabies, distemper, adenovirus, parvovirus, and parainfluenza, and advises that many dogs receive additional "noncore" inoculations for Lyme disease, Bordetella, and other diseases.

Working with animals that are not current on their rabies vaccine poses increased risks for veterinarians and all animal care attendants at a hospital, says study coauthor Gabriella Motta (sister of Matt Motta), a veterinarian at Glenolden Veterinary Hospital in Glenolden, Pa., who encounters an unvaccinated animal or a vaccine-hesitant pet owner every day in her job. "When a staff member is bitten by an animal, there is always concern for infection or trauma, but the seriousness of the situation escalates if the animal is unvaccinated or overdue for its rabies vaccine," she says.

PHOTO BY ADOBE STOCK/KALIM, ICONS BY ADOBE STOCK/ O_A_DMYTRO

Can We Predict Our Ability to Conceive?

By Jillian McKoy

After a brief uptick during the COVID-19 pandemic, the birth rate in the United States resumed its decades-long decline in 2023, dropping by 3% in 2023 to the lowest rate in a century.

Many experts attribute this decline to educational, economic, and social factors that have slowed teen birth rates and prompted a growing trend in delayed childrearing until older ages.

But, too often, people who actively try to conceive encounter obstacle after obstacle, and what should be the start of a joyous experience turns frustrating and emotional.

For more than a decade, researchers for Pregnancy Study Online (PRESTO) at the School of Public Health have uncovered lifestyle, environmental, and medical factors that may affect fertility and pregnancy outcomes. The web-based preconception cohort study is the largest of its kind worldwide, following thousands of individuals aged 21–45 who are trying to conceive.

Its goal: to identify modifiable changes that may increase one's chances of conceiving and having a successful pregnancy.

"In one of our first PRESTO papers, we examined age as a predictor of fertility and found that at around age 32 or 33, there is a noticeable drop in the chances of conception for older females," says **Lauren Wise**, professor of epidemiology and PRESTO lead investigator. "We still see that age-related fertility decline today, so as pregnancy planners age, it's important to share practical changes that they can make to improve their chances of natural conception."

Wise launched PRESTO in 2013 with **Kenneth Rothman**, professor of epidemiology, and **Elizabeth Hatch**, currently an adjunct professor of epidemiology who retired this year from her full-time position. Funded by the National Institutes of Health, PRESTO was spurred from its Danish counterpart, *Snart Foraeldre* ("soon parents"), which the professors launched in 2006. Female-identifying participants in every US state and all the Canadian provinces are invited to complete questionnaires for one year (or until they conceive) about their diet, exercise, medication use, sexual activity, stress levels, and other factors, with the option for their male partners to enroll. They can also opt to use fertility and menstrual tracking apps.

OPPOSITE PAGE PHOTO BY ADOBE STOCK/NOKKAEW

The team of faculty investigators, postdoctoral associates, master's-level research fellows, and doctoral student researchers has published dozens of findings, among them: higher intake of trans fats and sugar-sweetened beverages, as well as current smoking, were linked to lower fecundability (per-cycle probability of conception) but caffeine was not; taking folic acid supplements increased chances of fecundability; male partners' cannabis use was strongly associated with increased miscarriage risk among females; and moderate alcohol use (except while pregnant) and the HPV vaccine during the preconception period appear to pose no fertility risks.

Danes seem to have slightly higher fecundability rates than Americans, despite studies that suggest Danish males have lower sperm counts, Hatch says. The team hasn't formally explored this finding, but she wonders if this difference reflects the drastically different social and lifestyle factors between the two countries.

"Compared to Americans, Danes' perceived stress is lower, they exercise more; their education and healthcare are paid for," says Hatch, who was principal investigator of the Danish counterpart study. "Society is much more level there, while inequality in America is enormous, and getting worse."

US inequality was on stark display during the COVID-19 pandemic, but the global crisis enabled PRESTO researchers to refute rampant misinformation on COVID-19 vaccines. Coinvestigator **Amelia Wesselink** (SPH'18), research assistant professor of epidemiology, and researchers added COVID-related questions to the surveys and quickly published an analysis showing that vaccines do not cause infertility—a finding that earned a mention on *Saturday Night Live*'s "Weekend Update" segment.

"We were able to immediately address a really pressing public health question," says Wesselink, who has been a part of PRESTO since it started while she was an epidemiology doctoral student. "Because of PRESTO's flexible web-based design, we had the ability to answer this question in a way that I don't think anyone else really could."

As climate change worsens, PRESTO researchers are also analyzing how the environment affects reproductive health. Wesselink leads projects examining the impacts of air pollution and heat on fertility and miscarriage, finding in a 2022 study that miscarriage risk increases during hotter seasons. She is also coinvestigator of the E-PRESTO (Environmental PRESTO) substudy, for which researchers collect participant blood and urine samples in the clinic and by mail to assess individual health risks based on environmental contaminants.

This work also represents PRESTO's shift in recent years to structural and neighborhood-level factors that shape reproductive health. Coinvestigator **Mary Willis**, assistant professor of epidemiology, has published studies that suggest living in socioeconomically disadvantaged neighborhoods is linked to reductions in fertility and that exposure to residential green space slightly increases one's chances of becoming pregnant.

"Generating multipronged epidemiologic evidence is a key step towards figuring out what options may yield policy that could protect population health," says Willis, who is the first BU faculty member to receive NIH's Early Independence Award, with which she is studying the effects of oil and gas development on reproductive health outcomes.

Willis collaborates with and mentors epidemiology doctoral candidate **Sharonda Lovett** (SPH'25), who received an SPH PhD pilot grant to study the impact of residential segregation on fertility. These funds will be used to compile and annotate a spatial-temporal dataset of several neighborhood exposures. Lovett is also leading work on individual-level stressors, including adverse childhood experiences and discrimination.

"I'm hoping to redefine what stress means in the context of the built and social environment, and its effect on health," Lovett says.

Doctoral candidate **Chad Coleman** (SPH'17,'25) is making strides on his dissertation work pertaining to sleep quality and reproductive health, analyzing Fitbit data from select participants to examine how the amount and quality of sleep affect various outcomes. Early analyses indicate that participants with more fragmented sleep may have slightly more difficulty conceiving.

"I really enjoy my sleep work because it presents modifiable public health interventions that can be implemented to improve sleep and increase the chances of conception," Coleman says.

In a presidential election year largely defined by significant federal and statewide restrictions on reproductive rights, being able to make informed decisions about family planning is critically important. PRESTO is charging ahead with concerted efforts to expand and diversify its participants. The team has made inclusive changes to the questionnaire; instead of asking for a participant's sex and gender, they ask if they have an intact uterus.

"Our studies inform the broader body of literature on fertility and enable us to embrace a model of what inclusive reproductive epidemiology should look like," Wesselink says.

Petrochemicals' Psychological Toll

People living within about

6

miles of active oil and gas development had greater depressive symptoms than those living further away.

People living as close as

1 1/4

miles from oil and gas activity had elevated stress levels compared to those further away.

(Left to right): Kipruto Kirwa, Krystal Kuan (SPH'24), Dmitrii Krivorotko (SPH'24), Lauren Wise, Mary Willis, Amelia Wesselink (SPH'18), Chad Coleman (SPH'17,'25), Ruth Geller (SPH'25), and Eliza Pentz (SPH'26). Not pictured: Michael Bairos, Renee Boynton-Jarrett, Elizabeth Hatch, Molly Hoffman (SPH'26), Martha Koenig (SPH'23), Andrea Kuriyama (SAR'21, SPH'24), Sharonda Lovett (SPH'25), Collette Ncube, and Kenneth Rothman.

OPPOSITE PAGE PHOTO BY ADOBE STOCK/ SPACEKRIS
THIS PAGE: MICHAEL SAUNDERS

TikTok

#INFLUENCED

Youth of Color Turn to TikTok for Diet, Fitness Information

As nearly all teens use some form of social media, a study led by a School of Public Health researcher has found that social media platforms are ideal digital spaces to engage adolescents of color on the benefits of healthy eating and physical activity.

Published in the journal *JMIR Pediatrics & Parenting*, the study found that young people prefer to consult TikTok more than any other social media platform for information on healthy weight management.

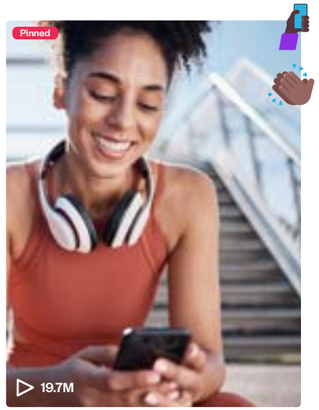
There is limited research on social media-based weight management or obesity interventions for youth, and the study is the first to examine social media use and content preferences for weight management support among adolescents of color. Despite current concerns that social media use is contributing to worsening mental health in youth, the study reveals that these digital platforms can still be valuable spaces to promote health, especially with strategies that are informed by youth perspectives and preferences.

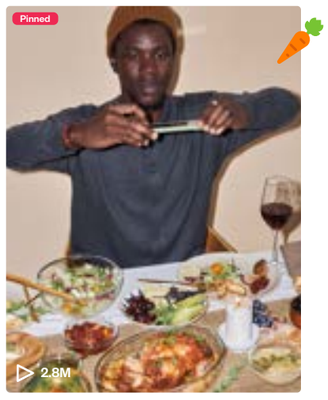
"These findings highlight that it is critical for future interventions to be culturally tailored and consider the unique needs and experiences of adolescents of color," says lead author **Monica Wang**, associate professor of community health.

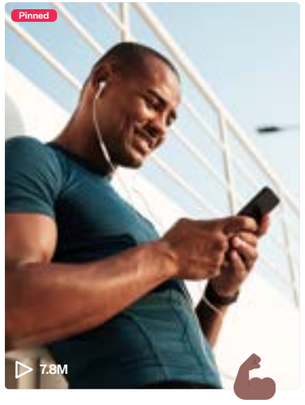
For the study, Wang and colleagues utilized survey and focus group data on weight management behaviors, beliefs, and social media preferences among high school students aged 14 to 18 in California and Massachusetts.

They most frequently used TikTok, followed by Instagram, Snapchat, and X. More than 80% spent at least some time on TikTok and 71% on Instagram. TikTok was their preferred social media platform for learning new information about healthy weight management, but they enjoyed both TikTok and Instagram to communicate with others about diet and fitness.

The study revealed that young people prioritize information on physical and mental health, prefer receiving it from health professionals and peers, and need to be able to relate to the content.







Youth Obesity

Nearly one in four adolescents in the United States experienced obesity from 2017 to 2020. Youth of color experienced disproportionately higher obesity rates, with approximately 26% of Hispanic youth and 25% of Black youth ages 12–19 years experiencing obesity, compared to 17% of white youth.

PHOTOS BY ADOBE STOCK/ALEXIS S./PEOPLEIMAGES.COM, DROBOT DEAN, SEVENTYFOUR, RAWPIXEL.COM, ICONS BY ADOBE STOCK/STALVALKI, TIKTOK LOGO BY ADOBE STOCK/PRESTOCHANGO

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SOCIAL MEDIA'S HEALTH EFFECTS

Women Without Children at Age 35 Are at Highest Risk of Binge Drinking, Alcohol Use Disorder

By Jillian McKoy

POSTS REELS TAGGED

A growing trend of women who are delaying or foregoing parenting is contributing to an increase in women at highest risk for excessive alcohol use, according to a study led by a School of Public Health researcher. The proportion of women in these at-risk groups is growing amid rampant marketing and social media messaging that normalizes drinking among reproductive-age women.

Researchers found that one of the most significant drivers of unhealthy alcohol use among women is the widespread acceptance and normalization of alcohol consumption in US daily life, from social and professional settings to casual drinking at home. Although the study shows that middle-aged women without children were at highest risk of unhealthy drinking, women with children were also at an increased risk.

Published in the journal *Addiction*, the study found that women who turned 35 in recent years, as well as women who have not had children by age 35, are the subgroups of women at highest risk of binge drinking and having alcohol use disorder (AUD) symptoms.

"Because more women are delaying having children in the US, a growing proportion of women fall into the highest risk group," says study lead author **Rachel Sayko Adams**, (SPH'08) research associate professor of health law, policy & management. "This growing prevalence of heavy drinking is exacerbated given that excessive alcohol use is increasing overall for middle-aged women in more recent cohorts."

This public embrace of alcohol may be influenced in part by social media–driven "wine-mom" culture, which encourages mothers to drink for recreational enjoyment and to cope with the challenges of motherhood and work.

Compared to men, the consequences among reproductive-age women who binge drink or develop AUD include an increased risk for liver disease, alcohol-related injuries, and breast cancer, along with sharper increases in alcohol-related mortality.

Women who turned 35 between 2018 and 2019 were nearly 60% more likely to binge drink or report AUD symptoms than women who turned 35 between 1993 and 1997. The trend towards parenting at older ages was evident, as only 39% of women in the 2018–2019 cohort had children before age 30, compared to 54% of women in the 1993–1997 cohort.

"More research is needed to understand the impact that social media messages and groups targeting women have on women's drinking behaviors, as well as the role of alcohol products targeting women," says Adams.

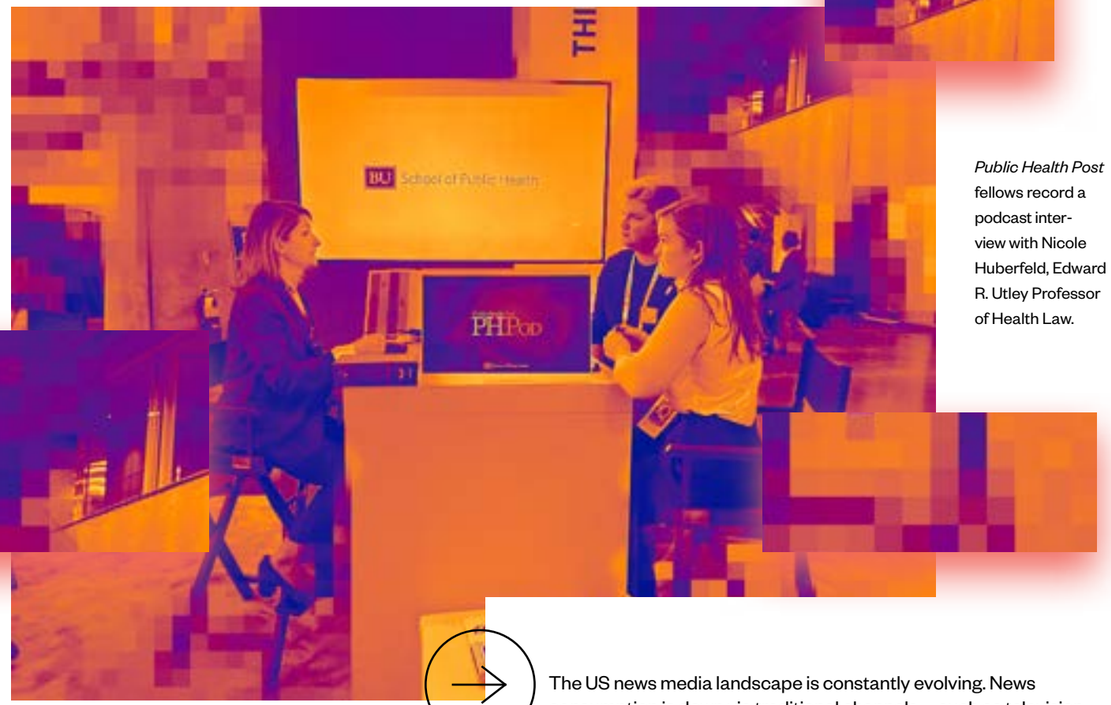
ARTWORK CREATED WITH TEMPLATE BY ADOBE STOCK/PIXELBUDDHA STUDIO, PHOTO BY ADOBE STOCK/NOMAD_SOUL, INSTAGRAM LOGO BY ADOBE STOCK/ARTEMIDA-PSY

SPH Leads on Public Health Communication

By Megan Jones and Jillian McKoy

CHANGING THE PUBLIC HEALTH CONVERSATION

PHOTO BY ADOBE STOCK/ALEX FROM THE ROCK



Public Health Post fellows record a podcast interview with Nicole Huberfeld, Edward R. Utley Professor of Health Law.

The US news media landscape is constantly evolving. News consumption is down via traditional channels—such as television, radio, and newspapers—and up via digital devices. For better or worse, half of all US adults report getting news from social media, with the proportion even greater among young people. In this new era of communications, strategies for engaging audiences have changed dramatically, prompting the School of Public Health to enlist new channels and messengers to promote its mission to the masses.

PUBLIC HEALTH POST

What do contraceptives for men, air pollution effects on athletic performance, and healthcare accessibility for deaf and hard-of-hearing people have in common? These topics and thousands more like them have been the subject of compelling, original stories published by *Public Health Post (PHP)* over its eight-year history.

Five days a week, SPH graduate student fellows and guest authors post articles to the *PHP* anchor website (publichealthpost.org). Once a week, the articles are neatly packaged into an email newsletter and sent to *PHP's* approximately 14,000 subscribers across 50 states and more than 100 countries. Managing Editor **Mallory Bersi** (SPH'19) notes that hundreds of thousands visit the *PHP* website each year in addition to engaging on Instagram, LinkedIn, and via *PHPod*, a podcast series *PHP* introduced in 2020 to share conversations between fellows and public health influencers about common but, at times, uncomfortable public health topics such as body image, harm reduction, and white supremacy.

To date, 30 SPH students have served as fellows and over 800 guest authors have published on *PHP*. After graduating, *PHP* fellows have embarked on a diverse array of public health careers in government, academia, biotech, healthcare, and nonprofit organizations, all sharing the lessons they have learned about public health communications.

STUDENT CONTENT CREATORS

SPH welcomed its inaugural cohort of student content creators tasked with crafting reels, infographics, and other fun and engaging social media content to highlight education, research, and practice. What was once largely a solo operation spearheaded by Social Media Content Manager **Summer Kaeppel** has since transformed into a team effort of brainstorming, designing, and producing material for SPH's Instagram, TikTok, LinkedIn, and Facebook profiles.

"Social media provides so much perspective. It can be a great tool for learning and education," says Student Creator **Audeaneh Saberi** (SPH'24). Kaeppel says, "With their passion and creativity, we have been able to showcase the spectrum of our community's work. From reproductive health to the public health implications of marketing at the Super Bowl, they let their personal public health interests guide them in creating important, informative, and sometimes-funny content." In December 2023, a student-created Instagram reel garnered over 800,000 views.

"We are striving to explain health to a population that knows better than ever before that how we constitute and run our world affects how we live and the quality of our days."

Michael Stein, chair of health law, policy & management and executive editor, *Public Health Post*

Summer Kaeppel, social media content manager, reviews social post with BU mascot Rhett.

FREE ASSOCIATIONS PODCAST

"Welcome to *Free Associations* from Boston University School of Public Health, the public health and medical journal podcast for anyone who is as confused by the latest health study as I am when I try to get the automatic faucets at the airport to recognize that I exist."

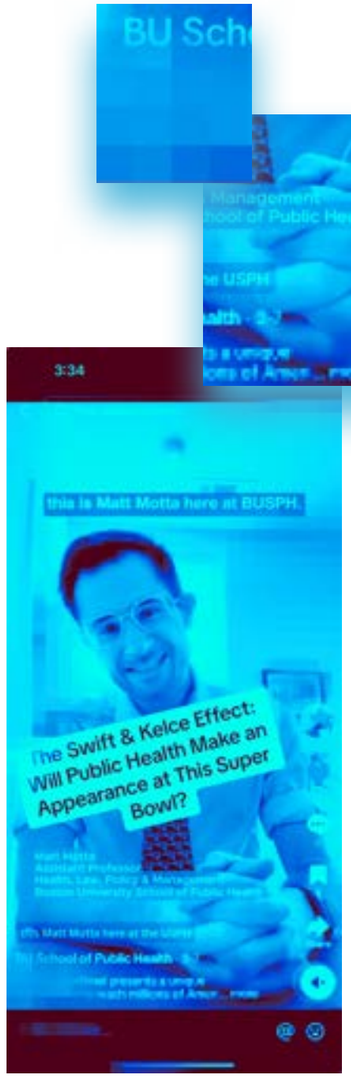
That was **Matthew Fox** (SPH'02,'07) introducing an episode of the podcast he hosts with **Jessica Leibler** and rotating cohosts who debate the most newsworthy or otherwise intriguing public health studies of the moment. Since its launch in September 2017, the podcast's 150 episodes have been listened to over 250,000 times from more than 165 countries, with an audience including students and professors at other educational institutions as well as physicians and public health professionals around the globe.

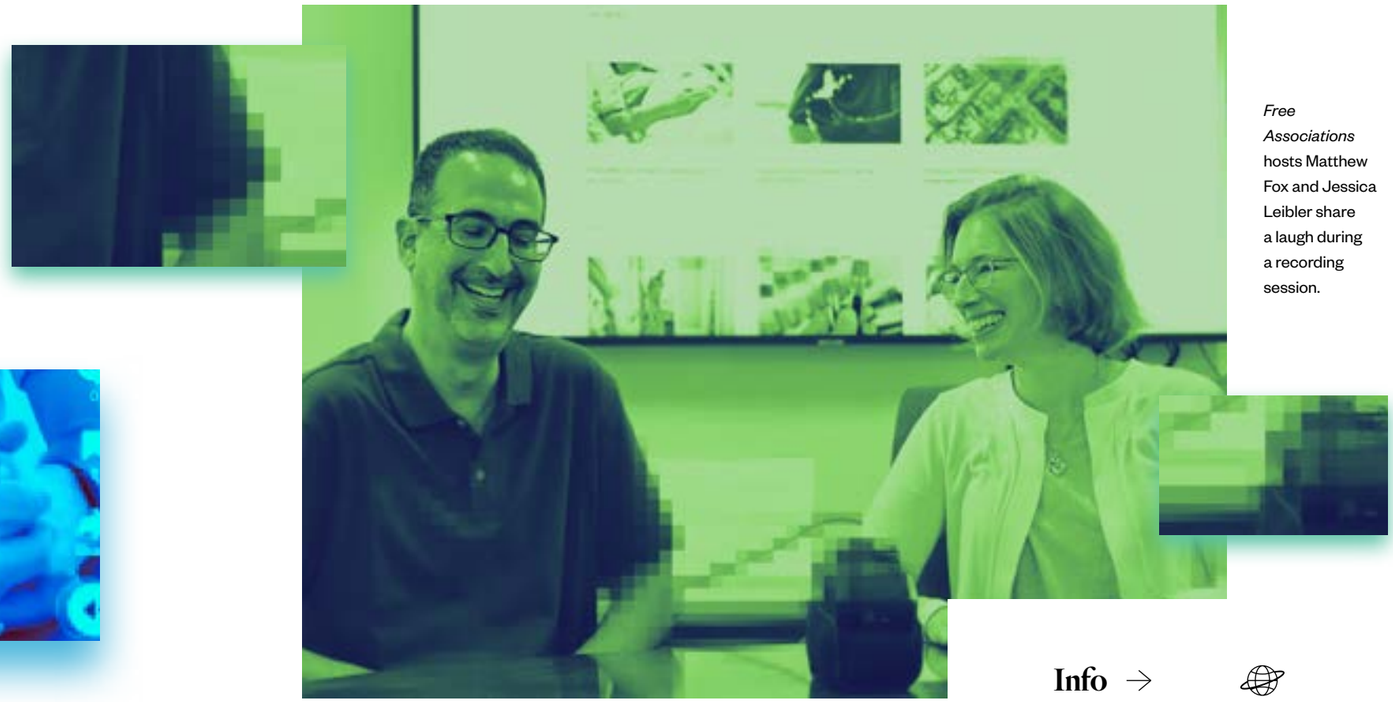
Free Associations is divided into three segments: the Journal Club, a discussion of an intriguing or noteworthy study; the Deep Dive, during which the hosts examine current issues in medical research, such as conflicts of interest; and the Amazing and Amusing, an analysis of the wackiest or most fascinating recent study results.

Fox believes part of the podcast's appeal is that the hosts explore angles that their audience may not normally consider. "If you tune in to the episodes over and over, our hope is that you gain skills and insight on how to approach the literature," he says.

"We recognize that robust literature suggests a link between increased social media use and negative mental health outcomes, but our research at least raises the possibility that social media can also be a force for good."

Matt Motta, assistant professor of health law, policy & management





Free Associations hosts Matthew Fox and Jessica Leibler share a laugh during a recording session.

SOCIAL MEDIA RESEARCH

Given the significant trust that young people place in TikTok, researchers at SPH and the Harvard T.H. Chan School of Public Health conducted a field experiment to understand the extent to which the wildly popular app could provide positive and accurate mental health messaging and resources by sharing evidence-based mental health information with established social media influencers.

The study is the first of its kind to use randomized controlled trial methods to collaborate directly with TikTok creators and promote evidence-based mental health content. Published in *Scientific Reports* (a journal in the *Nature* portfolio), the findings were promising.

To conduct the study, the researchers selected mental health content creators on TikTok who were at least 18 and had a wide reach on the platform—with a collective total of 8.5 million followers—from April to May 2023. They emphasized influencers whose audiences were primarily from populations that disproportionately face barriers in accessing healthcare, including Black, Latine, Asian, and LGBTQ+ creators.

Info →

Visit the Public Health Conversation, SPH's new online home, which brings together our successful live events, *Public Health Post*, and educational resources to support the next generation.

SPH

SCHOOL RANKINGS

- 7th Overall
- 7th in Health Policy and Management
- 7th in Epidemiology
- 7th in Social and Behavioral Sciences
- 9th in Biostatistics
- 11th in Environmental Health Sciences

According to U.S. News & World Report

APPLICATION NUMBERS

3,107

total applications as of July 2024

STUDENTS

1,531

students as of July 2024

ALUMNI

12,181

alums living in

120

countries*

*Estimate as of July 2024

By the Numbers

FACULTY

320

STAFF

269

2023 GRADUATE EMPLOYMENT

92%

Employed full time

or pursuing advanced education within 6 months of graduation, 98% within 12 months

RESEARCH FUNDING

$71.1M

awarded in 2024

MEDIA MENTIONS

8,455

this year

PEER-REVIEW PUBLICATIONS

1,848

this year

PUBLIC HEALTH CONVERSATIONS

30,730

people engaged in Public Health Conversations

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Sandro Galea

ASSISTANT DEAN FOR MARKETING AND COMMUNICATIONS
Cara Willis

DIRECTOR OF EDITORIAL CONTENT
Michael Saunders

MARKETING OPERATIONS MANAGER
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