

**This
changes
everything.**



Boston University School of Public Health

sphthisyear 2020

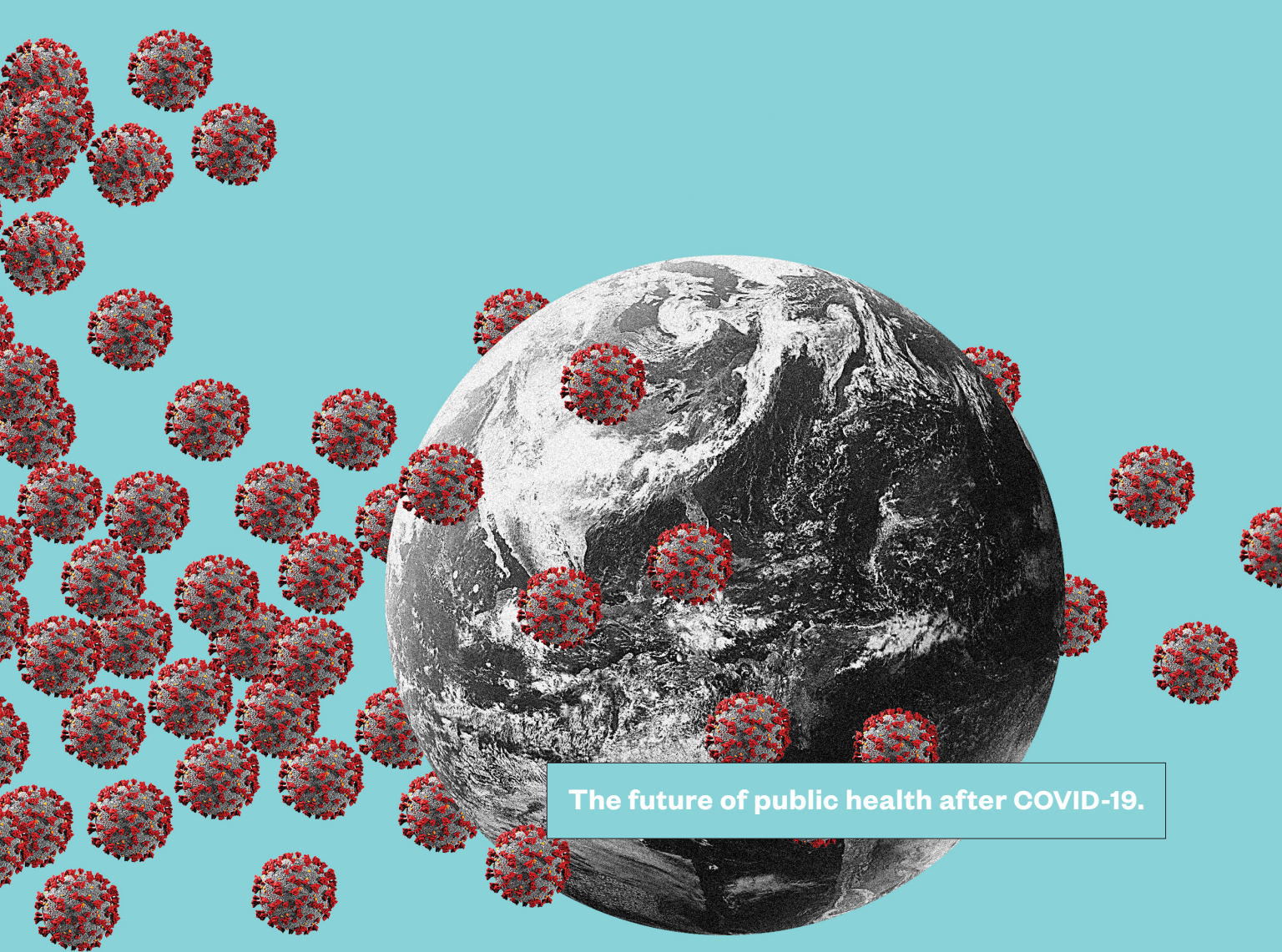
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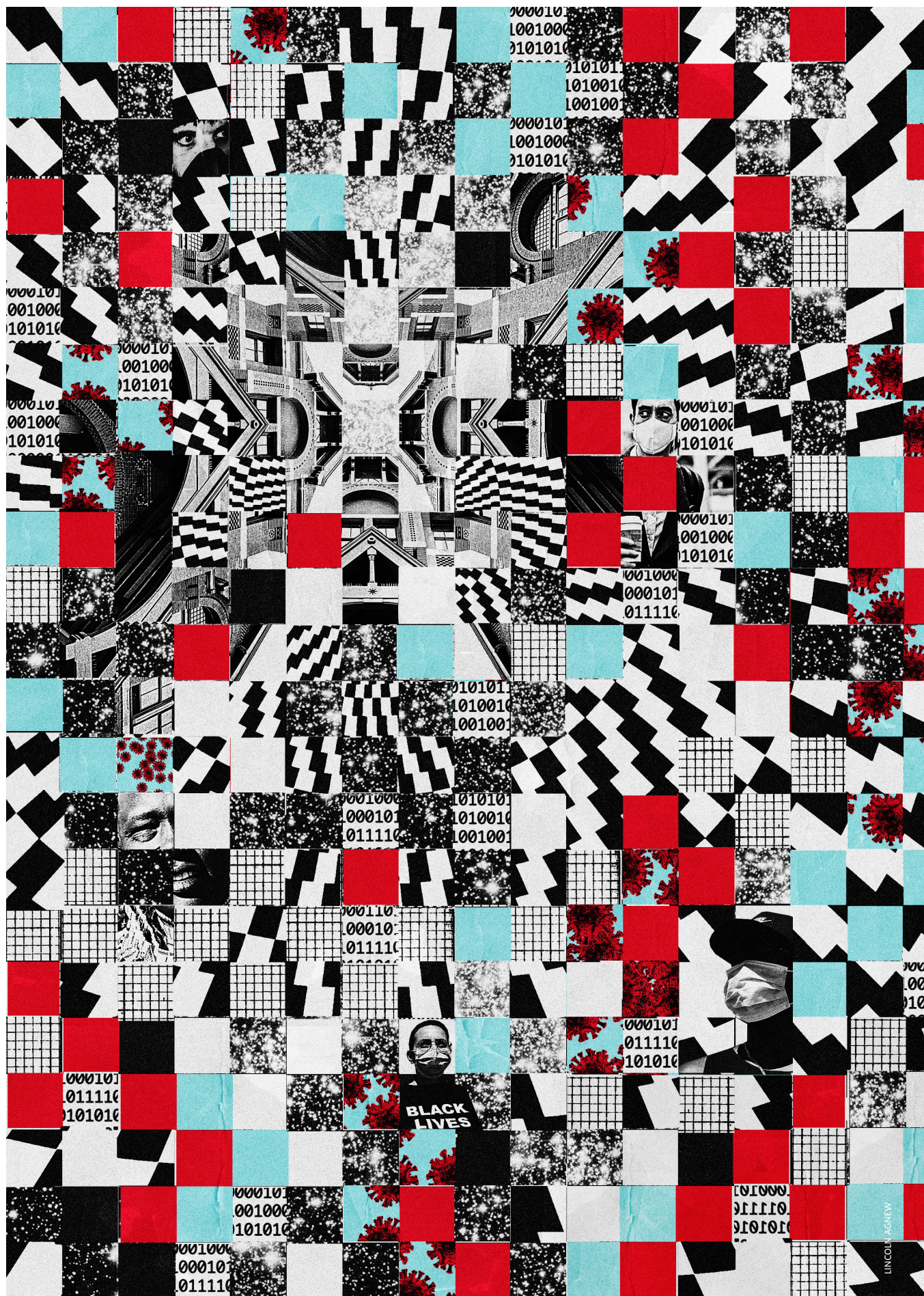
COVID

FIGHTING

-19
ON EVERY FRONT.

*WHETHER
LOCALLY OR GLOBALLY,
IN EVERY AREA,
THE SPH COMMUNITY
RESPONDS TO THE PANDEMIC.*

*BY
MICHELLE SAMUELS*

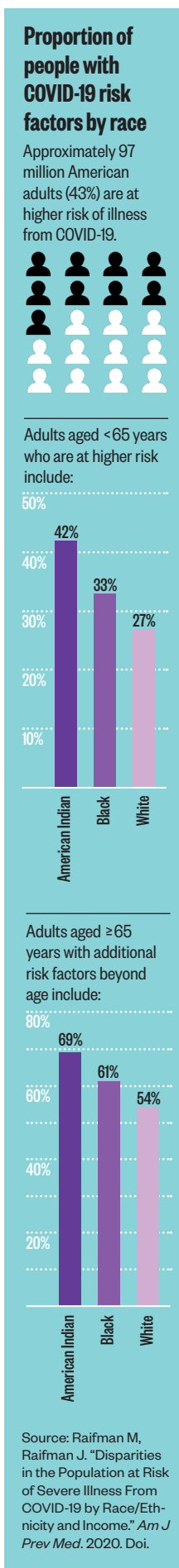


In January 2020, Davidson Hamer was vacationing in Japan while keeping an eye on reports regarding the outbreak of a new disease in China, and a few confirmed cases in other countries as well.

“I don’t think any of us had any idea that this would turn into a global pandemic with more than 10 million cases, over half a million deaths, and every country in the world affected,” says Hamer, professor of global health and medicine at SPH and the School of Medicine; faculty at the BU-based National Emerging Infectious Diseases Laboratories (NEIDL); an infectious disease specialist at BU’s teaching hospital, Boston Medical Center (BMC); and co-principal investigator for GeoSentinel, a global surveillance network that gathers health data from international travelers and immigrants.

For much of 2020, Hamer’s days were packed with media interviews, helping coordinate the Massachusetts effort, and advising BU’s administration, Major League Soccer, Venezuelan religious leaders, and countless other groups and organizations.

In a year defined by the new coronavirus, every member of the SPH community—students, faculty, staff, and alums—put their shoulder to the wheel. Some studied the disease, and some treated patients at BMC. Others helped local public health officials and advocated for hard-hit communities. Many served as expert voices for media, explaining new developments and key concepts to a scared and confused public. When physical distancing emptied campus, all worked to shift the school online



by adapting courses and seminars, supporting students as the crisis underscored the value of a public health education. And many began to look beyond the disease itself to the injustices that it spotlighted, its long-term effects, and the powerful possibilities of a post-COVID future.

FRONT LINES

As the number of COVID-19 cases in Massachusetts climbed to the thousands in March, many members of the SPH community put on personal protective equipment (PPE) and got to work at BMC. “The first time I have donned scrubs in 25 years!” tweeted Sondra Crosby, professor of health law, ethics & human rights and a BMC physician who specializes in treating refugees and survivors of torture. Crosby screened and treated COVID-19 patients until she—like so many healthcare workers who took every precaution—got sick too, and spent months recovering.

“COVID-19 is the latest chapter in the book about how structural disparities shape the burden of disease in America.”

—Matthew Raifman, doctoral student in health law, policy & management

Seeing how vital it was to protect healthcare workers and their patients, alum Raagini Jawa (CAS’11, MED-SPH’14), a BMC infectious disease and addiction medicine fellow, started BMC Need PPE, a grassroots initiative of BMC house staff and BU students and alums who worked with BMC to acquire PPE and develop innovative, sustainable solutions to preserve it.

“As a recent SPH alum, it is really impressive to see students and professionals who are balancing school, jobs, and life during a pandemic, band together and use their public health skills to address the current crisis,” Candice Bangham (SPH’19), also a BMC staff member and volunteer in the group, said in April. “Our education has prepared us for the inevitable.”

Dr. Nicholas Bosch (SPH’20), a BMC pulmonary and critical care fellow with a master of science in epidemiology from SPH, led a randomized controlled trial to test an easy, low-cost way of keeping patients out of the ICU by having them lie prone, a position in which the lungs work more efficiently. “It’s as simple as flipping on your stomach,” he says.

With so little known about the new disease, such studies had to get up and running at an unprecedented pace. In the flurry, BU's Clinical & Translational Science Institute (BU CTSI) played a key role as "organizer, clearinghouse, and facilitator for a wide range of COVID-19-related research," says Richard Saitz, professor and chair of community health sciences and a co-principal investigator on BU CTSI's five-year, \$38.3 million National Institutes of Health renewal funding awarded in May.

"Everyone got used to sailing the ship as they're building it."

—*Natasha Hochberg, associate professor of epidemiology*

The accelerated research and implementation processes have been vital, according to Natasha Hochberg, associate professor of epidemiology: "Everyone got used to sailing the ship as they're building it." Hochberg led testing efforts for BMC personnel and patients, trained new infectious disease specialists, and worked on a broad range of coronavirus research.

"When I've dealt with outbreaks in the past, we knew what the pathogen was, we understood transmission and prevention, and we had effective federal leadership," she explains. "This is just a different ball game."

WHAT'S GOING ON?

Amid uncertainty, fear, and misinformation, public health experts have been in high demand.

21,775

people attended the online seminars.

The online Coronavirus Seminar Series SPH held over the spring semester, featuring 11 events that convened experts on COVID-19 and many other public health issues affected by the pandemic, drew thousands of attendees.

Coronavirus: What Do We Know? What Do We Not Know? What Should We Be Doing?, MARCH 12

The Coronavirus Epidemic: State of the Science, MARCH 25

Mental Health in a Time of Crisis, MARCH 26

Politics, Health, and Coronavirus, APRIL 2

COVID-19 Pandemic: Mental Health Consequences and Implications, APRIL 8

Building the Public Health System of the Future, APRIL 9

COVID-19: The Health Consequences of the Consequences, APRIL 16

Media, Social Media, and COVID-19, APRIL 23

After COVID-19: (Re)Building Resilient Cities, APRIL 30

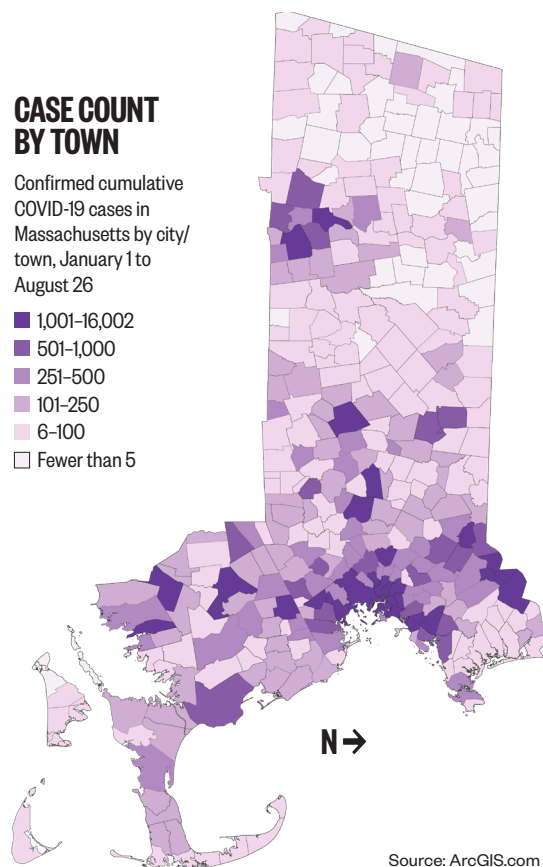
Climate Change and Health: Learning from COVID-19, MAY 14

COVID-19: Global Perspectives, MAY 28

CASE COUNT BY TOWN

Confirmed cumulative COVID-19 cases in Massachusetts by city/town, January 1 to August 26

1,001-16,002
501-1,000
251-500
101-250
6-100
Fewer than 5



Source: ArcGIS.com

The SPH community convened many of them in a series of seminars on the state of the science and how the pandemic intersected with a wide range of topics (*sidebar*).

SPH researchers also became go-to sources for journalists.

When the pandemic reached Boston, Eleanor Murray, an assistant professor of epidemiology well-known on "Epi Twitter" for accessible explanations of complex concepts, helped create a series of COVID-19 fact sheets for BMC patients in stick-figure cartoon form.

"COVID-19 is really scary for people, and there's a lot of uncertainty and a lot of discomfort, so being able to inject some levity and some clarity into the messaging around it is really useful," Murray says. She took a similar approach with her educational Twitter threads about COVID-19, and in daily (or even more frequent) media interviews.

THE CORONAVIRUS DOESN'T DISCRIMINATE, BUT...

It quickly became clear that some US communities had been much harder hit than others.

"COVID-19 is the latest chapter in the book about how structural disparities shape the burden of disease in America," says Matthew Raifman, a doctoral student in health law, policy & management, who led a study

showing that Black, Indigenous, and lower-income people in the US are much more likely to have one or more of the risk factors linked to more severe and fatal cases of COVID-19, such as asthma and diabetes.

"Being able to stay home and socially distance is a privilege with a price tag," says Laura White, associate professor of biostatistics and senior author on a study using New York City subway ridership data to identify which communities had to continue going to work even when the city shut down.

A spring focused on the coronavirus—and avoiding large gatherings—gave way to a summer of protests against racial injustice, particularly police violence against Black people (*page 62*). Elaine Nsoesie (*page 11*), assistant professor of global health, cautioned against the narrative that the Black Lives Matter movement threatened efforts to contain COVID-19: "I wouldn't weigh these crises separately," Nsoesie told NPR in June, explaining that the protests were against the same structural injustices shaping America's unequal epidemic.

Using COVID-19 to help spotlight environmental injustice, Patricia Fabian, associate professor of environmental health, led a team of faculty members, researchers, and students in creating an interactive mapping tool to show which communities are most vulnerable to the coronavirus in Massachusetts, based on health, economic, environmental, and social factors. The map helped inform a policy brief from the Massachusetts Office of the Attorney General released in May.

Chelsea is one of these envi-

ronmental justice communities, and became the epicenter of COVID-19 in Massachusetts. Madeleine Scammell, associate professor of environmental health and a Chelsea resident who has long served on the city's health board, found that her community's rate surpassed New York City's hardest-hit boroughs in early April. Scammell and other Chelsea leaders sent an urgent letter to Governor Charlie Baker, who immediately made Chelsea a top priority in COVID-19 response. And practically overnight, Scammell and alum Roseann Bongiovanni (CAS'99, SPH'01), executive director of GreenRoots, turned the Chelsea environmental justice nonprofit into a 24-7 pandemic response organization.

"The numbers matter," says Scammell. "Every number is a person. Every person counts."

PUBLIC HEALTH EDUCATION IN A PUBLIC HEALTH CRISIS

The coronavirus has offered a difficult but indispensable learning experience for SPH students, whose public health knowledge has proven invaluable to the COVID-19 response.

In the spring, the Massachusetts Board of Health formed the Academic Public Health Volunteer Corps to connect public health schools and programs with understaffed local boards of health. Hundreds of SPH students (plus faculty, staff, and alums) comprised the largest segment of the corps.

"When the full gravity of COVID-19 was setting in, my first thought was, 'I need to find the call for volunteers, because if that is where I am needed, that is where I am going,'" recalls MPH student Amanda Canavatchel, who served as an operations manager for a local health board. "It has been a great honor and privilege to be able to answer that call."

While students were helping face a public health crisis, they were also continuing the rest of their public health education.

"The numbers matter. Every number is a person. Every person counts."

—*Madeleine Scammell, associate professor of environmental health*

Over just five days in March, SPH moved its entire spring semester online. "There really isn't a word to describe the magnitude of this shift from on-campus to remote teaching—'monumental' or 'enormous' just don't capture it," says Lisa Sullivan (*page 48*), associate dean for education and professor of biostatistics.

Over the summer, SPH experts helped inform BU's plan for the fall semester: The Learn *from* Anywhere (LfA) hybrid teaching format gives students the flexibility to attend class on campus or remotely.

THE NEW NORMAL

While many members of the SPH community worked directly on responding to COVID-19, others turned their attention to the far-reaching implications of the crisis, exploring its impact on intimate partner violence, fertility, alcohol taxation, the mental health of isolated queer teens, deaths from extreme heat, and other public health issues.

Public health will never be the same, Murray says. "For better or worse, everyone knows that we exist. Since we have the attention, I think it behooves us to put the spotlight on some of these bigger problems that nobody wanted to talk to us about before."

THANK

**THOUGHT IS
THE CORE**
OF SCHOLARSHIP
AND RESEARCH.
IT IS HOW WE
CREATE THE
KNOWLEDGE
THAT DRIVES
OUR FIELD
FORWARD.



MICHAEL McCLEAN
ASSOCIATE DEAN FOR RESEARCH AND FACULTY ADVANCEMENT

1

HOW ARE SPH FACULTY AND RESEARCH STAFF MOVING PUBLIC HEALTH FORWARD?

As Dean Galea emphasizes, our goal must be to create the conditions that generate health. Focusing on root causes requires the engagement of disciplines that have not traditionally fallen within the domain of public health.

For example, we have been at the forefront of addressing gun violence as a public health issue, studying the human health effects of climate change, developing strategies to combat the obesity and opioid epidemics, and using innovative machine-learning techniques to derive public health insights from large unstructured data resources. In fact, many of the new faculty featured in this issue of *SPH This Year* are working in these important areas.

Our faculty and research staff bring diverse backgrounds and expertise to their work at SPH, and solving the complex problems of public health requires that diversity of expertise and perspectives.

2

HOW HAS SPH FACULTY CHANGED OVER TIME?

We have always been fortunate to have outstanding faculty at SPH who are deeply committed educators, researchers, and practitioners.

Our research focuses on solving important real-world problems and translating findings into actions that will improve the lives of the communities in which we work. Our faculty choose to do this research at SPH because they are also dedicated teachers, and, while we are a world-class research institution, we are, indeed, a school first.

The interests and perspectives of our new faculty are increasingly shaped by factors such as climate change, the Internet of Things, big data, and social media. And as we welcome new faculty into our community, our more experienced faculty are providing mentorship as part of our robust portfolio of faculty development programming that is especially valuable while learning to navigate the complexities of faculty life.

It's truly a privilege to be part of such a vibrant, mission-driven organization. The members of our community have all been drawn to public health—and specifically SPH—because they are motivated to make the world a better place.

3

—Michael McClean, associate dean for research and faculty advancement

WHAT MAKES YOU HOPEFUL ABOUT THE FUTURE OF PUBLIC HEALTH?

When I consider the future of public health, despite the formidable challenges we face, I look to our new faculty and our students at SPH, and I'm comforted. I'm comforted not only by their passion and dedication, but also by the diversity of their backgrounds and expertise.

The recruitment of new students and new faculty to our community is always especially exciting, in part because their enthusiasm renews our own, and reminds us why we also chose careers in public health.



ARTIFICIAL

INTELLIGENCE

AI CAN HELP US FIND **VERY REAL SOLUTIONS TO PUBLIC HEALTH PROBLEMS BY CRUNCHING DATA ON A SCALE THAT WAS IMPRACTICAL—OR IMPOSSIBLE—JUST A FEW YEARS AGO.**

Since public health’s inception, the concept at its core has been that a person’s environment shapes their health. But with new technologies, public health researchers are finding new ways to observe and understand this relationship.

“AI [artificial intelligence] can help us process more data a lot faster and help us make comparisons,” says Elaine Nsoesie, assistant professor of global health. “Work that would be very tedious, time-consuming, and costly can be done much faster and cheaper with AI.”

Not long before joining SPH in 2018, Nsoesie gained national attention for creating AI that looked at high-resolution satellite images to identify neighborhood characteristics associated with obesity.

She trained the deep-learning network on 150,000 images of Los Angeles, Memphis, San Antonio, and Seattle, and obesity data for 1,695 census areas in those cities. The AI was then able to identify patterns, connecting characteristics of the built environment with the obesity data.

Some of these neighborhood predictors for higher or lower obesity rates were obvious, such as parks and gyms. But the AI also identified surprising new patterns; for example, neighborhoods with more pet stores had lower obesity rates.

“The data we get from internet sources and satellite images can be very timely, which allows us to look at evolving health issues and see what’s changed, what happened in the past, and what will happen in the future.”

—Elaine Nsoesie, assistant professor of global health



Nsoesie explains that the goal was to create a method for crunching massive amounts of data in a systematic, standardized, automatic way across multiple cities, a powerful tool for any public health effort on the ground that would likely lack the time and money for traditional surveys and analyses.

She’s gone on to apply machine learning to other public health issues and data sources, including teaching a text-interpretation AI to identify potential food recalls from Amazon product reviews, and creating keyword-matching algorithms to find and interpret thousands of tweets about exercise in order to identify regional and gender trends in physical activity.

CYDNEY SCOTT

“At the end of the day, it will still be people and communities who solve the problems.”

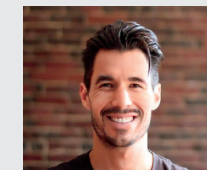
—Jonathan Jay, assistant professor of community health sciences

As these technologies develop, Nsoesie believes similar strategies could be invaluable for monitoring diseases—from infectious disease outbreaks such as COVID-19 to behavioral health issues in areas that lack clinicians—and tracking and understanding (and doing something about) issues in the built environments of rapidly growing cities in Asia and Africa.

“The data we get from internet sources and satellite images can be very timely, which allows us to look at evolving health issues and see what’s changed, what happened in the past, and what will happen in the future,” she points out.

JONATHAN JAY

ASSISTANT PROFESSOR OF COMMUNITY HEALTH SCIENCES



Nsoesie’s pioneering way of combining machine learning, satellite imagery, and public health data was also a jumping-off point for Jonathan Jay, who joined SPH as an assistant

professor of community health sciences in 2019.

Jay developed Shape-Up, a web application designed to help city governments identify and prioritize areas where simple physical improvements in the built environment can actually reduce gun violence. This year, Jay ran a pilot of Shape-Up in Albany, New York, working with city agencies and community partners to improve and test the platform.

Past research (including a study led by Jay) has shown that reducing physical blight in a neighborhood can cut nearby gun violence in the range of 11 to 39 percent. Shape-Up uses a machine-learning system trained on gun violence data and satellite imagery to identify—down to the city block—which areas are at the greatest risk of gun violence, and where a vacant lot could be turned into a small park or an abandoned building could be torn down to have the biggest impact.

“Gun violence sometimes seems like a completely overwhelming problem, but fixing blight is something cities can do right away to address it,” Jay explains. “They already have personnel and resources. They just need to bring them together behind violence prevention.”

Jay stresses the importance of understanding the difference between remediation—bringing a neighborhood up to a basic standard—and gentrification (the research on this strategy of curbing gun violence has focused on neighborhoods not facing gentrification pressures). “It’s not a dog park. It doesn’t tell you that Starbucks is coming. It just removes the hazard.”

Shape-Up also combines the satellite image and gun violence data analysis with data from 311 calls from community members identifying specific issues they want to see fixed in their neighborhoods—because community members are the experts about their own neighborhoods, Jay says.

“Shape-Up can reinforce this understanding in a way that is systematic and statistical, and can show block-by-block differences very starkly,” he says.

“In the future, as our datasets get bigger and bigger, we’ll rely more on machine learning and on tools like Shape-Up to analyze problems, and those analyses will get better and better,” Jay says. “But at the end of the day, it will still be people and communities who solve the problems.”

Reducing physical blight in a neighborhood can cut gun violence in the range of 11 to 39 percent.

11 to 39%

As marriage equality expanded across the US, it did more than recognize same-sex unions; when a state legalized same-sex marriage, its rate of teen suicide attempts also dropped by an average of 7 percent, with an estimated 134,000 fewer high schoolers attempting suicide each year nationwide following *Obergefell v. Hodges*.

That's according to a 2017 study led by Julia Raifman, now an assistant professor of health law, policy & management at SPH.

"Policies giving LGBTQ [lesbian, gay, bisexual, and questioning/queer] people equal rights may reduce the high rates of suicide attempts among LGBTQ youth," she says.

Now, a new Raifman-led study tracks changes in the proportion of LGBTQ high schoolers who attempted suicide between 2009 and 2017—a period that spans the marriage battle, the repeal of "Don't Ask, Don't Tell," and other

Where acceptance rises, LGBTQ teen suicide rate falls.

IN STATES THAT ENACTED MARRIAGE EQUALITY, THE RATE OF TEEN ATTEMPTED SUICIDE DROPPED SIGNIFICANTLY.

milestones as the country became more accepting.

The study finds that the proportion of teens identifying as LGBTQ increased, from 7.3 percent in 2009 to 14.3 percent in 2017. But the rate of attempted suicide among LGBTQ high school students, while declining, was still almost four times higher than that of their straight classmates.

"In 2017, more than 20 percent of LGBTQ teens reported attempting suicide in the past year," Raifman says.

This represents a decrease from 26.7 percent in 2009, while the

suicide attempt rate for straight-identified teens remained around 6 percent for the entire period. But as more high schoolers came out, they also represented more suicide attempts: One in four high schoolers who attempted suicide in 2009 identified as LGBTQ; in 2017 it was one in three.

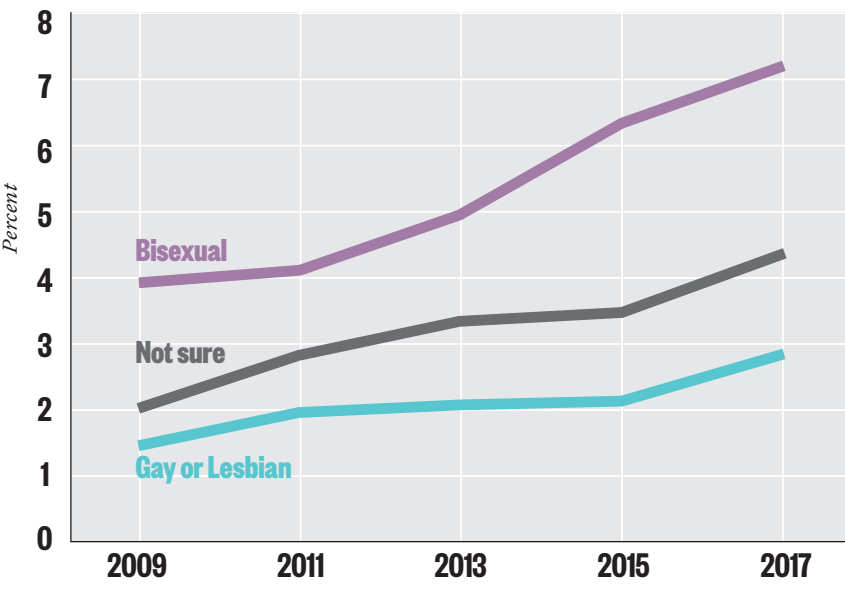
"Policies giving LGBTQ people equal rights may reduce the high rates of suicide attempts among LGBTQ youth."

—Julia Raifman, assistant professor of health law, policy & management

Along with other research—including her 2018 study finding that states with "religious refusal" laws harmed the mental health of their LGBTQ adults—Raifman's study showed that "policies that improve LGBTQ rights are associated with improved mental health, while anti-LGBTQ policies may elevate already high rates of suicide attempts.

"As more teens identify as LGBTQ, policies and programs that improve their mental health are critical."

CHANGES IN REPORTED SEXUAL MINORITY ORIENTATION IDENTITY OVER TIME



Source: Raifman J, Charlton BM, Arrington-Sanders R, et al. "Sexual Orientation and Suicide Attempt Disparities Among US Adolescents: 2009–2017." *Pediatrics*. 2020; 145(3):e20191658.

Raifman is continuing to research how the experience of being an LGBTQ teen in America is changing, and how laws and policies shape their mental health. As more data becomes available (much of her research uses the nationwide Youth Risk Behavior Surveillance System, which includes different questions year to year in different states), she is also looking at the health of transgender teens and young adults—who, she notes, are now facing a wave of discriminatory regulations and legislation.

"That the US has policies explicitly giving LGBTQ people fewer rights than straight people is one of the reasons I focus my research on LGBTQ health," she says. "I hope my research will inform policies that shape and improve health and well-being for LGBTQ youth."

26.7%

In 2009, 26.7 percent of LGBTQ teens reported attempting suicide in the past year.

20.1%

In 2017, 20.1 percent of LGBTQ teens reported attempting suicide in the past year.

Julia Raifman



Assistant Professor of Health Law, Policy & Management

"That the US has policies explicitly giving LGBTQ people fewer rights than straight people is one of the reasons I focus my research on LGBTQ health."

—Julia Raifman, assistant professor of health law, policy & management

1 in 4

high school students who attempted suicide in 2009 identified as LGBTQ.

1 in 3

high school students who attempted suicide in 2017 identified as LGBTQ.

7%

When a state legalized same-sex marriage, its rate of teen suicide attempts dropped by an average of 7 percent, with an estimated 134,000 fewer high schoolers attempting suicide each year nationwide following *Obergefell v. Hodges*.

A new Raifman-led study finds that the proportion of teens identifying as LGBTQ increased, from 7.3 percent in 2009 to 14.3 percent in 2017.

doubled

As an industrial hygienist at the Centers for Disease Control and Prevention (CDC), Diana Ceballos worked on a case involving two young children who had been poisoned by lead from their father’s work grinding up the lead glass from cathode ray tubes at an electronics recycling facility. While his exposure was not enough to immediately affect the health of a grown man, the lead dust that came home on his body and clothing quickly harmed his young daughter and son.

“The father had only worked at this facility for about a year when his kids’ physician found they were poisoned,” Ceballos recalls. The textbook effects of lead poisoning followed, including behavioral, developmental, and learning difficulties.

Ceballos, who joined SPH as an assistant professor of environmental health in 2019, explains that “take-home” exposures fall into a regulatory blind spot.

“Although OSHA [Occupational Safety and Health Administration] does regulate some key workplace exposures that can become take-home exposures, such as asbestos,

Take-home exposures take a serious toll on children.

SMALL DOSES OF DANGEROUS SUBSTANCES FROM A PARENT’S WORKPLACE CAN ADD UP TO SERIOUS PROBLEMS IN CHILDREN.

lead, and pesticides, often regulations are not up to date or enforced enough to be protective of health at the family level,” she says.

Writing in *Annals of Work Exposures and Health*, Ceballos and colleagues called for a new approach that recognizes that workers and their families face complex, interconnected challenges to their health and safety at work and at home. Workers most likely to take home exposures are increasingly not only low income, but also in precarious and under-regulated employment

situations—such as contractors and undocumented immigrants—and risk being fired or even deported if they raise concerns about workplace safety. Because of economic inequality and racist housing practices,

“Often regulations are not up to date or enforced enough to be protective of health at the family level.”

—Diana Ceballos, assistant professor of environmental health

they and their families are also more likely to live in unsafe and contaminated housing, and in communities that face broader environmental injustices.

A child may not be exposed to dangerous levels of a toxic contaminant from a parent’s workplace, from their home, or from their neighborhood, but the low levels of exposure from two or three of these sources together can be enough to harm their development, Ceballos says. “Preventing the chronic,

low-level, take-home exposures that are particularly harmful for developing children will need a multitier intervention approach, including interventions at the workplace, home, and community levels.”

Now, Ceballos is leading a team of Boston University researchers working on just such an approach.

Funded by the US Department of Housing and Urban Development, the project includes 60 Greater Boston families with at least one member working on building renovations, bridge constructions, welding, metal work, demolition, or construction work, and living with at least one child.

The families are participating in different combinations of interventions, including undergoing home inspections and cleanings, completing in-home education workshops, and receiving worker training on the best ways to reduce jobsite exposure



Diana Ceballos

Assistant Professor of Environmental Health

“It is paving the way for thinking about prevention in regards to this complex issue, instead of just being reactionary—which for me is the true essence of public health.”

—Diana Ceballos, assistant professor of environmental health

to lead. Meanwhile, the researchers are monitoring lead and other metals in blood, toenail, and urine samples from workers and their families

before and after these interventions to see which combinations work best.

“This project is really exciting for me because it is paving the way for thinking about prevention in regards to this complex issue, instead of just being reactionary—which, for me, is the true essence of public health,” Ceballos says.

1

YEAR

“The father had only worked at this facility for about a year when his kids’ physician found they were poisoned,” Ceballos recalls.

60 families

Diana Ceballos leads a Boston University study of the take-home and environmental exposure of 60 families in Greater Boston. The study is funded by the US Department of Housing and Urban Development.

WORKPLACE, HOME & COMMUNITY-LEVEL FACTORS THAT ALLOW FOR TAKE-HOME EXPOSURES

WORKPLACE	HOME	COMMUNITY
<ul style="list-style-type: none">Chemical, Physical, Biological & Psychosocial StressorsBusiness SizeHealth & Safety Programs; Training & Controls (e.g., PPE, laundry, showers)Discrimination <p>Occupation/Industry</p> <ul style="list-style-type: none">Precarious EmploymentOccupational LegislationOutsourcing of Hazardous Work <p>Individual Worker Factors</p> <p>Age/Education/Years in Industry</p>	<ul style="list-style-type: none">Home Condition/ Age/MaintenanceLandlord/Owner SituationOvercrowdingAir, Water & Soil in the Home <p>Individual Family Factors</p> <p>Breastfeeding</p> <p>Division of Domestic Labor</p> <p>Relationships</p>	<ul style="list-style-type: none">Impact of Worksites/ IndustryHistory of Zoning & Land-Use PlanningNeighborhood Conditions (e.g., Safety)Community AdvocacyEnvironmental Legislation <p>Sociodemographic factors that affect workplace, home, and community:</p> <p>Income/Race & Ethnicity/ Healthcare Access/ Immigration Status</p>

Source: Andrew Kalweit, Robert F Herrick, Michael A Flynn, John D Spengler, J Kofi Berko Jr, Jonathan I Levy, and Diana M Ceballos. “Eliminating Take-Home Exposures: Recognizing the Role of Occupational Health and Safety in Broader Community Health.” *Annals of Work Exposures and Health*, January 29, 2020. doi.org/10.1093/annweh/wxaa006.



CREATING

public health solutions with the public and private sectors. | BY JILLIAN McKOY

IDEA HUB **CONNECTS** SPH WITH PRIVATE INDUSTRY TO EMPOWER RESEARCH AND TURN IDEAS INTO REALITY.

The past year's complex, unprecedented, and interconnected public health challenges have underscored the need for bold ideas and innovative health solutions that can ensure a healthier future for all populations.

The School of Public Health idea hub is helping the critical endeavor of turning novel ideas into transformative and sustainable health solutions. Formed in late 2019, the school-wide initiative fosters collaboration between SPH researchers and public and private industries to help inform and develop forward-thinking health products and services.

"idea hub connects faculty and students with private industry to accelerate the adoption of health innovations that improve population health, contributing to SPH's leadership position in public health," says Craig Ross, executive director of idea hub and research assistant professor of epidemiology.

Vanessa Edouard, managing director of idea hub and director of strategic initiatives at SPH, says that the initiative "provides faculty and students with new and exciting opportunities to expand their work, take their research in new directions, work with people and organizations outside of academia, and gain access to additional data and resources."

Through strategic partnerships with industry, government, and nonprofit organizations, SPH com-

munity members offer resources and expertise in collaborative research, workforce training, program evaluation, data-informed decision making, product validation of new technology, and much more.

"We're doing something that is unusual, unprecedented, and tricky," says alum Gary Cohen (SPH'06), chair of idea hub's Advisory Board and co-founder, president, and chief operating officer of Humatics Corporation. "At the heart of idea hub's mission, we're asking this: can entrepreneurship and the for-profit motive be harmonized with more traditional public health values and priorities?"

According to Michael McClean, associate dean for research and faculty advancement and professor of environmental health, this effort also advances the school's mission in ways that might not otherwise be possible.

"New relationships with less traditional funders will increase our ability to conduct innovative research, and have a greater impact on population health," he says.

Trish Elliott, clinical assistant professor of community health sciences, is pursuing collaborations with organizations that focus on health and wellness and behavioral health among college students. With the help of SPH doctoral students, one potential project would gain insight into whether at-home testing kits and online risk assessments for sexually transmitted infections (STI)

could ease barriers to STI screening and treatment among students.

"idea hub expands networking opportunities for students as they engage with different types of supporters through school-supported projects," says Elliott. "We're also connecting organizations to future employees that have a skill set and training in public health that can be beneficial to the corporations in ways they haven't fully conceptualized yet, and that's really exciting."

Second-year MPH student Mark Hernandez is determined to bridge the gap between public health and technology through engagement with idea hub and his fellowship at MIT Lincoln Laboratory.

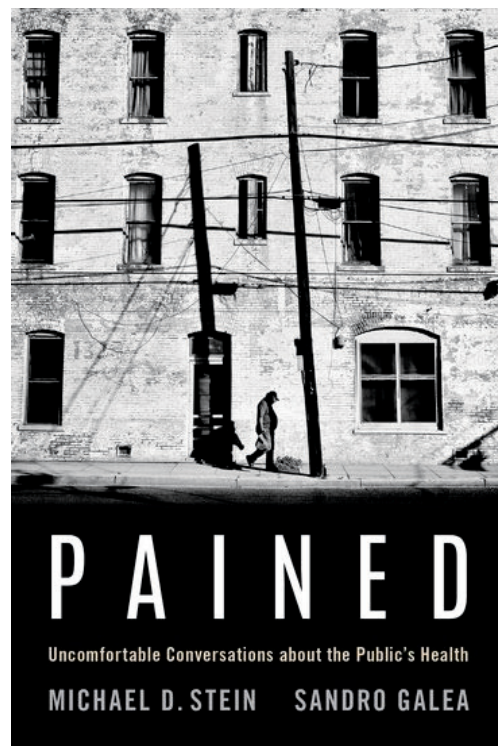
In his MIT role, Hernandez helps inform technology-driven projects around the public health impacts of disasters, as well as COVID-19 modeling. He says idea hub has been an invaluable resource to him throughout his MPH program, serving as a sounding board for his ideas. He recently approached idea hub with initial conversations around a COVID-19 vulnerability mapping tool, which came to fruition through a team project in a class with Patricia Fabian, associate professor of environmental health.

"The folks at idea hub have been incredibly open and accessible," says Hernandez. "They have really helped me envision how certain research ideas could translate to sustainable products in the real world. But above all, I appreciate that idea hub's approach to innovation centers the school's core value of health equity."

"We're doing something that is unusual, unprecedented, and tricky."

—Gary Cohen, chair of idea hub Advisory Board and co-founder of Humatics Corporation

Writing outside the comfort zone.



PUBLIC HEALTH POST BRINGS ENGAGING WRITING TO THE PUBLIC HEALTH SPHERE, OFTEN ON UNCOMFORTABLE TOPICS, PROVIDING INSIGHT TO MILLIONS AROUND THE GLOBE.

BY NICHOLAS DIAMOND

20

Public Health Post (PHP) leads the public health conversation locally, nationally, and globally. Every day, readers in 214 countries and all 50 states consume new articles about the state of population health. Every year, more than 8 million social media users engage with PHP about the public health landscape, as do thousands of subscribers to weekly newsletters and visitors to its anchor site at publichealthpost.org.

“Our job is to be orchestrators of attention,” says Michael Stein, PHP executive editor and chair of the Department of Health Law, Policy & Management. “From the start, we have been able to move ideas and evidence about public health to the front of readers’ minds. Our goal is to contribute to the policies that should aim to improve health for all.”

Writers from industry, academia, journalism, and government—and select Boston University graduate student PHP fellows—spotlight novel intersections in public health including firearm safety and campaign finance, diet and climate, and redlining and self-rated health.

“Public health is inherently an ongoing conversation,” says 2020

“Our goal is to contribute to the policies that should aim to improve health for all.”

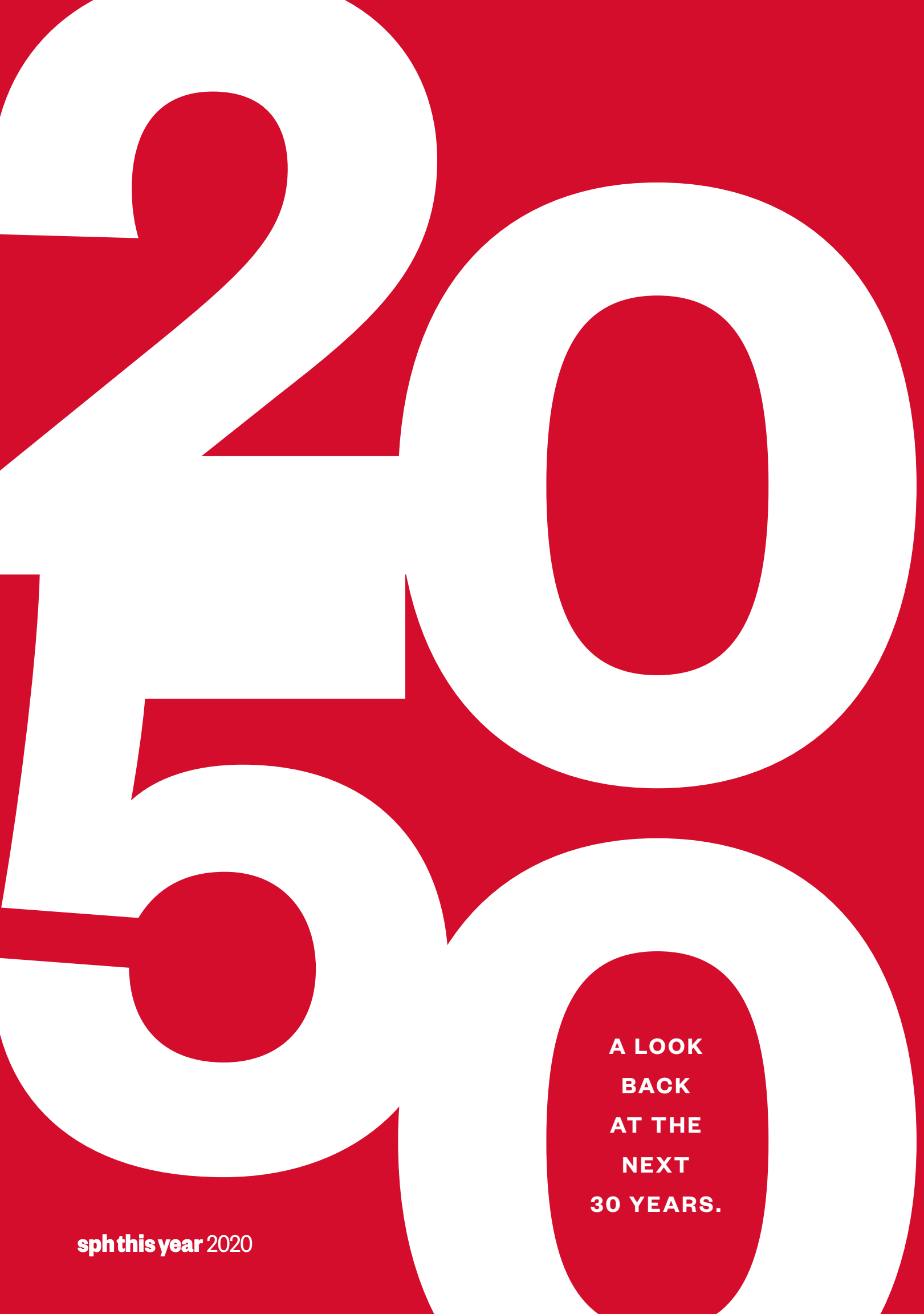
—*Michael Stein, PHP executive editor and chair of the Department of Health Law, Policy & Management*

PHP fellow Tasha McAbee. “Even when public health is working well, it never means we can stop talking about it.”

Through yearlong writing apprenticeships, PHP has trained five cohorts of fellows to be the next generation of public health writers, with each writing about the next decade of public health. After completing their fellowships, they continue this work in biotech, communications agencies, hospitals, universities, and other nonprofit organizations across the country.

“Our fellows are passionate about language and communicating complex public health evidence in clear and engaging prose,” says Jennifer Beard, PHP associate editor and clinical associate professor in the Department of Global Health. “Each fellow publishes approximately 40 articles during their time with PHP.”

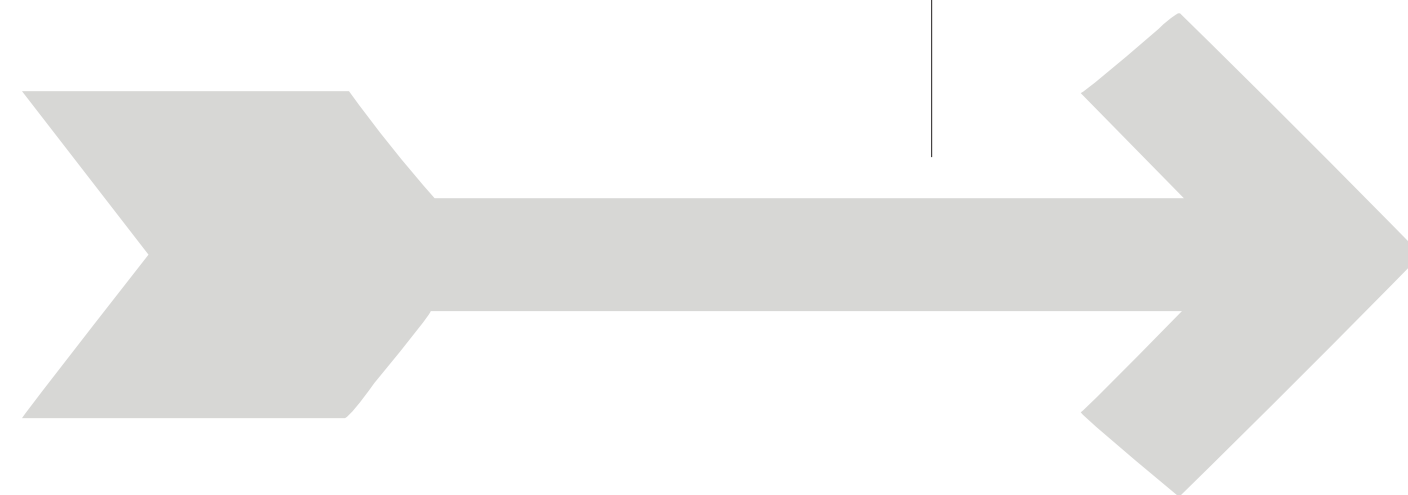
Writing outside the comfort zone continues on page 45



**A LOOK
BACK
AT THE
NEXT
30 YEARS.**

WHO WILL WE BE TALKING ABOUT IN 2050?

When we take a midcentury look back at the public health of today, what changes will we see? An equally important question is, **who will have initiated those changes?** In many cases, it may well be the people profiled here: the SPH students, alums, faculty, staff, and directors who are already shaping the next 30 years.



DEAN'S ADVISORY BOARD

CHERYL SCOTT, DEAN'S ADVISORY BOARD MEMBER

ADDRESSING THE HEALTH ISSUES OF MARGINALIZED POPULATIONS



AFTER A NEARLY 40-year career in preventive medicine, health systems strengthening, and domestic and international disaster work relief, Cheryl Scott (MED'82) brings a wealth of clinical and public health experience to the School of Public Health as a member of the Dean's Advisory Board.

"I'm very excited about the direction and energy that's present at the School of Public Health," she says.

Currently a medical consultant for women's health, family planning, and HIV/STDs at the South Carolina Department of Health and Environmental Control, Scott's vast medical experience includes 20 years as a medical officer in the US Public Health Service Commissioned Corps (USPHS), assigned to the Centers for Disease Control and Prevention (CDC).

"A sustained commitment to health equity is essential to rid our country of the institutionalized shackles that are still holding it back."

Cheryl Scott, Dean's Advisory Board member

Throughout her career, Scott has been particularly passionate about issues that affect marginalized populations. "Establishing a sustained commitment to health equity is essential to rid our country of the institutionalized shackles that are still holding it back," she says.

She joined the CDC and USPHS in 1993 as an epidemic intelligence service officer, serving in senior public health roles throughout the US, Caribbean, Latin America, and several African countries.

"There were very few women of color at the CDC when I joined," recalls Scott, who is African American. She pushed for the agency to "recognize racism as a social determinant of public health."

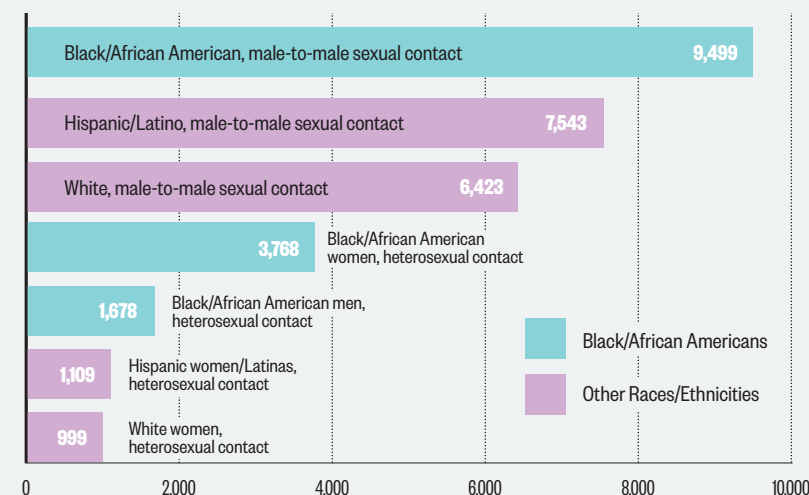
From 2000 to 2005, Scott was seconded to the US Department of State and served as the inaugural CDC director in Tanzania, where she established a CDC office and a \$34 million HIV/AIDS program for prevention, care, and treatment; her efforts helped the country develop its first no-cost national antiretroviral therapy program. She retired from the USPHS with the rank of captain in 2010.

Scott says her career in public health "has been filled with growth."

"Now my energy is focused on addressing the gaps."

BLACK/AFRICAN AMERICAN HIV RATE BY REGION

Source: CDC



ALL ILLUSTRATIONS BY LAUREN CROW

ZUBEEN SHROFF, DEAN'S ADVISORY BOARD CHAIR

BRINGING PUBLIC HEALTH TO THE FOREFRONT OF GLOBAL CONVERSATION

“People used to say that professionals would benefit from an MBA mindset,” reflects Zubeen Shroff (CAS’86). “Today, I think the world would benefit if the next generation of leaders had a public health mindset.”

In January 2020, Shroff was appointed as the new chair of the Dean’s Advisory Board (DAB) at SPH, bringing more than 30 years of experience in the healthcare industry to his new role.

A managing director at Galen Partners, a healthcare growth equity investment firm based in Stamford, Connecticut, Shroff is keenly aware of the progress the healthcare field has made—as well as the challenges that remain.

He joined the DAB in 2016 with an appreciation for public health values, including the social, economic, and environmental factors that influence health outcomes.

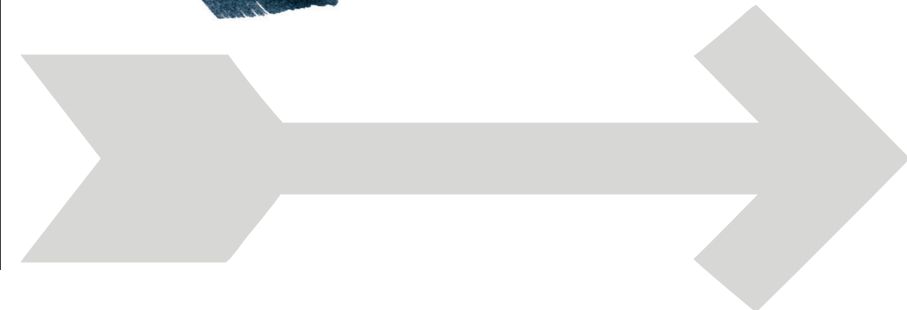
On BU Giving Day, the annual, University-wide online fundraising drive, Shroff and other DAB members sponsored SPH’s Student Scholarship Fund, idea hub Fund, Activist Lab Fund, and Future of Public Health Fund.

“I am happy to be a donor and ambassador for the school because I believe the next generation of leaders must value the social determinants of health and bring public health to the forefront of conversations across the globe,” Shroff says. “Our investment in scholarship equips students to translate knowledge into frontline action, both locally and globally.”

At Galen Partners, Shroff works with entrepreneurs to maximize shareholder value in a range of medical

product and technology service areas designed to produce better health outcomes at lower costs.

“We acknowledge all of the wonderful progress we’ve made with investments in technology, but we have to ask ourselves, ‘What else is required to improve the health of society at large?’” he concludes.



ICON BY YORLMAR CAMPOS FROM THENOUNPROJECT.COM

ROBERT KNOX, JR. (SPH’12), ALUMNI LEADERSHIP COUNCIL CHAIR

IDEA HUB TO IMPACT HEALTHCARE INNOVATION

Master of Public Health alum and telehealth expert Robert Knox, Jr. (CGS’08, Sargent’10, SPH’12) has embarked on two new ventures at SPH.

In January, Knox became chair of SPH’s Alumni Leadership Council (ALC), after serving as a council member since 2017. He is also a member of the advisory council for idea hub, an initiative the school launched this year to connect SPH researchers and resources with private industry and other nontraditional funders to inform and advance innovative solutions to public health issues.

“I’m extremely grateful that I’ve been able to reconnect with the school and become involved in multiple ways,” says Knox, who studied health policy and management at SPH. “I’m excited about stepping into this leadership role with the ALC and thinking about different ways to effectively serve the students and the school community.”

ALC members serve as SPH ambassadors, elevating the school’s vision among the 10,000-member alumni network and its constituent groups, and also provide financial support to the school and offer guidance on a variety of SPH initiatives.

As an inaugural member of the idea hub advisory committee, Knox’s primary goals are to bridge the gap between the fields of public health and technology and lend support to students interested in digital health. A product manager at the Boston-based telemedicine company American Well, Knox has acquired almost a decade of digital health experience.

“I’m extremely grateful that I’ve been able to reconnect with the school and become involved in multiple ways.”

Robert Knox, Jr. (SPH’12), Alumni Leadership Council chair

“The idea hub connects companies that have great ideas, but few resources, to the vast amount of brainpower and data capability at SPH,” he says. “It’s a great way for the school to remain a central point of healthcare innovation.”



HEALTH & TECHNOLOGY

75%

of consumers say technology is important to managing their health



90% of consumers are willing to share their wearable device health data with their healthcare provider

33% of consumers are using wearable technology

Source: Accenture 2018 Consumer Survey on Digital Health

FATIMA DAINKEH (SPH'18), LEARNING AND DEVELOPMENT MANAGER

STRIVING TO CORRECT HEALTHCARE'S STRUCTURAL INEQUITIES

ACCORDING TO School of Public Health alum Fatima Dainkeh (SPH'18), at the heart of all public health issues lie structural inequities: "Every 'ism' is a public health issue."

As Learning and Development manager at She+ Geeks Out—a B corporation based in Boston that connects and supports women in tech and tech-adjacent fields while providing tools for companies to create inclusive workplaces—Dainkeh examines "isms" from multiple angles, including racism, sexism, and classism.

Dainkeh, who previously managed the racial justice program at YW Boston, develops content and leads workshops, webinars, and networking events for DEI practitioners and advocates who are working to create inclusive institutions while navigating workplace issues, such as inequitable policies, microaggressions, and bias.

"After SPH, I wanted to be in a position where I could help people understand the structural inequities that exist in our society," she says. "It's one thing to read an article about '5 Steps to an Inclusive Organization,' but there's something much deeper about connecting directly with people, hearing their stories, and sharing the successes and challenges that come with doing the necessary work to achieve equity."

During her time at SPH, Dainkeh embraced the process of shedding light on issues of equity and justice. In 2018, she produced the short film, *Stories of Black Motherhood*, which called attention to the experiences of Black mothers, especially during a time when the disproportionate burden of Black maternal

mortality began receiving immense attention. In the film, Black mothers from Boston shared intimate and powerful accounts of how structural inequities impact their ability to parent.

"In public health work, we don't always ask the people experiencing the issue what needs to be done," Dainkeh says. "I wanted to use my platform to amplify Black voices that have been talking about racism in healthcare for a long time."

She is optimistic that people will recognize the power they hold as individual agents of change to achieve equity and better health outcomes for all populations.

"We each have a role to play, but together, we can make a difference in our communities, institutions, and daily lives."

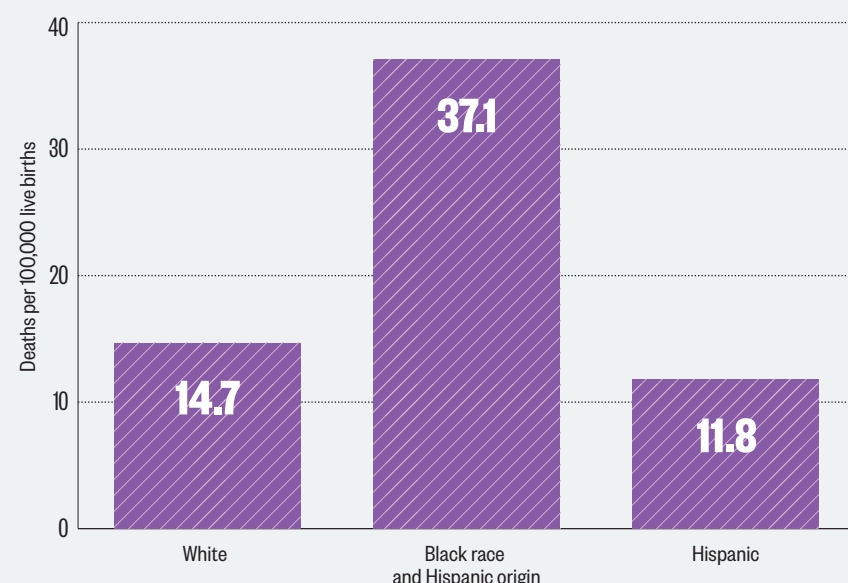


"We each have a role to play, but together, we can make a difference."

Fatima Dainkeh (SPH'18)

MATERNAL MORTALITY RATES BY RACE: US, 2018

Source: National Vital Statistics System, Mortality



FACE

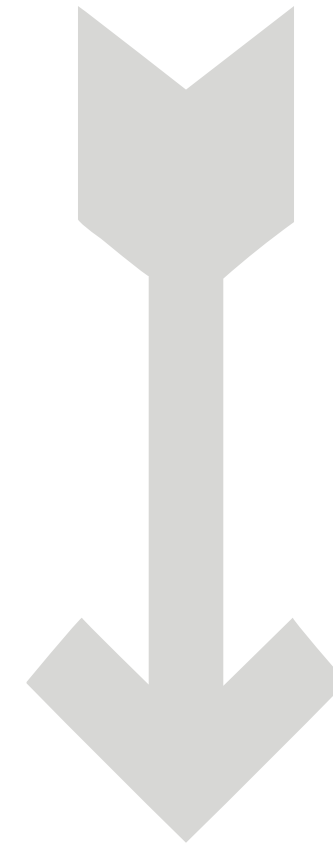
JASMINE ABRAMS

ASSISTANT PROFESSOR OF COMMUNITY HEALTH SCIENCES

COLLABORATION IS KEY for Jasmine Abrams, who joined SPH as an assistant professor of community health sciences in 2019. In addition to SPH's reputation as a leading school of public health, Abrams notes that she was also drawn to a school near "so many other top research institutions and amazing community organizations in and around Boston... it seemed like fertile ground for meaningful collaboration and partnerships."

Perhaps the most important collaborations for Abrams are with the women whose health she studies.

Her work focuses on improving the sexual health of Black women in the US and around the world, which she does using participatory and action research methods that recognize that everyone is an expert on their own experiences, making them coresearchers rather than subjects.



"The participatory work I am doing in Haiti is a good example," she explains. "We are working with community-based organizations and a community advisory board to better understand how HIV and class-related stigma are manifesting in maternal healthcare settings, and using that information to develop a stigma reduction intervention that will improve women's experiences of maternal care. The project is providing opportunities at every stage of the research process to center voices that are often silenced in research and programming—I am really excited about that."

She believes that centering these voices is the future of public health for research, researchers, and those who head their institutions, noting that a generation of public health



leaders starting to retire "will create an opportunity to substantially diversify the leadership of public health, which is sorely needed."

PRASAD PATIL

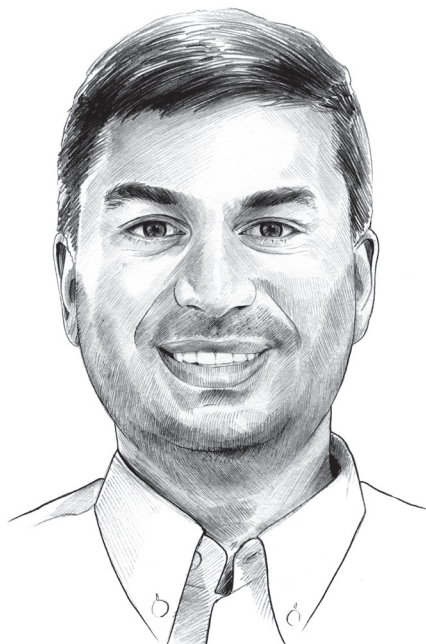
ASSISTANT PROFESSOR OF BIOSTATISTICS

"THERE'S A LOT MORE engagement in public health now than there has been historically. Your average person cares about it a lot more," says Prasad Patil, who joined SPH as an assistant professor of biostatistics in 2019.

At the same time, Patil explains, skepticism about science is on the rise, and it doesn't help that researchers are in the midst of a reproducibility and replicability crisis: "Studies are done, and then other studies are done that follow up on or extend those results, but researchers are finding that the original results might be weaker than first thought."

Patil is working to improve reproducibility and replicability by developing research methods that incorporate more and better data—and more and better understanding of how data relate to each other.

Much of Patil's research is in cancer genomics, which helps clinicians identify characteristics of tumor cells to help decide on the best course of therapy. "Researchers are developing these predictors that tell you one group from the other, and they work well when we test them out on one data set," Patil notes. "But when we try to turn it into an actual test to use in the clinic, we find



"There's never been a better time to be involved with biostatistics than today."

Prasad Patil, assistant professor of biostatistics

that it doesn't work as well for as many patients as we expected."

Patil believes that improving reproducibility and replicability will mean getting stronger results and, ultimately, better information for clinicians treating cancer patients, officials facing disease outbreaks, and policymakers facing climate change.

"There's never been a better time to be involved with biostatistics than today; to have this dual perspective of being able to see the big-picture questions and then have the methods and the skills to deal with them."

ALANA BRENNAN (SPH'08, '16)

ASSISTANT PROFESSOR OF GLOBAL HEALTH

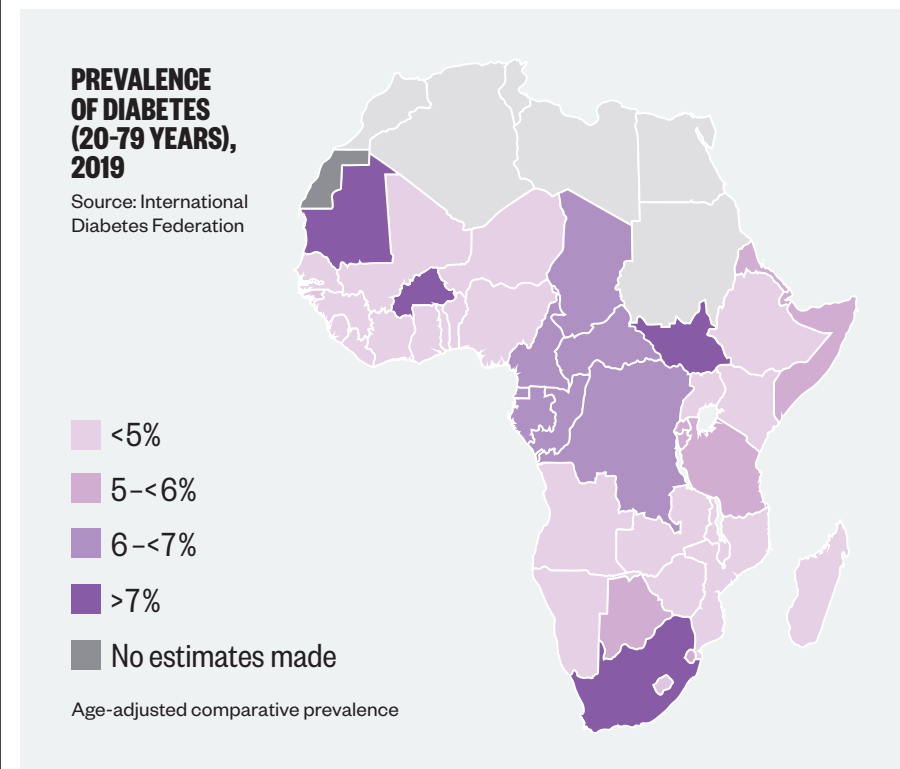
"SOUTH AFRICA has been pouring the majority of resources into tackling the HIV and TB epidemics for years—and they now have one of the largest obesity epidemics in the world, resulting in increased stress on an already stretched healthcare system," says Alana Brennan



(SPH'08, '16), an assistant professor of global health and epidemiology since 2018.

Obesity-related diseases now compete with infectious diseases for South Africa's public health resources, but Brennan and colleagues at SPH and the University of the Witwatersrand in South Africa have found a way to piggy-back efforts.

As a doctoral student and research scientist at SPH before joining the



faculty, Brennan worked with a team of researchers in the Department of Global Health, building an algorithm to transform HIV-monitoring laboratory data from South Africa's National Health Laboratory Service into a national prospective cohort of patients living with HIV.

Now, with an Early Career Award from the US National Institute of Diabetes and Digestive and Kidney Disease, Brennan is adapting that algorithm to create a national cohort of South Africans, with and without HIV, who are being monitored for type 2 diabetes.

"We are hopeful that the findings of this research will start to provide necessary evidence for South Africa to understand the burden of the diabetes epidemic, and begin to build effective policies, programs, and interventions," Brennan says.

As most countries struggle to finance their health systems, and research funds slowly dwindle, Brennan believes adapting existing HIV infrastructure to new public health issues is going to be a vital part of global health.

KEVIN LANE (SPH'14)

ASSISTANT PROFESSOR OF ENVIRONMENTAL HEALTH

AIR POLLUTION is the fifth leading cause of premature death in the world, contributing to more deaths each year than alcohol, malnutrition, road injuries, and malaria.

Most of the research on the subject—and resulting environmental regulation—has been on particulate matter about 2.5 micrometers wide, known as PM 2.5, says Kevin Lane (SPH'14).

"However, other air pollutants known as 'ultrafine particulate matter' have been studied far less, and could potentially be more toxic," he notes. "Given their size, they have been shown to pass through the lungs and disperse throughout the body."

An alum who returned to SPH in 2017 as an assistant professor of

"Whether we are studying air pollution in Boston or India, being able to provide communities and officials with information on exposure contributions from sources like aviation, cars, and smoke stacks is critical."

Kevin Lane, assistant professor of environmental health



environmental health, Lane works on, and teaches, new methods to model and understand air pollution exposures to ultimately inform action from India to Greater Boston. He's also principal investigator of a two-year, \$1.2 million project to monitor and model ultrafine particles in neighborhoods around Boston Logan Airport.

A collaboration between SPH and Tufts University that's funded by the Federal Aviation Administration, the project uses an electric vehicle and stationary monitors in Boston, Chelsea, and Winthrop to better understand how airport ground emissions, aircraft in flight, and road traffic contribute to community-level air pollution.

In India, Lane and colleagues (including Gregory Wellenius, head of the new Program on Climate and Health, page 58) are working to create a high-resolution air pollution exposure model for the entire country, to help inform policy in the face of an air pollution crisis.

"Whether we are studying air pollution in Boston or India, being able to provide communities and officials with information on exposure contributions from sources like aviation, cars, and smokestacks is critical to inform potential solutions through mitigation strategies and policy," Lane says.

JAIMIE GRADUS (SPH'04, '09)

ASSOCIATE PROFESSOR OF EPIDEMIOLOGY

STUDYING PSYCHIATRIC illnesses—who develops them and why—Jaimie Gradus (SPH'04, '09) is always trying to understand the complex "constellation of factors" that shapes a person's mental health.

In a study last year, Gradus, associate professor of epidemiology, and colleagues at SPH and Aarhus University in Denmark used machine learning to look for new suicide risk patterns in thousands of different factors in data

Continued on page 34



FACING THE FUTURE

MEET THE PEOPLE WHO ARE ALREADY CHANGING THE FIELD OF PUBLIC HEALTH. AND THE WORLD.



from the entire Danish population. That study generated new potential areas for future research, including physical health affecting suicide risk for men but not women, and how long after a psychiatric diagnosis or medication someone may be at particular risk.

When Gradus thinks about the future of public health, she is most enthusiastic about the growing appreciation for social determinants of health—class, race/ethnicity, neighborhood, gender and sexuality, and other factors that shape a person's ability to be healthy. She notes that she'd rarely hear about social determinants (outside of the mental health space) as a master's and doctoral student at SPH.

Now, she says, the public health community is increasingly recognizing that social determinants are key to everything from cancer to cardiovascular disease, and that preventing disease and improving outcomes takes social change.

Pointing to the example set by Dean Sandro Galea, who "is publicly vocal about these issues and is always pushing us to be better and helping us be better in grappling with them," Gradus says SPH is at the forefront of that shift in public health: "Someday, I will look back on my time at SPH and think, 'That place was on the right side of things.'"



STAFF

RYAN WISNIEWSKI

**PRACTICUM MANAGER,
CAREER & PRACTICUM OFFICE**

"I LIVE FOR WORKING WITH STUDENTS," says Ryan Wisniewski. And every day, he gets to do just that in his role as a practicum manager in the Career & Practicum office.

Wisniewski works closely with cohorts of almost 200 Master of Public Health students, developing networking strategies and securing practicums that will help them gain valuable knowledge, skills, real-world experience, and employer connections in preparation for entering the public health workforce



"The ambition, passion, and dedication of our students is a strong indication of the future of public health."

Ryan Wisniewski,
practicum manager

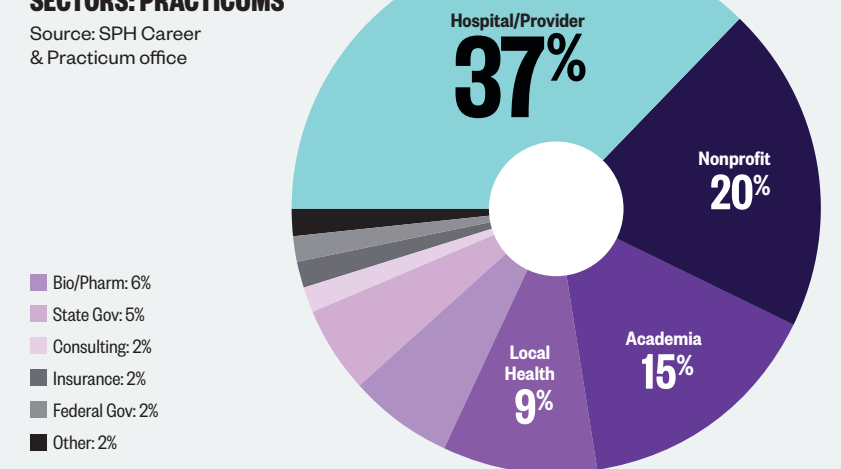
upon graduation. He has successfully placed students with employers in a wide range of public health sectors and settings, including hospitals, community health centers, nonprofits, and government.

"The practicum is a bridge to students launching their post-MPH careers," he says. "They take the knowledge they gain in the classroom and translate it into the real world."

After encountering many SPH practicum students and recent graduates while working as a recruiter for the Boston VA Research Institute, Wisniewski notes that the move to SPH—where he enjoys getting to know students on an individual basis and helping them navigate the professional world of public health—was a natural transition.

MOST COMMON SECTORS: PRACTICUMS

Source: SPH Career & Practicum office



"Our students do so many amazing things," he says. "They use their practicum to explore the vast spectrum of work at their fingertips, ranging from research and community needs assessments to policy reviews and performance improvement."

"What truly impresses me the most are the students who come in to my office with a plan. The ambition, passion, and dedication of our students are strong indications of the future of public health as we know it."

RYANN MONTEIRO (SPH'18)

PROGRAM MANAGER, GRADUATE STUDENT LIFE OFFICE

THE MOST REWARDING part of her role as program manager in the SPH Graduate Student Life office is her daily interaction with students, says Ryann Monteiro (SPH'18).

"Many students will stop by my office every week because they know it is a safe space where they can talk about their experiences inside and outside of the classroom," she says, pointing out that they come to talk not only about



"Wherever you are in the public health pipeline, you need to be able to communicate at every stage."

Ryann Monteiro (SPH'18),
program manager, Graduate Student Life office

the program, but about everything from their identities to the new recipes they're trying.

"Students call me from work when they pass that test, but also when their baby sister is born, and I really value those connections."

Part of the reason Monteiro offers students such valuable and useful advice is that she was recently in their shoes. She completed the Master of Public Health program in May 2018, studying health communication and promotion, and maternal and child health. As a student, she worked as an SPH peer coach, and now, as a staff member, she manages the program and a team of coaches.

A subset of the school's Public Health Writing Program, the Peer Coach Program offers writing and oral presentation assistance to any SPH student for the duration of their academic experience. It is the only graduate writing program at a school of public health that is led by graduate students and serves fellow graduate students.

A vital resource, the program equips SPH students with the tools necessary to advance in any sector of public health. Through in-person or virtual appointments, peer coaches assist students with writing objectives, clarity of composition, team writing, slide decks, and more.

"Wherever you are in the public health pipeline, you need to be able to communicate at every stage," says

Monteiro, who also manages the office's student communications and MPH Core Course Tutoring Program. "Whether you're studying community health sciences or biostatistics, you still have to report and communicate your findings. Being able to write is a great skill set for anyone to have."

JILLIAN McKOY (SPH'18)

WRITER/EDITOR, MARKETING & COMMUNICATIONS OFFICE

ACCORDING TO Jillian McKoy (SPH'18), a writer and editor in the SPH Communications office, the coronavirus pandemic has underscored not only the critical role of public health work, but the importance of communicating that work clearly and accurately to the general public. She is committed to translating and elevating the work of SPH students, faculty, staff, and alums, as well as external public health leaders, including government officials, legal and policy experts, and activists.

Driven by a desire to improve the health of underserved populations by promoting evidence-based, sustainable health interventions, education, and messaging, McKoy pursued an MPH degree to segue from a career in print

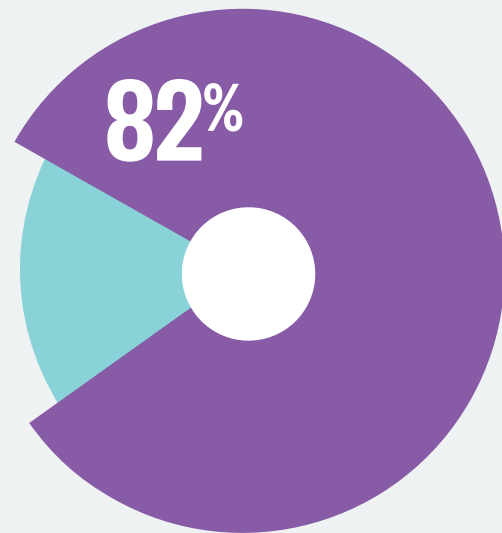


"Being able to understand and care about someone else's struggles is what drives meaningful action and public health advancement."

Jillian McKoy (SPH'18), writer/editor, Marketing & Communications office

EMPLOYERS WHO PREFER WRITTEN COMMUNICATION SKILLS

Source: naceweb.org



journalism and public relations into health communications. After she completed the SPH health communication and promotion and chronic and non-communicable disease certificates, the school's communications position seemed like a natural fit for the next step in her career.

McKoy engages with all departments of the school to write about special events, student and faculty projects, and research in local communities and across the globe. "As a former student, and now a staff member, I am inspired each day by the incredible work of the SPH community," she says. "As a mission-driven school, we are not afraid to take bold stances on issues of consequence to achieve health equity among all populations."

By shedding light on health inequities and the solutions the school community is developing to effect real change, McKoy also hopes to inspire empathy and compassion among the public, particularly policymakers and key stakeholders in the community.

"It's natural for people to feel passionate about issues that affect their personal lives, but being able to understand and care about someone else's struggles is what drives meaningful action and public health advancement," she says. "Individually and collectively at SPH, we are all committed to creating opportunities that enable people to live their healthiest lives."

SCOTT HERSEY

DIGITAL LEARNING DESIGNER, LIFELONG LEARNING

SCOTT HERSEY JOINED SPH in 2019 as the digital learning designer for Population Health Exchange (PHX) with no experience in public health. Instead, he leverages his background in journalism and educational technology to help faculty bring their courses and the Master of Science curriculum online. Reflecting on his time at the school, Hersey shares what he is learning about the field and the future of public health.

Why did you decide to pursue a career in public health?

I found the content interesting and my coworkers easy to work with and fully engaged in their mission. It felt like the right fit.

How are you helping to advance the field of public health?

By getting these courses online, I am playing a role in bringing our SPH mission to new audiences worldwide instead of only to those who can afford to come here to Boston to learn.



Also, I am working with various instructors to create the best possible online courses using industry-standard techniques. Hopefully, the courses I work on are not only effective, but also interesting and engaging for the students.

How has the school established itself as a leader in public health?

The people are great. Everyone is cooperative and helpful. They are all ready and willing to do what it takes to make great online learning together.

FLORA BERKLEIN

STATISTICAL PROGRAMMER, BIOSTATISTICS AND EPIDEMIOLOGY DATA ANALYTICS CENTER

CREATING A HEALTHIER world will depend on a public health workforce that uses data to inform laws, policies,

and programs. Flora Berklein, a statistical programmer at the Biostatistics & Epidemiology Data Analytics Center (BEDAC), is a part of that workforce shaping the future of public health. Reflecting on her work at SPH, Berklein spotlights the role data play in addressing the health inequities of our time.

What projects are you working on as a statistical programmer at BEDAC?

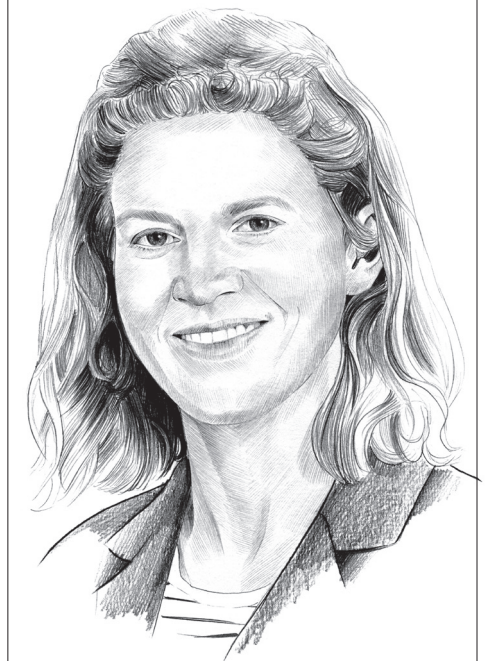
One project I'm working on right now is the HEALing Communities Study, a multistate project that aims to reduce opioid deaths through community-selected interventions. It's a big project with many data sources, and I work only with Massachusetts data, transforming secondary data from different places to a consistent format so it can be reported out.

Why did you decide to pursue a career in public health?

Public health in general excites me because it ties into basically all social issues—housing, education, racism, sexism, and, of course, healthcare, among many. I like working in academia because of the emphasis on growth and the many opportunities to learn new things.

Which accomplishments make you most proud?

The folks at BEDAC are data experts and provide valuable data services to SPH researchers and others. I think this is really important, and I'm glad to be able to contribute to this work.



STUDENT



LEONA MAWUENA OFEI (SPH'21)

WHEN SHE IS NOT studying epidemiology and biostatistics at the School of Public Health, Dean's Scholar and MPH student Leona Mawuena Ofei is working on a project with SPH and School of Medicine faculty to identify the most pressing health risk behaviors among autistic adolescents and youth. In developing the research agenda, the project aims to include the voices of community members and stakeholders directly affected by autism. "It's important to incorporate stakeholder voices in projects like this because they have been directly impacted by, and intimately engaged with, certain health issues in ways that health professionals may not have been," she notes.

Ofei sees this project as a way to highlight the power and necessity of community engagement in public

health work, and to show how that engagement ensures the work's sustainability, usefulness, and effectiveness in the communities it is intended to serve.

With the world becoming more connected than ever before, Ofei—who also explores the role of health communication in improving health behavior, and serves as the communications and marketing coordinator for SPH's Public Health Post—envisions a future where public health work is collaborative and prioritizes bringing health workers, experts, and the communities directly impacted by the work together to have conversations that push public health forward.

SAMANTHA HALL (SPH'21)

A DEAN'S SCHOLAR and MPH candidate, Samantha Hall is passionate about infectious disease, social justice, environmental health, and mitigating the effects of climate change.

She's a leader of the Boston University Medical Campus (BUMC) Climate Action Group and a member of the BUMC Green Labs Committee, a nationwide initiative working toward making lab functioning more sustainable.

Hall also works in the Chagas Disease Clinic at Boston Medical Center, serving immigrant and refugee patients and utilizing community partnerships to identify and treat cases of this neglected tropical illness.

"When I think about a future in climate change and how it relates to the spread of infectious diseases, I can only think about how collaborative that future must be," she stresses. "Public health professionals must begin to build partnerships across disciplines to implement sustainable programs while ensuring they are listening to, and being guided by, those they are serving."

Given this collaboration-focused future, Hall also envisions public health concepts becoming more widespread and accessible, permeating all fields and levels of training.

"When I think about a future in climate change and how it relates to the spread of infectious diseases, I can only think about how collaborative that future must be. Public health professionals must begin to build partnerships across disciplines to implement sustainable programs."

Samantha Hall



JULIA NOGUCHI (SPH'14, '23)

A DrPH STUDENT in the Department of Community Health Sciences at the School of Public Health, Julia Noguchi believes that small-scale projects can still have a large impact on clinical and public health. When she's not studying, Noguchi is involved in numerous projects at SPH and elsewhere to help clinicians and public health professionals support their patients, especially helping them with access to low-barrier community resources.

At SPH, she works with Diana Ceballos, assistant professor of environmental health, on developing a curriculum for families of construction workers affected by metal contaminants.

When not at school, Noguchi works in the Office of Medical Education and Continuous Quality Improvement at the Warren Alpert Medical School of Brown University as the director of Service Learning and Community Mentoring, and is developing a paper and electronic "White Coat Pocket Guide" to educate medical students about available community resources to better serve their patients.

She also works with a student-run footcare clinic for people experiencing homelessness in Rhode Island. Through

an Activist Bucks grant from the SPH Activist Lab, she has been able to develop trainings, purchase supplies, and expand this clinic to other venues across the state.

“We need to find ways to put patients at the center of our health system,” she says. “The future of public health is an integrative, whole-patient model of care in which hospital systems and community-based services work closely together to improve population health.”

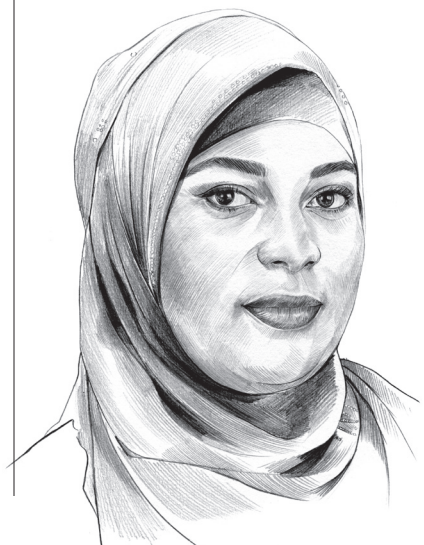
BILQIS WILLIAMS (SPH'21)

AN MPH STUDENT studying environmental health and global health, Bilqis Williams is working with the Boston Public Health Commission to launch a project called Skill-Up.

Funded through an Activist Bucks grant from the SPH Activist Lab, Skill-Up hones and upgrades the practical skills of those experiencing homelessness to enable them to transition to permanent employment and sustainable entrepreneurship.

Williams is also a teaching assistant for the Immigrant and Refugee Health Program at Boston Medical Center, helping immigrants, refugees, and women seeking asylum learn to speak and read English and adopt healthy practices.

She envisions her work with both projects as changing the narrative around



asylum seekers and people experiencing homelessness, and aims to strengthen the public's understanding of people experiencing homelessness, who should be seen as valuable members of society.

“I want this work to expand the avenues available to marginalized groups to ensure they are able to reach their full potential and effectively contribute to their communities,” she says.

In the face of rapidly changing social and health-related challenges around the world, Williams is confident that public health, with its holistic approach to population health and well-being, will lead the way.

OMOBOLANLE ADAMS (SPH'21)

AN MPH CANDIDATE studying epidemiology and biostatistics, Omobolanle Adams is the treasurer and events and partnership coordinator for SPH Students of Color for Public Health, as well as student representative for the school's Diversity & Inclusion Advisory Group. She also volunteers for ABCD Health Services under the Boston Public Health Commission, where she helps with health promotion and disease prevention programs targeting young girls and women of color, including Let Girls Learn and Sisters2Sisters.

Adams is dedicated to amplifying the voices of marginalized communities to ensure they are seen and heard. Her work—both on and off campus—strives to create much-needed spaces for communities of color and shines a light on issues that disproportionately affect these communities.

“As a Black woman, nothing, to me, is more important than being active in these spaces for communities of color, to support, learn, and be rooted in this work,” she says.

“The future of public health is inclusive, diverse, and supports minorities across all sexual orientations, genders, classes, and races as the leading voices of public health discussions. Our voices matter.”



“The future of public health is inclusive, diverse, and supports minorities across all sexual orientations, genders, classes, and races as the leading voices of public health discussions. Our voices matter.”

Omobolanle Adams

CARA MCKINNEY (SPH'21)

WHEN SHE'S NOT studying global health program design, monitoring & evaluation at the School of Public Health, MPH student Cara McKinney serves as a teaching assistant for the Foundations for Local Public Health Practice training course at the New England Public Health Training Center, where she helps manage online trainings and facilitate webinars and in-person classes for public health professionals in eastern Massachusetts. The six-month-long, blended-modality course hones the foundational skills and knowledge of public health professionals who may not have had formal public health training, or who wish to advance their public health education.



“Through this work, I am helping to facilitate the growth of local public health practitioners as they learn how to excel in their careers and mentor others along the way,” McKinney says. “The people taking this course are both the present and future of public health across the state.”

She envisions a future in which public health is viewed as an integral component of all healthcare and receives better funding to make a larger impact

on the health of the global population, and one in which more people without formal public health training begin to understand the value of confronting upstream determinants of health within communities to ensure that the social, economic, and environmental origins of health concerns are addressed.

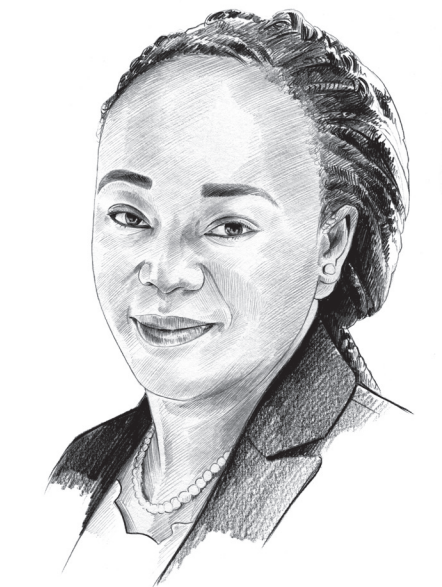
BOLANLE BANIGBE (SPH'22)

AS THE ACTIVIST FELLOW on Regionalization for the Activist Lab at SPH, Bolanle Banigbe, a DrPH student studying leadership, policy, and management, worked with the Office of Local and Regional Health (OLRH) at the Massachusetts Department of Public Health to create a sustainable, regional system for more equitable delivery of local public health services across the commonwealth.

Through this fellowship, Banigbe helped OLRH administer shared services for grant planning by creating a capacity-building toolkit that provides technical assistance to cities and towns receiving the grants. She also developed a survey to document existing shared services in Massachusetts that will inform efforts by local and regional public health advisory committees to develop stronger, shared-service systems.

She envisions this work impacting many aspects of population health—from food safety and post-partum home visits to tobacco control—and allowing smaller communities in the commonwealth to strengthen relationships with other towns and cities to address social determinants of health and ensure more equitable distribution of public health services.

“This multisectoral collaboration is the future of public health,” she says. “I imagine a future where we work together to focus our resources on upstream determinants of health as a means of preventing illness and maximizing community wellness.”



“This multisectoral collaboration is the future of public health. I imagine a future where we work together to focus our resources on upstream determinants of health as a means of preventing illness and maximizing community wellness.”

Bolanle Banigbe

USING ART TO FIGHT FOR JUSTICE

BY MALLORY BERSI

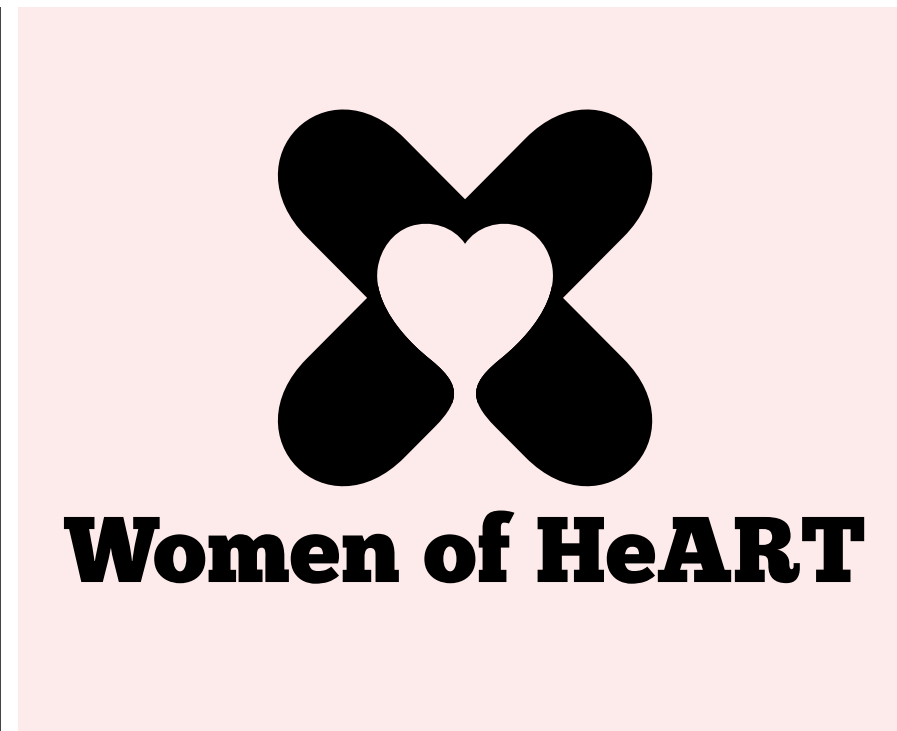
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WITH A COMBINED passion for serving historically marginalized communities, a group of MPH students is organizing a project called Women of HeART to serve the women's unit in the South Bay House of Correction.

Funded through an Activist Bucks grant from the Activist Lab, this eight-week program is designed to generate an open creation space for incarcerated women to tell their stories and express their feelings through different art mediums, such as sketching, painting, and collage. Group discussion—where the women will have the opportunity to share their art and the stories behind it—is a critical component.

“We are hoping to show these women that art is a sustainable and therapeutic way of releasing their emotions and building social support,” says team leader Nisha Puri. “We are also hoping the marketable skills they gain through their participation in this project can help stabilize their transition back into society post-release.”

To demonstrate that art can be a form of income for the women while also shining a light on the prison system's systemic issues, the team will promote and sell the art to the public through



“We really want to focus on using narrative and storytelling in ways that uplift and give agency back to the communities that have so often been stripped of it through the system and processes of incarceration.”

Evelyn Gonzalez

social media, with any funds raised going directly to the artists' commissary funds.

“We really want to focus on using narrative and storytelling in ways that uplift and give agency back to the communities that have so often been stripped of it through the system and processes of incarceration,” says team member Evelyn Gonzalez.

To ensure that this project remains a sustainable, community-building opportunity for those interested in this work, the team aims to leave Women of HeART for future SPH students to participate in and build upon. They envision the project inspiring others to continue fighting for justice within the prison system and encouraging more conversations around the mental and emotional health needs of those incarcerated, especially women. “We do not want this work to be isolated,” Puri stresses. “We want to show that innovative projects like this are at the core of public health, and they are here to stay.”

In addition to Puri and Gonzalez, Women of HeART team members include Shaanel Badani, Maria Rios, Mirva Modi, Nandini Agarwal, Mayuri Dharne, and Lynn El-Chaer.

The team intended to begin the project in fall 2020, but due to the COVID-19 pandemic, the project has been postponed until at least spring 2021.

Writing outside the comfort zone
(continued from page 20)

We give them a steep challenge and then mentor them to the summit. Getting to work so closely with them is a true delight.”

Marking five years of PHP, Stein and Dean Sandro Galea released *Pained: Uncomfortable Conversations about the Public's Health*, a book that evolved from a series of perspective pieces and databytes published in PHP as *The Public's Health*. “*Pained* offers readers 50 discussions of the most salient topics in public health, addressing the range of paradoxes and trade-offs in our health decisions in this era of complex choices,” Stein explains.

A multimedia extension of *Pained*, PHP produced *PHPod*, a podcast series featuring conversations with public health influencers

“Our fellows are passionate about language and communicating complex public health evidence in clear and engaging prose.”

—Jennifer Beard, PHP associate editor and clinical associate professor in the Department of Global Health

who discuss topics that may be familiar and sometimes uncomfortable. The series covers issues of our time such as opioids, HIV, white supremacy, and abortion.

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TEACH

**OUR
STUDENTS**
WANT TO
CHANGE
THE WORLD,
LITERALLY.
WE ARE
COMMITTED
TO THEIR
SUCCESS.



Q & A

LISA SULLIVAN
ASSOCIATE DEAN FOR EDUCATION AND
PROFESSOR OF BIostatISTICS

1

HOW DO YOU ENVISION THE FUTURE OF PUBLIC HEALTH EDUCATION?

Creating a healthier world requires the commitment of people in a lot of different areas—everything is public health! Luckily, we now have lots of young people who are interested in the field, many of whom learn about it in their undergraduate studies, and even major or minor in public health. At the other end of the educational continuum, we have experienced professionals working in a range of fields and industries who also want to create a healthier world.

We have to provide all of those different kinds of students with education that is accessible, real, and relevant, whether through different formats, or timing of course options, or removing systemic barriers.

2

HOW IS SPH WORKING TOWARD THAT FUTURE?

Our faculty and staff have worked very hard to create programs that will evolve as the needs of the students and field evolve. Our Master of Public Health is a model for the field, with other schools taking note and following our lead. Our new Master of Science uses a similar model, with new and distinct specializations including climate and health (*page 58*) and global health research, in addition to our well-established offerings in epidemiology and applied biostatistics.

We are committed to offering the best possible educational programs to all students, not just a select few. That is why, as just one example, we dropped the GRE for admission—we are committed to diversity and equity at SPH, and the GRE has been found to be systemically biased.

We're creating more interdisciplinary specializations to attract students with various backgrounds and interests, and offering more flexible—and always practical—programming.

Our new online, intensive, and hybrid programs are especially attractive to experienced professionals.

At the other end of the spectrum, in the summer of 2019 we started

PopHealthExperience to show even younger students what they could do in public health. They were very enthusiastic! I had the privilege of teaching them about biostatistics, and we created data visualizations and stories to interpret and share facts and findings about problems that were important to them.

For the future of public health, students need to know how to connect new knowledge and skills to what they already know and care about, and apply new tools and techniques to new challenges. Our faculty and staff have created programs that prepare our graduates for success—not just a first job, but success over their professional careers.

3

WHAT MAKES SPH AN EXCITING PLACE FOR YOU?

The students. We have amazing students who come to the school with lots of accomplishments, experiences, and skills, and they want to do more. SPH is committed to making sure that every student has a chance, that every student has the support that they need.

Our students want to change the world, literally—and we are committed to their success.

“For the future of public health, students need to know how to connect new knowledge and skills to what they already know and care about, and apply new tools and techniques to new challenges.”

—Lisa Sullivan, associate dean for education



Associate Dean for Education and Professor of Biostatistics Lisa Sullivan drives SPH leadership in ever-evolving public health scholarship and teaching.

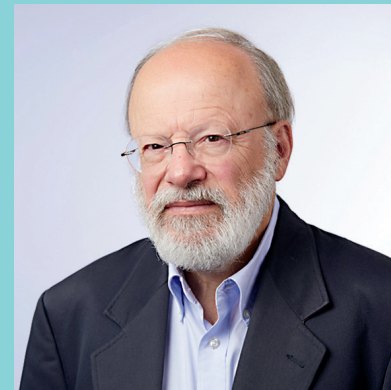
HEALTH LAW



WENDY MARINER
EDWARD R. UTLEY PROFESSOR OF
HEALTH LAW



GEORGE ANNAS
WILLIAM FAIRFIELD WARREN DISTINGUISHED
PROFESSOR AND DIRECTOR OF SPH'S CENTER
FOR HEALTH LAW, ETHICS & HUMAN RIGHTS



NICOLE HUBERFELD
PROFESSOR OF HEALTH LAW, ETHICS &
HUMAN RIGHTS



MICHAEL ULRICH
ASSISTANT PROFESSOR OF HEALTH LAW,
ETHICS & HUMAN RIGHTS



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Public health issues and the laws that shape them have changed dramatically since Wendy Mariner and George Annas coauthored the first edition of the textbook *Public Health Law* in 2007, and even since the second edition in 2014.

“The field of public health has grown up, and with it, the field of public health law,” notes Mariner, Edward R. Utley Professor of Health Law.

The public health field increasingly focuses on the social determinants of health—including racism, sexism, income inequality, and other social issues—that shape the well-being of populations. According to Mariner, from discrimination to environmental regulation, gun control to abortion access, “Law, in all its manifestations, creates and shapes the social determinants of health.”

Published in late 2019, the third edition of *Public Health Law* needed a major overhaul to prepare students for this new and evolving landscape.

Mariner and Annas, William Fairfield Warren Distinguished Professor and director of SPH’s Center for Health Law, Ethics & Human Rights, wrote it in collaboration with two of their colleagues from the center, Nicole Huberfeld, professor of health law, ethics & human rights; and Michael Ulrich, assistant professor of health law, ethics & human rights.

The four shared their thoughts about where their field has been, where it is going, and how to prepare students to use law as a powerful public health tool.

HOW HAS YOUR FIELD CHANGED IN RECENT YEARS?

ULRICH: Public health law used to be very topic specific, e.g., laws and policies dealing with obesity, tobacco, or contagious diseases. But as a broader understanding of public health has emerged through concepts such as the social determinants of health, so too has a broader understanding of public health law.

ANNAS: Another major change in the field is taking human rights more seriously, and increased recognition of the Universal Declaration of Human Rights as the ethics code for public health. This is especially true in global health, and the WHO’s emphasis on health and human rights in epidemic planning and response.

HOW IS THE NEW EDITION OF PUBLIC HEALTH LAW UPDATED TO PREPARE STUDENTS FOR THIS CHANGING LANDSCAPE?

MARINER: We want to prepare students to recognize and grapple with legal issues that arise across all jurisdictions—state and local, federal, and international. To do so, we include fundamental legal principles at all levels of government. While specific problems and controversies vary, the constitutional foundations for addressing them remain fairly stable, so that students can use what they learn when facing new problems.

HUBERFELD: It was also important to me that students gain an understanding of the constant tension between government power to protect public health and welfare, and individual rights as protected by the US Constitution, laws, and courts.

WHAT MAKES YOU HOPEFUL ABOUT THE FUTURE OF PUBLIC HEALTH?

ANNAS: The trend toward equality of all humans, and the trend toward recognition of health as a human right.

ULRICH: Our students’ enthusiasm and earnest desire to make the world a better place is truly invigorating and inspirational.

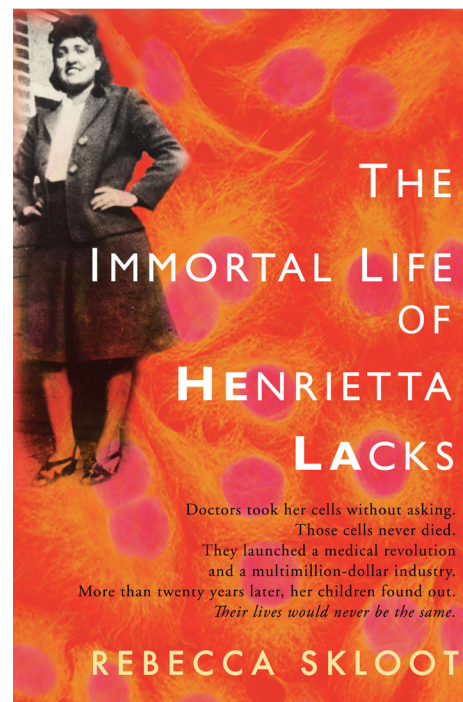
HUBERFELD: Just a few years ago, no one was talking about underlying (or “social”) determinants of health, but now this concept seems to arise everywhere. It signifies a turning point in the common understanding for what it means to achieve health.

“Law, in all its manifestations, creates and shapes the social determinants of health.”

—Wendy Mariner, Edward R. Utley Professor of Health Law

MARINER: First, my students. Second, the broader public recognition of the social determinants of health. Third, the broader recognition that law is the arbiter of justice and fairness, not merely a tool to achieve partisan purposes.

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Inclusivity, by the book.

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TO FACILITATE DIVERSITY, INCLUSION, AND UNDERSTANDING, EACH YEAR, MPH STUDENTS READ AND DISCUSS A BOOK THAT FOCUSES ON THE HEALTH OF MARGINALIZED COMMUNITIES.

When it comes to building diversity and inclusion at the School of Public Health, “We are all part of the conversation,” says Yvette Cozier, assistant dean of diversity, equity, inclusion, and justice.

The school launched SPH Reads in 2016, a school-wide reading program that helps facilitate this conversation by encouraging critical thought around carefully chosen books. Led by the Diversity & Inclusion office, the program is part of SPH’s 11-point plan—launched in 2015—to create a culture of inclusion and a safe environment that enables the school community to discuss challenging issues around diversity.

“Diversity and inclusion are topics that are difficult to start, and often ones people want to avoid,” Cozier points out. “But when we get people to focus on the common ways we can look at these issues, we find there is a lot that we can talk about.”

Every year, SPH Reads focuses on one book that delves into specific themes or challenges related to racial, social, or economic inequalities and the resulting impact on the health of marginalized populations. Incoming MPH students receive the book before the start of their program and discuss it with faculty during

“Diversity and inclusion are topics that are difficult to start, and often ones people want to avoid, but when we get people to focus on the common ways we can look at these issues, we find there is a lot that we can talk about.”

—Yvette Cozier, assistant dean of diversity, equity, inclusion, and justice
Diversity, Equity, Inclusion, and Justice office

New Student Orientation. Last fall, students discussed the struggles of immigrant communities and the changing culture of America in *There Goes the Neighborhood*, by Ali Noorani (SPH’99), executive director of the National Immigration Forum.

The program’s debut selection, *The Immortal Life of Henrietta Lacks*, by Rebecca Skloot, sparked deep discussions about the ethical and legal issues of race and class in medical research. The book tells the story of the late Lacks, an impoverished Black woman with cervical cancer whose cells were taken without her knowledge in 1951 and used for critical and lucrative medical research. The school invited Lacks’ grandson and daughter-in-law to speak about the book and her life during a Diversity & Inclusion seminar in February 2017.

“As epidemiologists, we present a lot of numbers to students, but sometimes it can seem as if those numbers aren’t attached to real people,” Cozier says. “Getting to talk about the consequences of race and poverty and lack of health insurance, and then meet members of the Lacks family—the people who were impacted by these consequences—makes these issues even more real.”

The 2017 SPH Reads selection, *All Souls: A Family Story from Southie*, by Michael Patrick MacDonald, is a memoir about growing up in violence and poverty in the Irish community of South Boston. At the 2017 book talk, MacDonald emphasized that it’s vital not to “talk about poverty at the expense of talking about racism, and we shouldn’t talk about race at the expense of talking about poverty.”

In 2018, the Pulitzer Prize-winning *Evicted: Poverty and Profit in the American City* by Matthew Desmond, prompted conversations about economic instability and the impact of the nationwide housing crisis on public health, and also prompted students to examine their place in Boston’s housing history.

“Another important conversation we need to have in public health, especially in Boston, is the role that students play in the displacement process,” Cozier says, noting that current apartments occupied by four or five students used to be home to families before they were forced out due to gentrification and rising rent prices. “The idea is not to guilt young people who are just trying to find a place to live, but to understand where they stand in the housing process, and the advocacy and privilege they can draw upon to address these issues.”

The program’s 2019 selection, *The Desire to Heal: A Doctor’s Education in Empathy, Identity, and Poetry*,

2016

Launched in 2016, SPH Reads encourages critical thought and discussion centered on carefully chosen, thought-provoking books.

“Public health exists all around us.”

—Yvette Cozier, assistant dean of diversity, equity, inclusion, and justice
Diversity, Equity, Inclusion, and Justice office

by Rafael Campo, was the first SPH Reads book selected with student input. The student organization Queer Alliance suggested the memoir, which explores the author coming to terms with his identities as a Cuban American, a gay man, and a physician during the HIV/AIDS crisis.

Cozier stresses that the SPH Reads program shows that “Public health exists all around us. Even though these books are not specifically public health books, they represent real examples of public health issues in people’s lives that textbooks don’t usually teach.”

5 important ways Henrietta Lacks changed medical science

✓ **Vaccinating girls against cancer**
Scientists study her “immortal” HeLa cells, leading them to vital knowledge in developing crucial vaccines.

✓ **Showing us how cells stay young**
Due to the seemingly limitless life spans of her cells, we now better understand how some cells manage to stay “young” even with the passage of time.

✓ **Eradicating polio**
By studying reproduced HeLa cells, Dr. Jonas Salk successfully tests the polio vaccine, which in the last 60 years has effectively eliminated polio in most countries of the world.

✓ **Mapping the human genome**
HeLa cells fused with mouse cells create the first documented human-animal hybrid cells, which become important in early gene mapping.

✓ **Creating the field of virology**
Over the years, scientists have infected hardy HeLa cells with various viruses—including HIV, herpes, Zika, measles, and mumps—to better understand how to battle disease.

Source: statnews.com/2017/04/14/henrietta-lacks-hela-cells-science/

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HAROLD COX TALKS ABOUT HIS **HIGH HOPES** FOR THE FUTURE AND REFLECTS ON A LONG, PRODUCTIVE PUBLIC HEALTH CAREER SPANNING ADVOCACY, ACTIVISM, AND ACADEMICS.

Since 2006, Harold Cox has instilled public health leadership, advocacy, and activism skills in thousands of students at the School of Public Health. For 14 years, he served dual roles as associate dean of public health practice and associate professor of community health sciences (CHS), and in that time, he says he has learned just as much from his students as they have from him.

“One of the greatest things that students have taught me is the importance of listening,” he notes. “Our students are incredibly idealistic. They’re constantly thinking about new ways to effect change, and that idealism keeps me vibrant.”

Though Cox ended his tenure as associate dean in June of this year, his enthusiasm, knowledge, and inspirational public health stories remain very much present at SPH. Cox is still a vital CHS faculty member and has devoted more time to the classroom, where he has taught the Leadership and Management core course for the MPH program as well as Public Health Response to Emergencies and Cases in Public Health Management.

“I’m excited that I’ve been able to teach more and still be engaged at the school in any and every way that I can with new students, prospective students, and current students, as well as many of our community partners,” he says.

Cox’s experience at SPH is a perfect confluence of his prior leadership roles in a variety of public health settings. Trained as a social worker, he began his career working with people with developmental disabilities before becoming the director of client services for the AIDS Action Committee and serving for 10 years as the chief public health officer for the City of Cambridge.

He’s led several programs at SPH, including as director of the MPH/MSW program, the MPH practicum program, and most recently, the Activist Lab. In the past five years, the Activist Lab has served as a catalyst for the school to create actionable change—particularly among marginalized groups—through community engagement, workforce training, and activism. Through the lab’s leadership, SPH has taken

“Our students are incredibly idealistic. They’re constantly thinking about new ways to effect change, and that idealism keeps me vibrant.”

—Harold Cox, associate professor of community health sciences

bold stances on critical public health issues including transgender rights, gun violence, homelessness, the opioid epidemic, and more.

While public health issues have changed since he began teaching at the school—“from the West Nile Virus to coronavirus”—Cox stresses that student commitment to helping the underserved has not wavered.

“If there is anything that has changed, it’s that students are getting engaged in thinking about public health at an earlier point in their careers,” he says.

He urges the next generation of public health leaders to “stay malleable” as they tackle future public health problems.

“It’s important to be able to adapt to a changing world, and to have the skills necessary to address the new and complex problems that we’ll inevitably face in the future,” he says, pointing out that technology and online training will remain an influential part of public health education and solutions.

He believes that the public health field is in a unique position to both follow and set trends: “We follow trends because we have to respond and adapt to the pressing issues of the moment, but we also set trends by creating opportunities in which people can achieve optimal health.

“With the students I’ve engaged with over the years, I know that the world is in good hands.”

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ADVOCACY & ACADEMICS



From dense clouds of dirty air blanketing India to intense wildfires scorching parts of the western United States, the effects of climate change are critical health challenges desperate for solutions.

With an eye toward training future solution builders, the Department of Environmental Health at the School of Public Health launched the Program on Climate and Health this year and recruited environmental health researcher Gregory Wellenius as director.

“Climate change poses a significant threat to the health and well-being of each of our communities and families,” says Wellenius, who was previously an associate professor of epidemiology at Brown University School of Public Health and director of Brown’s Center for Environmental Health and Technology. “This is a looming public health

Creating a climate for change.

A NEW PROGRAM AND NEW DIRECTOR LEAD THE SEARCH FOR LOCALIZED SOLUTIONS TO THE GLOBAL CHALLENGES OF CLIMATE CHANGE.

crisis, around the world, across the US, and in our own backyard.

“But climate change also represents a fantastic opportunity for us to decide how we want to invest in our communities and adapt our economies and our lifestyles in order to build communities that are more sustainable, more resilient, and enable us to live healthier lives.”

Wellenius has a long track record of studying the effects of ambient air pollution on cardiovascular health and potential changes in cardiovascular physiology. His past research has also focused on quantifying threats to human health posed by continued climate change, identifying communities at greatest risk, and providing communities with the ev-

idence they need to better prepare for and adapt to a changing climate.

Since Wellenius’ arrival in January, the SPH Program on Climate and Health has brought together researchers across the school and University, with the goal, he says, of positioning BU as the “leading resource for knowledge and training around this important topic.”

The program fosters greater collaboration and innovation in three key areas: research, training, and translating cutting-edge knowledge into policy and community solutions. It builds on and complements the new Master of Science in Population Health Research: Climate and Health degree, one of the few master’s programs of its kind. Offering comprehensive training in research methods and 400 hours of faculty-mentored research, it prepares students to tackle climate change from multiple angles, including through doctoral study or research careers in government, academia, and private industries.

“We are increasingly aware of the threat to people’s health and well-being posed by continued climate change, but we have much less evidence regarding exactly what will work at the community level to minimize these impacts,” Wellenius explains. “Academic research can play a significant role in identifying and minimizing these threats in our communities, and this MS program

prepares students to take on these challenges as leaders in the field.”

While noting that climate change is a global issue, he reiterates that solutions to climate change are “local in nature” and that it is important to focus efforts at the community level around the world. “Thinking about climate change as a global problem can characterize the issue as someone else’s responsibility or problem, but it threatens all of our lives, no matter who we are or where we live,” he says.

“By bringing together new investments in research, teaching, and education at SPH, I’m confident that we can make a really great difference.”

new MS

The new Master of Science in Population Health Research: Climate and Health program, is one of a few of its kind in the world. Offering comprehensive training in research methods and 400 hours of faculty-mentored research, the program prepares students to tackle climate change from multiple angles, through doctoral study or research careers in government, academia, and private industry, among other areas.

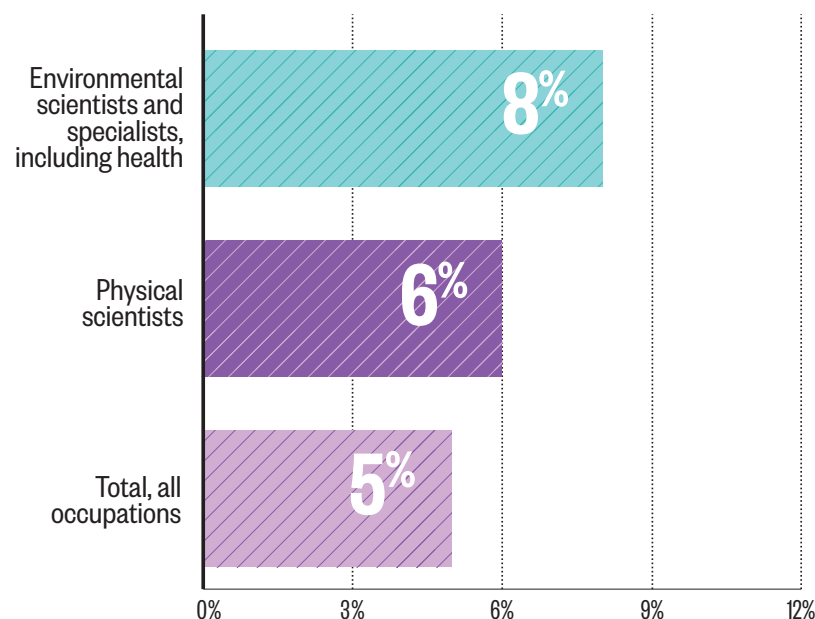
Gregory Wellenius



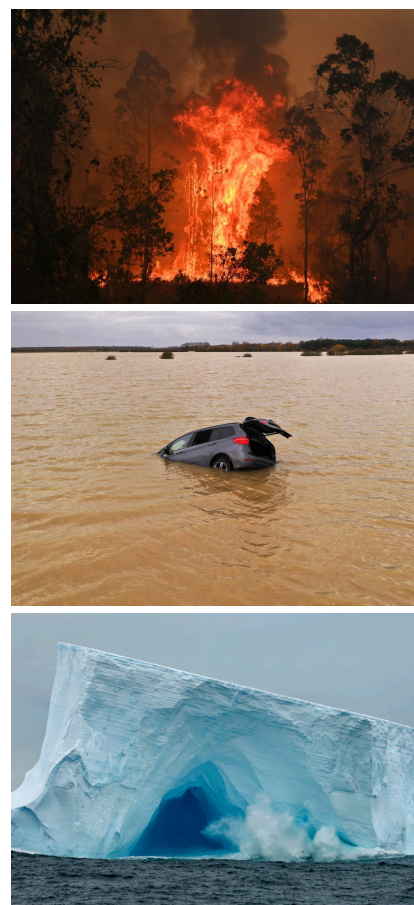
Director of the Program on Climate and Health

ENVIRONMENTAL SCIENTISTS AND SPECIALISTS

Percent change in employment, projected 2018-28



Note: All Occupations includes all occupations in the US economy.
Source: U.S. Bureau of Labor Statistics, Employment Projections program



PETER PARKS/AFP/GETTY IMAGES; CHRISTOPHER FURLONG/GETTY IMAGES NEWS; WOLFGANG KAEHLER/LIGHTROCKET/GETTY IMAGES

“Thinking about climate change as a global problem can characterize the issue as someone else’s responsibility or problem, but it threatens all of our lives, no matter where we live.”

—Gregory Wellenius, director of the Program on Climate and Health

CLIMATE CHANGE

global issue
↓
local solutions

We've got to keep meeting like this: Public Health Conversations.

THE NAME FOR SPH'S SIGNATURE PROGRAMS HAS CHANGED, BUT THE PURPOSE IS THE SAME: BRINGING TOGETHER LEADERS FROM EVERY AREA OF PUBLIC HEALTH.

Since they debuted in 2015, the Signature Programs at SPH have become a cornerstone of the school's commitment to shaping and advancing public health conversations locally, nationally, and globally.

To more accurately reflect the growing role and influence of these events both within and outside of the school, in fall 2020 SPH renamed the programming Public Health Conversations.

"These programs have become a staple for the school community and an opportunity for us to convene teachers, practitioners, policy-makers, the media, and more to hold conversations about issues of consequence," says Meredith Brown, assistant director of strategic initiatives in the Office of the Dean. Brown has played a chief role in developing and executing the suite of dean's seminars, public health fora, diversity & inclusion seminars,

"I'm very proud of our team's ability to respond quickly to community needs."

—Meredith Brown, assistant director of strategic initiatives

symposia, and "Think. Teach. Do." alumni receptions.

"If there is anything that has changed over the years, it's that we receive much more input about events from faculty, staff, and students," Brown says. "This community is the most valuable aspect of the program."

From a 400 Years of Inequality symposium to seminars on homelessness, voting, racial profiling, gun violence, and teaching public health, the dean's office has hosted public health conversations with internal and external partners, including Development & Alumni Relations, Diversity & Inclusion, the Activist Lab, the School of Social Work, the BU Initiative on Cities, and WBUR.

Virtual engagement through live-streaming and live-tweeting the programs has increased steadily over the past two years, making seamless the temporary transition to an all-online format due to COVID-19 restrictions in the spring semester's second half.

"I'm very proud of our team's ability to respond quickly to community needs," Brown says. "During the COVID-19 pandemic, we worked hard to keep our community socially connected, despite physical distancing.

"It's great that we bring experts to campus and students are able to connect with them in a meaningful way that advances their careers," she says, noting that the most popular aspect of Public Health Conversations is the student lunches, where students—some of whom even secure practicum opportunities as a

result—meet with featured speakers for a more informal and intimate conversation before the program.

"Speakers always tell me that their favorite part of the program is meeting our students—that's such an important reflection of our school."

140+

SPH has hosted upwards of 140 Signature Programs since 2015, featuring 300+ speakers and reaching more than 100,000 people.

Meredith Brown



Assistant Director of Strategic Initiatives, Office of the Dean

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2015

In the inaugural year of Signature Programs, speakers explore the state of population health sciences, global trends that influence health, and pressing current issues.



The Health of Refugees: Europe in Crisis



Public Health Priorities for an Aging Population



Guns in America

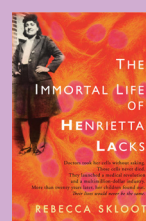
2016

Contemporary, pressing issues in public health include systemic racism, urban health, and the health stakes of the US presidential election.

Beyond Ferguson: Social Injustice and the Health of the Public

The Fate of Obamacare

How Does Where You Live Affect Your Health?



SPOTLIGHT:

SPH Reads launches. The school-wide reading program—hosted by the Diversity & Inclusion office—encourages critical thought and discussion

throughout the SPH community, centered on a carefully chosen, thought-provoking book. Students are given the book before they come to campus, and the school hosts multiple academic and extracurricular programs centered around the book in the fall.

2017

We invite partners—including *The Lancet*, BU Initiative on Cities, Activist Lab, GE healthmagination, and MTV's Staying Alive Foundation—to cohost events. Part of the AIDS Quilt comes to campus.



Cities & Kids: Enabling Optimal Development for Urban Youth



Income Inequality and Health in America: A Lancet Special Issue



1985: Voices from the AIDS Crisis

2018

Global leaders gather at SPH to address the opioid epidemic, climate change, and other critical issues. We launch our biennial symposium on teaching public health.

The Opioid Crisis in America: A Conversation with the US Surgeon General

Changing the Climate: How Public Health, Cities, and the Media can Advance Climate Solutions

Teaching Public Health

SPOTLIGHT:

Our Diversity & Inclusion series on Difficult Conversations debuts to explore challenging topics, with community members invited to engage in discussion.

Disagreeing on Difficult Issues: White Privilege

Impostor Syndrome: Why Capable People Suffer and How to Thrive in Spite of It

Remove, Rename, or Replace: Monuments to Past "Heroes" in a Changing Society

2019

Along with partners including the Museum of African American History, the Pulitzer Center, and other colleges at Boston University, SPH hosts a number of illuminating educational programs.



400 Years of Inequality: Breaking the Cycle of Systemic Racism



Nursing and the Health of Populations



Death and Dying: A Population Health Perspective

2020

We shift programming online and launch the Coronavirus Seminar Series to provide our community and the public with state-of-the-science information about the global pandemic and its intersection with public health.



Voting and the Health of Populations: Celebrating the 19th Amendment Centennial



Guns: A Global Epidemic



Mental Health in a Time of Crisis

61

JUSTICE,

AT A TURBULENT TIME, CRAIG ANDRADE RETURNS TO SPH TO LEAD ONGOING EFFORTS IN ADVOCACY AND PRACTICE.

BY
JILLIAN MCKOY

Social justice, health equity, and antiracism, are foundational frameworks for public health, says Craig Andrade (SPH'06, '11).

An alum of the MPH and DrPH programs, Andrade returned to the School of Public Health in June as the associate dean of practice and director of the Activist Lab, taking the reins from Harold Cox, associate professor of community health sciences, who had served in both positions for 14 years (*page 56*).

Andrade assumed his new role exactly one week after the Memorial Day death of George Floyd sparked a national reckoning with systemic racism, fueling international protests against police brutality and invigorating the Black Lives Matter movement—all amidst an unprecedented pandemic that continues to disproportionately impact Black lives.

“The COVID-19 pandemic and its aftermath of racial inequities, and the murder of George Floyd by the knee of a Minneapolis police officer, made what for hundreds of years has been a Black problem personal for all of us,” Andrade says. These challenges “motivate what I do and how I think, and they intersect with the spirit of the school that drew me here again—a spirit of deep commitment to

EQUITY, AND

a foundation of social and economic justice, and one that informs all of our actions in Think. Teach. Do.”

Andrade brought more than 30 years of experience in clinical care, health promotion, health administration, health education, and state government to SPH. He began his career as a critical care and public health nurse at Boston Medical Center in the late eighties before shifting to opportunities that would allow him to address the underlying causes of poor health. A licensed massage therapist and athletic trainer, Andrade led health and wellness and nursing programs at private schools and colleges before obtaining his public health degrees, aiming to gain a deeper knowledge of population-level health approaches that build resilience among children and adolescents, particularly LGBTQ youth, youth of color, and youth with disabilities.

He served in several leadership positions at the Massachusetts Department of Public Health—most recently as director of the Bureau of Family Health and Nutrition—and was a founding member of the department’s Bureau of Community Health and Prevention’s Racial Equity Leadership Team.

RACISM ARE PUBLIC HEALTH ISSUES.



The goal remains “to dismantle the vestiges of structural racism and to make sure that those who are less seen and less heard have more agency and are able to be the best of who they want to be,” he says. “Good public health practitioners build strong community relationships over time, based on kinship, respect, honest communication, and mutual learning and leading. When you mix a big challenge with good people, good public health, and hard work, transformation happens.”

Determined to help bring health equity and racial justice efforts to fruition through the work of the Activist Lab and its programming and partnerships within the school, University, and surrounding community, Andrade made an immediate impact in his first week by serving as a panelist during the school’s



“SPH’s dedication to action represents an opportunity for me to return to my roots, and to contribute to a vision that I fully believe in.”

—Craig Andrade, associate dean of practice and director of the Activist Lab

June 3 Conversation on Race and Policing Public Health Conversation and leading SPH’s annual #Wear-Orange campaign on National Gun Violence Awareness Day two days later. He continues to explore a number of opportunities, from elevating the lab’s Activist Bucks micro-grant program to a global level, to discovering new ways to better infuse social justice and racial equity principles into every element of the school.

“SPH’s dedication to action represents an opportunity for me to return to my roots, and to contribute to a vision that I fully believe in,” he says. “I continue to think about how we can harness this moment of social and racial reckoning to reinvigorate and redefine the work of SPH in research, education, and practice.”

SPH BY THE NUMBERS

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U.S. News & World Report

BEST

graduate schools of public health

RANKING

APPLICATION NUMBERS

3,291

total applications as of August 2020

STUDENTS

1,048

students as of August 2020

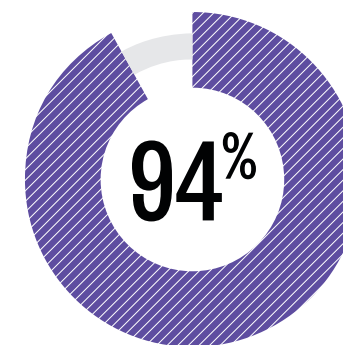
FACULTY

316

STAFF

226

2019 GRADUATE EMPLOYMENT



EMPLOYED
FULL
TIME

or pursuing
advanced
education
within 6
months of
graduation

SCHOLARSHIPS

\$68.7M

scholarships awarded in 2019

RESEARCH AWARDS

364

ALUMNI

10,368

alums living in

115

countries*

*Estimate as of August 2020

MEDIA MENTIONS



1,520

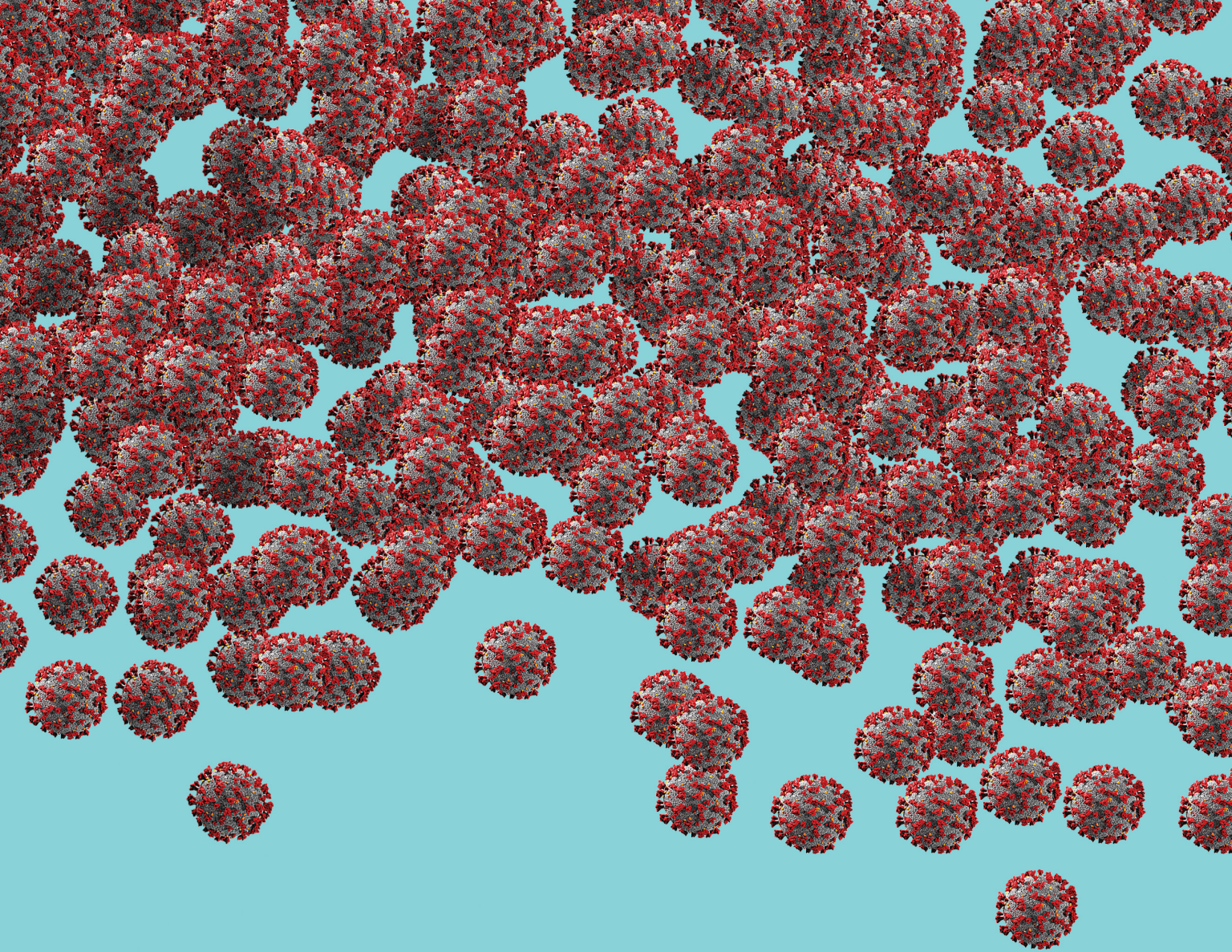
this
year

PEER-REVIEW PUBLICATIONS



1,161

this
year



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