LETTER FROM THE DEAN

The world has been through an unprecedented time in the past two years, marked by several related crises: the COVID-19 pandemic, deepening economic inequality, and increasingly visible racism and violence against people of color—all of which have deep and lasting impacts on public health. Far too many have lost family, friends and colleagues and still others have struggled with trauma, as well as mental and physical health related concerns.

Despite the extraordinary loss of life and extreme trauma experienced during the global pandemic, we remain hopeful. The challenges presented brought out the best in the Milken Institute School of Public Health—as we watched our students, faculty, staff, alumni and colleagues in public health rise to heroic levels of innovation and empathy, while courageously helping the world navigate the COVID-19 crisis.

When the pandemic hit, we immediately shifted our focus to COVID response, preparedness and solutions—guided by our training and experience. We quickly expanded our online capacity to meet the needs of all of our students and our community—serving more than 2,500 students across the globe.

Given the Milken Institute School of Public Health’s expertise in epidemics and our role as a premier research and teaching institution, we were able to produce timely tools, guidance, and analyses that informed the response of our school, the university, local and national governments and health organizations here and throughout the United States.

As we see this pandemic beginning to recede, we look to the future and the once-in-a-lifetime opportunity to capitalize on the interest in public health and make substantial improvements around the world. Because we recognize that COVID is one of several public health crises that impact us globally—obesity and related metabolic diseases; food scarcity; climate change and related natural disasters; antibiotic resistance, and all conditions related to racism and discrimination including the health of women and girls—we will continue to advance our centers of excellence. These problems do not occur in isolation but are interconnected, intensifying health inequities.

Our greatest hope is that we use the lessons of the last two years to drive larger investment in public health and tackle the challenges facing our community, our people and our planet.

Thank you for being part of our success and our hopeful outlook on the journey toward better health for all.

Warmest regards,

Lynn R. Goldman, MD, MS, MPH
Michael and Lori Milken Dean
At this moment in time, the word “pandemic” is synonymous with the viral outbreak of the novel coronavirus that causes COVID-19. While its threat to public health cannot be understated, there are other looming issues, pandemics themselves, that must not be ignored. Climate change threatens not only our future but our current daily lives. Both COVID-19 and climate change intensify the effects of a third, systemic racism, which has been a major problem for generations yet somehow fails to remain at the forefront of the public conversation. This “tridemic” jeopardizes everyone’s health, welfare and future, and as long as some politicians, public figures and private citizens alike deny the existence of each of these crises, we will not be able to fully eradicate any of them.

This framing might make one wonder what technically characterizes a pandemic. Various definitions of the word pandemic contain the descriptors contagious, outbreak, infectious, self-perpetuating, epidemic, widespread across multiple countries and affecting many people. While it is most commonly applied to viral infections, both climate change and systemic racism clearly have these same effects.

While climate change and systemic racism have festered for generations, and coronaviruses have been known to infect humans since the 1960s, the severe acute respiratory syndrome coronavirus or SARS-CoV-1 first appeared in 2002. It tore across 29 countries, infecting more than 8,000 people and killing nearly 800.¹

It wouldn’t be until late 2019 that the new or “novel” SARS-CoV-2, which causes the disease COVID-19, would emerge. By Jan. 9, 2020, there were 59 known cases in Wuhan, China. Eleven days later, three cases were diagnosed in Thailand and Japan, and the day after that, the first case in the United States was reported.²

By March 11, it had spread to 114 countries and infected more than 118,000,
causing 4,291 deaths.3 That day, the World Health Organization officially declared COVID-19 a pandemic.

With it, the coronavirus brought lockdown. Travel bans. Mask shortages. Full hospitals. Overflowing morgues.

Misinformation
In such a short time, the COVID-19 pandemic has sparked a significant shift in everything from our physical and mental health to our family and social interactions.

It’s changed our ways of working and use of technology and disrupted supply chains and transportation. It has overburdened our health care systems and infrastructure and further widened the gap between the haves and the have-nots in our society.

Nearly half of the U.S. population experienced mental health challenges because of stress over employment, health and confinement. Domestic violence increased as victims were trapped in their homes with abusive partners.4

Unemployment also rose, jumping to levels on par with that of the Great Depression.5 Numbers of those no longer had access to health insurance also skyrocketed. Many delayed seeking medical care for COVID symptoms because they were more worried about incurring unaffordable medical costs.6 It is important to note that Black people are nearly twice as likely, and Hispanics almost four times as likely, to not have health insurance than whites.7 Members of those groups are also far more prone to die after becoming infected with COVID-19.8

According to “Halting Workplace COVID-19 Transmission: An Urgent Proposal to Protect American Workers,” co-authored by Milken Institute SPH Professor of Environmental and Occupational Health and former Assistant Secretary of Labor for Occupational Safety and Health David Michaels, PhD, MPH, and physician Gregory R. Wagner, “Much of this increase [in risk of disease or death due to COVID-19] is driven by employment patterns: racial and ethnic minorities are overrepresented in the essential and frontline jobs that cannot be done by teleworking from home. The jobs held by these workers put them in close contact with other workers and the public, and they are often given inadequate respirators or other personal protective equipment (PPE). Many of these workers travel to and from work in crowded public or semi-private transportation. Since the virus does not stop at the door of the factory or nursing home or prison or subway car, these workers bring the pandemic into their homes and communities.9

Masking was one of the only ways of combating the spread of the virus for those not in a position to isolate at home or work remotely. Milken Institute SPH students, supported by faculty advisors, conducted research into general mask usage and found it to be poor, with improper application (failing to cover nose and/or mouth) and lack of adoption being contributing factors.10 Information and guidelines about the effectiveness of different materials of masks and how and when to wear them have shifted, and mandates have come and gone, causing confusion. A culture war also sprung up around masking, with some focusing on “personal liberties” and the right to not have to wear a mask in public settings at the center.

Numbers surged, yet the White House was slow to respond. Some politicians denied the science and insisted that people didn’t need to self-isolate. They claimed that the danger was inflated, that masks were not necessary and that everything was fine while hundreds of thousands of people grew ill and died.

Vaccines didn’t become available until early 2021, with priority given to frontline workers, senior citizens and high-risk individuals. Scarcity of doses necessitated a multi stage rollout based on categorized need, and the vaccine was not approved for children, preventing individuals younger than 12 from having access. Conservative politicians and commentators sowed vaccine skepticism and misinformation, actively working against scientists and doctors who urged everyone who was able to get the shot. The vaccines proved to be effective—Pfizer and Moderna have shown to reduce the risk of infection to the single digits and Johnson and Johnson brought it down to below 30%.11

Then, mid summer 2021, the delta variant hit the United States, tearing through unvaccinated populations and causing breakthrough infections in the vaccinated. “Delta is much more contagious and affects those who are vaccinated,” Christopher Mores, PhD, a global health professor and director of the Milken Institute SPH Infectious Diseases Lab, said on the “Healthy You: Surviving a Pandemic” podcast hosted by George Washington University Director of Strategic Initiatives Frank Sesno.

While vaccinated people are able to transmit the delta variant, it’s those who remain unvaccinated who are causing the largest amount of the spread. “Even if this delta variant scares enough people to finally go and do the right thing for their communities, for themselves, and get vaccinated, we have to continue to push on this thing because the variants are all kind of known as coming from somewhere,” Mores said. “And so as long as the rest of the world is still undervaccinated and continues to have transmission, there continues to be the chance that some new variant will arise: a delta plus, a lambda, whatever the next letter’s gonna be. That’s going to potentially come and eat our lunch because it gets around our vaccination . . . We don’t want to find ourselves there."12

Often talk of having a choice to take the vaccine leaves out the members of the population who are physically unable to receive an immunization based on health conditions, allergies or age. Those individuals remain in the minority of those who are unvaccinated and have
As if enduring a viral epidemic wasn’t enough to disrupt and complicate daily life, the effects of climate change have been rearing their heads like never before. In just the past two years, we’ve seen ice storms in the South, heat waves in the Pacific Northwest, wildfires and drought in the American West and Southern California and overwhelming storms and flooding on the East Coast.

This is why GW recently launched the Climate and Health Institute (CHI), led by Director and Associate Professor of Environmental and Occupational Health Susan Anenberg. Its mission is "to promote equitable protection of population health at the local, national and global level through conducting policy-relevant and community-oriented research that reveals relationships between climate change, human health and equity; educating and empowering the newest generation of leaders in equitably minimizing climate change and its health consequences; [and] communicating and translating cross-disciplinary knowledge to integrate health and equity into actions to address climate change."³⁵

According to the institute’s research, “Even small fluctuations in the air’s temperature can increase the frequency and intensity of extreme weather events and change the local ecosystem. Some areas may experience increased flooding events from hurricanes and other hydrometeorological events, while other areas facing increased aridity and drought conditions are more prone to wildfires and dust storms.”³⁶

“Climate change exacerbates existing health threats and creates new public health challenges,” states the journal article “The Role of Health in Climate Litigation” led by CHI Co-Director and Associate Professor of Environmental and Occupational Health Sabrina McCormick PhD. “It is considered by many to be the biggest threat to public health in the 21st century.”³⁷

Close to one third of Americans have been through a weather disaster in the summer of 2021 alone, and 32% are living...
in designated disaster areas. In roughly three quarters of the country, it is 200% wetter than normal, manifesting in heavy rainfall and dangerous flooding, and in one quarter it is 95% drier than normal, prompting drought and wildfires.16

Texas had its first-ever winter storm warning in February 2021 when ice overpowered energy grids, causing more than four million people to be without power and crashing water systems across the state. The unprecedented storm had an amplified impact due to the fact that officials ignored warnings of the system’s possibility of failure.

Of course these events disproportionately affect low-income individuals and communities and contribute to a cycle of inequity and health disparity. A 2018 federal report, “The Fourth National Climate Assessment,” determined that “[p]eople who are already vulnerable, including lower-income and other marginalized communities, have lower capacity to prepare for and cope with extreme weather and climate-related events and are expected to experience greater impacts.”

Air pollution has also been found to be overrepresented in low-income neighborhoods. “Adverse air quality is an environmental justice issue, as it disproportionately affects marginalized and disenchanted populations,” states a study co-authored by CHI Director Anenberg, Gaige Hunter Kerr, a postdoctoral scientist, and Assistant Research Professor Daniel L. Goldberg, both of the Department of Environmental and Occupational Health.

They found that low-income neighborhoods “consistently face higher levels of [pollution] among all urban tracts across the United States and in nearly all of the 15 largest metropolitan statistical areas (MSAs) in the United States.”

Not only do these areas experience more pollution because the heavy duty diesel vehicles that contribute most to air pollution use “highways and interstates [that are] disproportionately located in marginalized communities,” but their residents “may breathe more traffic-related
[pollution] than they produce,” in part because a higher proportion of the populations in those areas don’t own vehicles at all.18

Census data show that Black and Hispanic people are significantly overrepresented in poverty relative to their share of the population.19 This is perpetuated by a system that feeds a cycle difficult to break free from.

Systemic racism—the third side of the current “tridemic”—is perfectly placed to amplify all of the effects of COVID and climate change in communities of color and brings with it issues of its own.

“[R]acial disparities exist even when other important factors are considered, such as family income and the broader conditions under which Americans are born, grow up, go to school, live, work, and age,” writes Sara Rosenbaum, founding chair of the Department of Health Policy at the George Washington University Milken Institute SPH, in her paper “Eliminating Inequity in Health Care Demands Measurement in Real Time.” She adds, “The demographics of American poverty show its disproportionate impact on people of color.”20

One illustration of the system that contributes to these disparities is a model developed by Assistant Professor and Director at the Center for Community Resilience at the Milken Institute SPH Wendy Ellis, DrPH. The Pair of ACEs Tree illustrates how adverse community environments like poverty, discrimination and poor housing affordability can lead to adverse childhood experiences like mental illness and incarceration.

“Adverse community environments are the result of policies and practices across multiple systems that were perfectly designed for the place-based inequities they produce. Many of the nation’s poor live in communities of concentrated poverty not by choice, but rather by design – the cumulative result of social and criminal policies enacted over the course of our nation’s
history,” writes Ellis. “For example, federal policy and lending practices in the real estate industry in the early 20th century supported housing segregation – creating patterns of racial and economic segregation that persist today. These policies combined with the inequitable enforcement of policies across criminal justice (enforcement and incarceration) and public education (funding) also help to explain the place-based differences in who is arrested, length of incarceration and odds of completing high school and attaining higher education.”

Criminalization, incarceration and police brutality pose a different sort of health threat than disease or lack of access to health care. While it has faded in and out of mainstream news and media, it’s remained at the forefront of the minds of many members of the Black community as part of a shared lived experience. It has preoccupied one Black filmmaker, Krystal M. Harris, for many years. She had been working on a script—about a Black woman who lost her father and brother to the prison system and whose fiancé was murdered by the police—for five years before she was finally able to film the story in early March 2020. “Nothing new was in the news at that time. It was 2020 before we even truly knew about the pandemic and what was lying ahead of us,” says Harris. “I just had a powerful feeling that I had to make the film.” They finished production just days before COVID was declared a pandemic and 82 days before the murder of George Floyd. While police brutality and killing of Black people had happened many times before, Floyd was received differently, possibly because the entire incident had been recorded and shared by 17-year-old Darnella Frazier, who was later recognized by the Pulitzer Prize Board for her video.

“Maybe it was the fact that [people] were stuck at home, unable to turn their eyes away from an eight minute murder caught on tape,” Harris says. “This was the type of realization that could not be ignored. People are ready to see it, and more importantly, they are ready to do something about it.”

Unfortunately, along with the rise in awareness came an increase in racially motivated hate crimes against Black people. The FBI’s recent hate crimes report showed there was a nearly 40% increase in anti-Black hate crime in 2020. The same report noted that, while the overall numbers were much smaller, Asian Americans and Pacific Islanders experienced a 70% escalation in hate crimes, due in large part to misplaced blame for the coronavirus outbreak.

Working to keep systemic racism at the forefront of the public conversation and taking it into account when dealing with other major issues like the COVID-19 pandemic and climate change is key to any real success. In “Advancing Equity in the Nation’s COVID-19 Public Health Response and Recovery Efforts: Options for a New Administration,” prepared by The Founders Forum for The Milken Institute, the authors stress the importance of this element. “Addressing racial equity must be a central part of the nation’s response and recovery efforts associated with the COVID-19 pandemic. The pandemic has laid bare the disparities in health outcomes related to race and class in the United States.”

In the report, they lay out a series of solutions including altering services, infrastructure, administration and legislation, along with a strategy to make those changes.

In order to make any sort of impact on COVID-19, climate change or systemic racism, change is essential. It takes scientific research and data to identify what changes need to be made. It takes socializing that data and raising awareness as much as possible. It takes continual buy-in from politicians and others who are committed to making policy changes. Only a sustained commitment to these actions will help counteract the denial of these very real, very serious public health issues, clearing the way for a safer, healthier future for all.
STATE OF THE SCHOOL
Milken Institute SPH Faculty Organize Volunteer Task Force to Combat COVID-19

As the only school of public health in Washington, DC, Milken Institute SPH is uniquely positioned to help the city during the ongoing coronavirus pandemic by providing its public health expertise. To do so, faculty at Milken Institute SPH organized the GW Health Volunteer Response Task Force, mobilizing those with various health-related skills to make a difference in the local community.

The multidisciplinary team of faculty and staff is led by Gene Migliaccio, DrPH, associate dean of applied public health; Alan Greenberg, MD, MPH, chair of the Department of Epidemiology; and Amita Vyas, PhD, associate professor of prevention and community health.

The task force is a collaboration between Milken Institute SPH, GW School of Medicine and Health Sciences (SMHS), and GW School of Nursing. The task force works with health care systems and community-serving organizations across the DC metropolitan area to identify shortcomings in care that volunteers can fill. Milken Institute SPH faculty serve as primary points of contact and provide consultation for the organizations, create learning opportunities and coordinate logistics for the volunteers.

The volunteers are providing clinical, public health and administrative support, both on-site and remotely. They help to triage patients who seek health care; interview those who test positive for COVID-19; conduct contact tracing; manage call handling and registration at COVID-19 testing sites; and assist with data management, among other tasks.

“The GW health volunteers are making a tremendous impact to the communities they serve and the people they support,” Migliaccio said. “Our faculty leaders are also providing each student volunteer an important learning environment where they are able to apply their public health knowledge and skills to create safer communities during the COVID-19 pandemic.”

More than 550 members of the GW community, including students, faculty and staff, have signed up to volunteer. The task force is working with the DC Department of Health (DOH), the National Association of County and City Health Officials (NACCHO), the DOHs in Maryland’s Montgomery County and Prince George’s County, Virginia’s Loudoun County, United Medical Center, and GW Medical Faculty Associates to assign volunteers to complete tasks that are needed the most. Volunteers are deployed with adherence to public health guidelines, wearing face masks and maintaining social distancing to share their time and talent without contributing to the community spread of the novel coronavirus.

As an example of some of the work, volunteers in Prince George’s County worked at two COVID-19 testing sites, analyzing data and supporting two quarantine and isolation shelters for first responders, those experiencing homelessness and the general public. Volunteers were stationed at the front desk 24/7 to provide support.

“Public health is truly a call to service, and we are witnessing and experiencing exactly that during this public health emergency,” Vyas said. “We have numerous GW faculty, staff and students who are volunteering and serving our local communities as frontline public health workers. There are many challenges ahead of us, and the GW community will continue to serve and do its part through this pandemic.”
A lifelong advocate of social justice, health equity and health workforce policies, Fitzhugh Mullan, MD, professor of health policy and management and pediatrics at Milken Institute SPH and GW’s School of Medicine and Health Sciences (SMHS), died on Nov. 29, 2020.

Mullan joined GW in 1996 and co-founded the GW Health Workforce Institute in 2015. In April 2019, the institute was renamed the Fitzhugh Mullan Institute for Health Workforce Equity to honor Mullan’s illustrious career and legacy.

“Dr. Mullan was a great mentor, colleague and friend to many at the George Washington University and we are devastated by his loss,” said Dean Goldman. “His warm demeanor, passion for his work and willingness to help all brightened our school, and we will miss him dearly.”

A pediatrician by training, Mullan’s 50-year career included time as a civil rights worker, National Health Services Corps leader, federal administrator, assistant surgeon general, senior advisor to Surgeon General C. Everett Koop, a writer, researcher and advocate for social justice.

Born into a family of physicians, Mullan grew up in New York City and studied history at Harvard University. He attended medical school at the University of Chicago, where he discovered his passion for activism. Mullan then spent time in Mississippi as a civil rights physician. As a pediatric resident, he helped organize the Lincoln Collective—a group of medical residents working to enact change at an urban, underserved hospital—at Lincoln Hospital in the South Bronx neighborhood of New York City. Mullan then served three years in the United States Public Health Service as one of the first members of the National Health Service Corps—a program he later directed.

At age 32, in the midst of his public service career, he developed cancer and underwent surgery, chemotherapy and radiation. He wrote a book, *Vital Signs: A Young Doctor’s Struggle with Cancer*, about his experience at that time and founded the National Coalition for Cancer Survivorship, which still serves as the leading voice for cancer survivors.

Later in his remarkable career, Mullan served as a writer and founding editor of a monthly column entitled “Narrative Matters” in the health policy journal Health Affairs. He served pediatric patients at a community health center in low-income neighborhoods of Washington, DC, and wrote about his experiences for the journal and for The Washington Post.

In 2015, Dr. Mullan co-founded the GW Health Workforce Institute along with Patricia Pittman, PhD, a professor of health policy and management. Pittman serves as director of the now-named Fitzhugh Mullan Institute for Health Workforce Equity, which was created to further research and education in health workforce equity.

“In 2015, Dr. Mullan was considered a national gem among those of us who care about health workforce policy. He brought tremendous heart to his work, and was a champion of the National Health Service Corps, a program he helped to shape. At the same time, he was not afraid to take controversial positions on issues such as the outdated and distorted system...”
of public spending on graduate medical education. And he was fiercely critical of the way in which this country educates the physician workforce. He believed health professional schools should be held accountable for the kinds of graduates they produce, particularly with regard to diversity and willingness to provide primary care in rural and minority communities,” Pittman said. “He will be deeply missed as a colleague, friend and inspirational mentor.”

The Mullan Institute conducts research on innovative uses of health workers, measuring social mission in health professions education, diversity in admissions to health professions schools, the impact of the National Health Service Corps, and social mission in nursing education. Mullan saw this work as an essential part of the effort to build a fairer, better health system, recently calling health workforce and equity “the north stars of my professional life.”

The Mullan Institute also houses the Beyond Flexner Alliance, a national movement to promote social mission in health professions education founded by Dr. Mullan. It also houses two fellowship programs—the Atlantic Fellows for Health Equity and the Residency Fellowship in Health Policy—that demonstrate Dr. Mullan’s role as an inspiring mentor, teacher and leader to scores of physicians and public health professionals. The Mullan Institute has received funding from The Atlantic Philanthropies to strengthen and sustain the Atlantic Fellows for Health Equity program, which develops global leaders to understand and address health disparities, through at least 2027.

In October, Milken Institute SPH announced the endowment of the Fitzhugh Mullan Professor of Health Workforce Equity, which is also supported by The Atlantic Philanthropies. This professorship will strengthen Mullan’s legacy by advancing the initiatives of the Mullan Institute, conducting research aimed at strengthening health workforce equity in the United States and around the world and collaborating with faculty and students at Milken Institute SPH.

“We mourn the loss of Fitzhugh Mullan. He was a force for social justice and health equity who touched the lives of countless people,” said Christopher G. Oechsli, president and CEO of The Atlantic Philanthropies. “Fitz’s inspiring legacy lives on in the people, programs and policies he nurtured to help bring about fairer, healthier societies.”

Patricia (Polly) Pittman, PhD, was announced as the first Fitzhugh Mullan Professor of Health Workforce Equity in March 2020. Pittman, a professor of health policy and management and director of the Fitzhugh Mullan Institute for Health Workforce Equity (Mullan Institute), is a renowned expert in health workforce issues and policy, conducting research on health systems, recruitment of health professionals, and workforce innovations.

Inaugural Fitzhugh Mullan Professor of Health Workforce Equity

Pittman co-founded the GW Health Workforce, now known as the Mullan Institute, with the late Fitzhugh Mullan, MD, to further research and education in the area of health workforce equity.

“I am honored to be installed into this professorship and to continue our work calling attention to the importance of the health workforce as an essential mechanism for addressing health equity,” Pittman said at the time of her appointment. “During these times of global disease threats, policymakers suddenly remember how important the people who deliver care are. Our work is to keep the focus on the workforce, and to critically examine which policies and programs are helping to ensure that health workers have the opportunity, competencies and the courage to address the needs of the least advantaged populations.”

The Fitzhugh Mullan Professor of Health Workforce Equity is a professorship made possible by a $3 million grant from The Atlantic Philanthropies. This professorship will advance the initiatives of the Mullan Institute, conduct research aimed at strengthening health workforce equity in the United States and around the world, and collaborate with faculty and students at Milken Institute SPH as well as GW’s School of Medicine and Health Sciences, School of Nursing, and across the university.

“Thanks to The Atlantic Philanthropies’ continued support, this professorship allows us to build on our research and work toward solutions for health disparities at home and across the world,” said Dean Goldman. “I cannot think of a more qualified person to install as this professor than Polly Pittman, who has worked tirelessly to build a stronger health workforce.”
Longtime HIV researcher Deanna Kerrigan joined Milken Institute SPH as chair of the Prevention and Community Health Department in summer 2020. Previous to her appointment, Kerrigan served as a professor of sociology and director of the Center on Health, Risk and Society at American University.

“Dr. Kerrigan is an extraordinary expert in preventative health measures, and I know her guidance will steer the department toward making a tremendous impact, particularly in our research related to the social determinants of health,” said Dean Goldman.

For more than 25 years, Kerrigan has studied social and structural factors that impact the health and well-being of marginalized populations worldwide, including stigma, discrimination and violence. An expert on HIV prevention, she has led studies to develop comprehensive public health interventions among underserved women in Latin America, the Caribbean and Sub-Saharan Africa.

Kerrigan's current research includes a project supported by the National Institute of Mental Health (NIMH) that aims to examine the multiple forms of social stigma facing women living with HIV in the Dominican Republic and Tanzania and the role that community empowerment and mobilization can play to improve their health outcomes. She is also working on studies that examine long-acting injectable anti-retroviral therapy to treat HIV and pre-exposure prophylaxis in the United States and around the world.

“I am excited to be working with my new colleagues to develop and evaluate innovative approaches to generating positive social and behavioral change to impact the health and lives of underserved communities globally,” said Kerrigan, who has authored more than 130 peer-reviewed scientific publications and manuscripts, including her recent book, Structural Dynamics of HIV: Risk, Resilience and Response.

Kerrigan also serves as an executive committee member of the DC Center for AIDS Research (DC CFAR), based at Milken Institute SPH, and she previously co-directed the Prevention Core of the Johns Hopkins University (JHU) Center for AIDS Research.

She was on faculty at the Johns Hopkins Bloomberg School of Public Health for 15 years, where she also led a global HIV prevention implementation science project called Research to Prevention (R2P). Funded by the United States Agency for International Development (USAID), R2P included 30 research projects across 18 low- and middle-income countries.

As a U.S. Fulbright Scholar, Kerrigan studied the social context of Zika in Brazil, including how it impacted women’s reproductive decisions. Kerrigan has also served on multiple World Health Organization and other United Nations agency working groups and as a program officer for the Ford Foundation, working on sexual and reproductive health and rights in Rio de Janeiro, Brazil.

Kerrigan received her PhD in social and behavioral interventions and international health from the Johns Hopkins Bloomberg School of Public Health and her Master of Public Health from the Tulane University School of Public Health and Tropical Medicine.
Longtime Health Policy Expert Named Chair of Health Policy and Management Department

Renowned health policy expert Anne Rossier Markus, PhD, MHS, JD, became chair of the Health Policy and Management Department in summer 2020. Markus served as interim chair of the department, where she is also an associate professor.

For more than 25 years, Markus has conducted research focusing on health policy laws, proposals and initiatives, and how they affect women's and children's health and well-being. She has expertise in women’s preventive and maternal health policy; child health policy; Medicaid/CHIP policy; and health reform and comparative analysis on the domestic and international levels.

“I am extremely pleased that Anne will continue to lead the Department of Health Policy and Management,” said Dean Goldman. “Her expertise has been a gift to the department and our school, and I know she will continue to be an invaluable resource to all of the students, staff and faculty as we work toward advancements in health policy.”

Markus joined Milken Institute SPH in 1996. She previously researched and analyzed state and national health care reform efforts for the Intergovernmental Health Policy Project and the National Business Group on Health. She received a PhD in public policy/health policy from the George Washington University, a Master of Health Science from the Johns Hopkins Bloomberg School of Public Health, and a law degree from the University of Lausanne School of Law in Switzerland.

“I am proud of where we have been as a department,” Markus said. “As chair, I look forward to fostering a culture of excellence and supporting our remarkable faculty, staff and students in advancing more equitable and better organized health care systems informed by stellar management and policy research, analysis, and practice.”

Eugene Migliaccio Elected to National Academy of Public Administration

Given his dedication to public health and public service, Eugene Migliaccio, associate dean of applied public health and professor of global health, was elected to the National Academy of Public Administration in fall 2020. This prestigious honor recognizes an individual’s contributions to public administration and policy.

“This fellowship provides an opportunity to bring my academic and public sector experience together to build a stronger, more efficient government and to enhance leadership in the public administration profession,” said Migliaccio at the time of his election. Migliaccio first came to GW in 1995, serving as an adjunct faculty member for 25 years while working in the federal government in various health care capacities, including the Senior Executive Service, the U.S. Public Health Service and the U.S. Air Force Medical Service Corps.

As associate dean, Migliaccio has focused on overhauling the core practice and interprofessional curriculum, establishing a new urban health initiative and reorganizing the school’s Office of Practice. Migliaccio has also been integral to Milken Institute SPH’s response to the COVID-19 pandemic by mobilizing hundreds of student volunteers to help local health agencies, organizing the new employee health clinic and co-chairing the Health and Wellbeing Operations Committee for GW’s pandemic response.

“In all of this, he has demonstrated how his years of leadership in the federal government, whether in immigrant health or running the federal occupational health program, reflected an immense capacity to lead, manage and collaborate at a very high level,” Dean Goldman said.

“Only at GW can we have a leader in public health practice who brings his experience, mentorship and ability to serve as a role model for our students.”

Migliaccio was among 45 leaders in the field who were elected to the 2020 class of academy fellows, which joined more than 940 academy fellows—including former cabinet officers, members of Congress, governors, mayors and state legislators, as well as prominent scholars, business executives, nonprofit leaders and public administrators.
New Faculty

FY20

**Julia Beckerman, JD, MPH**
Teaching Associate Professor of Health Policy and Management

**Carla Berg, PhD**
Professor of Prevention and Community Health

**Nicole Butera, PhD**
Assistant Research Professor of Biostatistics and Bioinformatics

**Alokananda Ghosh, MD, PhD**
Assistant Research Professor of Biostatistics and Bioinformatics

**Toshimitsu Hamasaki, PhD**
Research Professor of Biostatistics and Bioinformatics

**Gene Migliaccio, DrPH**
Professor of Global Health

**Gholamali Rahnavard, PhD**
Assistant Professor of Biostatistics and Bioinformatics

**Emily Smith, ScD, MPH**
Assistant Professor of Global Health and Exercise and Nutrition Sciences

**Leana Wen, MD**
Visiting Professor of Health Policy and Management

FY21

**Maureen Byrnes, MPA**
Teaching Instructor of Health Policy and Management

**Robert Canales, PhD**
Associate Professor of Environmental and Occupational Health

**Donaldson Conserve, MS, PhD**
Associate Professor of Prevention and Community Health

**Guoqing Diao, PhD, MS**
Professor of Biostatistics and Bioinformatics

**Wendy Ellis, DrPH**
Assistant Professor of Global Health and Prevention and Community Health

**Daniel Goldberg, PhD**
Assistant Research Professor of Environmental and Occupational Health

**Elizabeth Gray, JD, MHA**
Teaching Assistant Professor of Health Policy and Management

**Deanna Kerrigan, PhD, MPH**
Professor and Chair of Prevention and Community Health

**Eric Luo, PhD, MPSA**
Assistant Research Professor of Health Policy and Management

**Nitasha Nagaraj, DrPH**
Teaching Assistant Professor of Prevention and Community Health

**Jonathon Rendina, PhD**
Associate Research Professor of Epidemiology and of Prevention and Community Health

**Adam Richards, MD, MPH**
Associate Professor of Global Health

**Michele Santacatterina, PhD, MSc**
Assistant Research Professor of Biostatistics and Bioinformatics

**Rob van Dam, PhD**
Professor of Exercise and Nutrition Sciences

**Yan Wang, DrPH**
Associate Professor of Prevention and Community Health
The last two years have been a remarkable period of time for teaching and learning. Milken Institute SPH faculty, students and staff navigated unprecedented academic, professional and personal challenges and pivoted to remote education with resilience. We continued to deliver a high-quality academic experience and our students demonstrated incredible dedication to their coursework and implemented new and innovative teaching techniques that transformed residential programs into a remote model that succeeded in fostering both community and academic success. Academic affairs staff supported our faculty with teaching workshops, online technology training and expanded technology resources. Our student support services, career services programming and advising staff also migrated to remote platforms and found new and exciting ways to connect with and support our students.

Amid these changes, our overall student population and number of degree programs grew substantively. Our MPH@GW program more than doubled in enrollment, and our residential MPH and MHA programs also experienced meaningful growth. Programmatically, we launched three new PhD programs—Health and Biomedical Data Sciences, which trains the next generation of data science leaders for applications in public health and medicine. The program advances future leaders in health and biomedical data science by providing rigorous training in the fundamentals of health and biomedical data science; fostering innovative thinking for the design, implementation, analysis and reporting of public health research studies; and providing practical training through real-world research opportunities at research centers and institutes.

Global Public Health Sciences, which will educate the next generation of research leaders in diverse areas of global public health disciplines including global infectious and chronic diseases, health systems and population health sciences.

Exercise Physiology and Applied Nutrition, which was created as an actionable program with a fundamental and deep core appreciation that both nutrition and physical activity together are powerful in fighting many of the most significant public health problems of our time. The program strives to uniquely integrate both disciplines given their unique but often synergistic impacts on health.

Finally, we graduated outstanding undergraduate and graduate classes in 2020 and 2021, and our incredible network of alumni are working across the country and globally in public and private sector organizations supporting health, health care delivery and public health as health and health care continue to undergo critical and transformational change.

We are excited about new opportunities to innovate in and out of the classroom and to educate future public health and health care administration leaders as the fields themselves continue to expand and grow.
The historic COVID-19 pandemic brought many challenges to the operations of the Milken Institute SPH Office for Research Excellence (ORE).

But under the leadership of Senior Associate Dean Adnan Hyder, ORE managed to provide pivotal information and resources for faculty, staff and students, including:

• COVID-19-related resources, such as instructional and reopening guidelines for all Milken Institute SPH investigators, as well as general resources and guidance for the greater GW community.

• The first fully remote Milken Institute SPH Research Showcase in spring 2021 that featured nearly 80 student abstracts and Sir George Alleyne, director emeritus of the Pan American Health Organization, as the keynote speaker.

• Curated training sessions, including sessions on how to prepare a R01 grant and issues revolving around confidentiality of data.

Between April 2020 and February 2021, ORE also managed more than 64 COVID-19-related research proposals, and Milken Institute SPH was granted more than $4.7 million in federal funding for COVID-19 studies.

In spite of the COVID-19 pandemic, Milken Institute SPH saw a 2% increase in research expenditures for 2020-21 and a 10% increase in indirect costs.
Dean Spotlight

Throughout the last two years, Senior Associate Dean for Research and Global Health Professor Adnan Hyder, MD, PhD and MPH, has provided leadership in several key areas related to national and global public health initiatives.

In 2020, he lent his experience to the World Health Summit, where he virtually chaired a session on “National Responses to COVID-19” and has been requested to chair the session again in 2021. More recently, Hyder, along with Milken Institute SPH Senior Research Regulatory Specialist Paul Ndebele, PhD, co-authored the leading editorial in a Bulletin of the World Health Organization, in which they explored the global effects of inequitable COVID-19 vaccine distribution.

Hyder wrote extensively about issues surrounding diversity, equity and inclusion related to the pandemic. In an op-ed for BMJ, a peer-reviewed medical trade journal published by the British Medical Association, for example, he openly questioned the number of deaths among people from ethnic minorities that it would take before political leaders acknowledged the racial inequities in the U.S. health care system. “Through silence and inaction, we are propagating the second class citizenship of communities of Black and Indigenous People of Color (BIPOC) that has existed since the birth of our country,” Hyder co-wrote, along with Milken Institute Executive Associate Dean for Operations and Chief Operating Officer Natasha Kazeem. The two further called on the American people “to recognise the devastation in the African American community, to show what they stand for, and to hold community and political leaders to account. Cohesive leadership on all sides—political, social, technical—matters, especially during a pandemic.”

Over the last two years, Hyder was also recognized for his contributions to the public health field via distinguished appointments to the 10th World Conference on Health Promotion’s Consultative Advisory Group and the World Health Organization’s Non-communicable Diseases Research Advisory Board.
Webinar Series Highlights Research Ethics and Integrity

As part of ORE’s commitment to promote integrity and ethics in research, the office, along with the school’s Bioethics Interest Group (BIG), hosted 24 webinars since April 2020 as part of a series on “Ethics and COVID-19.”

The initiative has hosted more than 50 speakers and has already reached a global audience of more than 2,000 people. Each webinar is hosted by either Adnan Hyder or Paul Ndebele, PhD, senior research regulatory specialist at Milken Institute SPH, and feature ethics experts from GW, the United States and abroad to discuss key ethical dilemmas and principles precipitated by the pandemic. The series has not only been successful among GW faculty, staff and students, but they have also garnered a worldwide audience among researchers and health professionals.

Milken Institute SPH students have also earned more than 300 professional enhancement hours via the webinars, which are recorded for later access.

Pandemic-related restrictions did not prevent students from continuing to submit a steady stream of project proposals to ORE’s ethics project portal, which monitors and oversees student projects to ensure they are adhering to federal regulations and ethical guidelines. Since January 2020, ORE has received close to 1,200 project proposals.

The initiative has hosted more than 50 speakers and has already reached a global audience of more than 2,000 people.
CENTERS & INSTITUTES
New Center Takes Multifaceted Approach to Addressing Maternal, Child Health

Milken Institute SPH is launching a first-of-its-kind center focused on maternal and child health in the nation’s capital. The GW Center of Excellence in Maternal and Child Health Education, Science, Practice and Policy is funded by a five-year, $1.75 million grant from the Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration.

The center will provide educational, training and research opportunities for faculty and students, as well as agencies, organizations and communities in Washington, DC. The center is led by Amita N. Vyas, director of the Maternal and Child Health Program at Milken Institute SPH.

“The health of women, infants, children and adolescents is a significant indicator of the well-being and economic prosperity of nations, and yet across the United States, families and communities are facing adverse maternal and child health outcomes,” Vyas said.

Despite the significant gains over the past decades, much work remains, especially for those who are socially or economically marginalized, she added. “Our Center of Excellence will provide us with unique opportunities to address these needs by supporting a highly trained, interdisciplinary workforce of diverse practitioners, policy experts and scientists.”

The GW Maternal and Child Health Center aims to strengthen the curriculum offered to students of the Master of Public Health in Maternal and Child Health program at Milken Institute SPH and increase research opportunities related to maternal and child health by establishing partnerships with community organizations and health agencies.

The center will leverage its location in Washington, DC, to provide students with training opportunities in policy at the local and federal levels. It will also partner with other MCHB-funded Centers of Excellence across the country on projects related to policy and practice.

Over the past two decades, the Maternal and Child Health Program at Milken Institute SPH has graduated more than 450 emerging public health leaders and has evolved into a premier destination for research and education related to the health and well-being of women and children worldwide.

“The COVID-19 pandemic has truly brought to light the unique vulnerabilities women face, especially women of color,” Vyas said. “In becoming a Center of Excellence, we will transform our program and distinguish our school as a leader in preparing the next generation of leaders in this field to address gender, racial and economic disparities.”
Institute Tackles Climate Change and Its Impact on Health

With global temperatures expected to rise by 1.5°C between 2030 and 2052, according to the Intergovernmental Panel on Climate Change, there is a complex interplay among climate, social and environmental conditions and human health emerging.

Changing temperatures, for example, alter the geographic distribution of mosquitoes, ticks and other pathogen-carrying vectors that can lead to outbreaks of Lyme, Dengue Fever, West Nile and other diseases. Extreme or prolonged heat waves are increasing the severity and frequency of wildfires—the smoke from which can harm human health—as well as deaths from heat stroke, cardiovascular disease and other heat-related illnesses. Warmer global temperatures also impact food and water systems, increasing the potential for food and water insecurity and food- and water-related disease outbreaks, especially among vulnerable populations.

Given climate change’s profound impact on human health, Milken Institute SPH launched the Climate and Health Institute (CHI) to advance an evidence-based global response to help mitigate the climate crisis and equitably improve public health through research, education and communication.

The institute’s research is focused across a wide range of disciplines, including air pollution and asthma, sustainability, extreme weather and ecosystem change, occupational health, social movements and climate change, climate litigation, infectious diseases and more.

Co-directed by Susan Anenberg, associate professor of environmental and occupational health and global health; Sabrina McCormick, associate professor of environmental and occupational health; Melissa Perry, professor and chair of environmental and occupational health; and Neelu Tummala, clinical assistant professor of surgery at GW’s School of Medicine and Health Sciences, CHI is made up of a cross-disciplinary team of researchers and scientists, all of whom are dedicated to furthering solutions and opportunities to ameliorate the harm of climate change on human health.
Climate Media Lab to Increase Communication Effort Around Climate Change

Given the profound impact that media can have on human behavior and decision-making, Milken Institute SPH researchers recently launched the Climate Media Lab, an initiative to increase strategic communication strategies that motivate action on climate change.

Led by Sabrina McCormick, PhD, MA, associate professor of environmental and occupational health, the Climate Media Lab will build a platform to evaluate how stories related to climate change motivate audiences to act and identify narrative approaches that best convey these complex issues. The project focuses on four areas of study: justice, cleaning up air pollution, film impact and communicating effectively about climate change.

“The climate crisis is the biggest public health crisis we will face in the 21st century,” McCormick said. “We need to have a greater understanding of how we can motivate society to act in order to protect public health.”

Media plays an influential role in attitude formation, risk perception, social-psychological conditions, and determinants of behavior, McCormick further explained, and improving the understanding of how media affects behavior change is critical to effectively addressing climate change. The researchers aim to create an instrument that helps filmmakers and other storytellers bolster future climate communication efforts.

Climate Media Lab is McCormick’s latest work in fusing together her expertise in public health, law and filmmaking to create social change that addresses the climate crisis. The project is funded through a two-year grant by the Robert Wood Johnson Foundation. To learn more about the Climate Media Lab, visit cml.publichealth.gwu.edu.
New Institute Dedicated to Studying Dementia and Advancing Brain Health

Researchers from across GW are collaborating as part of a new institute, launched in December 2019, to improve health and quality of life for adults with or at risk of cognitive impairment and their caregivers. The Institute for Brain Health and Dementia is led by Melinda Power, ScD, associate professor of epidemiology, whose research focuses on identifying and understanding modifiable risk factors for cognitive decline, dementia, and dementia-related brain changes in older adults.

The institute’s leadership also includes faculty members housed in various departments across the Schools of Public Health, Medicine and Health Sciences, and Nursing. Members’ diverse expertise includes biostatistics, epidemiology, qualitative methods, econometrics and health policy, and clinical medicine. Current projects span a range of issues related to brain health and dementia, including policy, prevention, clinical needs and social determinants of health.

A recent project involved a Brain Health Needs Assessment in DC. The project was funded through a DC Health grant and not only estimated the prevalence of dementia, as well as the prevalence of risk factors for cognitive decline, but it also developed a guide for DC residents to identify services and resources for individuals living with dementia and their caregivers. The full report and guide can be found at go.gwu.edu/brainhealthinstitute.

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New Community-Oriented Training Program Focuses on Improving Public Health in DC

Milken Institute SPH revamped its community-oriented service program to focus on mitigating the DC Metro’s public health challenges and to promote a long-lasting impact in the shared community. Formerly known as the Interdisciplinary Student Community-Oriented Prevention Enhancement Service (ISCOPES), the newly named Urban Health Project (UHP) is creating powerful learning experiences for culturally mindful public health students through partnerships with community-based organizations in the DC Metro area.

A recent project conducted in partnership with St. Mary’s Court, a nonprofit living facility for individuals over the age of 62 or those with accessibility needs, focused on senior wellness. The UHP team consisted of 10 public health graduate and undergraduate students who worked to improve self-management and health awareness among seniors living at the facility. Students created a sense of community in which to share information and strengthen relationships through activities such as chair yoga, Health Jeopardy and a Zumba dance party. The project not only helped the residents and staff of St. Mary’s Court but also the Milken Institute SPH students who developed greater understanding of themselves and the senior community.
Research Centers and Institutes (FY20 and FY21)

Antibiotic Resistance Action Center
Avance Center for the Advancement of Immigrant/Refugee Health
Biostatistics Center
Center for Community Resilience
Center for Health and Health Care in Schools
Center for Health Policy Research
Center for Risk Science and Public Health
Center for Social Well-Being and Development
Center on Commercial Determinants of Health
Climate and Health Institute
Computational Biology Institute
DC Center for AIDS Research
Fitzhugh Mullan Institute for Health Workforce Equity
Food and Health Policy Institute
Geiger Gibson Program in Community Health
GW Center of Excellence in Maternal & Child Health
GW Institute for Brain Health and Dementia
GW mHealth Collaborative
Jacobs Institute of Women’s Health
Metropolitan Washington Tobacco Research and Instruction Consortium (MeTRIC)
STOP (Strategies to Overcome and Prevent) Obesity Alliance
Sumner M. Redstone Global Center for Prevention and Wellness

Other Research Resources
Biostatistics and Epidemiology Consulting Services
BSL-3 Biocontainment Facility
District of Columbia Clinical Trials Unit (DC CTU)
GW Genomics Core
GW Metabolic and Exercise Testing (MET) Laboratory
Letter from the Chair

SCOTT EVANS, PHD

It’s hard to believe that the Department of Biostatistics and Bioinformatics (DBB) was founded only two years ago in July 2019. In that short time, DBB has grown tremendously: We’ve established a departmental infrastructure, expanded our faculty, curricula and academic programing, and provided research-based leadership on important public health studies.

As part of our expansion, the department is now home to the Computational Biology Institute (CBI), an interdisciplinary research center that bridges biology, medicine and computing to help answer some of life’s most challenging questions. We’re also home to the Biostatistics and Epidemiology Consulting Service (BECS), which provides biostatistical and epidemiologic support to improve the quality of health-related research conducted at GW and affiliated research groups. DBB also maintains a close relationship with Milken Institute SPH’s Biostatistics Center, which launched three major COVID-19 projects last year, all aimed at better understanding the deadly disease.

For their work on COVID, DBB faculty received notable research funding, including a National Science Foundation grant and a CDC award. We were proud to contribute our expertise during a time of such global need to help stop the spread of the virus, which has directly affected hundreds of millions of lives around the world.

Outside of COVID, DBB faculty continued their commitment to public health research, including ground-breaking work to advance the health of individuals living with diabetes and further study of superbugs, thanks to an $18.6 million award received by the Biostatistics Center.

The department also expanded and modernized its curricula, adding 20 new courses and two new academic programs—the PhD and MS degrees in Health and Biomedical Data Science—and we are excited to welcome the inaugural class of nine doctoral students this fall.

When I became chair, I had lots of ideas and hopes on how we could expand and become more integrated into the GW ecosystem. I couldn’t be more pleased with our progress, and I look forward to our continued success and growth in the year ahead.
Amid the global COVID-19 pandemic, DBB faculty and researchers spearheaded several major projects to help better understand the disease and to identify prevention strategies and treatments.

Early on, in May 2020, DBB researchers developed a deep learning bioinformatics platform to help scientists understand the genomic diversity of the novel coronavirus that causes COVID-19. The one-year project was supported by a $200,000 Rapid Response Research (RAPID) COVID-19 grant from the National Science Foundation.

Led by Assistant Professor Gholamali (Ali) Rahnavard, PhD, researchers developed a platform to integrate clinical and omic data—such as transcriptomic data, metabolomic data and proteomic data, among others—to allow analysis of the virus. This data integration helped to link unique characteristics of different viral genomes to different health outcomes and included data about the viral genetics, therapeutic strategies and patient data, among other relevant information. The developed platform and its data integration allowed health care professionals and researchers to examine genome diversity of the virus to understand why it behaves differently from patient to patient.

Another study, funded by the State of North Carolina, involved a large serosurveillance and syndromic study looking for symptoms and evidence of infection as well as potentially protective antibodies in patients in five health care systems throughout the state.

Assistant Research Professor Diane Uschner, PhD, also received a CDC award to expand the study to other states, including Maryland, Louisiana and Mississippi. The Biostatistics Center (BSC) served as the data coordinating center for both projects, which combined and evaluated electronic health records and serologic and syndromic testing data for up to 500,000 participants.

Meanwhile, a fourth project, funded by the National Institutes of Health, explored how COVID-19 affects pregnancy outcomes.

Researchers at 12 U.S. clinical centers, which are part of the Maternal-Fetal Medicine Units (MFMU) Network, tracked approximately 1,000 to 2,000 pregnant women with COVID-19 infection and continuously monitored them for six weeks after they gave birth. Researchers also analyzed the medical records of 24,000 women to evaluate whether changes to health care delivery and resource reallocation, as a result of the pandemic, led to higher rates of pregnancy complications and cesarean deliveries.

The BSC again served as the data coordinating center for the project and assisted with study design, conducting all the statistical analyses as well as collecting data from the 12 clinical centers. Support for the project came from the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

Results from all these projects not only helped to guide the public health response to the pandemic, but they also helped to save lives through better surveillance, diagnosis, prevention and treatment, DBB Chair Scott Evans said.
Biostatistics Center Combats Superbugs

More than 35,000 people in the United States die each year from antibiotic-resistant infections, according to the U.S. Centers for Disease Control and Prevention. DBB faculty and researchers at the Biostatistics Center (BSC) are working to put an end to these preventable deaths, thanks to an $18.6 million award for studies of superbug infections.

As the statistical and data management center for the Antibacterial Resistance Leadership Group (ARLG), the BSC will help manage the ARLG's work to develop countermeasures against antibiotic-resistant bacteria, including innovative techniques such as vaccines and phages as well as alterations to a person's microbiome to fight infection. With the continued funding, which will extend ARLG's efforts for the next seven years, researchers will improve diagnostic tests for identifying antibiotic-resistant bacteria and conduct research to optimize the use of existing antibiotics.

Fast Fact: The CDC estimates the annual national cost to treat infections caused by six multidrug-resistant germs frequently found in health care settings at more than $4.6 billion.

Research and Award Highlights

• DBB Vice Chair, Professor and BECS Associate Director Yan Ma received a National Institutes of Health R01 grant for his work on missing data methodologies in surgical disparities research.

• Research Professor Elizabeth Thom, PhD, received the 2020 GW Distinguished Researcher of the Year Award.

• Professor Heather Hoffmann, PhD, received the Milken Institute SPH Excellence in Teaching Award.

• DBB Chair and Professor Scott Evans, PhD, received the Founders Award from the American Statistical Association.

• DBB faculty identified practice-defining results from the Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) study led by Associate Research Professor Kimberly Drews, PhD, as well as the Glycemia Reduction Approaches in Diabetes: A Comparative Effectiveness Study (GRADE) clinical trial led by Research Professor John Lachin, ScD.
At the start of this academic year, I became the interim chair of the Department of Environmental and Occupational Health (EOH) as Melissa Perry began her Fulbright Fellowship in Albania (after a year delay due to the pandemic). We wish Dr. Perry and her family well in their time in Albania and look forward to her return in July 2022 to the department.

As interim chair, I want to commend our EOH faculty and staff for their continued support of our students and for the important work they are doing in the field of public health. I also want to recognize the efforts of our remarkable students excelling in their studies during the pandemic.

The pandemic was a challenge quickly accepted by the faculty, staff and students of EOH. We pivoted to online teaching, and these courses were well received and evaluations were strong. Our faculty served on President Biden’s COVID-19 Advisory Board, advised the city of Washington, DC, and played important roles in the GW response to the pandemic. A key focus for EOH faculty during the pandemic was implementing and advocating for measures to reduce the risk of COVID transmission in the workplace.

We in EOH are especially proud of Dr. Cindy Liu, associate professor of EOH and co-director of the Antibiotic Resistance Action Center, who worked with her research team to build a SARS-CoV-2 testing laboratory that was then scaled up to allow the testing program that facilitated our return to campus. She was recognized in October 2021 with the GW President’s Medal for her remarkable work.

The department also responded to other challenges during the pandemic. We established the EOH Diversity and Inclusion Subcommittee in June 2020 to address the systematic racism, environmental justice, and the mental health implications from the impact of COVID. Throughout the year we hosted an Environmental Justice Research Seminar Series to share important work with our faculty, students, staff and community.

Through it all, our faculty continued their important research in areas ranging from the public health effects of climate change and air pollution to the potential for disproportional effects of chemical exposures on disadvantaged populations to the risks of antibiotic resistance.
EOH Researchers And NASA Examine the Potential Impact of COVID Shutdowns on Air Quality

After much of the world shut down in 2020 due to the COVID-19 pandemic, scientists began wondering about the possible effects on air pollution, especially given a sharp decrease in vehicle emissions. Thanks to a grant from the National Aeronautics and Space Administration (NASA), Milken Institute SPH researchers were able to study data measured by NASA and European Space Agency satellite instruments to estimate the amount of air pollution after shutdown orders led to large reductions in traffic.

The social distancing measures during the COVID-19 pandemic offer a natural experiment of sorts, one that will help researchers figure out what kinds of policies make a difference when it comes to cleaner air, said Associate Professor Susan Anenberg, PhD, who was a co-principal investigator on the study, along with Daniel Goldberg, PhD, a research scientist at Milken Institute SPH.

For example, researchers hypothesized that they might find that the mix of vehicles on the roads is a key factor in air pollution. The lessons learned could spur policymakers to limit diesel-powered vehicles or require tough emission standards for trucks and other heavy-duty vehicles that emit lots of damaging pollution.

“For years to come, satellite data of air pollutants will likely be used to assess the impact of the pandemic on a range of human activities, including ones associated with the economy and climate gas emissions, around the globe,” said Bryan Duncan, PhD, a collaborator on this study and the Aura Mission project scientist at NASA.

Such information will be critically important not just during the ongoing COVID pandemic but over the long haul, the researchers say.

“Air pollution may contribute to higher fatality rates for COVID-19,” Anenberg said, adding that it can also trigger millions of serious asthma attacks and other potentially life-threatening health problems. “In the short run, this information is critically important as it will help public health officials warn people about exposure to unhealthy air, especially during a surge in COVID-19 cases.”

The study will also help policymakers find and put in place longer-term solutions for cleaner air once cities open up their economies.

“This research might point to greener forms of transportation or public policies that would lead to cleaner air, not just during the pandemic but for years to come,” Anenberg said.
Research Shows Link Between Pollution and Global Disease Burden

Millions of people living in cities from Shanghai to London are inhaling pollutants that can cause potentially deadly health problems, according to Associate Professor Susan C. Anenberg, PhD, who led a 2019 study that provided the first estimates of the burden of disease attributable to particulate pollution in hundreds of major cities worldwide. “The findings from this study suggest that policymakers can help not only clean the air, but keep people healthy and reduce greenhouse gases, by supporting initiatives that transition society away from fossil fuel use.”

Anenberg and her team used estimates of fine particulate matter, or PM2.5, from NASA satellite data and other methods, along with epidemiology studies linking PM2.5 to mortality, to calculate how many premature deaths in 250 global cities could be attributed to inhaling these pollutants. Previous studies have shown that particulate pollution, which is released when fossil fuels are burned, is linked to lung cancer, heart disease and other potentially life-threatening diseases.

The researchers found:

- Only 21 of the 250 cities worldwide (all in Sweden, the United States, Canada, Australia or Brazil) had PM2.5 levels at the target levels set by the World Health Organization (WHO).
- At the same time, 104 of the 250 cities, or 42%, exceeded the WHO guidelines, a finding that suggests residents of these cities are routinely inhaling high levels of these risky pollutants.
- City-level PM2.5 attributable death rates ranged from 13 to 125 deaths per 100,000 people.
- The top 10 worst cities for PM2.5 attributable death rates were in Asia and Europe.
- North American cities typically had low PM2.5 levels but still had air sullied by carbon dioxide, a greenhouse gas that contributes to climate change.
- Air pollution remains a top risk factor for most countries globally and all cities, even those that have successfully reduced PM2.5.

“This study suggests that cities that start to tackle global warming more aggressively will get an added public health benefit,” Anenberg said, noting that policies to mitigate global warming would also help reduce particulate pollution and carbon dioxide. “Improving access to clean public transportation and recreational trails are important steps that cities can take to clean the air, improve physical activity, reduce greenhouse gases, and enhance community environments, all at the same time.”
Early in the pandemic, when hospitals were still under siege with COVID patients, Milken Institute SPH researchers launched a survey of health care workers on the front lines of the U.S. The survey gathered information about COVID-19 exposures and infections in this group of critical U.S. workers and aimed to pinpoint policies and practices that could lead to exposure and infection, as well as to identify best practices to help protect the nation’s health care workers.

“U.S. health care workers are risking their lives every day caring for patients with COVID-19,” former Assistant Secretary for Labor at the U.S. Occupational Safety and Health Administration (OSHA) under the Obama Administration and Professor David Michaels, PhD, MPH, who is the lead investigator, said at the time the project launched. “With this survey, we hope to shine a spotlight on how these workers are exposed and identify ways to improve workplace infection control and keep these essential workers safe.”

The online survey asked a series of questions to workers in hospitals, nursing homes, clinics and other health care settings who had been exposed or infected with the virus. Relatives were also able to complete the survey for health care workers who had died. Data collected was released in a preliminary report made available to researchers.

As the country began to regain its footing last fall after the initial pandemic-related lockdowns, Professor David Michaels, PhD, MPH, made a plea to the federal government to require all employers implement COVID-19 prevention plans to help protect individuals returning to work.

“As our economy re-opens, not only essential workers but all workers need to be protected from the SARS-CoV-2 virus,” Michaels wrote in a commentary published in the Journal of the American Medical Association (JAMA) in September 2020. “If employers fail to take necessary precautions, more workers will be infected. They will inevitably bring the virus back to their families and communities leading to higher death tolls and setbacks in attempts to rebuild the economy.”

Michaels, the former assistant secretary for labor at the U.S. Occupational Safety and Health Administration (OSHA) under the Obama Administration, wrote the opinion piece along with Gregory R. Wagner, MD, an adjunct professor of environmental health at the Harvard T.H. Chan School of Public Health.

The authors recommended that OSHA issue an Emergency Temporary Standard that would require every employer to develop and implement an infection control plan. In addition, they advised the administration to ramp up production of personal protective equipment (PPE) to ensure that all workers have access to masks and other safety gear.

“The unprecedented nature of the COVID-19 pandemic requires strong and immediate action, including by government agencies, unions, employers and workers,” the authors wrote. “The White House should create a comprehensive roadmap that focuses on worker protection. Failure to exert leadership and develop effective policy in this area, including involving and engaging all affected groups and constituencies in stopping workplace spread of the virus has had and will likely continue to have serious repercussions, not just for workers, but for the health and economy of the nation.”
Melissa Perry Named Chair of Prestigious National Review Committee

EOH Chair and Professor Melissa Perry, ScD, MHS, was named chair of the Health Effects Institute (HEI) Review Committee in August 2020.

HEI is an independent research organization that provides high-quality, impartial and relevant science on the health effects of air pollution. HEI has funded over 330 research projects worldwide, which have been published in more than 260 reports. The organization receives balanced funding from the U.S. Environmental Protection Agency and motor vehicle industry.

In her role as chair, Perry leads a group of reviewers who represent medicine, epidemiology, biostatistics, environmental engineering, exposure sciences and environmental health. The review committee will work with HEI staff to evaluate research projects, which are generally conducted by investigators at academic and research institutes around the world. The review committee examines the strengths and weaknesses of research projects, and its evaluations are published alongside the reports.

“The HEI Review Committee serves the critical role of making sure the rigorous science that HEI supports is thoroughly evaluated and has long term, global public health impact,” Perry said. “It is a rich honor to serve this distinguished research organization and to serve as committee chair among such accomplished researchers and public health leaders.”

Milken Institute SPH Researchers Advise Amtrak on COVID-19 Response

To help keep passenger trains moving throughout the U.S. during the ongoing pandemic, Milken Institute SPH researchers are working with Amtrak to provide technical expertise and guidance to enhance the company’s comprehensive pandemic response.

The research supplements Amtrak’s continued safety efforts, which include enhanced cleaning protocols, contactless amenities, social distancing on board and in stations, required face coverings, and air filtration.

“Amtrak’s commitment to maintain a workplace that promotes rigorous health and safety measures is impressive,” said Melissa J. Perry, ScD, MHS, professor and chair. “We look forward to sharing knowledge and data to help Amtrak navigate this ever-changing environment as a result of the widespread coronavirus.”

As part of the ongoing partnership, the Milken Institute SPH team is advising Amtrak on:

• Reviewing safe work practices, return-to-work plans, and guidance for employees, managers and facility operators.
• Monitoring the epidemic using regional and national data sources to anticipate and respond to geographic transmission trends.
• Implementing workplace and operational practices that exceed the latest public health guidelines for COVID-19 prevention.
• Reviewing and recommending disinfection, sanitization and decontamination practices in trains, stations and facilities.
• Providing timely and evidence-based advice to promote a safe work culture for employees and travel experience for customers.

“To continue providing service across 46 states, we need to be aware of the impact of the coronavirus as well as best practices, regional disparities, and evolving guidance from health officials,” said Steve Predmore, Amtrak’s executive vice president and chief safety officer. “The GW Milken Institute SPH team will be a key addition to Amtrak’s Public Health and Safety Advisory Committee.”

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Zota hopes that the blog series will help give a diverse set of new public health scientists the confidence and training to write about solutions for some of the world’s most pressing public health problems.

Milken Institute SPH teamed up with Environmental Health News (EHN) on a new blog series that is aiming to showcase the ideas and perspectives of the next generation of environmental leaders who come from historically underrepresented backgrounds in science and academia.

“Agents of Change: Amplifying Neglected Voices in Environmental Health” is the brainchild of Assistant Professor Ami Zota, ScD, MS, whose work includes studies suggesting fast food, household dust and beauty products expose consumers to potentially harmful chemicals.

With funding from the Marisla Foundation, Zota and Brian Bienkowski, senior editor at EHN, worked with public health graduate students or young scientists from all over the country, teaching them how to craft compelling blog posts that explore the intersection of research, health, sustainability, diversity and environmental justice.

“This series will help the public realize that the face of science is changing and that the quest for innovative ideas and solutions will only benefit from increased diversity,” Zota said in a blog she wrote to introduce the series.

One of the Milken Institute SPH students featured included Ans Irfan, MD, MPH, a DrPH student and a Health Policy Research Scholar with the Robert Wood Johnson Foundation, who wrote a post titled “New Country, same oppression: It’s time to bolster farmworkers’ rights.” Irfan was inspired to write the piece because he grew up in rural Pakistan as part of a multigenerational family of farmers.

“Economic instability and anxiety resulting from water scarcity and low crop yields because of a changing climate was a reality that my family and many in my community lived through,” he said. “Moving to the U.S., I realized the injustices faced by farmworkers in the small farming village where I was raised are not unique. Rather, even in the world’s largest economy, the people who grow the nation’s food are neglected and left without social, health, and labor protections.”

Zota hopes that the blog series will help give a diverse set of new public health scientists the confidence and training to write about solutions for some of the world’s most pressing public health problems.

“Business as usual will not solve climate injustice or the pervasive plastic pollution in our oceans,” she writes in the post launching the series. “We need to empower the next generation of environmental health and justice leaders to speak up, share their bold ideas, and to act quickly and decisively so we can develop effective solutions to protect our ecosystems and humanity.”

You can check out the blog series at agentsofchangeineh.com.
While GW leaders were exploring how to safely bring a limited number of students, faculty and staff back to campus for the fall 2020 semester, a Milken Institute SPH research team started making plans. What began as a research study aimed at protecting health care workers from COVID-19 transformed, in a matter of weeks, into a large-scale testing protocol for GW’s on-campus community.

Cindy Liu, MD, PhD, MPH, an associate professor of environmental and occupational health and chief medical officer of the Antibiotic Resistance Action Center (ARAC), led the public health laboratory processing thousands of COVID-19 tests a week during the early days of the pandemic.

“It took really a superhuman effort from everyone to make this happen,” Liu said. “It went from nothing to a working lab over a seven-week period. That’s extremely hard to do even without a pandemic.”

A Quick Pivot
When hospitals in the United States became overwhelmed by COVID-19 patients and overtaxed supply chains jeopardized access to personal protective equipment, such as N95 masks, Milken Institute SPH researchers, in collaboration with the GW Hospital and the GW School of Medicine and Health Sciences, launched a study to surveillance test GW health care workers to see if they have been infected or have developed antibodies to the deadly virus. Much of ARAC’s research team redirected their efforts to focus on this project.

“We launched our lab first as an IRB-approved research study, and then as we started talking about reopening campus for the fall, our efforts went completely into setting up COVID-19 testing response for the university,” Liu said.

These efforts included developing a COVID-19 diagnostic test—an adaptation of an existing coronavirus test approved by the Centers for Disease Control and Prevention—to support the university’s goal of providing rapid and accurate results. The U.S. Food and Drug Administration granted GW an Emergency Use Authorization to begin using this test to identify COVID-19 cases in early August 2020.

Efforts also included working around the clock to obtain basic supplies to run a lab—including PPE, pipette tips and all equipment necessary to quickly and efficiently process tests. Acquiring necessary supplies posed a significant challenge early on, said Liu, who credits the research team for their “incredible effort and skill” in rising to the challenge.

Continued Growth
The testing clinics and the test processing lab were all designed with scalability in mind. Increased use of automation enables the processing lab to increase capacity while ensuring accurate and rapid results, said Research Associate Jack Villani.

“We did a lot of thinking and kind of mapping out on the backend of what is theoretically possible in order to increase the number of samples we could process in a single day,” he said. “The thing that contributed the most was increased equipment, especially with robots.”

The lab has increasingly relied on automation to quickly process and extract samples, which reduces human error and frees up staff researchers to focus on different tasks. The team is also looking toward the future, exploring research on the next generation of coronavirus tests to more easily detect non-symptomatic cases and at-home options that would reduce barriers to getting tested.

Liu said it’s been fulfilling to see the lab grow into a robust public health service for the GW community. “I feel very gratified to have been able to help,” she said. “I have a lot of appreciation and respect for people who have to go to work everyday, and I try to do my part in helping them feel safe in going home to their families.”
Letter from the Chair

MANYA MAGNUS, PHD, MPH, INTERIM CHAIR

Educating the next generation of epidemiologists is always a profound honor, perhaps never more so than during the past two years. The epidemiologic toolkit that provides the basis for training within the Department of Epidemiology (DEPI) has been critically important during the COVID-19 pandemic. Our outstanding MPH, MS and PhD students supported public health efforts throughout the DC metropolitan region under the guidance of department faculty. They conducted contact tracing, augmented surveillance efforts at numerous departments of health, analyzed data surrounding correlates of morbidity and mortality due to SARS-CoV-2, and supported implementation of numerous COVID-19 vaccine trials.

Meanwhile, department faculty coordinated COVID-19 surveillance, treatment and vaccine initiatives, including clinical trials, while also leading GW’s institutional response to the pandemic, both inside and outside of laboratories. These initiatives included testing, policy and sequencing activities. Despite enormous challenges, our faculty rapidly pivoted to face the pandemic, and they did this while maintaining rigorous educational offerings and substantial research portfolios in the areas of Alzheimer’s disease, autism, cancer, HIV, and opioid and other substance abuses. Faculty also continued to forge new community partnerships that are instrumental to the department’s research and academic work.

While the department looks forward to a future where we can better control COVID-19 and other threats to public health, we pride ourselves in being able to leverage a challenging situation in order to better train future epidemiologists. Our graduates will be able to make a difference by using epidemiologic methods to prevent and address current and future epidemics both locally and around the world.
The District of Columbia Center for AIDS Research (DC CFAR), based at Milken Institute SPH, was one of 23 institutions around the U.S. that received funding in fall 2019 from the National Institutes of Health (NIH) to conduct research aimed at ending the HIV epidemic.

With support from the new award, DC CFAR will build upon relationships with health authorities in the District, community-based groups and federal agencies to identify and evaluate strategies to identify new cases of HIV, help connect people living with HIV or at risk of HIV with health care and prevention services and ensure they continue to receive care to treat or prevent HIV.

Four research proposals from DC CFAR were awarded funding, including proposals to:

- Expand access to pre-exposure prophylaxis (PrEP), a daily medication that allows at-risk HIV-negative individuals to protect themselves from infection, in high-risk communities across the District.
- Engage the DC community to help improve surveillance-driven prevention and care initiatives.
- Increase rapid initiation of antiretroviral therapy (ART) among newly diagnosed individuals in the District to improve care and reduce HIV transmission.
- Collaborate with community groups, public health agencies and academic institutions in Puerto Rico to strengthen the island’s prevention response to the HIV epidemic.

The initiative is coordinated by a DC CFAR working group, led by Epidemiology Professor Amanda Castel, MD, MPH; Michael Kharfen, senior deputy director of the HIV/AIDS, Hepatitis, STD and TB Administration at the District of Columbia Department of Health; and Marcia Ellis, chair of the DC CFAR Community Advisory Board.

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Epidemiology Researchers Receive Five-Year Grant to End HIV in DC

With 12,300 people currently living with HIV in Washington, DC, the District is considered one of 57 “hotspots” that collectively contribute 50% of new HIV diagnoses in the United States.

The DC Cohort, a longitudinal study of more than 10,000 consenting participants receiving HIV care at 15 outpatient clinics in the District, is hoping to change that and, thanks to a $25 million grant from the National Institute of Allergy and Infectious Diseases (NIAID) at the National Institutes of Health (NIH), has been able to enhance and expand its work.

The grant is helping to build up the DC Cohort’s de-identified clinical database to incorporate new data sources that will better inform the scope of the epidemic, including pharmacy, administrative and patient-reported outcomes data.

The DC Cohort works with academic and community-based clinics and the DC Department of Health (DC Health) to track health outcomes among people living with HIV in the District. The goal of the project, which began in 2011, is to improve care and treatment for a highly diverse population of persons living with HIV in Washington, DC, and beyond.

The project also provides clinics with timely access to data that can be used to help improve clinical care and contribute to research on prevention and treatment of people living with HIV/AIDS.

Epidemiology Professor Amanda Castel, MD, MPH, leads the DC Cohort and is hopeful that this more comprehensive approach will increase the capacity of the project to better monitor HIV outcomes and implement interventions to improve quality of care.

“As we work to end the HIV epidemic, the ability to characterize people who are diagnosed with HIV, effectively direct treatment efforts, and use novel tools to improve the quality of care for people living with HIV while simultaneously averting further transmissions are of critical importance,” Castel said. “We hope this project helps generate lessons that can be used in other urban areas battling HIV across the United States.
Milken Institute SPH Among Recipients of $8.4 million NIH Award to Establish a Regional HIV/AIDS Clinical Trials Unit

In an effort to end the HIV epidemic, the National Institute of Allergy and Infectious Diseases (NIAID) recently established 35 regionally focused clinical research units throughout the world, including the nation’s capital.

GW, in partnership with Whitman-Walker Institute (WWI), was awarded an $8.4 million, seven-year grant to establish the Washington, DC-based site.

“Our new award is an infrastructure grant that will link GW and WWI under a larger umbrella in order to provide access to cutting-edge HIV prevention and treatment clinical trials in the DC metropolitan area,” said Manya Magnus, professor and associate chair of the Department of Epidemiology and one of the principal investigators of the District of Columbia Clinical Trials Unit (DC CTU). “It’s a tremendous partnership, and I think that we hopefully will be beneficial to each other and help each other, and further science throughout the district.”

The DC CTU is also led by Gary Simon, professor and vice chair of the GW School of Medicine and Health Sciences Department of Medicine and director of the Division of Infectious Diseases at the GW Medical Faculty Associates (GW MFA); and Sarah Henn, chief medical officer for Whitman-Walker Health (WWH).

The streamlined network structure of these CTUs will reduce administrative and oversight costs, allowing more funds to be allocated to clinical trials to advance four key areas of research emphasis: HIV prevention; HIV vaccines; HIV/AIDS adult therapeutics; and HIV/AIDS maternal, adolescent and pediatric therapeutics. The 35 CTUs will provide scientific and administrative expertise as well as the infrastructure to conduct clinical trials within the networks. Collectively, the CTUs will support 101 clinical research sites in 18 countries across North America, South America, Africa and Asia.

“Achieving a durable end to the HIV pandemic will require continued development of new HIV prevention and treatment strategies, as well as optimal implementation of existing tools,” said NIAID Director Anthony S. Fauci in a statement announcing the grants. “The new network structure will increase the efficiency and effectiveness of NIH’s HIV clinical trial operations to expeditiously address the critical research questions that will bring us closer to this goal, while always ensuring the safety of clinical trial participants.”

The DC CTU builds upon the success of both the GW HIV Prevention Trials Network site and the WWH AIDS Clinical Trials site, as well as long-standing collaborations between the organizations through the DC Center for AIDS Research (DC CFAR), which Magnus calls a “critical foundational component for much of the research we are conducting.” The collaboration between academic and community health partners will leverage an extensive history of community collaboration, as well as numerous public health and academic partnerships, and contribute to trials that will eventually help end the HIV epidemic.

The DC CTU team has identified several key objectives for the unit, chiefly providing scientific leadership and administrative infrastructure to support high-quality therapeutic and prevention studies at GW and the WWI. The unit will also implement best practices to aid the continued recruitment and retention of top-quality researchers, as well as support participant safety and laboratory, pharmacy, data and regulatory excellence. Community engagement is a critical mission to ensure diversity among participants. To accomplish those goals, the unit will collaborate closely with investigators from the DC CFAR, GW, WWH and, most importantly, the local community to address NIAID and network priorities.

In addition to HIV-related clinical trials, the DC CTU will continue to conduct COVID-19 Prevention Trials Network activities at both sites, such as the Phase III Moderna vaccine trial at GW, led by David Diemert, professor of medicine at the School of Medicine and Health Sciences (SMHS) and a physician in the Division of Infectious Diseases at GW MFA; a broadly neutralizing monoclonal antibody prevention study; and ACTIV-2, an outpatient treatment study against SARS-CoV-2, led by Henn at WWI.

“With our new DC CTU, we can work together to enhance community engagement across the city,” Magnus said. “We have the ability to give people access to innovative and highly impactful clinical trials that they may not have even known existed.”

Fast Fact: In Washington, DC, more than 12,000 residents are living with HIV/AIDS (1.8% of the overall population) and 2.7% of the African American population are living with HIV, according to the 2020 Annual Surveillance Report.
Letter from the Chair

JENNIFER SACHECK-WARD, PHD

Although we have all been squarely focused on an infectious disease pandemic for the last year and a half, the Department of Exercise and Nutrition Sciences (EXNS) continues to focus on the ongoing obesity and chronic disease epidemics. Obesity and chronic disease risk remain high, especially among our most vulnerable populations—with these outcomes further complicated by COVID-19. Our research efforts, in DC, nationally and internationally, center on enhancing physical activity, diet quality and health among at-risk populations across the lifespan.

Even during this difficult time, our faculty have remained positive and driven in the classroom and greater research community. Notably, our junior faculty have achieved some significant accomplishments, including a National Institutes of Health PRIDE fellowship for minority researchers; a large Gates Foundation grant for international work on maternal micronutrient deficiencies, received in collaboration with another assistant professor in EXNS; and two National Institutes of Health grants for research on artificial sweeteners and diabetes.

The department also successfully launched the Metabolic and Exercise Testing (MET) Lab Core, which provides more than 14 physiological, metabolic and human performance testing services. These “core” laboratories will be accessible to other research institutions as data collection sites for federally funded research. They will also be available for use by the community, which may include sports teams, as well as the general population, for functional fitness and nutrition evaluations to support weight management, health and improved fitness.

Academically, we are excited to welcome the first incoming class of doctoral students entering the new Exercise Physiology and Applied Nutrition PhD program this fall. In spring 2020, we were also extremely proud to graduate our first class of nutrition science undergraduate majors.

And this fall, we are welcoming a new tenured professor from the University of Singapore, adding international leadership in nutritional epidemiology to the department’s already expansive expertise.

I’m proud of our department’s ongoing efforts to ensure that exercise and nutrition are recognized as interrelated disciplines that are critical to public health, and I am excited for the work that we are continuing to develop to help improve the health and function of individuals and communities.
Global Health Researchers Combat Maternal Malnutrition

Poor nutrition during pregnancy has been linked to adverse birth outcomes, including preterm deliveries and health conditions that lead to higher rates of fetal, newborn and infant mortality.

Many of these births occur in low- and middle-income countries where pregnant women are deficient in micronutrients that can aid healthy pregnancies and optimal birth outcomes.

Hoping to counteract the effects of maternal malnutrition, Milken Institute SPH researchers launched a two-year project, supported by a $1.8 million grant from the Bill & Melinda Gates Foundation, to advance scientists' understanding of micronutrient metabolism in pregnancy and to contribute data toward optimizing the nutrient levels that women should receive while pregnant.

“Maternal malnutrition, including micronutrient deficiencies, is a major public health problem that has received little attention despite its importance for a healthy pregnancy and baby,” Emily R. Smith, ScD, MPH, assistant professor of global health and the principal investigator on the project, said. “Our study aims to fill research gaps using modern methods that connect molecular nutrition and population health to ensure pregnant women receive adequate nutrition.”

Smith and the research team, which includes Milken Institute SPH co-investigators Matthew Barberio, PhD, assistant professor of exercise and nutrition sciences, and Gholamali (Ali) Rahnavard, PhD, assistant professor of biostatistics and bioinformatics, will develop and use molecular methods to understand how micronutrients impact pregnancy. Homa Ahmadzia, MD, MPH, assistant professor of obstetrics and gynecology at the GW School of Medicine and Health Sciences, is also a collaborator on the project.

The researchers will identify new biomarkers by studying the nutritional needs of pregnant women. These biomarkers can then be used in future research on the health impact of micronutrients on pregnant women’s babies. The researchers will collaborate with scientist partners in Tanzania and India to further develop and test these methods as part of new maternal health clinical trials. The project’s ultimate goal is to generate data that can inform the creation of new nutritional products, like prenatal vitamins, that lead to better pregnancy outcomes.

EXNS Faculty Lend Expertise on Obesity Epidemic to Milken Institute Bicentennial Panel

Despite the ongoing COVID-19 pandemic, the U.S. is also still battling an obesity epidemic. More than 40% of adults and 20% of children in the U.S. live with obesity, with stark racial and socioeconomic disparities, Sanofi Professor and Chair of Exercise and Nutrition Sciences Jennifer Sacheck, PhD, said during a Milken Institute panel discussion celebrating the 2021 GW Bicentennial.

Sacheck was joined by Allison Sylvetsky, PhD, assistant professor of exercise and nutrition sciences, and Ella Temprosa, PhD, associate research professor of biostatistics and bioinformatics, to discuss not only the complex effects of the obesity epidemic but also potential solutions.

“Obesity has huge implications on chronic disease risk and our abilities to prevent it long term,” said Sacheck. So what do we do? Lifestyle changes, including diet and nutrition, are key, according to decades of research from the Biostatistics Center. In fact, lifestyle changes can reduce the risk of type 2 diabetes by almost 60%, said Temprosa.

Reducing sugary and diet drinks, a research focus for Sylvetsky, can thus play an important role in helping to curb not only rising levels of obesity but also rising levels of chronic disease.

Physical activity, often an “unsung hero” according to Sacheck, is also key. Yet making these lifestyle choices easy and affordable for people across the socioeconomic spectrum is going to take continued work.

“As academic professionals, what do we think it’s going to take,” asked Sacheck of her colleagues, who all agreed that further efforts will include more funded research, buy-in from the general public and the research community, as well as more public health policy that supports this cause.
What makes youth sports fun for kids? The answers might surprise you, according to Milken Institute SPH research that examined the types of things that kids find fun about organized sports. For example, the research dispelled the popular myth that what makes sports the most fun for girls are the social aspects, like friendships, while for boys the fun factor has to do with competition. “Our data indicate girls and boys are more similar than different when it comes to what makes playing sports fun,” said Amanda J. Visek, PhD, associate professor of exercise and nutrition sciences and lead researcher on the study. “What counts most for girls and boys are things like ‘trying your best,’ ‘working hard,’ ‘staying active,’ and ‘playing well together as a team.’ These findings are the same for athletes at younger and older ages and across recreational and more competitive levels of play.”

Visek’s study was a follow-up to previous research she and Milken Institute SPH colleagues conducted that engaged soccer players ages 8 to 19 in concept mapping all of the determinants that make playing sports fun for players. The resultant maps, called FUN MAPS, uncovered 81 fun-determinants within 11 fun-factors. This new study took a closer look at that data and found that, among the 81 determinants of fun, “winning” ranked No. 40 in importance, scoring farther down on the list than many might have guessed. While fun determinants were largely the same for kids regardless of age or gender, the study did find some small yet intriguing differences in fun priorities. For example, younger players reported it was more important to have a coach who allowed them to “play different positions” than older players.

“Sport sampling—allowing kids to play several different sports—as well as the opportunity for kids, especially those at younger ages, to get experience playing all of the different positions within a sport, is important for their athletic development,” Visek said.

In addition, boys rated “copying the moves and tricks of professional athletes” and “improving athletic skills to play at the next level” as more important to having fun on the playing field when compared to girls. Visek and her research team hypothesize this might be a result of boys having more male professional athletes to look up to and identify with than girls, who have fewer female professional athletes to emulate.

The study’s findings can be used by sport organizations to make their programs more fun and thus keep kids playing longer. Organized sports are one way to keep kids engaged in physical activity—a habit that can help kids sustain a healthy lifestyle, keep them fit and help them maintain a healthy body weight. More than one out of three U.S. children and adolescents are overweight or obese, and Visek believes that providing kids with higher quality, more fun sport experiences might be one solution toward promoting children’s health.

Although most of the surveyed players were multi-sport athletes who participated in other sports in addition to soccer, Visek says additional research is necessary to ensure the findings apply to other team sports as well.

Ultimately, the study’s findings suggest that coaches and parents may be missing the mark if they push a winning season or mistakenly reinforce perceived gender differences. “When it comes to organized sports, kids just want to have fun,” Visek said. “This research does not support the common gender and developmental stereotypes we tend to make about kids in sports.”
GLOBAL HEALTH
Letter from the Chair

JAMES TIELSCH, PHD, MHSC

In the midst of a global pandemic as well as major systemic changes happening throughout the world, the Department of Global Health has remained committed to its mission of improving the health and health equity of populations in some of the most under-resourced settings worldwide. I am proud of the work that our faculty, students and staff have undertaken over the last two years. Whether supporting COVID-19-related projects or advancing research and study in other areas affecting the world’s health, the department has stepped up at a time of great global need.

For example, Global Health faculty have spearheaded projects to ameliorate the spread of COVID-19, respond to the Ebola outbreak in the Democratic Republic of Congo, assess the impact of nutrition on pregnancy outcomes in Ghana and Nepal, reassess the appropriate measures for iron deficiency and anemia in pregnancy, investigate the impact of COVID-19 on vulnerable children living in Bangladesh, Ethiopia, Jordan and Palestine, and expand the network of collaborators using our community-based network model to improve resilience and combat systemic racism. Faculty also received funding to continue the school’s groundbreaking study of the impact of Hurricane Maria on health and mortality in Puerto Rico—a body of work that has led to new recommendations to better protect populations in the face of natural disasters.

The department also collaborated with leading health organizations, such as NIH, to strengthen ethical review capacity in the Democratic Republic of Congo and Mali and to evaluate the impact of mobile health technology in controlling hypertension among the homeless population. In addition, Global Health faculty co-founded an IT for Health and Education Equity Initiative with Georgetown University, expanded the Global Health Equity Fellows program, and developed a Center for Commercial Determinants of Health, coordinating with WHO to establish a new program in this area.

Over the last couple of years, we also welcomed new Global Health faculty, expanding the department’s expertise in the areas of humanitarian assistance and community resilience; and we have begun a new PhD program in Global Public Health Sciences with a strong first year cohort of six outstanding candidates. Our four MPH programs continue to grow enrollment as well. I know that the department will continue to grow and expand its impact in the coming year, and I look forward to seeing what new collaborations and innovative research projects faculty, students and staff create.
Protecting Frontline Workers During the Pandemic

Early on in the COVID-19 pandemic, Global Health researchers launched a worldwide survey of health care workers on the frontlines with the hope of learning more about exposure and finding solutions to help protect workers from the virus.

The researchers created an online tool to gather data from workers providing direct clinical care to patients who had a COVID-19 diagnosis or symptoms suggesting the illness. Questions asked respondents to talk about their experiences working on the front lines of the pandemic, their use of personal protective equipment (PPE), task shifting, care practices and even their experience of personal illness.

The survey, Global Observations and Views of Emergency Frontline Health Workers Survey in COVID-19 (GLOVES-19), operated for three months and was led by Adnan Hyder, MD, PhD, MPH, senior associate dean for research and professor of global health, Nino Paichadze, MD, MPH, research assistant professor of global health, and Kate Douglass, MD, an associate professor of emergency medicine at the GW School of Medicine and Health Sciences (SMHS).

Nearly 500 frontline health care workers responded to the survey between May and June 2020, and survey results demonstrated that while most respondents (almost 100%) were able to change their gloves when they wanted, many were not able to change their masks (69%) or their eye protection equipment (56%) when they wanted. The survey also found that as many as 32% of respondents noted they felt so concerned about PPE that they had considered avoiding work altogether.

Looking for COVID Facts? COVID-101.org Has Your Answers

Early on in the pandemic, there was a significant need for accessible and reliable information on COVID-19. So on March 15, 2020, Emily Smith, assistant professor of global health and exercise and nutrition sciences, founded COVID-101.org, a website that provides answers to common questions by conducting rapid reviews of the pre-print and published scientific literature and then summarizing the evidence in a simple way.

How it works is like this: Readers ask COVID-19-related questions, then doctors rapidly review the scientific evidence, and the team delivers simple answers to an array of platforms, including Facebook, Twitter, Instagram and the web. COVID-101.org is run by more than 25 volunteers, including epidemiologists and infectious disease physicians from a dozen colleges and universities, such as the University of Washington, Columbia, Johns Hopkins, Harvard, the George Washington University and more.

Bioethics Research Training Program Launching in West Africa

With an upsurge in public health and clinical research in West Africa, in part driven by the Ebola outbreak and new research in genomics, Milken Institute SPH is launching a research ethics training program in Mali to help facilitate bioethics leadership, training, policy and research.

The five-year project, called the United States-Mali Research Ethics Training Program, is funded by a $1.25 million grant awarded by the National Institutes of Health and will be carried out in partnership with the University of Sciences, Techniques and Technologies of Bamako (USTTB) in Mali.

Working together, researchers hope to enhance the strengths of key USTTB faculty to deliver research ethics courses and mentoring to students. Additionally, the project will develop a research ethics specialization within the existing USTTB Masters of Public Health program, with the goal of training a core group of professionals with this expertise in Mali.

The project will also promote study around key priorities for research ethics, including the ethics of infectious and emerging disease research and the ethics of testing and evaluating genetic approaches to improve health care services.

“We hope the project will result in better awareness of ethical conduct in public health and clinical research,” said Paul Ndebele, PhD, the research regulatory specialist at Milken Institute SPH and a co-principal investigator for the grant.
Still reeling from the effects of Hurricane Maria in 2018, Puerto Rico struggled with food insecurity in the beginning months of the pandemic, according to a Milken Institute SPH study that surveyed nearly 1,400 households in the U.S. territory. “We found forty percent of those surveyed had experienced food insecurity, including hunger, during the first few months of the pandemic,” said Uriyoán Colón-Ramos, ScD, MPA, associate professor of global health and principal investigator of the study. “We hope the findings will pave the way toward solutions, including improved building codes and standards aimed at keeping communities safe.”

By all accounts, Hurricane Maria damaged buildings that people rely on for safety, communications or health care. This project’s findings could lead to recommendations that would help improve building standards and practices to make communities more resilient in the face of extreme weather, Santos-Burgoa said. Clarification around death tolls can also help the public to understand the scope of such disasters and can influence the resources allocated to help communities heal and rebuild, Santos-Burgoa added.

The survey also found that almost 80% of participants stayed away from school take-out meals due to fears of contracting COVID-19 in the early months in which these food programs were reinstated. Because the majority of children in Puerto Rico rely on school meals, typically getting breakfast and lunch at school, according to Colón-Ramos, researchers are concerned about the potential health and developmental consequences of the underutilization of school meals. The researchers hope that data from the survey can help experts better understand this problem and begin to design programs and policies to address food insecurity in Puerto Rico.
Letter from the Chair

ANNE MARKUS, PHD, MHS, JD

The last two years have been extraordinary years for the Department of Health Policy and Management (HPM). Not only did we enroll the largest cohorts of health policy DrPH students as well as MHA and MPH students and launch a PhD program, but we also seamlessly pivoted to remote learning when the pandemic hit in spring 2020.

To help navigate the significant changes over the last couple of years, the department added additional support for students, staff and faculty, including a weekly Health Policy Hour that features: faculty panels focused on career development; monthly research seminars; hands-on information sessions about department academic programs; and any other issues raised by students.

Externally, HPM faculty and researchers provided much needed guidance and expertise to help policymakers and the public navigate the changes brought on by COVID-19. For example, faculty and research teams authored more than 100 publications, a significant percentage of which were placed in leading peer-reviewed journals. The department was also a leading voice through the pandemic through the HPMatters blog as well as regular appearances on national and local television and frequent radio and written press interviews.

I am particularly proud of new collaborations we established over the last two years—each of which demonstrated the adage that the sum is greater than its parts. One such collaboration that sprung from within the department focuses on the COVID-19 response in the state of Missouri and strengthening the state’s public health infrastructure with the aim of improving population health and health equity. The department also formally entered into a collaboration with the newly established Maternal and Child Health (MCH) Center of Excellence (CoE) at Milken Institute SPH. As the leads for the MCH CoE’s policy and advocacy arm, we are committed to teaching MCH policy and analysis, mentoring MCH policy scholars and designing and running new MCH IPE (interprofessional education) workshops.

Meanwhile, a booming Fitzhugh Mullan Institute for Health Workforce Equity, the nationally recognized Geiger Gibson Program in Community Health Policy, and the National Center for Medical-Legal Partnership were all recipients of significant gifts that will facilitate major advances in health equity. The department’s decades-long work on the Affordable Care Act, Medicaid expansions, Medicaid work requirements, the public charge rule, and access to family planning also helped to inform litigation affecting these areas.

Despite curveball after curveball over the last two years, each person in the HPM department has been nothing but a team player. Everyone faced a difficult situation head on and tried to make the most of it with grace, empathy and understanding. The last 18 months have been some of the most remarkable in HPM’s history, and I am certain that we will continue to grow as a department over the coming months and years.
How Much Does it Cost to Train Primary Care Doctors?

Milken Institute SPH researchers are hoping that new research into teaching health centers (THCs) around the country will help avoid an impending shortage of primary care physicians—the Association of American Medical Colleges is predicting a shortfall of between 21,100 and 55,200 primary care physicians by 2032.

Thanks to a $1.9 million contract from the Health Resources and Services Administration (HRSA) within the U.S. Department of Health and Human Services (HHS), Milken Institute SPH researchers are developing an estimate of how much it costs to train a resident in a THC to accurately determine the expenses associated with THC costs. They are specifically developing this estimate by analyzing the expenses, revenues and other related costs from the 56 THCs nationwide that receive funding through the Teaching Health Center Graduate Medical Education (THCGME) program. A previous study of the cost per THC resident estimated the amount at $157,602 per resident. By developing an accurate estimate, the researchers can provide HRSA a methodology to inform efforts to properly fund the THCGME program.

“The THCGME program is a major initiative to increase the number of primary care physicians practicing in rural and underserved communities, which need continued access to quality health care,” said Professor Marsha Regenstein, PhD, who is lead investigator of the project. “It is critically important that THCs receive funding that accurately and fairly represents the true costs of training a resident in such a setting.”

Professor Sara Rosenbaum Receives Award from National Academy of Medicine

Rosenbaum is known for her creativity translating policy into law and discipline in legal analysis and legislative drafting, along with her unwavering commitment to issues of health justice for medically underserved populations, particularly children.

“I am honored to receive this award from the National Academy of Medicine,” said Rosenbaum, who is the founding chair of the Department of Health Policy and Management and a leading scholar of health law and public health, particularly related to the law governing the Medicaid and Children’s Health Insurance Program (CHIP).

She has advised presidential administrations and Congress on issues ranging from national health reform and financing the health care safety net to child health policy and the application of federal civil rights laws to health care. Since becoming a NAM member in 2012, Rosenbaum served as a member of the Report Review Committee for six years, chair of the Committee on the Evaluation of the Supplemental Security Income Disability Program for Children with Speech Disorders and Language Disorders, and the Section 11 (social sciences, humanities and law) chair and vice chair on the NAM Membership Committee.

Rosenbaum’s significant contributions to NAM prior to becoming a member include serving on the Robert Wood Johnson Health Policy Fellowships Board, Committee on an Oral Health Initiative, Committee on Review of Priorities in the National Vaccine Plan, as well as consensus study committees focused on vaccine and immunization financing and policies and access to health care services.
When work requirements for a federal food safety-net program start again, many low-income Americans will lose benefits—and Black adults will be hardest hit, according to a study published in June 2020. In addition, some disabled people will lose these crucial food assistance benefits.

“The COVID-19 pandemic has resulted in record rates of unemployment. SNAP benefits are critical to help people who have lost work get the food they need,” said lead author Erin Brantley, PhD, MPH, a Milken Institute SPH senior research associate. “When work requirements for SNAP start again, history shows we can expect to see a disproportionate impact on black families.”

Work requirements for the Supplemental Nutritional Assistance Program (SNAP), formerly called the food stamp program, are temporarily paused under the Families First Coronavirus Response Act but are set to resume when the federal public health emergency ends. Separate from this action, the Trump administration issued a new rule to limit the ability that states traditionally have had to waive SNAP work requirements when unemployment is high, although a federal court has temporarily stopped implementation.

The study is the first to find that SNAP work requirements lead more Black adults to lose food assistance compared to white adults. It is also the first published research to show that SNAP work requirements cause disabled adults to lose benefits. Although SNAP work requirements exempt some people with disabilities, others may not qualify for an exemption, despite facing substantial health challenges. In some cases, disabled people may lose SNAP benefits because they cannot navigate the paperwork requirements, the authors pointed out.

SNAP provides an estimated 37 million Americans with electronic vouchers to help pay for groceries. Low-income people who receive SNAP benefits have improved food security, and that leads to better health, Leighton Ku, director of the Center for Health Policy Research at Milken Institute SPH and co-author of the study, and Brantley said.

The authors also highlighted that the loss of food assistance would damage the health of low-income people, who suffer from high rates of COVID-19 and other serious health conditions.

Report Offers National Blueprint for Strengthening Family Planning Services in Medicaid Managed Care

A Milken Institute SPH report lays out a blueprint for policies that can strengthen family planning for millions of Medicaid beneficiaries enrolled in Medicaid managed care.

The report presents a first-of-its kind nationwide study, undertaken 40 years after passage of federal legislation known as the freedom of choice safeguard to ensure that Medicaid managed care plan members retain access to high-quality, comprehensive family planning services from any qualified Medicaid family planning provider, regardless of limits on plan coverage or provider networks. The law also helps ensure that religiously-affiliated health plans can participate in Medicaid managed care even if they choose to offer limited family planning coverage and care.

Since the freedom of choice safeguard was enacted, no systematic study has ever examined how states have implemented this special rule as part of their managed care systems or whether Medicaid family planning simply has remained a separate fee-for-service benefit outside the scope of managed care contracts. Understanding the relationship between Medicaid managed care and family planning has emerged as a major policy matter given the size of the Medicaid managed care population (70% of all beneficiaries), the importance of family planning to the health of women, children, and families, and states’ growing emphasis on robust plans that can address a full range of health needs.

“Our study shows that all states using comprehensive managed care have embraced family planning as a core element of their governing contracts, which set forth coverage, care, and operational requirements. These documents provide crucial evidence that states consider family planning as basic to their managed care systems and thus key to ‘whole-person’ health,” said Sara Rosenbaum, the Harold and Jane Hirsh Professor of Health Law and Policy and principal study author.

The report, “Family Planning and Medicaid Managed Care: Improving Access and Quality through Integration,” was produced by Rosenbaum and a team of researchers at Milken Institute SPH in collaboration with Health Management Associates and can be read at go.gwu.edu/familyplanningreport2021.

Milken Institute SPH Report Offers Blueprint for Advancing Health Equity in Nation’s COVID-19 Response

Actions aimed at addressing racial inequities must be a central part of the nation’s response and recovery from the COVID-19 pandemic, a new report led by Jeffrey Levi, professor of health policy and management at the George Washington University, concludes.

The report, published in January 2021, focuses on a set of administrative and legislative steps that the new Biden Administration could take to strengthen the immediate response to the pandemic and address the long-term health, social and economic problems that COVID-19 has exacerbated.

“Every element of this plan helps lay the foundation for how we address racial and health disparities and advance equity over the long run,” Levi said. “Our response to the current pandemic must also build the long-term capacity of health care, public health, and social services to work in alignment to address root causes of inequity.”

Levi also noted that while the relief plan announced by President Biden in early January contained some of the recommendations in the report, “There remain critical legislative and administrative steps to be taken to assure that equity is central to the recovery from COVID-19 as well.”

Levi and a team of analysts at GW prepared the report in partnership with the Georgia Health Policy Center and with support from the Robert Wood Johnson Foundation. Read the report, “Advancing Equity in the Nation’s COVID-19 Public Health Response and Recovery Efforts: Options for a New Administration,” at go.gwu.edu/covid19equityreport.
Milken Institute SPH Researchers part-
nered with the Missouri Foundation for
Health to investigate the effectiveness of
Missouri’s public health response to the
COVID-19 pandemic.

Led by Marsha Regenstein, PhD, professor
of health policy and management, the
research project is looking at Missouri’s
COVID-19 response within geographic
regions of the state and comparing the
statewide response to other states. The
research team is looking to understand
how public health systems in Missouri
are meeting the needs of residents across
the state, including those who are dispro-
portionately impacted by COVID-19 due
to social, economic and health inequities
related to racial and ethnic disparities.

“Here widespread nature of COVID-19
and its impacts on all Missourians—from
those living in small, rural towns to
residents of large, urban areas—affords
an important opportunity for learning,
improvement, and preparation for future
public health crises,” Regenstein said.
“We hope to deliver valuable and relevant
information to help the state address
future public health challenges.”

The researchers are conducting quali-
itive interviews with key public health
stakeholders, community leaders and
frontline workers; analyzing state and
local public health data to understand
aspects of the pandemic response, like
testing and contact tracing; and exam-
ining collaborative efforts between public
health agencies, health care systems
and community organizations. Case
studies will highlight the strengths and
weaknesses of the state’s public health
system, including how it responded to the
COVID-19 pandemic. The researchers
hope that the project’s findings will
lead to recommendations on how
Missouri can strengthen its response
to future epidemics and other public
health threats.

Members of the research team also
include Jeffrey Levi, PhD, Anne Markus,
PhD, JD, MHS, and Dora Hughes, MD,
MPH, all in the Department of Health
Policy and Management.

Researchers Examining Impact of
Hospital-Physician Integration

More and more hospitals are beginning
to directly employ physicians, but the
effects of this practice are still largely
unknown, according to Ali Moghtaderi,
PhD, MBA, assistant professor of health
policy and management.

Thanks to a $3.3 million, five-year grant
from the National Heart, Lung and
Blood Institute at the National Institutes
of Health, Moghtaderi and fellow
researchers at Northwestern University
and the University of Colorado, Denver,
will study the impact of hospital-phy-
sician integration and its impact on
health care quality, clinical practice and
Medicare spending.

“Our study aims to address this critical
gap in knowledge,” Moghtaderi said. “We
hope our findings will provide solid scien-
tific evidence about vertical integration’s
impact on quality and cost.”

Proponents of this practice believe that
when hospitals directly employ physi-
cians, they can boost health care value
through care coordination, while critics
say integration leads to higher costs for
insurance companies and patients.

Moghtaderi and his team will focus on
vertical integration’s impact on cardi-
ology, a field that has seen a dramatic rise
in the use of this practice.

“The results of our findings in this area
could be impactful for other aspects of
medical practice,” Moghtaderi said. “If
we see quality improvements in hospitals
using vertical integration, the findings
would justify investing in and encour-
aging this practice. If our study finds
no significant effects or negative effects
on quality, such evidence would support
policies that discourage integration.”
PREVENTION & COMMUNITY HEALTH
Much has been written about a lack of preparedness in the United States for the “greatest public health crisis in a century.” Yet as we reflect on the past year and a half, an argument can be made that the Department of Prevention and Community Health (PCH) was actually extraordinarily well prepared to take up the many challenges presented by COVID-19. Our faculty demonstrated expertise with: the global pandemic of HIV; the impact that social-structural drivers, such as poverty, racism and intersecting forms of stigma and inequalities, can have on health outcomes; the mental and physical health needs of women, children and families; and the science of health communication. Longstanding academic and community partnerships—that provide a strong foundation for impactful practice that engages students, staff and faculty—have allowed PCH to address the multiple levels at which the pandemic has been expressed locally, nationally and internationally.

In the coming pages, you’ll read more about how PCH faculty, staff and students jumped in to help during the pandemic. Whether they served on the GW Health Volunteer Response Task Force, led publications and panels on COVID-related issues—including the mental health implications of pandemic learning or the impact of COVID on marginalized populations—or provided expert guidance to federal initiatives, including NIH’s COVID-19 Prevention Network and the American Rescue Plan, PCH faculty, students and staff drew on their knowledge and skill sets to help us all navigate some of the uncertainties and side effects caused by the pandemic.

Beyond COVID-19, faculty, staff and students launched and participated in several initiatives with far-reaching effects on community health. For example, PCH’s Maternal and Child Health (MCH) program was recognized as one of 13 federally funded MCH Centers of Excellence in the U.S. The PCH program also received funding from the Health Resources and Services Administration, which provides additional support for graduate and undergraduate training programs. Additionally, PCH faculty and students launched the GW Health Communication Volunteer Corps to combat the spread of health misinformation on social media.

On the legislative and political front, PCH faculty, staff and students were instrumental in the successful passage of a bill to end female genital mutilation. Faculty also testified before the DC Council on racism as a public health crisis and advised President Biden’s Transition Team.

More locally, PCH faculty, staff and students collaborated on the design and implementation of a year-long departmental anti-oppression seminar series.

PCH is committed to expanding its impact in the coming years, so in FY 2020 we launched a self-study to support the development of a five-year strategic plan that will advance the department’s mission to leverage the social and behavioral sciences to promote and support community health. I’m excited to see what the coming years will bring.
Side Effects of Structural Racism Put Minorities at High Risk of COVID-19, According to New Research

Crowded housing, air pollution, jobs in the meatpacking and poultry industry and other factors put Latinxs at high risk of COVID-19 infections and death, according to Carlos E. Rodriguez-Diaz, PhD, MPH, associate professor of prevention and community health, who led a study that conducted a nationwide analysis of COVID-19 cases and deaths among Latinxs.

“Our study’s findings will help us look for tailored interventions aimed at keeping Latinx communities healthy and safe,” said Rodriguez-Diaz, who, along with his colleagues, compared COVID-19 cases and deaths through May 11, 2020, in counties with disproportionately large Latinx populations to all other U.S. counties. They also looked at county characteristics that could affect the risk and created a map of hotspots for COVID-19 among Latinx individuals.

The study found that Latinx risks and deaths varied by region, with more COVID-19 infections found in the Midwestern and Northeastern Latinx counties. However, the study suggested different reasons for the high risk. In the Northeast, many Latinx individuals live in crowded housing units and are working on the front lines or in essential jobs where it is difficult to practice social distancing when necessary.

Also, predominantly Northeastern Latinx neighborhoods are often located near busy highways or polluting industries, and researchers know that breathing in traffic emissions and other kinds of pollution can affect the respiratory system and put people at risk for COVID-19 infection.

At the same time, researchers found that COVID-19 deaths were higher only in the Midwestern Latinx counties. Rodriguez-Diaz hypothesized that the high risk of death is related to occupational risk and the lack of health care—many of the Latinxs in these areas work in risky meatpacking plants where workers are not typically provided with protective equipment and cannot maintain a safe distance from co-workers.

Across the United States, five out of six Latinxs work in delivery jobs or other work that requires travel and thus can increase the risk for exposure to the COVID-19 virus. While the study was limited to data available through mid-May 2020, and therefore did not include later COVID-19 surges in other parts of the country, Rodriguez-Diaz again hypothesized that the risks for infections and disease for Latinx communities throughout the country would remain the same.

Some of the study’s authors previously showed that factors that contribute to structural racism also mean that COVID-19 deaths in predominantly Black communities are much higher than average.

Studies such as these might help policymakers find tailored solutions to help protect these vulnerable communities. For example, many Latinx individuals are left out of public health insurance programs, and mainstream health systems are unwelcoming. “Better access to medical care and support for grassroots organizations in the communities could help save lives,” Rodriguez-Diaz said.
Milken Institute SPH Students Using Social Media to Counter COVID-19 Misinformation

Milken Institute SPH students are pushing back on misinformation about COVID-19 through a new volunteer group that aims to spread evidence-based public health updates using social media channels.

The GW Health Communication Volunteer Corps (HCVC) launched in January 2021, and since then more than 100 students have been participating in the effort to fact check and promote information about vaccine availability, vaccine safety and mask wearing on Facebook and Instagram.

Lorien Abroms, ScD, MA, professor of prevention and community health, serves as the volunteer corps’ academic sponsor. She is also affiliated with GW’s Institute for Data, Democracy and Politics, which aims to help the public, journalists and policymakers understand digital media’s influence on public dialogue and opinion and develop solutions to disinformation.

“I wanted to be able to proactively put that information out there on the internet and counter some of the misinformation,” she said.

Every week the HCVC’s executive committee and active members search for new fact-checked, evidence-based content to amplify on their personal social media accounts and on the HCVC’s accounts. Volunteers are trained on how to develop good captions to develop the most engaging content possible.

As a public health communications and marketing graduate student, Meredith Hernlund said she’s designed mock public health campaigns as part of her coursework. Crafting real-world messaging has been a rewarding process of trial and error, she said.

“This has been a really great learning experience,” said Hernlund, an HCVC program manager. “I think it’ll definitely be very useful for me when I’m applying for jobs and going out there and in the real world.”

Students affiliated with the HCVC’s spinoff Spanish-language initiative, Brigada Digital de Salud, have also started doing outreach and developing social media training for health care workers who live and work in communities that have the lowest vaccination rates and higher COVID-19 case numbers.

The pandemic highlighted the need to develop a systematic and organized effort to combat health misinformation, Abroms added.

Jessie Armstrong, a public health communications and marketing graduate student and HCVC program manager, said early in the pandemic she noticed a lot of misinformation circulating on social media from well-intentioned family and friends who didn’t have a firm understanding of how the virus spreads or how to reduce transmission. That highlighted how challenging it can be for many to find accessible, evidence-based information.

More than 100 students have been participating in the effort to fact check and promote information about vaccine availability, vaccine safety and mask wearing on Facebook and Instagram.

“Fast fact: Falsehoods are 70% more likely to be retweeted than the truth on Twitter, according to a 2018 study led by MIT researchers. The same study found that falsehoods also reached their first 1,500 people six times faster than the truth.”
“Public health students want to be part of the fight against COVID-19, and this is a meaningful and tangible way for them to collect important data on life-saving behaviors.”

Amita Vyas, PhD

Milken Institute SPH students are playing a critical role in helping to stem the spread of the coronavirus that causes COVID-19 by helping to track mask wearing and physical distancing throughout the U.S.

The students are working with Amita Vyas, PhD, director of the GW Center of Excellence in Maternal and Child Health at Milken Institute SPH and associate professor of prevention and community health, and Monica Ruiz, PhD, associate professor of prevention and community health, to collect data, in the form of on-site observations, twice a week at various locations, including commercial strips, neighborhoods, parks, play areas and walking paths.

The student-collected data then goes into a national database where it is analyzed to help public health officials figure out how many people in a given community are following these safety precautions.

“Our students are getting a taste of field research and learning first-hand about data collection and reporting,” Vyas said. “Public health students want to be part of the fight against COVID-19, and this is a meaningful and tangible way for them to collect important data on life-saving behaviors.”

Kaiser Permanente and the RAND Corporation launched the study, which is called Systematic Observation of Mask Adherence and Distancing (SOMAD). In an early analysis of SOMAD data collected by citizen scientists in Philadelphia, the Kaiser/RAND researchers found that less than half of Philadelphia residents were wearing masks properly when outside. The early results indicated that 43% of people wore masks correctly when out and about, 40% wore no masks and 17% wore masks incorrectly.

Such information can be crucial for public health officials trying to combat the pandemic and get more people to wear masks properly and stay six feet apart.

“For the Milken Institute SPH students, the participation in this study not only gives them invaluable research skills but also an opportunity to make a difference in the fight against COVID-19,” Ruiz said.
Discrimination Linked with Health Problems Among LGB Population, New Research Shows

While previous research has suggested that being on the receiving end of anti-gay statements can trigger elevated stress and subsequent health issues among lesbian, gay and bisexual individuals, new research led by Milken Institute SPH provides strong evidence that it is happening.

The study found, for example, that when lesbian, gay and bisexual adults are exposed to even mild anti-gay prejudice, it triggers bodily changes such as increases in heart rate, blood pressure and the stress hormone cortisol. “When the body responds like this repeatedly, it can contribute to cardiovascular disease and other illnesses that develop over time,” said David M. Huebner, PhD, MPH, professor of prevention and community health, who served as lead author of the study.

To help show how discrimination can actually cause bodily changes that lead to health problems, Huebner and his colleagues designed a laboratory study in which 134 lesbian, gay and bisexual adults participated in a stressful task—an interview. Before the interview, participants were given a sheet of paper telling them about the interviewer. People in the experimental group learned that the person interviewing them was opposed to same-sex marriage, while participants in the control group were not exposed to such statements.

The researchers prerecorded the interview questions so that there was no variability in the questions or in the tone of voice. The participants had to answer a series of standard questions while the researchers measured any changes in heart rate, blood pressure and other markers of the stress response.

Because interviews are generally stressful, the team found that all of the participants experienced signs of physiological reactivity when asked to take part. However, the experimental group, those who had been exposed to the anti-gay statement, showed an even stronger physiological response.

“This work really begins to connect the dots between exposure to discrimination and physical health in a way that hasn’t been done before,” Huebner said. “For years, researchers have been showing correlations between reports of discrimination and poorer health. This study is one of the first to show how exposure to anti-gay prejudice really causes changes in physiological processes that can affect long-term health.”

The study, “Cardiovascular and Cortisol Responses to Experimentally-Induced Minority Stress,” was published June 21, 2021, in the journal Health Psychology.
Initiatives to End HIV Epidemic Must Include Latinx Sexual and Gender Minorities

In order to end the HIV epidemic in the U.S., initiatives need to address the rising rates of HIV infection in Latinx sexual and gender minority populations, according to Carlos Rodriguez-Diaz, PhD, MPH, associate professor of prevention and community health.

In response to a 2019 initiative to end the HIV epidemic by the year 2030, Rodriguez-Diaz and his colleagues wrote a commentary for The Lancet addressing the fact that while new HIV rates have stabilized for gay, bisexual and other men who have sex with men, there has recently been a rise in rates of new HIV diagnoses in Latinx men, especially in certain parts of the country.

“Ending the HIV epidemic in the United States is unlikely unless public health officials use specific strategies to reach Latinx gay, bisexual, and transgender populations,” Rodriguez-Diaz wrote. “We recommend three pathways to ending the HIV epidemic: First, tailored programming to reach the groups with increased needs; second, research should be focused on community needs, and third, we recommend using science-informed frameworks and community-academic partnerships to increase the uptake of HIV interventions. With culturally relevant research and political will, the U.S. can end the HIV epidemic for all.”

Syringe Exchange Programs Found to Decrease HIV Transmission

Injection-based drug use comes with a host of risks, including transmission of diseases such as HIV. However, a recent study led by Monica S. Ruiz, PhD, MPH, associate professor of prevention and community health, found that legal syringe exchange programs can help reduce HIV transmission. The study also found significant cost savings for cities that implemented these programs.

To conduct the study, Ruiz and her colleagues used a mathematical modeling technique to estimate how many cases of HIV had been averted over the period of 10 years after exchange programs had been set up in Philadelphia and Baltimore. The researchers found that 10,592 new cases of HIV in Philadelphia and 1,891 new cases of HIV in Baltimore were averted thanks to these programs. The study also showed that the averted HIV cases saved Philadelphia an estimated $243 million every year, while Baltimore saved about $43 million annually because many people who inject drugs are covered by public health insurance.

“Small investments in syringe exchange programs yield large savings in treatment costs,” said Ruiz, who was the principal investigator on the project. “Syringe exchange programs represent a powerful way to stop the spread of HIV, especially in communities struggling to fight the opioid epidemic.”

The study, “Using Interrupted Time Series Analysis to Measure the Impact of Legalized Syringe Exchange on HIV Diagnoses in Baltimore and Philadelphia,” was published as part of a supplement to the Journal of Acquired Immune Deficiency Syndromes (JAIDS).
U.S. Immigration Policies Taking a Toll on Latinx Youth

The stress of experiencing a loved one being detained or deported is leading to mental health issues among Latinx adolescents in the U.S., according to recent Milken Institute SPH research.

The study was led by Kathleen M. Roche, PhD, MSW, associate professor of prevention and community health, who wanted to look at the effects of U.S. immigration actions after the government began making immigration policy changes, such as a substantial push to detain or deport many immigrants, in early 2017.

Roche and her colleagues surveyed 547 Latinx youth attending middle or high school in suburban Atlanta and asked them if they had a parent, aunt, uncle or other family member who had been detained or deported in the prior year, beginning in 2017 and going into 2018.

“We were startled to find that one out of four of the students reported having a family member who had been detained or deported in that time frame,” Roche said.

The researchers surveyed participants again six months later, asking if they had experienced suicidal thoughts, used alcohol or engaged in risky behaviors such as aggression or delinquency during the time between the first and second survey.

The team found that tweens and teens with a family member who had been detained or deported had more than twice the risk of suicidal thoughts, a warning sign that can lead to a suicide attempt. These same Latinx youth also had nearly three times the risk of reporting early alcohol use and were also more likely to show a high level of problem behaviors, such as aggression or truancy.

“The findings are worrisome because these kinds of risks during the early teen years often result in problems well into adulthood,” said Roche, whose study was published in JAMA Pediatrics in early 2020. “Our findings indicate a critical need for mental health and social services that can ease the stress and trauma facing U.S. Latinx teens.”
950 Award Winners

In celebration of Milken Institute SPH’s 20th anniversary in 2017, the school established the 950 Awards to recognize those who have demonstrated exceptional loyalty to the school and who overall embody the school’s ethos.

Our 2019 and 2020 winners included alumni who are leading by example through their successful careers in public health. Winners were honored and presented with their awards during special celebrations in September 2019 and October 2020, respectively. We are tremendously grateful to these alumni leaders!

2019 Award Winners*

Elliot Cohen, MBA ’70
Retired, former hospital executive

Kafui Doe, EdD, MPH ’10
Child, Adolescent & School Health Division Chief, DC Department of Health

Megan Jacobs Swain, MPH ’10
Managing Director of Product, Innovations, Truth Initiative

Joneigh Khaldun, MD, MPH ’13
Chief Medical Executive and Chief Deputy Director for Health, Michigan Department of Health and Human Services

Tanya Vogel, BS ’96, MS ’99, MBA ’06
Director of Athletics and Recreation, The George Washington University

2020 Award Winners*

Peter Fine, MHSA ’77
President and Chief Executive Officer, Banner Health

Clark Hagen, MPH ’11
Public Health Advisor, Substance Abuse and Mental Health Services Administration

Chaya Merrill, MPH ’00, DrPH ’09
Director, Child Health Data Lab, Children’s National Hospital

Allison Russo, DrPH ’14
Research Director, Kennel and Associates, Inc., and State Representative (HD-24), Ohio House of Representatives

Outstanding Faculty Achievement Award

Dean Goldman recognized Professor Dante Verme, PhD, MS, and Professor Sara Rosenbaum, JD, with the school’s Outstanding Faculty Achievement Award in 2019 and 2020 respectively.

*Employment information is as of the time of the award
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Brett M. Wargo *
Karl Wargo *
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Whitman Walker Health *
Katarzyna Wilczek **
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Sharon R. Wildberger MPH ‘18 *
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Jennifer Weiss Wilkerson MHSA ‘00 *
Lauren A. Wills MPH ‘20 *
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WW International, Inc. **
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Glenda E. Young *
Taiba Zahir MPH ‘20 *
Robert K. Zentmyer MHSA ‘67 and
Donna Zentmyer *
Jamie L. Zigterman MPH ‘20 **
Emma L. Zinsmeister MPH ‘14 *
Burton L. Ziskind CERT ‘78, PhD ‘84 **

* 2020 donor    ^ 2021 donor    ˚ deceased

Although great care has been taken to list all names accurately, please Milken Institute School of Public Health of any errors or omissions by contacting 202-994-4196 or by emailing gwsphgiving@gwu.edu.
Financial Report

FISCAL YEAR 2021

REVENUE (m)

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Research – excl BSC</td>
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<tr>
<td>Research – BSC</td>
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<tr>
<td>Research – Indirect</td>
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<tr>
<td>Graduate Tuition &amp; Fees</td>
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<tr>
<td>Undergraduate Tuition &amp; Fees</td>
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<tr>
<td>Gifts &amp; Pledges</td>
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<tr>
<td>Other Revenue</td>
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<tr>
<td>Endowments</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$183.6</strong></td>
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EXPENDITURES (m)

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<tr>
<td>Salaries – Research</td>
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<td>Other Expenses – Research</td>
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<td>Operations</td>
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<tr>
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<tr>
<td>Student Support</td>
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<tr>
<td>Allocations – Net</td>
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<tr>
<td><strong>TOTAL</strong></td>
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STUDENT FTE (AS OF OCTOBER)

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<thead>
<tr>
<th>Fiscal Year</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
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<th>FY18</th>
<th>FY19</th>
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<tbody>
<tr>
<td>Undergraduate FTE</td>
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### RESEARCH REVENUE TREND

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<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
<th>FY20</th>
<th>FY21</th>
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</thead>
<tbody>
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<td>$9.8</td>
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<td>$12.1</td>
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<tr>
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<td>$36.5</td>
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<td>$79.9</td>
<td>$84.6</td>
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<tr>
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<td>$38.7</td>
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<td>$89.7</td>
<td>$89.7</td>
<td>$95.2</td>
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### REVENUE TREND

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<th>Fiscal Year</th>
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<th>FY14</th>
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<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
<th>FY20</th>
<th>FY21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition &amp; Fees</td>
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<td>$35.3</td>
<td>$39.0</td>
<td>$52.1</td>
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<td>$81.4</td>
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<tr>
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<td>$38.6</td>
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<td>$35.1</td>
<td>$89.7</td>
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<tr>
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<td>$164.4</td>
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<td>$176.8</td>
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</table>
“Our greatest hope is that we use the lessons of the last two years to drive larger investment in public health and tackle the challenges facing our community, our people and our planet.”

—Dean Lynn R. Goldman