

2022

PROGRESS REPORT



Milken Institute School
of Public Health

THE GEORGE WASHINGTON UNIVERSITY

LETTER FROM THE DEAN

Given a challenge, there is also an opportunity to face that challenge with renewed determination. The challenges of the moment are considerable, and they demonstrate that not only our health, but also our world, is vulnerable. We therefore are handed unique opportunities—in all realms—to advance the health of the public and our planet.

The extreme challenges that we face today—a global pandemic and other emerging infectious diseases; antibiotic-resistant pathogens; the pandemic of racism and the devastating impacts on health of all forms of discrimination; ongoing, yet preventable, chronic disease epidemics; growing health consequences of climate change; distrust in our government by many members of the public; the need to modernize and strengthen the U.S. public health system; gun violence; road trauma; global food systems that are intertwined with twin threats of obesity and food insecurity; threats to reproductive freedom; and, more fundamentally, pervasive societal and economic inequities that fuel the social determinants of health, threatening health and longevity from conception onward—these present enormous uncertainty.

Recognizing the inherent complexity of the public health ecosystem, we remain aspirational in our collective purpose of the future of the public's health and take pragmatic steps to approach our vision at the Milken Institute School of Public Health (Milken Institute SPH): "Healthy and Safer Communities Powered by Public Health."

This year marks the 25th anniversary of Milken Institute SPH at the George Washington University and our unwavering commitment to advance public health, educate the next generation of public health leaders and produce generational change through impactful research. It is an exciting honor to lay witness to this quarter-century milestone

of producing life-changing research and generations of public health practitioners who are serving our nation's capital, our country and citizens of the world.

Since 2018 we have been guided by our strategic plan. Our goals have been nothing short of visionary:

- Propel our interdisciplinary research portfolio to national prominence.
- Innovate comprehensive educational strategies and excellent curricula that produce graduates capable of addressing key public health, health equity and health care challenges.
- Position Milken Institute SPH as a premier school for applied public health education, scholarship and practice in the nation.
- Increase our school's global health activities (research, technical assistance and policy work), expand global partnerships and increase global educational opportunities, broadening the footprint of George Washington University on global health and development, specifically in low- and middle-income countries.
- Maximize diversity and inclusion in all aspects of our work, including how we carry out our research, educational, applied public health and global health missions.

Our progress in all of these areas has been tremendous even as we have confronted new challenges.

Today, Milken Institute SPH remains the only school of public health in our nation's capital and is now ranked the 11th school of public health in the nation, with an online MPH program that has been ranked No. 1 and a highly ranked MHA program as well. This continued rise in success can be attributed to our outstanding faculty, staff and students, recruitment of many of the world's



preeminent public health scholars/educators, the strategic expansion of our doctoral programs, the addition of numerous centers of excellence, and our engagement with public health and health policy via our commitment to application of public health evidence to policy and our dedication to communicating about public health and health policy to the public.

Much has changed in our 25-year history, but one thing remains constant: No matter what challenges we face, the Milken Institute SPH community will remain in the vanguard, pursuing a path toward innovative solutions which create a healthier world for all. Here's to meeting the moment, seizing the opportunity and delivering on our mission together.

Warmest regards,

Lynn R. Goldman, MD, MS, MPH
Michael and Lori Milken Dean

GAME CHANGER

The Supreme Court Weighs In on Reproductive Health, Vaccine Mandates and Climate Change



In 2022, the U.S Supreme Court ruled on a number of issues that will impact public health for generations to come.

The high court weighed in on reproductive health, vaccine mandates and climate change, and in the process, disregarded the scientific evidence suggesting that such rulings would harm not just human health but the welfare of the planet.

Research, analysis and commentary by Milken Institute SPH leadership and faculty members suggest these decisions will result in rising rates of maternal and infant mortality, asthma and other respiratory conditions caused by polluted

air, and a number of other life-threatening health problems. Their research also suggests the Supreme Court rulings will disproportionately harm members of underserved and marginalized communities in the U.S.

The High Court Overturns Roe v. Wade

On June 24, 2022, the Supreme Court overturned Roe v. Wade and took away the constitutional right to abortion that had been in place since 1973. Roughly half of the states then rolled back abortion rights, and suddenly, Americans were living in a landscape where the legality and access to reproductive health care were no longer a given.

That same day, GW health leaders, including Milken Institute SPH Dean Lynn R. Goldman, issued a statement on the ruling. “Our experience and high-quality research have consistently shown that restricting access to an essential component of reproductive health care will put the health and wellbeing of women and children at risk. Unintended pregnancies carried to term can lead to a higher risk of maternal death, preterm birth, and other serious health problems.”

This isn’t the first time that Dean Goldman has spoken out about the issue. When the Supreme Court heard Dobbs v. Jackson, which was about the constitutionality of a 15-week abortion ban in Mississippi, she collaborated with the executive director of the American Public Health Association, Georges C. Benjamin, to write an opinion piece for *The Hill*.

In it, they stated, “Beyond the clear violation of individual rights that these laws impose, the public health consequences [of abortion bans] will be catastrophic.”

Goldman also participated in drafting a public health brief on Dobbs stating that Mississippi’s ban on abortion ran counter to the constitution. She and her fellow amici underscored the fact that Mississippi along with 13 other states with highly limiting abortion laws also “invest the least in policies and programs aimed at improving the health of women and children.”

To deepen their argument, they highlight a study that shows Mississippi leads the

country in infant mortality along with the overwhelming evidence that abortion access is an essential part of maternal and child health outcomes.

Amita Vyas, associate professor at Milken Institute SPH and director of the GW Maternal and Child Health Center, provided troubling numbers regarding the abortion ban in a GW Today Q&A about the Supreme Court ruling. “Right now the United States has the highest maternal mortality rate of any high-resource country—and it is the only country outside of Afghanistan and Sudan where the rate is rising,” said Vyas. Some studies suggest that banning abortion nationwide would lead to a 21% increase in the number of pregnancy-related deaths overall.

Not only will those seeking abortions face increased risk to their health, but Milken Institute SPH analysis suggests that this decision throws all pregnancies into dangerous territory.

“When punitive restrictions discourage providers from doing procedures to treat pregnancy loss—on the chance that they will be perceived as abortion

procedures—providers will begin to lose their skills in this area,” according to an analysis published in *Health Affairs* by Milken Institute SPH research scientist Julia Strasser and colleagues. “As this workforce shrinks, access to safe and effective management of any type of pregnancy loss will suffer, especially in states where certain procedures are not permitted.”

In another project, Strasser and colleagues at the Fitzhugh Mullan Institute for Health Workforce Equity created a comprehensive national database of contraception and abortion providers. They identified a small yet essential workforce providing abortions and other types of critical reproductive health care in the United States.

“As abortion services continue to be restricted, it is necessary to understand the workforce performing these services,” said Strasser.

The tracker is one of the many ways scientists expand the knowledge the nation needs in order to function in a post-Roe landscape.

Milken Institute SPH analysis suggests that this decision throws all pregnancies into dangerous territory.



The Rulings on COVID Vaccine Mandates

Another scientific and legal battle in which health care information and resources are essential centers on vaccine mandates.

The lack of oversight over vaccination disproportionately puts underrepresented populations at risk, many of whom do not have jobs that they can perform from home or private transportation to those jobs.

In an attempt to protect workers, the Occupational Safety and Health Administration (OSHA) issued an emergency order to protect employees at large companies by requiring their workforce to either get vaccinated or consistently mask and test.

This order was challenged by a series of lawsuits arguing against the scientific assertions that COVID-19 is dangerous to workers and citing governmental overreach by putting such requirements in place.

Public health leaders, including Dean Goldman and David Michaels, professor of environmental and occupational health and a former administrator for OSHA, argued in amicus briefs presented to the

Court that COVID vaccine mandates were essential in protecting workers and the nation from the virus.

“This administration acted decisively to put in place an OSHA rule that could protect American workers, a move that is particularly important given the many documented COVID-19 outbreaks that have occurred in workplaces, and that may become even more frequent with the spread of the Omicron variant and other potential new variants,” Goldman said.

The Supreme Court failed to uphold that authority in the OSHA case, halting the rule, citing the high likelihood of it being overturned in pending litigation.

They did, however, rule in *Biden v. Missouri* that health care workers in facilities that provide federally funded Medicare or Medicaid services would be required to vaccinate against COVID-19 unless they were exempt for religious or medical reasons.

Both rulings garnered a lot of attention, and public reaction to the rulings was mixed.

However, scientific research shows that vaccines work and putting safety measures in place like vaccine mandates are critical tools in the fight against COVID-19, which has taken the lives of more than a million Americans so far.



Climate Regulations Under Threat

The public health community was still processing those rulings and their impact when the Supreme Court ruled on another landmark case, *West Virginia v. Environmental Protection Agency*. In its ruling, the high court curtailed the EPA's ability to cut carbon emissions at a scale necessary to protect public health and the planet.

Leaders at Milken Institute SPH had joined a public health amicus brief urging the court to allow the EPA to strictly regulate carbon emissions and greenhouse gasses contributing to climate change. The brief outlines the pathways by which

climate change alters the environment and ultimately damages health.

For example, increases in temperature, prolonged wildfire and allergy seasons, extreme rainfall and flooding, and changes to vector-borne disease patterns will all lead to an uptick in hospitalization, illness and death.

The brief also states that the burden that climate change places on public health is not shouldered equitably. Vulnerable populations such as children, the elderly, and communities of color are most at risk. The brief argues that it is not just

in the best interest of public health, but a public health necessity that industrial greenhouse gas emissions continue to be regulated and reduced.

Susan Anenberg, associate professor of environmental and occupational health and director of the GW Climate and Health Institute, said, “The outcome of this case could have serious consequences for the government's ability to set emissions standards for major greenhouse gas sources across the U.S. We are already seeing the public health damages from climate change, and these health impacts

will grow in the future unless emissions are reduced dramatically.”

“Climate change is a public health threat that is affecting all of us now,” Dean Goldman said. “We must reduce greenhouse gas emissions to help protect the public health, the planet and future generations. And we must take steps to protect the health and wellbeing of people already affected by climate change.”

Sabrina McCormick, associate professor of environmental and occupational health at Milken Institute SPH, led recent research that analyzes how judicial resolutions impact climate change legislation. It found that nearly 60% of cases were won by industry and others opposing government regulation to curb air pollution.

“These decisions will also play a key role in determining how our cities and society are able to adapt to climate change,” McCormick said.

While factories and other sorts of industry may be getting a pass on pollution for now, there have been efforts to contain highway pollution. Physical separation between suburban housing and the highways in the form of physical walls, barriers, and plans to route around certain areas in places like Washington, DC, have been successful in creating cleaner air in neighborhoods. But Anenberg and her team have conducted research using data from NASA satellites on air pollution in DC neighborhoods and noted an important disparity.

“The Clean Air Act and amendments that followed it have been very effective at bringing down air pollution in most places. But it hasn’t brought down air pollution equitably,” Anenberg said.

Their data show that not only is poor air quality disproportionately worse in lower-income neighborhoods, but that those neighborhoods have higher rates of strokes, asthma and lung disease. Anenberg says that health risks associated with higher pollution frequently follow the same lines as racial divides in many

cities across the country.

This disparity has not been so clearly shown through data before. Anenberg and her team have been able to draw scientific maps using satellite data to show pollution and how it affects individual urban neighborhoods.

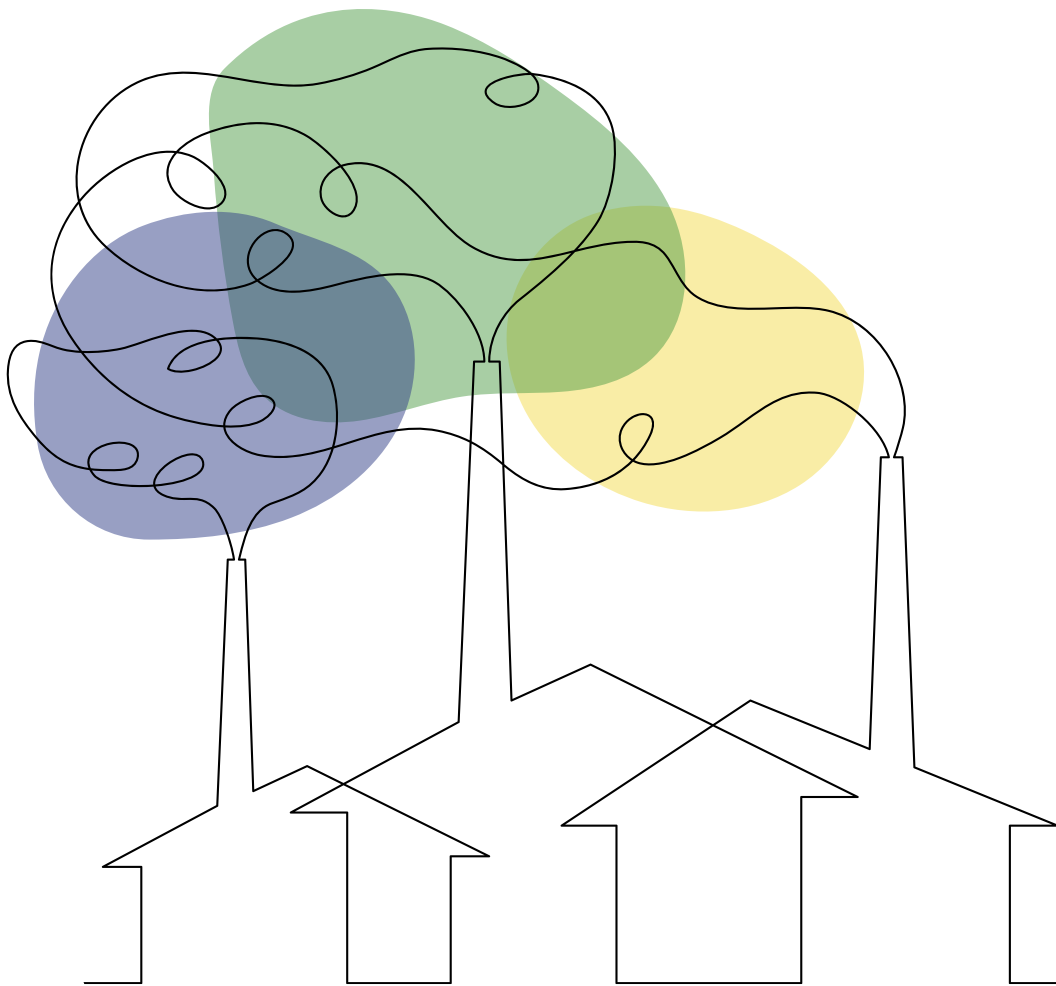
“Their data can also, for the first time, offer policymakers the quantitative evidence they need to start closing the clean air gap,” wrote Sara C.P. Williams of the work in her story “Air Equality for All,” which appeared in GW Magazine.

The Supreme Court has in the past and may continue to play an increasing role in public health issues. The recent decisions on Roe, vaccine mandates and air pollution illustrate how such decisions can put a disproportionate burden on vulnerable populations and communities.

Overturing Roe will increase maternal and infant mortality, the ruling on the COVID vaccine mandate limits worker protections, and reducing oversight on climate and pollution issues creates long-term global issues that will continue to spiral out of control.

Public health leaders are in the vanguard of this fight, and they already are redoubling their efforts to provide sound information, cutting-edge research, and education on these issues and more. They are passing down the tools to continue this fight to the next generation. They are also speaking out to policymakers and the public about evidence-based solutions.

After all, what is at stake is nothing short of a healthy planet and better, healthier lives for everyone.



“The rise in the rankings this year helps remind us that there is no better time to shape the future of public health and no better place than the Milken Institute School of Public Health at GW.”

—Lynn Goldman

Michael and Lori Milken Dean of Milken Institute SPH



STATE OF THE SCHOOL



No. 1
Fortune

No. 11
U.S. News & World Report

Milken Institute SPH on the Rise in National Rankings

Milken Institute SPH, the only school of public health in the nation's capital, is on the rise in two nationally recognized rankings of public health.

In the first, the school overall went up in the prestigious *U.S. News & World Report* 2023 rankings from No. 12 to No. 11.

Considered a global authority in rankings and consumer news, *U.S. News & World Report* evaluates graduate programs across numerous disciplines, including public health schools. In the past few years, Milken Institute SPH has steadily risen in this national list of the best public health schools.

In addition, Milken Institute SPH ranked No. 1 in *Fortune* magazine's first-ever national rankings of online master of public health programs. The number No. 1 ranked MPH@GW program was launched in partnership with 2U nearly a decade ago to give aspiring leaders the tools they need to progress in their careers. The MPH@GW program is delivered completely online while offering the same world-class faculty, admissions requirements and academic standards as the residential MPH programs.

For the inaugural ranking of online MPH programs, *Fortune* looked at 15 online MPH programs and ranked them on selectivity, demand and retention scores. According to *Fortune*, the best public health programs have world-class professors and a top-notch curriculum, and they attract some of the brightest students.

"The rise in the rankings this year helps remind us that there is no better time to shape the future of public health and no better place than the Milken Institute School of Public Health at GW," said Lynn Goldman, the Michael and Lori Milken Dean of Milken Institute SPH.

Cindy Liu Awarded President's Medal for COVID-19 Leadership



In October 2021, Cindy Liu, a Milken Institute SPH associate professor and co-director and chief medical officer for the Antibiotic Resistance Action Center, was awarded the George Washington University's President's Medal for her leadership in the development of the university's COVID-19 testing laboratory. The award is the highest honor the university's president can bestow and was

awarded during commencement on the national mall.

In just six weeks, Liu and her team designed the sample collection and testing protocols, built a cutting-edge testing facility, hired and trained a staff of more than 25 people, and acquired all of the licenses and permits necessary to perform weekly testing on all essential staff. The

testing center can process thousands of samples per week and provides results within 24 hours. The program has helped keep the GW campus and surrounding communities safe and has saved the university millions of dollars.

In her remarks to graduates, Liu recounted her unlikely journey to the commencement stage, recalling her childhood in a polluted Taiwanese town. She noted that she repeated ninth grade and didn't learn English until she was 13, but pursued her education and training despite having "no leaders that looked like me."

She told graduates, "It doesn't matter that no one from your family has done it, that no one from your hometown and no one that looks like you have done it or even tried it. And it does not matter if everyone says it is impossible. When you find the greatest good that you can do, you do exactly that."

Presidential awards were also presented to two other individuals for their extraordinary contributions to the university's and country's pandemic response: Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, and Andrew Maurano, an associate clinical professor of emergency medicine, who managed the delivery of COVID-19 vaccines to the D.C. community.

Dean Goldman Joins Two Prestigious Health Committees

Last year, Dean Lynn Goldman was appointed to two prestigious committees, one that advises the Centers for Disease Control and Prevention (CDC) on the nation's health and one that is part of the National Academy of Sciences, Engineering, and Medicine (NASEM) with a focus on climate change.

In October 2021, Goldman joined the 14-member Advisory Committee to the Director (ACD) of the CDC. This panel advises the CDC director, the secretary of the Department of Health and Human

Services, and the assistant secretary for health on policy and broad strategies that will enable CDC to fulfill its mission of protecting the nation's health. It specifically recommends ways to prioritize CDC's activities, improve results and address health disparities.

Dean Goldman also joined the ad-hoc NASEM committee that is conducting a study on the movement and relocation of people, infrastructure and communities away from environmentally high-risk areas, sometimes referred to as managed

retreat, in the Gulf Coast region of the United States.

The NASEM committee will focus on understanding and responding to the unique challenges in the face of a changing climate along the Gulf Coast such as coastal flooding due to sea level rise and land loss. Dean Goldman and the committee will make findings and recommendations based on information gathered about the challenges, needs and opportunities associated with managed retreat in the Gulf Coast region.

George Gray Serves as Interim Chair of Environmental and Occupational Health Department



George Gray has taken over the helm of Environmental and Occupational Health as interim chair of the department. Gray is an expert in risk analysis and has long been committed to the effective use of science to inform public health choices

and the importance of communicating those choices effectively to consumers, journalists and lawmakers.

Gray stepped into the role last year after Professor and Chair Melissa Perry accepted a Fulbright Fellowship to focus on capacity building and training public health leaders in Albania. Perry left Milken Institute SPH in August and is now serving as dean of the George Mason College of Health and Human Services.

Prior to joining Milken Institute SPH in 2010, Gray served as assistant administrator for the Environmental Protection Agency's Office of Research and Development and as the agency's science

advisor, promoting scientific excellence in research, advocating for the continuing evolution of the agency's approach to analysis and encouraging programs that provide academic research to support EPA's mission. His area of expertise included nanotechnology, ecosystem research and the influence of toxicology advances on testing and risk assessment.

From 2001 to 2005, Professor Gray was executive director of the Harvard Center for Risk Analysis and a member of the faculty at the Harvard School of Public Health.

"I am looking forward to advancing the Department of Environmental and Occupational Health, working with our world-class faculty, our researchers, staff and our top-notch students," Gray said.

After 16 Years of Distinguished Service, Alan Greenberg Steps Down as Chair

After more than 16 years of distinguished service to the school, Alan Greenberg decided to step down as the chair of the Department of Epidemiology in February of 2022. He remains a full-time member of the faculty and will continue his research and scholarly pursuits.

"As Chair, Alan Greenberg has been a brilliant leader, guiding the department toward high levels of excellence in scholarship, training and community service," said Dean Lynn Goldman. "He has served as a wise and generous mentor not only to epidemiology faculty and students, but also to his fellow chairs -- a model of a servant/leader who at all times has put our vision of healthier communities via the power of public health foremost. We are grateful for his past and continued contributions to the school and for his

leadership in the field of epidemiology and HIV prevention."

One of the longest-serving chairs at Milken Institute SPH, Greenberg continues to serve as the director of the District of Columbia Center for AIDS Research (DC CFAR), a group that aims to end the HIV epidemic in DC and beyond.

Manya Magnus, professor of epidemiology, was appointed as interim chair of the department. Magnus previously served as co-chair of the department and also serves as the co-director of the clinical and population sciences core at the DC CFAR.

Milken Institute SPH launched a nationwide search for a new chair of the department in the spring of 2022.



Letter from the Senior Associate Dean for Academic, Student and Faculty Affairs

JANE HYATT THORPE, JD

While last year presented various academic, professional and personal challenges, Milken Institute SPH rose to the challenge. We are an incredible and resilient community of learners and scholars. Our faculty continued to deliver a high-quality academic experience, our students demonstrated incredible dedication to their coursework, and our staff provided exceptional programmatic and ancillary support services to our entire community. Our residential and online students took full advantage of resuming in-person experiential and applied learning activities, including practica, immersion, and fellowship experiences across the country and internationally. Our admissions team was able to return to the road for recruitment and alumni events, our career services team welcomed employers back to campus, and our faculty and students enjoyed returning to conferences and other academic engagements in person as well.

As the need for experienced public health and health care practitioners and scholars continues to grow, so does our overall student population. Our online MPH@GW continues to experience our highest volume enrollment to date, and our residential MPH and MHA programs similarly experienced meaningful growth. We also welcomed our largest classes of PhD students across seven PhD programs and DrPH students to our new schoolwide DrPH program. We continue to expand programmatically, evolving innovatively to meet the needs of our various disciplines and the field in general. We developed three new concentrations for our MPH@GW program that will launch this coming year (global health; women, youth, and child health; and climate and health). A new joint MSN/MPH has just launched and will have its first student this fall. In addition, our full-time faculty

grew by nine experts across a range of public health fields. As we enter our self-study period for the Council on Education for Public Health (CEPH) re-accreditation (Spring 2024), we have begun a thorough review of our academic programs in particular, noting their strengths as well as opportunities for improvement that will inform our future academic growth and development.

We also continued to expand our portfolio of interprofessional education (IPE) partnerships and experiences for MPH students, offering over 1000 such experiences during the previous academic calendar year in collaboration with partners at GW's School of Medicine and Health Sciences, School of Nursing, and Law School, as well as a continuously evolving set of national and global networks consisting of more than 30 universities.

Faculty IPE champions again made visible contributions to the field through a number of peer-reviewed publications, refereed conference presentations and receipt of the 2022 Public Health Excellence in Interprofessional Collaboration Award Honorable Mention in Health Communications and Health Technology, granted by the Interprofessional Education Collaborative and Uniformed Public Health Service Commissioned Officers Association.

Finally, we graduated an incredible class of 2022 undergraduate and graduate students with joyous in-person celebrations for our school (first since 2019). Our ever-growing and remarkable network of alumni are working across the country and globally



As the need for experienced public health and health care practitioners and scholars continues to grow, so does our overall student population.

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.

This is truly a remarkable time in the fields of public health and health care administration, and our students and alumni alongside our faculty and staff continue to make great contributions that will have a lasting impact on our collective health and well-being. We continue to innovate in and outside of the classroom to best educate and prepare future and current public health and health care administration leaders as the fields themselves continue to expand and grow.

New Doctor of Public Health Program Trains Global Leaders



“The School of Public Health offers strong policy and global health programs as well as a robust network of contacts in organizations like the World Health Organization and the World Bank as well as Congress, the executive branch and countless federal agencies,” said Program Director Gene Migliaccio. “We look for students with at least four years of public health work experience, which makes for tremendously rich classroom discussions.”

The DrPH program combines a rigorous curriculum with practical training in domestic and global health that is readily accessible in the nation’s capital. Focusing on leadership and practice,

the program provides flexibility in coursework to meet the diverse needs of students—many of whom arrive with master’s and professional degrees under their belt. DrPH students benefit from a thorough grounding in global health, environmental and occupational health, health policy and management, social and behavioral science, prevention and community health, exercise and nutrition, as well as biostatistics and epidemiology.

“Above all, we look at the DrPH as a leadership degree, and our philosophy is very simple,” said Migliaccio, who is also an associate dean for applied public health. “We train public health thought leaders and practitioners to shape public health policy and practice and lead organizational change in the United States and worldwide.”

Glance at the headlines on any major news site and you’ll see that public health challenges abound: COVID-19, gun violence, pervasive systemic racism—to name a few. The Milken Institute SPH’s new Doctor of Public Health (DrPH) program aims to prepare a cadre of thought leaders ready to tackle these seemingly intractable issues with fresh ideas and innovative approaches.

The first school-wide doctorate, the DrPH launched in 2021. It is an interdisciplinary public health leadership training program that delivers practice-based curriculum and applied research to equip tomorrow’s public health leaders with skills for developing, implementing and evaluating public health programs and policies. More than two dozen students are enrolled in the new program, drawn by the leadership curriculum as well as GW’s Washington, DC, location.

New Faculty

Robert Canales, PhD

Associate Professor of Environmental and Occupational Health

Jonathon Rendina, PhD

Associate Research Professor of Epidemiology and of Prevention and Community Health

Rob van Dam, PhD

Professor of Exercise and Nutrition Sciences

Grecio Sandoval, PhD

Assistant Research Professor of Biostatistics and Bioinformatics

Daniel Goldberg, PhD

Assistant Research Professor of Environmental and Occupational Health

Derek Dangerfield II, PhD

Associate Professor of Prevention and Community Health

Juan Klopper, MD,

Teaching Associate Professor of Biostatistics and Bioinformatics

Abigail Garvey Wilson, PhD

Teaching Assistant Professor of Epidemiology

Karen Collins, PhD

Teaching Assistant Professor of Prevention and Community Health

Julia Strasser, DrPH

Assistant Research Professor of Health Policy and Management

Salama Freed, PhD

Assistant Professor of Health Policy and Management

Undergraduate Program in Public Health Reports a Record Year



The return to campus and in-person instruction was met with great excitement, and Milken Institute SPH students, faculty and staff showed compassion, flexibility and resilience as they rose to meet the challenges of the COVID-19 pandemic. “We were so pleased to have the students back on campus last year. Their energy and enthusiasm was evident through the success of our programming and in the classroom experience,” said Sara Wilensky, assistant dean for undergraduate education.

The undergraduate program had a banner year, which included three notable achievements for the 2021-22 school year, Wilensky said.

First, with an intentional focus to increase student opportunities for community engagement (with research, internships and service), Milken Institute SPH faculty helped kick off a T.E.A.M. Milken mentor program with almost 100 undergraduate students participating. Over the course of

the academic year, this program connects students to professional mentors, workshops and other exciting opportunities, Wilensky said. She added that the program is a wonderful opportunity for academic growth and personal and professional networking for Milken Institute SPH students and their mentors.

Second, Milken Institute SPH launched a new applied nutrition concentration with hopes it will appeal to a broader range of students. The program provides students with a comprehensive foundation in nutrition and lays the groundwork for integrating nutrition across disciplines.

Third, as Milken Institute SPH increased undergraduate enrollment and continued to expand program offerings, the department also created a First-Year Experience course, which all first-year undergraduates will take in the fall semester.

“Milken Institute SPH undergraduates represent a beautifully diverse and deeply intersectional assemblage of passionate minds,” Wilensky said. “Milken Institute SPH takes great care to ensure that all students know they are valued, heard, honored, and respected.” This year the undergraduate program developed and implemented “Walk in Their Shoes,” an event for first-year students intended to expose students to diverse backgrounds and set the stage for being able to have respectful conversations about differences.

The undergraduate curriculum prepares students for future practice and study, with courses such as Epidemiology, Principles of Health Education and Promotion, Health Policy and more. “As we look ahead, we intend to continue with the newly established mentoring program and expand T.E.A.M. Milken offerings and launch the first ever community health Living Learning Community for first year students,” said Wilensky.

Fast Facts for the Undergraduate Program Fall 2021

NUMBER OF MAJORS

BSPH:	441
EXSC:	127
NS:	23
TOTAL:	591

NUMBER OF MINORS

BSPH:	95
EXSC:	15
NS:	16
Bioinformatics:	13
TOTAL:	139

DIVERSITY OF STUDENTS

Asian:	17%
Black:	16%
Hispanic:	13%
First Generation:	19.5%
International:	3.5%



Milken Institute SPH Launches Diversity & Inclusion Action Committee



Wendy Ellis



Mark Edberg

At Milken Institute SPH, we believe that all people have the right to live a healthy life. We recognize that systemic racism and oppression have led to enormous health disparities, and we commit to making diversity, equity, inclusion and justice central to our mission. This comprehensive approach is intended to influence every aspect of our school including educational advancement, recruitment and hiring, research, and community engagement.

This year we launched a Diversity and Inclusion Action Committee. This committee has voting membership from our staff, faculty and students. The committee, chaired by Professor Mark Edberg and Assistant Professor Wendy Ellis, advises and consults on all policies,

programs and activities within the school that, in the judgment of the committee, are relevant to achieving and strengthening the school's goals of diversity, equity and inclusion.

In celebration of Juneteenth this year, the committee hosted a screening of a documentary, "America's Truth: Cincinnati," at Milken Institute SPH. The screening was attended by nearly 50 faculty, staff and students and included a facilitated discussion led by the Center for Community Resilience, which produced the film. The focus of this discussion was to create a roadmap that allowed participants to "see the truth and reconcile to heal our communities," said Ellis, who is the founding director of the Center for Community Resilience.

The film tells the story of Cincinnati, Ohio, where Ellis grew up, a city that she said is emblematic of the story of inequity in the United States. Though a non-slave state and the first stop on the underground railway for enslaved people escaping the south across the Ohio River, Ohio was among the first states to adopt the Black Codes, a blueprint for the Jim Crow era. The film traces the modern civil rights movement and desegregation and the demoralization caused by urban renewal and gentrification that has displaced thousands of Black families.

The film and corresponding discussion guide can be downloaded on the Center for Community Resilience website at <https://ccr.publichealth.gwu.edu>.

RESEARCH



Adnan Hyder

Milken Institute SPH Office of Research Excellence (ORE) continues to rise to the challenges of the COVID-19 pandemic

Last year the university and Milken Institute SPH continued to navigate a hybrid model of on-campus activity as the COVID-19 pandemic continued. Under the leadership of Senior Associate Dean Adnan Hyder, ORE has provided information and resources to faculty, staff and students during these challenging times.

ORE also saw tremendous growth in research productivity.

During FY22, Milken Institute SPH recorded:

- \$132.7 million in total expenditures.
- \$16.3 million in indirect expenditures.
- 272 proposals submitted to funding agencies by 116 principal investigators.
- \$224.1 million of external funds being managed.

Between April 2021 and February 2022, Milken Institute SPH also managed 14 COVID-19-related research proposals and the school was granted over \$1 million in federal and foundation funding for COVID-19 studies.



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Examples of Milken Institute SPH Research:

Professor Doug Evans in the Department of Prevention and Community Health started a project titled Social Media Promotion of COVID-19 Vaccination and Uptake and Reduction of Vaccine Hesitancy Among Health Care Workers in Nigeria, which is funded by the Bill & Melinda Gates Foundation. The purpose of the project is to evaluate the effectiveness of a social media campaign to promote COVID-19 vaccination and reduce vaccine hesitancy in Nigeria.

The Center for Health and Health Care in Schools (CHHCS), under the direction of Associate Professor **Olga Acosta Price**, has a recent award to advance the behavioral health of DC students attending K-12 public and public charter schools. It is a five-year contract with the DC Department of Behavioral Health that allows CHHCS to facilitate a city-wide Community of Practice to implement best practices in school behavioral health and to assess the ways this social learning approach contributes to the development of a comprehensive school behavioral health system in DC.

Senior Associate Dean Adnan Hyder, **Research Regulatory Specialist Paul Ndebele** and **Assistant Research Professor Nino Paichadze** continue to build a strong portfolio of global health training grants at Milken Institute SPH. The trio work out of the Center on Commercial Determinants of Health, which hopes to address the high burden of non-communicable diseases and injuries in the U.S. and globally. Milken Institute SPH will serve as a support system for these global partners to support new graduate programs and research projects and to produce future trainers, lecturers and teachers who can respond to key global public health issues. In the past year the team secured a triad of five-year capacity development grants from the Fogarty International Center of the National Institutes of Health, including:

- Two grants with the purpose of training Zambians in research and building institutional capacity to address the high burden of non-communicable diseases and injuries. The Milken Institute SPH team will work with the University of Zambia.
- A third grant that will help develop bioethics capacity with the Aga Khan University (AKU) in Pakistan and related campuses of AKU in East Africa and Central Asia. This grant will launch a new master's program in bioethics at AKU and train a new cohort of ethics leadership.

Assistant Professor Adam Ciarleglio has a new body of work supported by a career development award from the National Institutes of Mental Health:

- Ciarleglio recently published some of his work on methods for handling missing functional data in the *Journal of the American Statistical Association* and continues to work with his doctoral student to develop flexible missing data methods.
- Additional research that has resulted from this award has focused on better understanding the association between frailty and late-life depression and has been published in the *American Journal of Geriatric Psychiatry* and the *Journal of Gerontology: Series A*.

ORE plans to continue partnering with other schools at GW to bring insightful and informative discussions that are at the intersection of public health and other sectors for our community and to foster collaborations.

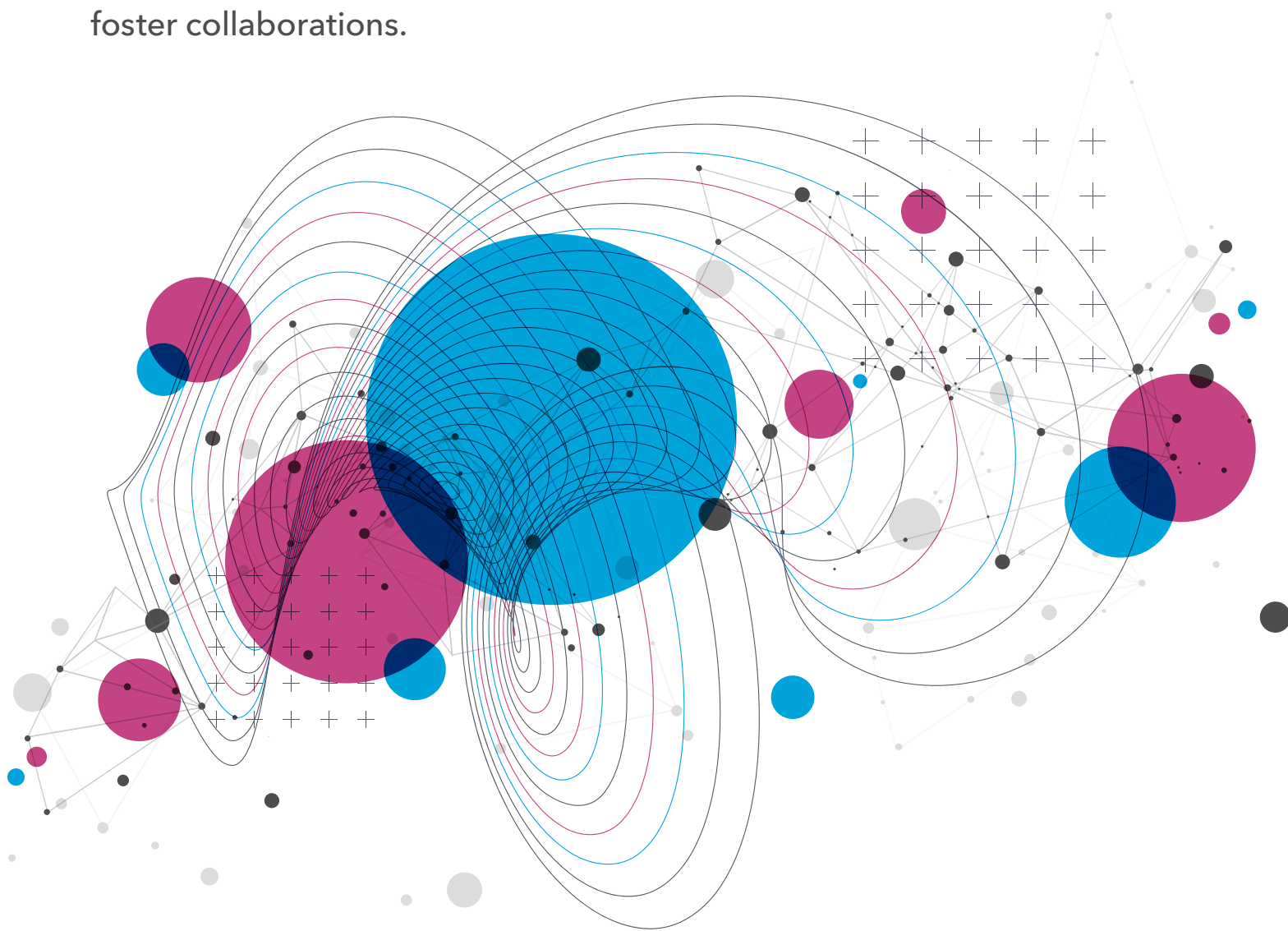
Research Support and Engagement

The Milken Institute SPH **Innovation Awards** were restarted, and two cycles have been announced in this past year to stimulate new research that can go ahead and develop a base for future grant applications. These awards invited a focus on Diversity, Equity and Inclusion initiatives and allowed for faculty to submit applications that represented diverse races, communities, interests and public health topics.

ORE also co-hosted a **collaborative webinar** with the GW School of Media and Public Affairs regarding public health and media misinformation that garnered up to 60 audience members. ORE plans to

continue partnering with other schools at GW to bring insightful and informative discussions that are at the intersection of public health and other sectors for our community and to foster collaborations.

In the Spring of 2022, ORE helped conduct the second, fully remote Milken Institute SPH **Research Showcase** with nearly 80 abstracts presented from undergraduate students, graduate students and public health professionals. Dean Goldman served as the keynote speaker for the award ceremony where prizes were awarded to the best abstracts selected by faculty reviewers.



CENTERS & INSTITUTES

Carlos Rodriguez-Diaz, an associate professor of prevention and community health, has been appointed as the center's director. Rodriguez-Diaz, who is originally from Puerto Rico, has conducted several ground-breaking public health studies in the United States and the Caribbean.





New Center for Caribbean and Latin American Health Launched

Milken Institute SPH recently launched a unique research center focused on addressing health disparities and improving public health in the Caribbean and Latin America. The new center, called the Gill-Lebovic Center for Community Health in the Caribbean and Latin America, will leverage the research, expertise and experience of faculty at GW to develop regional collaborations to promote health and wellness.

Carlos Rodriguez-Diaz, an associate professor of prevention and community health, has been appointed as the center's director. Rodriguez-Diaz, who is originally from Puerto Rico, has conducted several ground-breaking public health studies in the United States and the Caribbean.

The center aims to:

- Increase the number of collaborations with community-based organizations and institutions of higher education committed to improving health outcomes in the region.

- Provide training opportunities for students and faculty at GW and for students, scientists and organizations serving Caribbean and Latin American communities.
- Engage with local partners and organizations to promote ownership and sustainability.

“This innovative Center will form new partnerships to improve health across the region’s most vulnerable groups, including women and children, migrants and people living in poor communities,” said Dean Lynn Goldman. “The Center will not only address current problems in the region but will be a sustainable source of expertise and care for these communities moving forward.”

A gift from GW Political Science Professor James Lebovic and his wife, Holly Gill, established the new center.



Mullan Institute Launches New Tools and Research to Advance Health Workforce Equity

Researchers at the Milken Institute SPH's Fitzhugh Mullan Institute for Health Workforce Equity are committed to helping all people to attain their full health potential. The institute specifically focuses on ways that the health workforce can address and promote health equity, as the people who deliver health services and health promotion constitute one of the primary mechanisms to both advance health equity and to further eliminate health inequities.

Recently the Mullan Institute's notable work includes:

- Launching an online tracking tool to help policymakers identify and plug gaps in the behavioral health workforce in the U.S. Using novel data sources and state licensure data, the tool tracks the location and numbers of psychiatric specialists, counselors, therapists and other members of the behavioral health workforce, including primary care professionals who provide some mental health services. Quantifying the behavioral health workforce will aid in planning efforts to strengthen this workforce, which is urgently needed to help with the current crisis of depression, anxiety, substance abuse and other serious mental health issues in the U.S.
- New research demonstrating how historical redlining policies impact access to behavioral health services. The first-of-its-kind study examined differences in the supply of physicians or other behavioral health clinicians across redlined neighborhoods in Richmond, Virginia, and Greensboro, North Carolina, and found that these areas had fewer behavioral health specialists serving their communities.
- New research that opens an important window on who provides abortion services in the United States—information that is critically important at a time



when access to abortion care is being curtailed in many states. The research team found that while most clinicians providing abortions were OB-GYNs, primary care physicians and advanced practice professionals also provided this essential service. Increasing the number of primary care physicians and others, such as emergency medicine doctors, who can provide abortion care would help to boost access to these services, especially in underserved areas, the researchers said.

- A first-of-a-kind tool providing health workforce racial and ethnic diversity data for 10 professions. The Health Workforce Diversity Tracker tracks recent graduates and the existing workforce across the following critical professions: advanced practice registered nurses, dentists, occupational therapists, pharmacists, physical therapists, physicians, physician assistants, respiratory therapists, registered nurses and speech pathologists. The tool compares the representation of Black, Hispanic, and white workers

and new graduates in health professions compared to their representation in the population and presents a Diversity Index to allow for comparisons across race and ethnicity groups and across states.

“During these times of global disease threats, policymakers suddenly remember how important the people who deliver care are,” says Patricia (Polly) Pittman, director of the Mullan Institute and professor of health policy and management. “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.”

These recent initiatives, as well as ongoing work, all bolster the Mullan Institute's efforts to help support a diverse and healthy workforce in the United States and globally.

Gift Allows Geiger Gibson Program in Community Health Policy to Grow

Last year, the RCHN Community Health Foundation (RCHN CHF) awarded \$7 million to the Geiger Gibson Program in Community Health at Milken Institute SPH. The Geiger Gibson program is the nation's leading academic program focusing on community health centers and the populations they serve.

"The Geiger Gibson Program was envisioned by our Department of Health Policy and Management's long-standing work on health equity, creating an academic home for the study of community health centers' impact on health and health care and policies that advance health care for the medically underserved," said Sara Rosenbaum, the Harold and Jane Hirsh Professor of Health Law and Policy at Milken Institute SPH. "This gift, coming just as the pandemic has

underscored the enormous contributions of health centers, is of immeasurable importance in supporting this work going forward," continued Rosenbaum, who is also the founder of the Geiger Gibson Program.

The RCHN CHF gift builds on and expands the existing scope of the program's work, providing support for the Geiger Gibson Program's Health Policy Fellows program for health center staff, awards and recognition programs for emerging leaders and distinguished visitors, collaboration with the National Center for Medical-Legal Partnership, cutting-edge scholarship on health equity and law and expansion of the community health and equity focus within the department's Master of Health Administration programs.

Since 2007, RCHN CHF has supported the Geiger Gibson / RCHN Community Health Foundation Research Collaborative, which has produced more than 100 policy analyses, data briefs, blogs and peer-reviewed publications on issues facing community health centers and the health care needs of underserved communities. In partnership with the RCHN CHF, the collaborative has also created scores of infographics and visuals to communicate the effects of health centers on access to care, reducing gaps in health inequality and the implications of major policies for health centers and the communities they serve. Policy analysis by the program's faculty and staff experts has addressed national health reform, medically underserved communities, and community health centers as public health first responders and as providers of family and women's health.

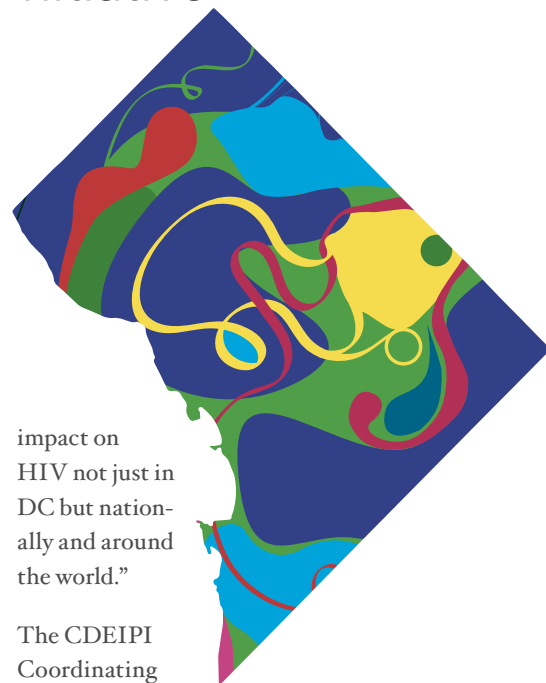
DC Center for AIDS Research selected to lead new CFAR Diversity, Equity, and Inclusion Pipeline Initiative

The District of Columbia Center for AIDS Research (DC CFAR) has long been on the front lines of the fight to end the HIV epidemic in the District of Columbia and nationally. The DC CFAR, which is based at Milken Institute SPH, is a citywide consortium of more than 260 HIV investigators at eight DC research active institutions.

Significant progress has been made toward the goal of ending the HIV epidemic in the District of Columbia due to the collective efforts of the DC Department of Health and academic investigators from the DC CFAR and the National Institutes of Health. The number of new HIV cases diagnosed annually has decreased more than 80% over the past decade. A 2020 report by the DC Department of Health, however, noted the importance of increasing efforts to reduce the disproportionate impact of HIV on Black and minority populations.

In 2021, the DC CFAR was awarded \$3 million by the National Institutes of Health to lead the new CFAR Diversity, Equity, and Inclusion Pipeline Initiative (CDEIPI). The goal of CDEIPI is to increase the number of underrepresented minorities and Black and Indigenous people of color engaged in careers focusing on HIV science and medicine. This initiative will help forge career pathways for scholars beginning at the high school, undergraduate, graduate and postdoctoral levels in collaboration with historically Black colleges and universities and other institutions serving minorities throughout the United States.

"I am thrilled that the DC CFAR has been chosen to lead this new initiative," said Dean Lynn Goldman. "Our leadership in the prevention of HIV and now in Diversity and Inclusion is extraordinary and highlights GW's ability to make an



impact on HIV not just in DC but nationally and around the world."

The CDEIPI Coordinating Center is housed in the DC CFAR, which is directed by Professors Alan Greenberg and Manya Magnus in the Department of Epidemiology.

Center Helps Ensure Behavioral Health Needs are Met for DC School Children

Far too many children and youth in the District of Columbia face tremendous challenges that interfere with their health, well-being and ability to learn and thrive in school. Experts note that more than 47% of children and teens in DC have experienced at least one adverse childhood experience, and the impact of these experiences can have a negative effect on school performance and the ability to lead a successful life. DC youth are more likely than their peers nationwide to be in a physical fight in school, attempt suicide and use illegal substances. Consistent with national statistics, one in five children in DC has a diagnosable mental health problem, yet only 21% of these children receive the help they need.

To address these issues, the District of Columbia has prioritized ensuring that quality behavioral health services are available to children and youth attending its public and public charter schools. Since 2019 the Center for Health and Health Care in Schools (CHHCS) at Milken Institute SPH has been working with the District of Columbia's Department of Behavioral Health to

convene and facilitate what's called the DC Community of Practice (DC CoP). Its goal is to support the development of a comprehensive, school-based behavioral health system in DC.

The DC CoP invites school behavioral health coordinators and community-based organization clinicians, along with other members of school-based teams and community stakeholders, to participate in peer learning opportunities with the goal of embedding high quality school behavioral health practices in all DC public and public charter schools.

The DC CoP regularly convenes clinicians and other partners who serve as a resource to 251 DC public schools and DC public charter schools that collectively serve more than 50,000 children and youth. Along with other community partners and District agency leaders, DC CoP members come together monthly to learn from each other, solve problems of

practice and to support the implementation of best practices in school behavioral health to promote healthy development and well-being for all students and their families. The DC CoP offers a space for system-level leaders to interact with on-the-ground service providers—and learn about the urgent challenges facing students, staff, families and providers—so all invested partners are empowered to respond quickly and use numerous communication channels to carry the learning into the broader system.

“I’m so proud of the work we are doing in the District to ensure our students receive the behavioral health support they need,” said Olga Acosta Price, an associate professor of prevention and community health and director of CHHCS. “In three years, we have built a community of clinicians and school staff who not only learn from each other, but also support each other. It’s gratifying work and it’s making a difference in children’s and family’s lives.”



Shining a Light on Syndemics of Obesity, Climate Change and COVID

In 2019, the world was grappling with the syndemic of obesity, undernutrition and climate change. A syndemic is the interaction of epidemics or pandemics that occur in the same time and place, increase the adverse consequences of each other and have a disproportionate impact on underserved and vulnerable populations.

Just one year later, the emergence of a second syndemic of COVID-19, obesity and food insecurity quickly overwhelmed the food supply system with devastating effects on the production, distribution and consumption of food. The resulting increases in food insecurity and inactivity, and the jump in the consumption of ultra-processed food may have contributed to a rise in obesity, thereby further increasing the risk of COVID-19 infections, hospitalizations and death.

The interactions of the twin syndemics were first described in a pair of papers published by William H. Dietz, chair of the Sumner M. Redstone Global Center for Prevention and Wellness at Milken Institute SPH, and health policy doctoral candidate Sydney Pryor. Their research builds upon the Lancet Commission's 2019 report, "The Global Syndemic of Obesity, Undernutrition, and Climate Change," and offers systems-level strategies focused on building a more resilient and equitable food supply chain to improve human and planetary health.

"The COVID-19 pandemic disrupted every step of the food supply chain and exposed the deep vulnerabilities of our industrialized food system," said Dietz. "From the longstanding inequities suffered by our food supply chain workers, to the increased demand for foods that contribute to climate change and the disease of obesity, the United States was ill-prepared to respond to the twin syndemics."

For example, food supply chain workers were deemed essential during the



pandemic, but faced inequitable working conditions, with fewer worker protections, inadequate wages and health benefits, and living conditions that fostered the rapid spread of SARS-CoV-2. As the pandemic hit this particularly vulnerable population, the availability of many foods became limited as a consequence of the highly centralized food production system in the U.S. In the face of widespread economic hardship and limited food access, consumers shifted to inexpensive ultra-processed foods. These foods are readily available, have a long shelf life, and their high salt, fat, and sugar content makes them taste good. Not only do these foods contribute to obesity, but their production and distribution contribute to climate change, Dietz said.

Local and regional food systems are more agile and resilient compared to industrialized producers and can protect the community food supply during times of

crisis, such as the COVID-19 pandemic. Smaller, more diversified operations can also improve employment opportunities for a local workforce and support more sustainable plant-based diets. Regional food systems also experience shorter transportation distances and logistical distribution bottlenecks, thereby reducing the greenhouse gas emissions associated with national and international food transportation systems. Dietz said that developing strong regional food systems should become a sustainable priority for emergency preparedness.

"The most urgent reality is that we must respond to the Global Syndemic of Obesity, Undernutrition and Climate Change while also preparing for the next catastrophic event. Supporting a strong, sustainable, and equitable food system, while also addressing the inequities suffered by our food supply chain workforce, must become an urgent priority," Dietz added.



This past year we welcomed our inaugural class of students into the new PhD and MS degree programs in health and biomedical data science. The students are inspired, enthusiastic and brilliant. Come the fall semester of 2022, we will have more than 50 students across all graduate programs, including 16 doctoral students.

BIOSTATISTICS & BIOINFORMATICS

Letter from the Chair

SCOTT EVANS, PHD

The Department of Biostatistics and Bioinformatics (DBB) just turned three years old. However, we are no longer seated at the kids' table! It has been a year of great progress for our academic programs, tremendous impact in our research, as well as personal sadness and elation.

This past year we welcomed our inaugural class of students into the new PhD and MS degree programs in health and biomedical data science. The students are inspired, enthusiastic and brilliant. Come the fall semester of 2022, we will have more than 50 students across all graduate programs, including 16 doctoral students.

Department faculty continue to conduct important public health research projects in COVID, diabetes, superbug infections, cancer and other areas. Faculty have leadership roles in large and impactful research studies, such as the Analysis of National COVID-19 Hospitalization Outcomes in Recipients of Aspirin (ANCHOR) study, the COVID-19 Community Research Partnership (COVID-19 CRP), the Glycemia Reduction Approaches in

Diabetes (GRADE) Comparative Effectiveness Study, the Diabetes Prevention Program Outcomes Study (DPPOS), the Epidemiology of Diabetes Interventions and Complications (EDIC), Studies to Treat or Prevent Pediatric Type 2 Diabetes (STOPP-T2D) TODAY2 Phase 2 Follow-up (T2P2), the Maternal-Fetal Medicine Units (MFMU), and the Antibacterial Resistance Leadership Group (ARLG). New projects include the Exercise and Nutrition to Improve Cancer Treatment-Related Outcomes (ENICTO) in Cancer Survivors Consortium and the DPPOS Alzheimer's disease and related dementias (ADRD) project. These projects grant the DBB the opportunity to link research and education, providing training ground for students, serving as the motivation for thesis and dissertation projects, providing real-world data for teaching illustration, and supporting students, staff, and early-career faculty.

This past year, DBB was deeply saddened by the passing of our friend and colleague, Professor Emeritus Elizabeth Thom. Liz was a giant in her field, internationally recognized as the preeminent



biostatistician in maternal-fetal medicine. She was a wonderful mentor to young faculty, staff and students.

We also had great cause for celebration. We celebrated Professor Keith Crandall for a decade of leadership of the DBB's Computational Biology Institute (CBI). We celebrated Professor Sam Simmens for a decade of leadership of the DBB's Biostatistics and Epidemiology Consulting Service (BECS).

This year represents the 50th anniversary of the Biostatistics Center, where many DBB and other SPH faculty and students work on research projects. The CBI, BECS and the Biostatistics Center are critical pillars for the DBB.

We are pleased with our progress during these challenging but exciting times. We look forward to continuing our collective success and growth in the year ahead.

Biostatistics Center: 50 Years of Health Transforming Research



Advancing diabetes care, improving outcomes for mothers and infants, reducing the threat of COVID and superbug infections: It's all in a day's work for the GW Biostatistics Center, which applies statistical methods to studies that address important questions in public health and medicine. This spring, the center marked 50 years of groundbreaking research that has improved health outcomes and quality of life for millions of people worldwide. Its large-scale studies conducted in close partnership with scientists and clinical sites across the U.S. and internationally, have led to evidence-based strategies to diagnose, prevent and treat diseases.

Over the past five decades, the center has published more than 1,700 papers and been cited countless times in reports to the U.S. president and Congress. In addition, it has advanced biostatistical science by developing and implementing innovative approaches to clinical research and providing training and education on clinical trials and clinical research to hundreds of GW students.

Fifty years is a big milestone—giving the center's staff an opportunity to reflect. "What's most rewarding to see is the enormous impact our studies have in the lives of patients," said Scott Evans, director of

the Biostatistics Center and professor and founding chair of the Milken Institute SPH Department of Biostatistics and Bioinformatics.

Located in Rockville, Maryland, the center is close to the National Institutes of Health, which has funded 99% of the center's research. It has worked particularly closely with the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), among the largest of the NIH's 27 institutes.

"The center has helped coordinate and analyze the results of some of the most consequential studies the NIDDK has funded, leading to widespread improvements in prevention, treatment and outcomes for people with diabetes," said Griffin P. Rodgers, director of the NIDDK. "Their contributions and leadership have been invaluable."

In the 1980s, center researchers oversaw a clinical trial that established elevated blood sugar as a major risk factor for Type 1 diabetes complications, including blindness, kidney disease and amputation. Another study found that lifestyle interventions reduced the risk of developing Type 2 diabetes by more than half. Currently, researchers are working to determine which two-drug combination

is best for controlling blood glucose levels—research that "will define diabetes treatment for the next generation," said Evans.

Since 1986, the center has also led the Maternal Fetal Medicine Units (MFMU), which focuses on clinical questions in maternal-fetal medicine and obstetrics. Many of MFMU's studies have defined procedures done during pregnancy to either prevent various complications or optimize outcomes for mothers and infants.

In addition, the center is involved with groundbreaking research to stem the spread of COVID-19 and address antibiotic-resistant bacteria superbug infections—one of the most serious threats to global health. According to the Interagency Coordination Group on Antimicrobial Resistance, drug-resistant diseases already cause 700,000 deaths globally per year.

In the future, Evans is interested in pursuing new types of studies that harness advancements in electronic medical records. "We're trying to evolve to take full advantage of the rapid growth in technologies, different types of data available for study and the changing regulations," Evans said.

Changing of the Guard—Not Mission—at BECS

This year, things are a little different at the Biostatistics and Epidemiology Consulting Service (BECS), the study design and analysis consulting service at Milken Institute SPH. Founding Director Sam Simmens stepped back to three-quarters time in July 2022. He plans to stay on at BECS in a supporting role, helping Interim Director Adam Ciarleglio and Department of Biostatistics and Bioinformatics Department Chair Scott Evans while the search commences for a new full-time director.

Since its inception in 2012 and its predecessor group started in 1990, BECS has been serving the statistical support needs of Milken Institute SPH as well as other health researchers across the university. “We’ve helped with more than 120 grant applications and provided direct data

analysis support to dozens of sponsored projects in the Milken Institute SPH as well as the GW School of Medicine and Health Sciences, School of Nursing, the School of Engineering and Applied Science, and the Columbian College of Arts & Sciences,” Simmens said.

Under Simmens’ leadership, BECS staff have served as analysts on sponsored projects and coordinated biostatistics support for the DC Center for AIDS Research, a multi-institutional effort to combat the HIV epidemic especially in Washington, DC, and the Clinical and Translational Science Institute at Children’s National, which helps investigators translate scientific discoveries into improved health. He has also assisted in providing data analysis support for the DC Cohort, a National Institutes of Health–funded longitudinal

study of more than 10,000 consenting participants receiving HIV care at 15 outpatient clinics in Washington, DC.

Recent innovations include the BECS “Quick Clinic,” a free one-hour consulting service to faculty and doctoral students, as well as a series of Best Practices in Biostatistics talks for investigators at both GW and Children’s National. Looking ahead, BECS will be involving Biostatistics and Bioinformatics master’s and PhD students directly in BECS consultative and collaborative projects under faculty supervision. These students will then be in a great position to convey what they are learning about best practices in statistics and study design to researchers and doctoral students across all Milken Institute SPH departments.

In Memoriam: Elizabeth Thom



A nationally known researcher on maternal and child health and the former director of the Biostatistics Center (BSC), Elizabeth Thom passed away December 8, 2021. Thom joined the GW Biostatistics Center in 1986 as a research associate but was

named associate director in 2009 and then director in 2012. She served as the director of the BSC until April of 2018.

For over 30 years Thom worked on the Eunice Kennedy Shriver National Institute of Child Health and Human Development’s Maternal Fetal Medicine Units Network. She ultimately became the lead investigator of the Network Coordinating Center and worked tirelessly throughout her career to improve the life of

mothers and infants across the globe.

“Liz Thom was a giant in her field, internationally recognized as the pre-eminent biostatistician in maternal-fetal medicine, a distinguished researcher who contributed in immeasurable ways to the improvement

of obstetric and perinatal care, and to fetal diagnosis and therapy,” said Scott Evans, the current director of the BSC.

Thom served as the principal investigator or Co-PI on a number of major studies that broke ground on a variety of maternal and child health topics. She also had extensive experience in the design, conduct, analysis and reporting of multicenter clinical studies.

Thom received a B.A. and M.A. in mathematics from the University of Oxford, UK, and an M.Sc. in biometry from the University of Reading, UK. In 1992 she completed her PhD in mathematical statistics at the George Washington University.

“Beyond her many career accomplishments Liz was a wonderful human being, consistently kind, thoughtful and polite,” Evans said. “She was a friend to many and provided experienced advice and wisdom on many topics. We will miss her immensely.”

Accolades for Excellence in Teaching Statistics

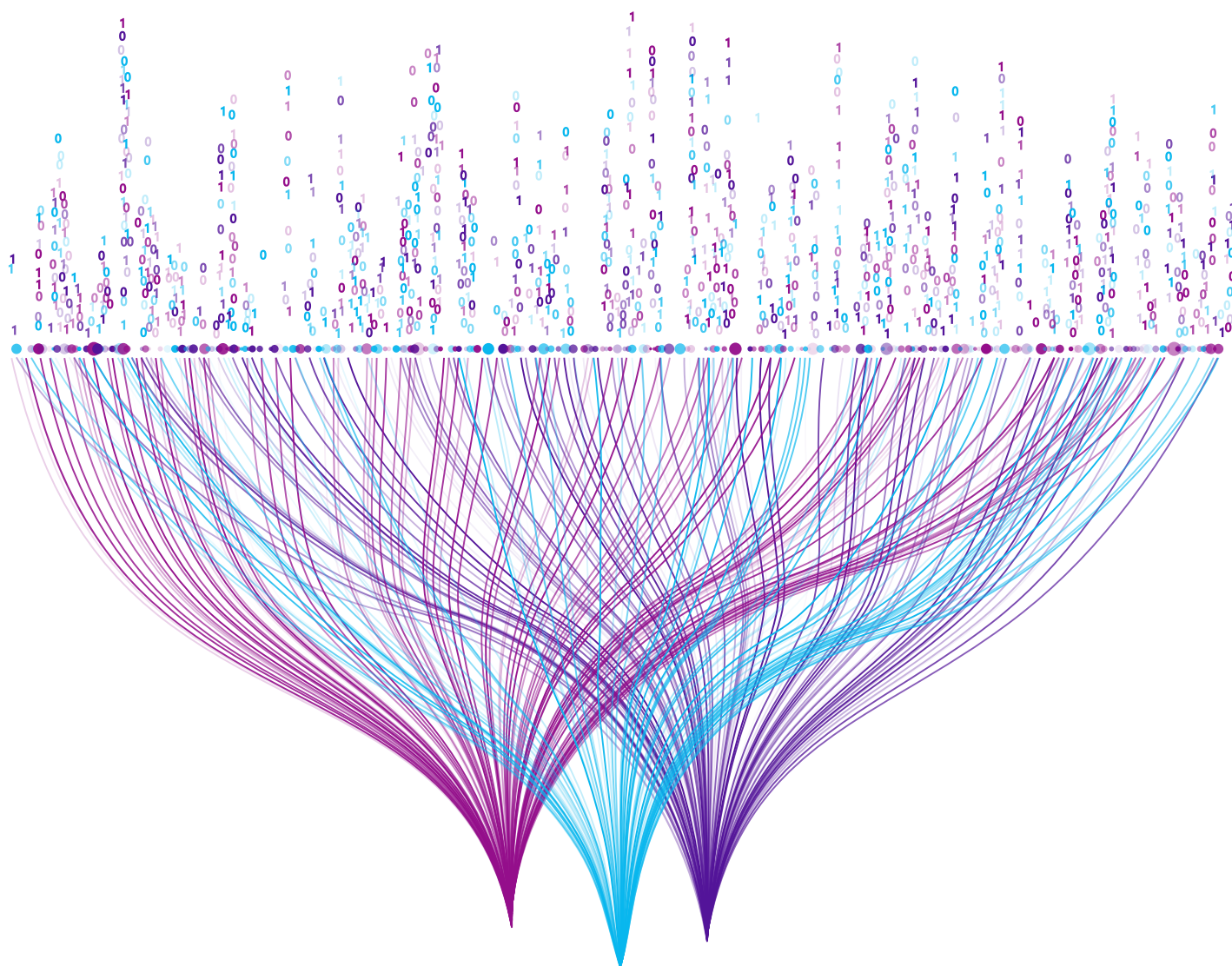
Professor Evans' interests include the design, monitoring, analyses, and reporting of and education in clinical trials and diagnostic studies.

Scott Evans was selected as the 2022 recipient of the Teaching Statistics in the Health Sciences (TSHS) Section's Distinguished Achievement Award by the American Statistical Association (ASA). The awards committee was impressed with his wide range of service over many years not only to the TSHS section but to other sections and chapters of ASA and to the ASA itself.

Professor Evans' interests include the design, monitoring, analyses, and reporting of and education in clinical trials and diagnostic studies. He is the author of more than 200 peer-reviewed publications and three books on clinical trials, including *Fundamentals for New Clinical Trialists*. He is the director of

the Statistical and Data Management Center for the Antibacterial Resistance Leadership Group, a collaborative clinical research network that prioritizes, designs and executes clinical research to reduce the public health threat of antibacterial resistance.

Evans is a recipient of many awards, including the Mosteller Statistician of the Year award, the Robert Zackin Distinguished Collaborative Statistician Award for contributions to the AIDS Clinical Trials Group, and the Founders Award from the ASA, and is an elected member of the International Statistical Institute and a fellow of the ASA, Society for Clinical Trials, and the Infectious Disease Society of America.





Developing a Pandemic Research Playbook

When COVID-19 first appeared in the U.S. in early 2020, public health researchers knew little about the virus, how it spread or how to mitigate it. Two years later, all that has changed—thanks in part to research led by Gholamali (Ali) Rahnavard, an assistant professor of biostatistics and bioinformatics in the Computational Biology Institute (CBI) at Milken Institute SPH.

Rahnavard's team secured two grants from the National Science Foundation totaling more than \$2 million to develop computational approaches and techniques to allow researchers to find biological patterns in a molecular epidemiological setting using omics data. Using these novel techniques on rapidly growing data, the team has characterized the genome of the virus to find vaccine targets and probed the host immunological response to identify biomarkers for diagnosis and treatment purposes.

Rahnavard's research, published in journals ranging from *Scientific Reports* to *Bioinformatics* to *Statistics in Medicine*, was the first to show geographic regions with high and low coherence. "In China, for example, we found that the virus was very similar among infected people, meaning it had high coherence," he said. "This likely means there was one source for the infection that then spread around the country. In contrast, COVID-19 in Kazakhstan had low coherence, meaning there wasn't one strain unique to that country. One conclusion could be that because of travel, the virus came from many different places to Kazakhstan. You have to remember that this was very early in the pandemic. Our way of looking at the SARS-CoV-2 virus was very unique and led to a much deeper understanding of the viral genome dynamics."

The team also found another potentially useful target for future COVID-19

vaccines. "We know that most of the vaccines developed for COVID-19 are based on one specific region of the SARS-CoV-2 genome: the spike protein," he noted. "We found an additional region—nonstructural protein 3, or nsp3—which has similar behavior to the spike protein in terms of variation. That is another region to be investigated for possible vaccine development."

According to Rahnavard, the research group's long-term goal is to develop approaches that can be used quickly if another pandemic arises. The techniques developed have already been extended to incoming COVID-19 data from a variety of sources and, in the future, could be applied to novel infectious disease outbreaks across human health, agriculture and ecological contexts.



ENVIRONMENTAL & OCCUPATIONAL HEALTH

Letter from the Chair

GEORGE GRAY, PHD

Our commitment to developing the next generation of leaders to address environmental and occupational health challenges, both in the U.S. and around the world, continues unabated. The faculty and staff of the Department of Environmental and Occupational Health (EOH) came back to offices, laboratories and the classroom for the last academic year, reinvigorating our interactions with each other and our students.

While our department continued great work in addressing bacterial antibiotic resistance, epidemiology and policy around occupational health, the use of sophisticated models in exposure assessment and the role of the microbiome in human disease, to name a few areas, I want to focus on a nascent effort that is doing cutting-edge research, engaging our students and working to make a big difference in public health.

The GW Climate and Health Institute (CHI) was launched last year with strong leadership from our faculty. The institute has thrived, working across the university to find new solutions to global health and equity challenges associated with climate change and addressing those challenges through cross-disciplinary research, training and action. In its first full year of activity, the CHI hosted a yearlong seminar series focused on key issues in climate science and policy. Institute faculty published high-impact papers (with our students as co-authors!) identifying important scientific and policy factors influencing the relationship between climate, air pollution and health. In addition, the institute has led the way in development of a new climate and health concentration in the MPH@GW program, an innovative program of study that will allow students to understand the

scientific foundations of climate change and environmental health, the social dimensions of health risks associated with climate change, the policies and practices that can mitigate these health risks, and how to communicate about these subjects. The CHI is an example of the way EOH works to bring research, education and outreach together to advance public health.

My stint as interim chair will continue longer than expected as Melissa Perry, previous chair of EOH, has taken a new position as dean of the College of Health and Human Services at George Mason University. Melissa was a tremendous leader in our department for over a decade, and we wish her the best of luck in this new challenge. We have launched a wide-ranging search for the new chair of the Department of Environmental and Occupational Health and look forward to enhanced and expanded efforts to provide solutions in environmental and occupational health.



The faculty and staff of the Department of Environmental and Occupational Health (EOH) came back to offices, laboratories and the classroom for the last academic year, reinvigorating our interactions with each other and our students.

Study: 2 Million Children Develop Asthma from Traffic Pollution

Clogged city streets are making children across the globe sick, according to research by Susan Anenberg, Milken Institute SPH professor of environmental and occupational health, Dan Goldberg, assistant research professor, and their colleagues. Their study shows that nearly 2 million children worldwide developed asthma—a chronic illness that causes inflammation of the lung’s airways—as a result of breathing in nitrogen dioxide (NO₂), a pollutant produced by traffic.

Their research is the first to estimate the burden of traffic-related pediatric asthma cases in more than 13,000 cities from Los Angeles to Mumbai. “Our study found that nitrogen dioxide puts children at risk of developing asthma, and the problem is especially acute in urban areas,” Anenberg said. “The findings suggest that clean air must be a critical part of strategies aimed at keeping children healthy.”

Anenberg and her team studied ground concentrations of NO₂, which comes from tailpipe vehicle emissions, power plants and industrial sites. They also tracked new cases of asthma that developed in children from 2000 until 2019. Key findings from the study, published in January 2022 in *Lancet Planetary Health*, include:

- Out of the estimated 1.85 million new pediatric asthma cases attributed to NO₂ globally in 2019, two-thirds occurred in urban areas.
- The fraction of pediatric asthma cases linked to NO₂ in urban areas dropped recently, probably due to tougher clean air regulations put in place by higher income countries like the United States.
- Despite the improvements in air quality in Europe and the U.S., dirty air, and particularly NO₂ pollution, has been rising in South Asia, Sub-Saharan Africa and the Middle East.



Susan Anenberg



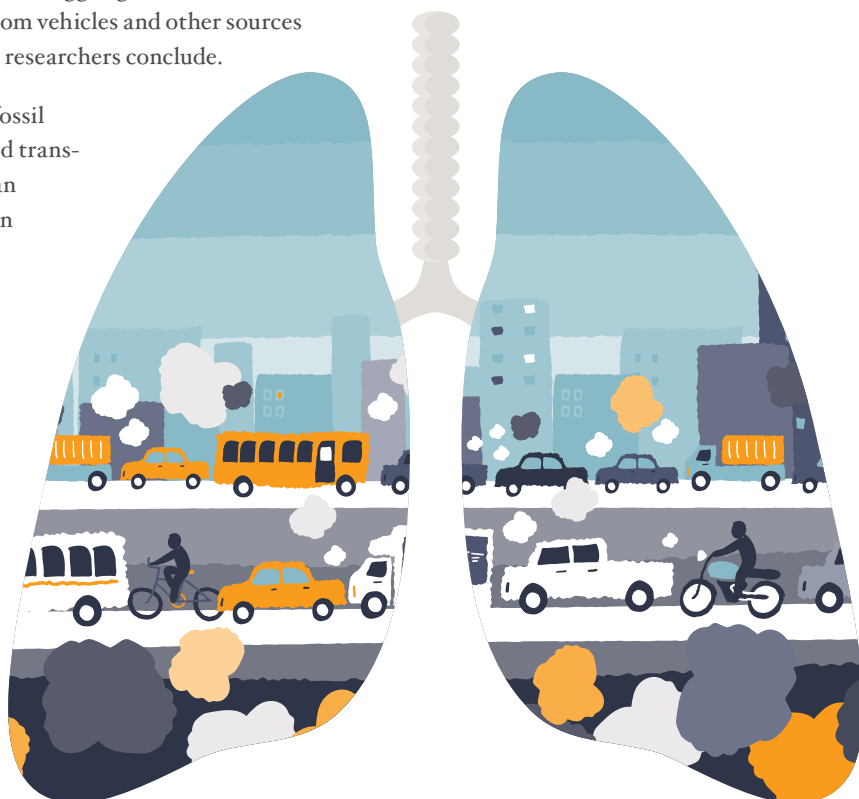
Dan Goldberg

- Pediatric asthma cases linked to NO₂ pollution represent a large public health burden for South Asia and Sub-Saharan Africa.

Much more needs to be done, both in higher income countries and in parts of the world still struggling to curb harmful emissions from vehicles and other sources of NO₂, the researchers conclude.

“Reducing fossil fuel-powered transportation can help children

and adults breathe easier and may pay big health dividends, such as fewer cases of pediatric asthma and excess deaths,” Goldberg said. “At the same time, it would also reduce greenhouse gas emissions, leading to a healthier climate.”



Research Calls into Question Integrity of ‘Raised Without Antibiotics’ Label Claims

Many consumers choose higher-priced beef products from cattle that have been raised without antibiotics. But a new study published in *Science* by the Antibiotic Resistance Action Center (ARAC) found that a substantial portion of cattle destined for the “raised without antibiotics” market have been given antibiotics.

Lance B. Price, founder and co-director of ARAC, Laura Rogers, deputy director of ARAC, and Kevin Lo, CEO of Food In-Depth, authored the study.

The team obtained urine samples from beef cattle being slaughtered for the “raised without antibiotics” marketplace. They tested nearly 700 cattle from 312 lots and 33 different “raised without antibiotics” certified feedyards. They found that 42% of feedyards had at least one animal test positive. Lots with at least one positive test represented

approximately 15% of the “raised without antibiotics” cattle processed during the study period.

The findings suggest that today’s “raised without antibiotics” labels lack integrity. “People ask me all the time what they can do to prevent the overuse of antibiotics in meat production. For years, I’ve been telling them to buy products labeled ‘Raised without Antibiotics’. I’m disappointed to see that these promises aren’t always true,” Price said. “The good news is that the majority of producers appear to be doing it right.”

The research team found that there are strong incentives to cheat on a set of claims that are relatively easy to confirm. While USDA approval gives these labels credibility and value in the marketplace, the agency does not mandate empirical testing to validate them.



“Raised without antibiotics” production is a market-based solution to a serious public health issue, but the system only works if labels are verified. The authors recommend that the USDA and retailers strengthen verification and enforcement. “Growing demand for ‘Raised without Antibiotics’ meats and poultry has the potential to curb antibiotic use in food-animal production,” Price said. “Until either the USDA acts to rigorously verify these claims or retailers eliminate their safe harbor of ignorance, consumers should not rely on the accuracy of these labels. My hope is that consumers and advocacy groups will pressure the USDA to reform these important label claims.”

Research Looks to Reducing HIV by Studying the Male Genital Microbiome

The human microbiome is made up of trillions of microbes all over the body. Yet very little is known about how different factors—such as antibiotic use and sexual activity—can help shape the genital microbiome, particularly in men. A team from Milken Institute SPH, led by Associate Professor Cindy Liu, aims to change that, thanks to a \$3.5 million grant they received to study the microbiome in the male urogenital tract. The goal of the five-year, multi-institution project is to develop solutions aimed at reducing sexual transmission of HIV.

“There has been much more focus on studying the female genital microbiome,” said Liu, a faculty member in the Department of Environmental and Occupational Health and chief medical officer at the GW Antibiotic Resistance

Action Center. Scientists know, for example, that certain female genital microbiome profiles have been linked to increased risk of preterm births, surgical infections and sexually transmitted infections, including HIV. “My team [is] one of the very few groups focused on studying the male genital microbiome, which can have important implications for male and female reproductive health since we expect that genital microbiome can be shared by sexual partners.”

Liu is the principal investigator of the project, which is funded by the National Institute of Diabetes and Digestive and Kidney Diseases—part of the National Institutes of Health. She will collaborate with researchers from the Rakai Health Sciences Program, Johns Hopkins University, University of Toronto and Western University.

This project will use a novel foreskin tissue culture model to directly investigate the impact of environmental conditions including pH, oxygenation, antibiotics and metabolites on genital bacteria transmission. Using this type of model, Liu hopes researchers can directly compare different ways to change the genital microbiome.

The hope is that knowledge gained from the study could be used to develop new ways to protect people from HIV infection.

“What makes someone more likely to acquire the genital bacteria that increase their risk for HIV infection?” Liu said. “And what can we do to change that—and reduce that risk?”

Learning to Live with COVID-19: Long-Term Investments Needed

Given that the virus that causes COVID-19 is likely to be with us forever, the U.S. must now transition to formulating the plans and making the long-term investments necessary to minimize virus transmission, save lives and return the country to normalcy. This was the topic of a commentary by lead author David Michaels, Milken Institute SPH professor of environmental and occupational health, which appeared in a January 2022 edition of *Journal of the American Medical Association* and as a guest essay in the *New York Times*.

Michaels and his co-authors note that the U.S. needs a stronger public health infrastructure to cope not only with the ongoing pandemic but also with future crises.

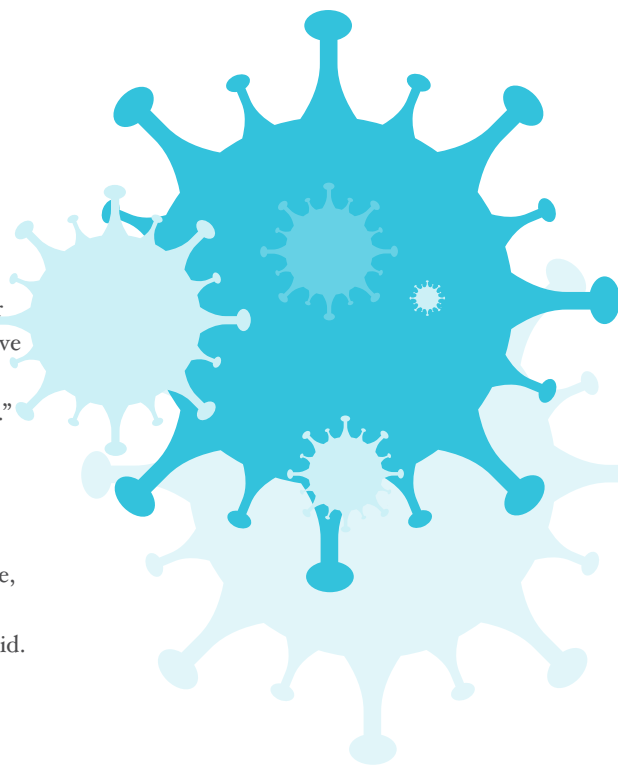
“COVID-19 will not disappear so we need to make some major changes to avoid more surges,” wrote Michaels. “To achieve

a new normal, the United States must improve access to tests, develop a better surveillance system and deploy aggressive mitigation measures aimed at reducing the risk associated with viral infections.”

“The best way to prevent the spread of COVID-19 is to eliminate exposure to potentially infected people. That means enabling workers to remain home, continuing their wages through family and medical leave policies,” Michaels said. “Schools, offices, public transportation and other settings can be made safer by upgrading air ventilation and filtration systems and taking other safety steps.”

An epidemiologist by training, Michaels is a former administrator of the U.S. Occupational Safety and Health Administration—the longest serving in that agency’s history. In late 2020 and

early 2021, he was a member of the Biden Transition COVID-19 Advisory Board. As the commentary and guest essay illustrate, Michaels is currently actively engaged in work on ways to improve this country’s pandemic response.



APHA Award Goes to Environmental Health Science and Policy Student Lauren Johnson

In January 2022, Climate and Health Graduate Research Assistant Lauren Johnson at Milken Institute SPH was awarded the American Public Health Association Student Assembly 2021 Trong D. Nguyen Memorial Award.

APHA’s Student Assembly recognized Johnson as a leader who has made a significant contribution to public health by promoting environmental justice. She was chosen based on an essay in which she described activities and steps she has undertaken to address environmental disparities in overburdened communities.

The award is given in honor of Trong D. Nguyen, a notable Canadian who served at Health Canada and the Public Health Agency of Canada in a career dedicated to environmental health. He and his

daughter were killed in an automobile crash in 2006.

Johnson’s interest in environmental health grew out of her studies in Earth and planetary science and geochemistry as an undergraduate at Washington University in St. Louis. After graduation, she decided to teach high school chemistry for Teach for America.

“When I graduated from college, I felt like I was missing the human impact of science which is why I did Teach for America. I thought my skills could be better served teaching others like me to study science to diversify the field,” said Johnson, a Black woman who described her undergraduate experience as socially isolating at a predominately white institution.

In Miami, where she taught high school, she saw the disproportionate impact hurricanes, flooding and other extreme weather conditions brought on by climate change had on the lives of her students, she said, “especially in inner city schools that had deteriorated infrastructure that were contaminated with black mold... and led to adverse outcomes such as asthma and pre diabetic issues, compounded by COVID.”

She pursued her studies in environmental health science and policy at Milken Institute SPH because she felt called to implement environmental justice on a national scale, realizing the health problems her students experienced were the result of policy failures. Johnson graduated in May 2022 with a Master of Public Health.

Reducing the Spread of Viruses in the Workplace



The results were dramatic. The combination of surface disinfection with personal hygiene products decreased the risk of virus infection by nearly 90%; surface disinfection alone lowered the risk by only 33%.

It's not often that public health research seems positively prescient, but that's the case with Robert Canales, an associate professor in the Milken Institute SPH Department of Environmental and Occupational Health, and the December 2019 publication of his study "Assessing Virus Infection Probability in an Office Setting Using Stochastic Simulation." In the research, which appeared in the *Journal of Occupational and Environmental Hygiene*, Canales and colleagues estimated the risk of workers contracting rotavirus, rhinovirus and influenza A in an office setting. They then tested two hygiene interventions to reduce risk: The first used an ethanol-based spray disinfectant to clean high-touch, non-porous surfaces in shared spaces; the second included that same surface disinfection while also providing workers with alcohol-based hand sanitizer gel and hand sanitizing wipes to promote hand hygiene.

The results were dramatic. The combination of surface disinfection with personal hygiene products decreased the risk of virus infection by nearly 90%; surface disinfection alone lowered the risk by only 33%.



"Published online just on the cusp of the COVID-19 pandemic, the results of this study contributed to the field of infection prevention by providing evidence of options for intervening in the spread of viruses in indoor environments," Canales said. "While we have explored options to limit the transmission of viruses in the workplace, including remote meetings, personal protective equipment and public health surveillance, it's useful to investigate several options for different routes of transmission for different viruses."

The team's research expanded on a 2015 study by developing a model that incorporated lab-based environmental parameters, simulated human behavior, a field-based viral tracer study and multiple interventions.

"In reconstructing the fate and transport of microbes, human behavior and disease transmission, simulation studies such as this can be useful in determining exposure pathways and exploring many different what-if scenarios as possible interventions," Canales said.

In future research, Canales aims to include more detailed human behavior and interactions captured through remote sensors and video tracking, and new collaborations with GW microbiologists and infectious disease experts.



EPIDEMIOLOGY

Our faculty train our students in the skills they need to be able to characterize what on the surface seems to be the ineffable—and turn it into public health action.



Letter from the Chair

MANYA MAGNUS, PHD, MPH, INTERIM CHAIR

As I enter my second year as interim chair of the Department of Epidemiology (DEPI) and my 20th year as a faculty member in this department, I am increasingly moved by the far-ranging impact of our faculty and students, despite the myriad challenges we have experienced over the past several years.

Our faculty have tirelessly tackled the most urgent threats to public health, including Alzheimer's Disease, autism, cancer, COVID-19, disaster management, health and educational disparities, HIV, monkeypox, nutrition and obesity, the opioid epidemic, oral health, smoking, structural barriers and more. With only so many hours in a given day, it would have been possible to turn our focus solely to the pandemic at hand. But our faculty not only contributed locally and globally to addressing COVID-19 through research, surveillance, volunteering and public health practice: they continued to grow their non-COVID-19 research portfolios as well, through innovative proposals and considerable contributions to the peer-reviewed literature. DEPI faculty engaged our students in all of these efforts, providing them with invaluable experiences that have already helped a new generation of public health practitioners enter the workforce trained and ready to make a difference.

I did not think I could be more impressed with DEPI than I was after that first, very challenging year of living with SARS-CoV-2, but I was wrong. The passion and dedication of our faculty and students have exceeded every expectation as we continue to thrive despite unanticipated barriers.

I am also increasingly impressed by the evolution of our methodological toolkit. Historically grounded epidemiologic methods were able to count morbidity and mortality, map cases and superficially quantify associations. However, our methods have developed substantially to characterize and address today's diffuse public health challenges in increasingly sophisticated ways. Our novel study designs allow us to study interventions in new, more ethical paradigms, for example. We can quantify and model the impacts of behavioral, biomedical, technological and structural improvements. We can use our designs to adjust for subtle differences between groups, untangling the relative contributions of different exposures despite complexities. Our methods are now applied not only to disease and death but to prevention, care delivery, environmental exposures, policies and more, gently teasing apart the highly complex and nuanced factors that are associated with improvements in outcomes. This allows us to help move the needle and improve health around the world. Our faculty train our students in the skills they need to be able to characterize what on the surface seems to be the ineffable—and turn it into public health action. And as a result, they are contributing to health and equity globally.

I look forward to what the next year brings and to seeing the remarkable accomplishments of our faculty and students. They are ready to take on whatever new public health puzzles may come our way.

Research to Study Integrated Care for Substance Abuse, HIV and Other Infections

Can mobile health units improve HIV and substance use outcomes among people with opioid use disorder who inject drugs? A team of researchers from GW will be investigating this issue, selected as one of five groups to participate in the HIV Prevention Trials Network (HPTN) INTEGRA study.

Leading the GW team is principal investigator Irene Kuo, associate research professor of epidemiology at Milken Institute SPH.

“The study focuses on offering integrated care for substance use, HIV care or prevention and treatment for sexually transmitted infections, as well as referrals for care of viral hepatitis, especially hepatitis C,” Kuo said. At the end of a 26-week period, the team hopes to see increased uptake of substance abuse treatment and medication for HIV prevention and care among study volunteers.

The four-year study is sponsored by the National Institute of Allergy and Infectious Diseases with funding from the National Institute on Drug Abuse, both part of the National Institutes of Health.

Overall, the INTEGRA study will enroll approximately 860 volunteers

between the ages of 18 and 60 in Houston; Philadelphia; the Bronx, New York; Los Angeles; and Washington, DC. The volunteers must be people who inject drugs and do not currently receive medical treatment for opioid use disorder.

Kuo’s team will enroll 172 people from locations around the nation’s capital. Study participants will be randomly assigned to either the intervention group or control group. Intervention participants will receive integrated health services from the mobile health unit that includes HIV and hepatitis testing, prevention and treatment services, as well as assistance from trained peer navigators to access health care and stay in treatment for opioid use. Those in the control group will be assigned to a peer navigator who will refer the participant to established services in the community.

This study also looks to advance addiction science by determining the most effective way to integrate HIV care and prevention, opioid use disorder treatment and other health care in a way that will overcome the barriers that prevent those most in need from accessing services. Participants enrolled in the study will be followed for one year and the results are expected in 2025.

Exploring a Possible Link Between Air Pollution and Dementia

Despite decades of research, frustratingly little is known about how to prevent or treat dementia, a devastating neurologic condition that is common in older adults. Research by Milken Institute SPH faculty member Melinda Power, director of the GW Institute for Brain Health and Dementia and an associate professor of epidemiology, is probing a potential link between long-term exposure to air pollution and dementia.

Power is part of a research group looking at how air pollution impacts cognitive decline and incidence of dementia over time. With funding from the National Institutes of Health, they are studying data from the Atherosclerosis Risk in Communities cohort.

“Interest in air pollution and late-life cognitive health has really exploded in the past couple of years,” said Power. “One of the things we’re trying to do is strengthen the evidence base. There’s a lot of work out there on particulate matter, a certain type of air pollution, but there are other air pollutants that we think are of interest—such as NOx, ozone, and trace metals.”

Power noted that the work is exciting because environmental pollution is not something typically considered as a risk factor for neurologic disease. “The idea of identifying something where we don’t rely on personal choice to intervene to reduce risk is very attractive, especially for something like dementia.” With the surge in aging baby boomers, the U.S. has many more older adults, which will mean many more cases of dementia in the coming years. “Anything we can do to shift that curve, push dementia later or prevent people from getting it at all is vital,” she said.



Smoke-free Policies in Public Housing Reduce Cigarette Smoking

Can you mandate healthy habits? Milken Institute SPH researcher Debra Bernat, associate professor of epidemiology, set out to investigate this question, following a July 2018 Department of Housing and Urban Development (HUD) rule that all HUD-funded public housing units become smoke free.

Although evidence suggests smoke-free policies can help smokers make positive changes to smoking behaviors, there are limited data confirming the association between the new mandatory HUD rule and resident smoking cessation.

Residents living in public housing already smoke at higher rates compared to the general population—about 33% vs. 14%, according to Bernat. “This is in keeping with larger trends that show individuals of lower socioeconomic status are more likely to smoke cigarettes. The HUD smoke-free housing rule presented an opportunity to narrow smoking-related

health disparities associated with socioeconomic status,” she said.

Bernat and colleagues surveyed 233 cigarette smokers aged 18 to 80, who lived in the District of Columbia Housing Authority. Data was collected between March and August 2019. The results show that the HUD rule indeed influenced most resident smokers to think about quitting, reduce their cigarette consumption and attempt to quit. However, they also indicate barriers to smoking cessation, including stress and perceived lack of support and access to intervention programs.

“Cessation is the critical pathway for reducing smoking-related harms among all residents,” Bernat said. “To take advantage of the HUD rules as a way to reduce smoking-related health disparities, the next steps would be to determine what approaches would be effective in moving smokers who are not motivated

to quit toward thinking about quitting and to what extent motivated residents’ odds of quitting successfully are improved if they are provided with evidence-based interventions.”

To be effective, she noted that interventions should address resident smokers’ preferences and include medication such as nicotine replacement therapy, outreach, counseling and social support.



Experts Educate the GW and DC Communities about Monkeypox

Amid growing concern in the United States and around the world about monkeypox (MPX), George Washington University’s Milken Institute SPH and the DC Center for AIDS Research (DC CFAR) cosponsored a citywide virtual seminar in July to share information about MPX with the GW and DC communities.

MPX is a viral infection transmitted primarily through direct contact with the skin lesions caused by the virus. As of July 2022, more than 3,800 cases had been reported in the United States since the first case was identified in May.

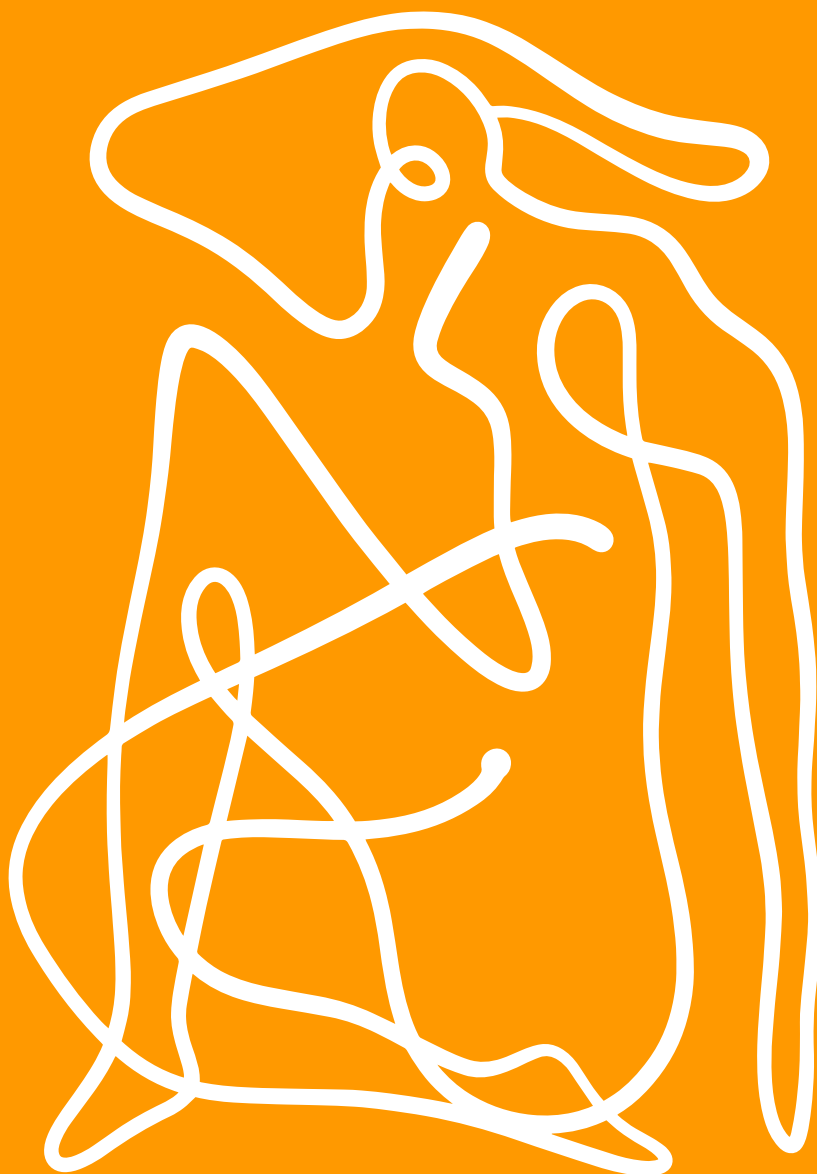
The speakers included DC CFAR Director Alan Greenberg, who introduced

the session, Milken Institute School of Public Health Dean Lynn Goldman, who also served as the moderator, Anil Mangla, the state epidemiologist for the District of Columbia, Tara Palmore, a professor of medicine at the GW School of Medicine and Health Sciences as well as director of the travelers’ clinic at the GW Medical Faculty Associates, and Kenya Hutton, a community representative and advocate.

Goldman provided opening remarks, noting that MPX was discovered in 1958, is endemic in West and Central Africa, and until recently was primarily transmitted from animals to humans. MPX had

rarely occurred in the United States in the past, she said, adding that this is the first outbreak in the United States involving person-to-person spread. Goldman said that the university is concerned about the well-being of the GW and local communities and expressed concern about stigma and discrimination toward people and communities impacted by MPX.

Hutton gave the closing presentation with questions that he had elicited from the DC community who are concerned about stigma, the availability of testing and the vaccine. The session concluded with the invited speakers answering questions from the seminar participants about MPX.



EXERCISE & NUTRITION SCIENCES

Letter from the Chair

JENNIFER SACHECK, PHD

This was an energizing year for the Department of Exercise and Nutrition Sciences (EXNS) with the return of in-person and on-campus learning. Our undergraduate and graduate students alike were thrilled to have more hands-on learning experiences, and faculty could truly feel some sense of normalcy returning in both their teaching and research.

Our research efforts continued to grow, in DC, nationally and internationally, centered on enhancing physical activity, diet quality, and health largely among at-risk populations. Community-engaged projects regained momentum, and several new research studies were funded. Examples include EXNS and Biostatistics faculty leading the NIH-funded Exercise and Nutrition to Improve Cancer Treatment-Related Outcomes in Cancer Survivors Consortium. Another NIH-funded study is focusing on the maternal ingestion of low-calorie sweeteners, which is leading to some fascinating ancillary work given the current infant formula shortage in the U.S.

We also are spearheading, along with a cadre of undergraduate and graduate research assistants, a longitudinal, sequential study of incoming freshman at GW—The FRESH Study (Fitness, Rest, Energy and Strength for Health)—which is designed to study their health habits and health biomarkers annually during their time at GW. After a successful pilot this past year, all incoming freshmen will be invited to participate in the fall of 2022.



Ultimately, we hope to generate useful data about the physical and mental health of college students as well as provide feedback to university policymakers.

We are also very proud that we had our first official incoming class of students into our Exercise Physiology and Applied Nutrition PhD program this past fall. These students have already been extremely productive and are leading investigations that lead to peer-reviewed publications. Notably, one of our current scholars recently published a systematic review on the timely topic of food insecurity and obesity among U.S. children and youth that was funded by Healthy Eating Research. Our Metabolic and Exercise Testing Laboratory was also able to officially “open” this year, where we not only welcomed students into our labs for courses, but also began research and public testing that has included several DC-area sports teams.

Finally, we concluded this year with our Academic Program Review, which encapsulated our evolution and growth from 2014 to present. This process was illuminating and invigorating as we embarked on updating our strategic plan. We truly have amazing students, faculty and staff, and I look forward to our continued growth and success.

Study Suggests Women and Pregnant People Are Underrepresented in Research to Inform Nutrition Reference Values

Nutrition without representation—at least when it comes to women and pregnant people. That's the conclusion of a study conducted by Milken Institute SPH faculty member Emily R. Smith and colleagues, which was published last fall in *Science Advances*.

The team looked at the research behind the nutritional guidance provided to Americans and Canadians. “Our research is the first comprehensive review of the underlying research that informs nutrient reference values. These are used for so many things: from developing federal food programs to deciding what’s in your granola bar to determining the makeup of your prenatal vitamins,” said Smith, an assistant professor in the Departments of Global Health and Exercise and Nutrition Sciences. “Our study points to gaps in knowledge about the exact level of micronutrients we need to eat to protect the health of women, including pregnant women.”

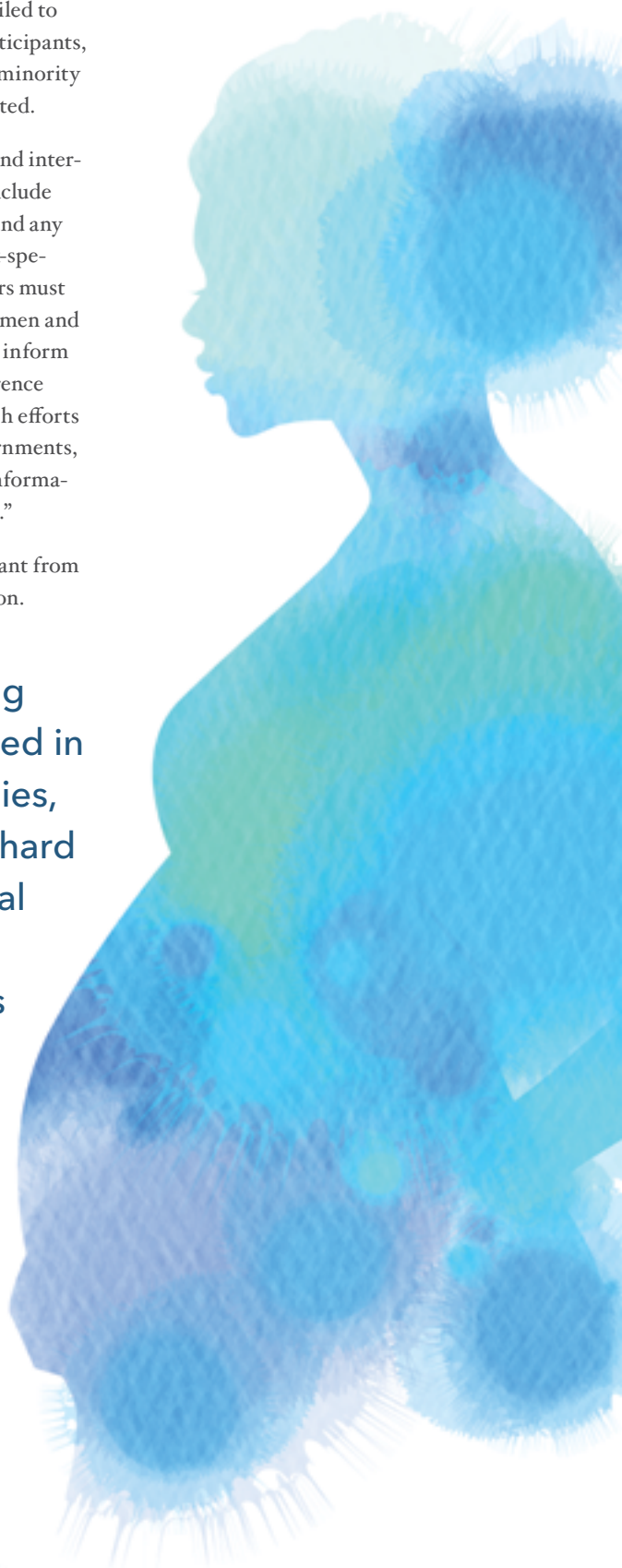
Smith and colleagues reviewed all of the studies underpinning the reference values for micronutrients established in the Dietary Reference Values for the United States and Canada. They discovered that nearly one quarter of the studies included men only—and in research that did include women, female participants were underrepresented compared to men. Pregnant or lactating women were included in just 17% of the studies, a gap that makes it hard to provide nutritional advice to help keep mothers and babies healthy, Smith said.

Smith and her team also found that 90% of the studies in this subject area failed to identify the race or ethnicity of participants, a finding that raises a concern that minority populations are also underrepresented.

“Future versions of these national and international guidance reports should include metrics of diversity and inclusion, and any data used must be examined for sex-specific effects. Funders and researchers must redouble their efforts to include women and pregnant people in studies that can inform future versions of the nutrient reference values,” Smith said. “Ultimately such efforts would help the private sector, governments, and the public get the nutritional information needed to support good health.”

The research was supported by a grant from the Bill & Melinda Gates Foundation.

Pregnant or lactating women were included in just 17% of the studies, a gap that makes it hard to provide nutritional advice to help keep mothers and babies healthy, Smith said.





Olympic-Level Inspiration at GW's Class of 2022

This year, GW graduates were treated to Olympic-level inspiration when history-making bobsledder Elana Meyers Taylor, who earned a B.S. in exercise science from Milken Institute SPH in 2006, delivered the keynote address at the university's commencement ceremony held on the National Mall in May. At her fourth Olympic competition in Beijing earlier this year, the 37-year-old became the most decorated Black athlete in Winter Olympics history and the oldest woman to medal for the United States at the Winter Olympics in any sport.

Meyers Taylor showed courage in the face of adversity at the Olympic Games. She tested positive for COVID-19 soon after her arrival in Beijing and had to isolate in the days leading up to her Olympic monobob debut, where she ultimately secured the silver medal. She also earned a bronze medal in the two-woman bobsled, bringing her lifetime medal count to

five—making her Team USA's most decorated Olympic bobsledder ever.

Meyers Taylor was awarded the GW President's Medal, the highest honor the university can bestow, in recognition of her courage, character and leadership.

"I am so grateful to George Washington University for the start I had not just in my education, but also in competitive sports and the life lessons that have come from that," Meyers Taylor said. She was the GW softball program's first recruit and graduated as the team's all-time leader in nearly every offensive category. The Georgia native was twice an Atlantic 10 Student-Athlete of the Year and Capital One/Sports Information Directors of America Academic All-American during her impressive GW career.

Meyers Taylor was inducted into the GW Athletics Hall of Fame in 2014. Her

No. 24 was retired by the program later that year.

In her remarks at GW's Commencement ceremony for the Class of 22, she described the devastation she experienced after not making the Olympic softball team in 2008, reflecting that it felt like the end of her Olympic ambitions.

With her parents' encouragement, she decided to pursue bobsled and soon found herself en route to Lake Placid, New York, where she found that her Olympic dream was not over. Through the sport, she has traveled the world, met her husband, represented the United States and won Olympic medals. She encouraged GW's graduating class to find perspective when things don't go as planned.

"Keep in mind, sometimes, that a very bad day can be the best thing that ever happened to you," she said.

Putting Diet and Exercise to the Test in Cancer Treatment

A \$5.7 million award from the National Cancer Institute is allowing a team of Milken Institute SPH researchers to ask a novel question: Do good nutrition and physical activity make a difference for patients undergoing chemotherapy?

“We have a lot of evidence showing that diet and exercise can help decrease the risk of cancer. And we know that diet and physical activity after cancer treatment improves long-term survivorship,” said Kim Robien, associate professor of exercise and nutrition sciences, who is a principal investigator along with Scott Evans, director of the Biostatistics Center and a professor of epidemiology and biostatistics. “What we don’t know is whether intervening while people are actually receiving cancer treatment makes a difference as well. And that’s the piece that’s new and innovative.”

For the next five years, Robien and Evans will lead a GW team to establish the Coordinating Center for the Exercise and Nutrition Interventions to Improve Cancer Treatment-Related Outcomes Consortium. Made up of four teams (including eight cancer treatment centers) around the country, the consortium will collect data evaluating either an exercise and/or dietary intervention

for people going through cancer treatment. They will then send that data to GW to coordinate analysis and pose cross-consortium research questions.

“What we’re going to be testing specifically is whether diet and physical activity interventions can help patients better tolerate chemotherapy so that they can complete their scheduled treatment without any delays or early discontinuation,” said Robien. “Patients who receive all of their treatment as scheduled have better outcomes after a cancer diagnosis. But sometimes people have to delay or discontinue treatment if they’re having a lot of toxicity. We are hypothesizing that people who can stay active during cancer treatment can actually help decrease the treatment-related side effects and improve their ability to tolerate the chemotherapy.”

Robien noted that this study is an important first step in determining whether or not physical activity and healthy dietary habits should become a standard recommendation in cancer treatment.



B.S. in Nutrition Launches New, More Flexible Curriculum

Undergraduate students at Milken Institute SPH returned this fall to find a new major: the B.S. in Nutrition. The broadened and expanded curriculum replaces the former B.S. in Nutrition Science and reflects the growing number of ways students want to use the degree, according to Associate Professor of Exercise and Nutrition Sciences Allison Sylvetsky, who directs the program.

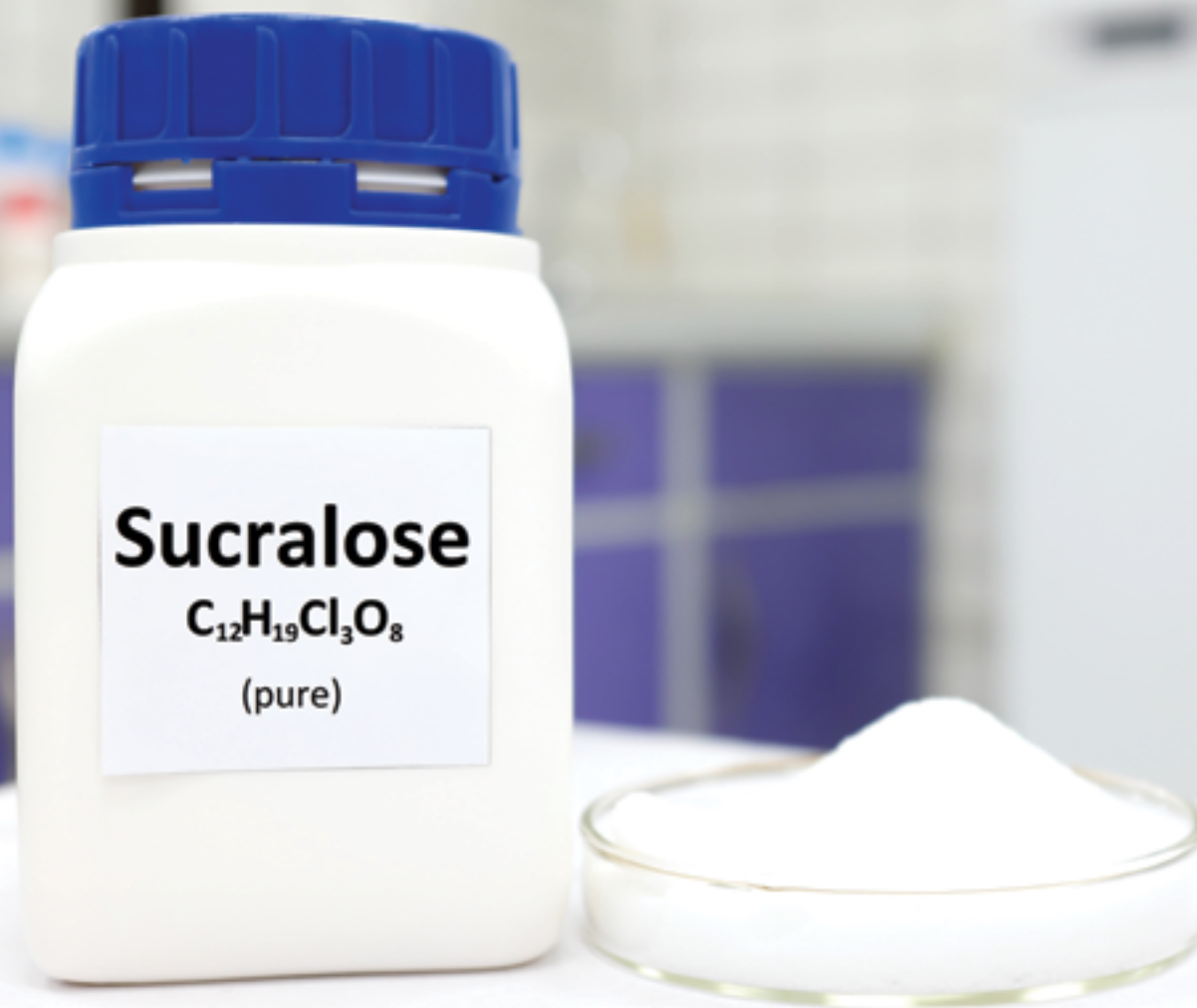
“We launched the Bachelor of Science in Nutrition Science in 2018 with a curriculum that was very science heavy. It was intended to give students the prerequisites they would need to apply to a master’s

program to become a registered dietitian. But being based in a school of public health, we found that a lot of students were interested in various applications of nutrition. And the new curriculum provides more options,” Sylvetsky said.

Nutrition majors now have four choices: Students can choose the core nutrition curriculum with no concentration; they can declare a concentration in nutrition science, similar to the former Nutrition Science major; they can declare a pre-med concentration, which sets them up for medical school or graduate health professional programs; or they can declare a

concentration in applied nutrition, which is well-suited for students interested in public health nutrition.

“Our hope is that these changes will help students tailor their degrees to match their future career goals,” Sylvetsky said. “The new curriculum also better aligns with a school of public health. We have also created a new course, Introduction to Food Policy, which is really exciting. All of these changes help make the program more robust, integrate better into a school of public health and tie what students are learning in the classroom to what’s going on in the real world.”



Artificial Sweeteners and Kids: Helpful or Harmful?

Consuming a diet high in added sugar can lead to obesity, heart disease and diabetes. As a result, many food and beverage manufacturers put artificial sweeteners in products often labeled as “lite” or “reduced calorie,” and more and more, these sweeteners are also showing up in products that do not bear such claims. But what are the effects of artificial sweeteners on children? This question has not been well studied, a situation that will change thanks to two recent National Institutes of Health grants received by Milken Institute SPH Associate Professor of Exercise and Nutrition Sciences Allison Sylvetsky.

Each grant, totaling approximately \$450,000, will evaluate the impact of low-calorie sweeteners on children in

two separate scenarios. The first study will look at children with Type 1 diabetes to find out if two specific artificial sweeteners—sucralose and acesulfame potassium—contribute to raising blood sugars, as has been shown to be the case in animal studies. “Answering this question is important because when kids are diagnosed with Type 1 diabetes, they are often advised to replace sugar with low-calorie sweeteners,” said Sylvetsky. “But if these sugar substitutes actually raise blood sugars, then they aren’t helpful.” Sylvetsky and her team will test whether removing sucralose and acesulfame potassium from the diets of children with Type 1 diabetes improves metabolic outcomes.

The second study will measure the transmission of the same two artificial

sweeteners through breast milk from mother to baby. “There have been limited studies showing that early-life exposure to these artificial sweeteners may actually increase the risk of obesity and metabolic disease and may also disturb the composition of bacteria in the gut,” Sylvetsky said. “This study will determine how much of the sweeteners are transferred from mother to baby as a first step in studying their impacts on infant and young child health.”

Sylvetsky noted that both studies are classified as R21 awards, meaning that they are intended to lay the groundwork for future research. “The hope is that these studies will contribute to informing clinical care and will serve as the foundation for longer term, larger trials.”

GLOBAL HEALTH



The faculty, staff and students in the Department of Global Health have not only rallied to meet these challenges but they also remain committed to improving the health and health equity of some of the world's most vulnerable populations.



Letter from the Chair

JAMES TIELSCH, PHD, MHSC

This past year was one in which we were at long last able to fully return to our global health research and training agenda.

Our department has been conducting research throughout the globe and on nearly every continent, excluding Antarctica, including research on nutritional interventions to lift the health of pregnant women and babies; research on COVID-19, research and technical support on unintentional injuries and trauma; and technical support for efforts to keep Ebola in check. In so doing we are increasing our presence in the World Health Organization and other global and regional agencies.

Certainly the COVID-19 pandemic continued to cause challenges worldwide as we experienced not only great uncertainties about ever evolving strains (and the enormous Omicron surge last winter), but also a vast array of varied and at times irrational, policies across the globe, including in the US. Never before has the global health community been so united around the need for strong global science and governance, coordination, and cooperation, even while governments too often make decisions almost solely on the basis of politics and misinformation and not scientific and public health consensus. How many people have been killed by COVID-19 globally is unknown, but most certainly much higher than the 6.5 million currently tallied.

In May, the global health community was alerted to the outbreak of monkeypox in Europe, which spread to the US. Endemic in Africa, there had been many small outbreaks of this orthopoxvirus due to importation into various countries, but this was the first time that we saw person to person spread here in the US. Again, the lessons of the past were not learned and we saw how a pathogen can become endemic,

nearly overnight. And, other global scourges like Ebola continue to smolder.

This has also been a year that has been challenging for public health humanitarian assistance, globally and in the US. Climate change is fueling stronger and more devastating storms and flooding that this year left millions of people homeless globally. It also is responsible for enormous disruptions of supplies of adequate food and safe drinking water and sanitation. Our new MPH program in global humanitarian assistance is training students in how to prepare for and respond to these major crises, which can only be expected to become larger and more severe as the planet continues to become warmer and conflict continues to rage in many countries around the globe.

The faculty, staff and students in the Department of Global Health have not only rallied to meet these challenges but they also remain committed to improving the health and health equity of some of the world's most vulnerable populations.

For example, Global Health faculty have spearheaded a project looking at the impact of COVID-19 infection and maternal health in countries around the world. They are leading work to develop a research agenda for the protection of the health of adolescent girls globally.

One of our teams has led and published research finding that half a million lives could be saved globally by limiting road speeds and implementing other road traffic safety areas.

Faculty continue to work on a project related to Hurricane Maria in Puerto Rico and recommendations to make global at risk communities more resilient and better prepared for extreme weather.

In our world class labs, our faculty are working on the development of combination vaccines to interrupt the transmission of malaria, which kills more than a half a million people globally, every year and to develop new diagnostic strategies for other emerging infections.

One of our most significant responsibilities is to build capacity for public health programs and research in countries and communities where we work. This is done in conjunction with our expanding research programs where local institutions and colleagues are equal partners and with an expanding program of supporting local colleagues through training grant support from the National Institutes of Health in bioethics, and chronic disease and injury control in multiple Sub-Saharan African countries and Pakistan. Capacity building is also highlighted domestically in the work of our Center for Community Resilience where the historical context of racism and economic inequities have prevented communities from achieving the economic growth and social capital achievements of their neighbors. Their work using a unique community resilience building model is supporting communities in advocating for social justice through local, state and national policy change.

Looking back, the year has been filled with challenges to the health and well-being of vulnerable populations around the world, but also opportunities to continue our mission to bring better health to some of the most under-resourced communities. I look forward to the next chapter as our faculty, staff and students build on our previous successes and develop whole new areas for improving the health of individuals and communities around the globe.

Targeting Road Safety Could Save More Than 500K Lives Annually, Study Finds

You may not think of safe driving as a public health intervention—but it very much is. In fact, focusing on road safety could save more than 500,000 lives per year, according to research published in *The Lancet* in June. The three-part series highlights the growing problem of road traffic injuries and lays out opportunities for preventing injuries and saving lives.

An estimated 1.35 million people die and more than 50 million are injured or disabled as a result of road traffic injuries every year. “The death toll from traffic injuries around the world is far too high,” said Adnan Hyder, professor of global health at Milken Institute SPH. “Despite a United Nations goal to reduce this heavy burden, people everywhere continue to be at great risk of injury and death unless current road traffic strategies are changed to put protections in place.”

Hyder, who is senior associate dean for research and director of the Center on Commercial Determinants of Health, served as the lead author of an analytic commentary and is the senior author

on two other papers published as part of the series. The commentary reviews events that occurred from 1999 to the present and details opportunities to make faster progress on road safety.

Two other papers in the series address the issue of road safety around the world. In the first, Hyder and his colleagues looked at trauma care for road injuries. They found that approximately 200,000 lives per year could be saved with improved trauma systems in low- and middle-income countries.

In the second paper, Hyder, Nino Paichadze, an assistant research professor at Milken Institute SPH, and their colleagues studied four road safety risk factors: speed, drunk driving, helmet use and seatbelt use. They found that full



Nino Paichadze

implementation of already proven road safety interventions targeting those four main areas could save up to 540,000 lives around the world.

In the analytic commentary, Hyder and his colleagues outline some of the pitfalls that must be overcome to make roadways safer. They recommend reframing road safety so that the issue resonates with the public and motivates political leaders to put enough resources toward the problem.

Wendy Ellis: Founding Director of the Center for Community Resilience

Wendy Ellis is an assistant professor of global health and the founding director of the Center for Community Resilience at Milken Institute SPH. Ellis has spent the last 15 years developing and working to grow a “resilience movement” to address systemic inequities that contribute to social and health disparities that are often transmitted in families and communities from generation to generation.

The Building Community Resilience (BCR) collaborative and Resilience Catalysts networks are implementing the BCR process and the Community

Resilience framework that Ellis developed during her doctoral studies at GW. Leveraging her extensive background in communications, Ellis produced a 2022 documentary, “America’s Truth: Cincinnati,” that follows her team’s innovative approach to centering conversations on structural racism that has galvanized a resilience movement to foster equity through systems and policy change.

“Undoing centuries of systemic racial inequity requires persistence and innovative techniques to build political will across the nation,” said Ellis. “Our ‘Truth



Center for Community Resilience

& Equity’ initiative and resulting documentary, ‘America’s Truth: Cincinnati’ demonstrate how narrative change, coalition building, and leveraging public health data, analysis, and advocacy can inspire and sustain efforts to build a more equitable and resilient nation.”

Improve Global Health by Focusing on Mothers and Infants

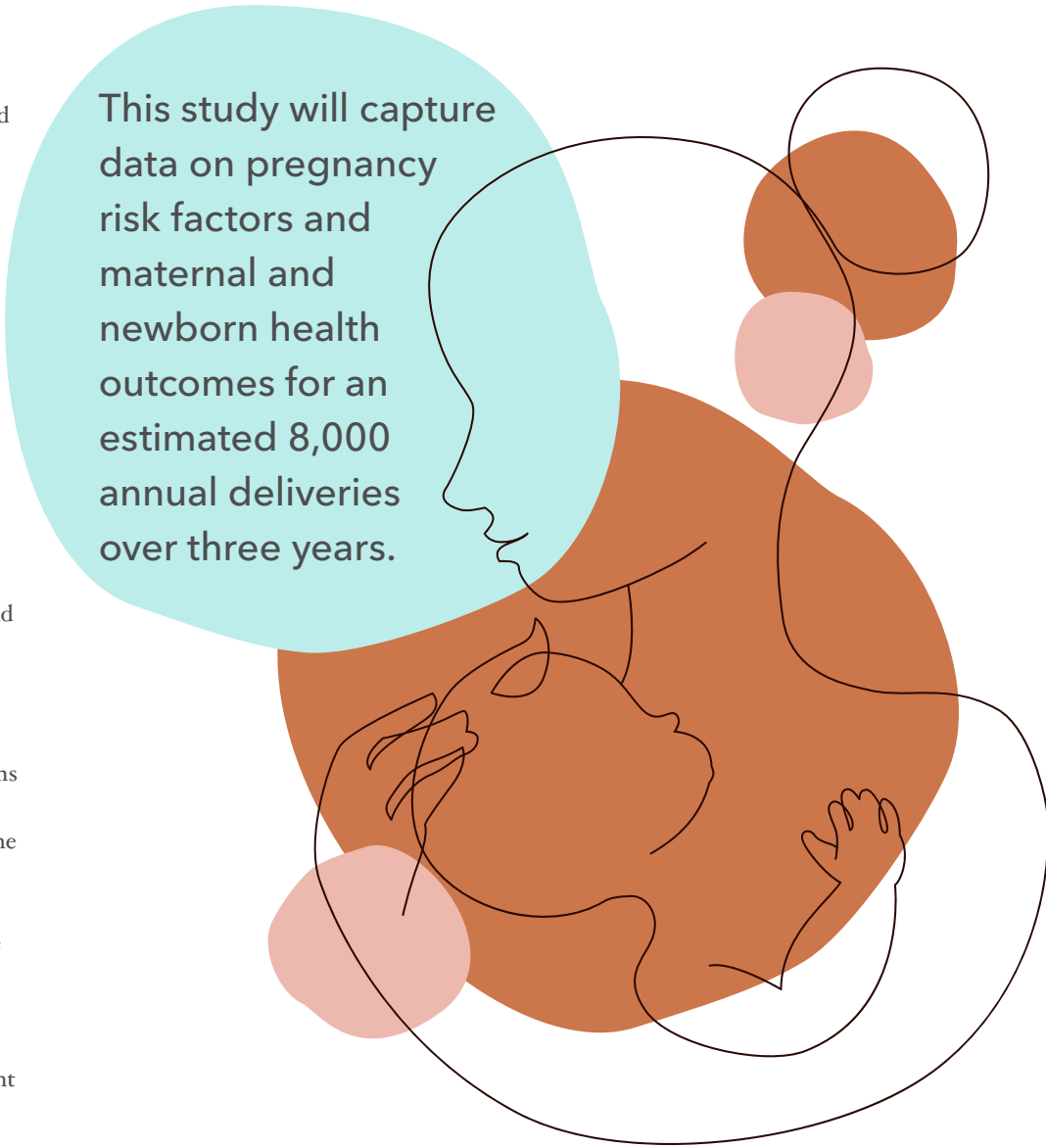
If you want to improve global health, expectant mothers and newborn infants are a good place to start. That's the idea behind a new \$4.8 million project, funded by the Bill & Melinda Gates Foundation and led by principal investigator Emily Smith, an assistant professor in the Milken Institute SPH Departments of Global Health and Exercise and Nutrition Sciences.

Access to maternal and infant services is integral to reducing adverse pregnancy-related health outcomes and promoting positive pregnancy experiences, said Smith. High-quality care before, during and after birth is not universally available, however, especially for vulnerable populations and in low- and middle-income countries.

The Pregnancy Risk Stratification Innovation and Measurement Alliance Maternal and Newborn Health study aims to develop a robust dataset to evaluate pregnancy risk factors, better estimate the global burden of disease for women and children and inform research and development of new health interventions. The project will focus on working with Gates Foundation-funded partners in Ghana, India, Kenya, Pakistan and Zambia, where comprehensive data about pregnant women and newborn health is limited.

"The goal is to have detailed clinical data and to have it be the same across countries," Smith said. "We can talk about maternal mortality, but we need to actually understand the primary causes of maternal mortality and morbidity in a specific context to better understand the burden of disease and how to address it."

This study will capture data on pregnancy risk factors and maternal and newborn health outcomes for an estimated 8,000 annual deliveries over three years. Researchers will collect standardized clinical data from women across



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countries—including ultrasound exams, laboratory tests related to infectious disease, micronutrient malnutrition and exposure to environmental contaminants. They will also check for pregnancy complications, including diabetes and anemia, and follow the newborn's progress after birth.

As the study's coordinating center, GW will support implementation across the five countries. The GW team will establish uniform approaches to data analysis and dissemination of primary study

results as well as support cross-consortium capacity-building efforts related to data management and analysis, and scientific writing and publishing.

"For every outcome, there's a specific definition and way of measuring it that might not be part of the standard of care right now," Smith said. "We're working across countries to determine what's feasible, and where we can, to use the gold standard assessment for diagnosis and measurement."

Humanitarian Health MPH Prepares First Responders for Public Health Crises

Wars. Earthquakes. Floods. Epidemics. When disaster strikes, public health practitioners need to hit the ground running—knowing the greatest health threats, the questions to ask and the systems to put into place. Milken Institute SPH is training just these kinds of professionals in its new Master of Public Health in Humanitarian Health program.

Launched in 2019, it is one of only a handful of programs in the U.S. to address this critically important, yet often overlooked, area of public health.

“Humanitarian crises are not new—they unfortunately happen all the time,” said Ramin Asgary, associate professor of global health and international affairs,

who directs the program. “The challenge is responding when none of society’s systems are working: government, water and sanitation, economy, security, shelter, food, transportation. The focus of our program is on preparing public health practitioners who know how to deal with these situations so that they can be efficient in minimizing morbidity and mortality.”

Asgary himself is experienced with the challenges of operating in such disasters. In the 1990s, he began working in humanitarian settings and complex emergencies with multiple humanitarian agencies and Doctors Without Borders as a field physician, medical coordinator, director and senior operational and research advisor.

“The strengths of the Humanitarian Health MPH program are that it is cross-disciplinary and comprehensive in its approaches to learning and service. While it is largely targeted at students with at least some relevant work experience, it also aims to enroll some junior students to build characters from early on and prepare them for this overlooked field of inquiry and practice,” Asgary said. “Our mission is to prepare a corps of global health professionals who are highly skilled in responding to health and related issues in humanitarian settings and mass health emergencies where there is no buffer zone.”

With nearly two dozen students enrolled, the program aims to equip graduates with the necessary knowledge, attitudes and self-efficacy to contribute to direct services, better decision making, performance efficiency and sound policymaking in the midst of the next crisis—be it a new viral threat, another war or extreme weather events.



Building Capacity for Trauma and Injury Research Abroad

When it comes to public health, trauma and injury prevention are low-hanging fruit. Yet many countries across the globe lack the resources necessary to combat this ubiquitous threat. Thanks to grants totaling \$1.65 million from the National Institutes of Health, a cross-disciplinary team led by Milken Institute SPH researchers will develop research capacity and collaborator networks—critical factors in addressing trauma and injury prevention—in Zambia and Pakistan.

“In any public health program, you want local ownership, local data and local decision making,” said Adnan Hyder, professor and senior associate dean for research at Milken Institute SPH. “In older models, people used to fly to high-income countries to get training, but now we found ways of supporting the institution within the country. It’s so important to develop this capacity locally so that they can thrive there.”

In Zambia, the team—which includes principal investigators Hyder and Assistant Research Professor Nino Paichadze along with other faculty

members—will work with leaders at the University of Zambia School of Public Health to remedy two key gaps: lack of trained human resources and limited data on health, social and economic impacts of trauma and injury. They will do this by supporting new graduate degree programs to strengthen the country’s pipeline of trauma and injury researchers and build an electronic traumatic brain injury registry.

In Pakistan, Hyder and Paichadze will continue their work with Aga Khan University to build capacity in trauma and injury prevention and establish new advanced degree programs.

For Hyder and Paichadze, this project has personal connections. Hyder received his M.D. from Aga Khan University in 1990 before coming to the United States to pursue master’s and PhD degrees in public health, while Paichadze immigrated to the U.S. from Georgia 10 years ago to complete her MPH.

“We’re very proud as immigrants to be part of this work and to be adding to the diversity of both this country and this

For Hyder and Paichadze, this project has personal connections. Hyder received his M.D. from Aga Khan University in 1990 before coming to the United States to pursue master’s and PhD degrees in public health, while Paichadze immigrated to the U.S. from Georgia 10 years ago to complete her MPH.

university,” Hyder said. “In addressing a neglected health topic in low-income countries of Africa and South Asia, I feel that this is truly what GW’s global research mission is all about.”

James Tielsch Honored With CUGH Distinguished Leader Award

James M. Tielsch, Milken Institute SPH professor and chair of the Department of Global Health, received the Consortium of Universities for Global Health (CUGH) 2022 Distinguished Leader Award, which recognizes the accomplishments and commitment of outstanding individuals who contribute to the advancement of global health worldwide.

The CUGH is a rapidly growing Washington, DC-based organization of more than 170 academic institutions and other organizations from around the world who are engaged in addressing global health challenges.

A Milken Institute SPH faculty member since 2013, Tielsch is an epidemiologic researcher with more than 400 peer-reviewed articles published in prestigious journals both in the U.S. and internationally.

Tielsch began his career documenting the burden of ocular disease and blindness in inner city Baltimore and various low-income countries around the world. He then parlayed that work into applying experimental designs to test new interventions in order to prevent blindness and inform practice and policy. The expansion of vitamin A deficiency—a topic on which he has worked for more than 20 years—from a strictly

ophthalmologic issue to one of child health and survival prompted another transition to research in the areas of maternal, neonatal and child health. He focused these studies on micronutrient malnutrition, infectious disease and environmental health in low-income countries.

Tielsch has served on a number of advisory committees for the U.S. government and international agencies as well as on the boards of non-profit organizations involved in public health. In addition to the CUGH honor, he has also been the recipient of numerous national awards. Tielsch maintains an active research program overseas.



The year ahead will continue to hold challenges and we have much on our plates, including a departmental self-study and the reaccreditation of the school as a whole. But I know that, once again, we will work in solidarity and emerge successfully and stronger at the other end.

HEALTH POLICY & MANAGEMENT

Letter from the Chair

ANNE MARKUS, PHD, MHS, JD

This past year marked the return to in-person teaching and more interactions in the physical workplace. The experience was both exhilarating and difficult but we—as a department—pulled through, and for this, I am extremely grateful.

This past year was also a year of anticipation and anxiety as war in Ukraine erupted, the Supreme Court was expected to rule on the Dobbs case here in the United States, and the pandemic continued to hit hard worldwide. As of this writing, the war in Ukraine has not subsided, with seemingly no resolution in sight; the Supreme Court has overturned Roe in its Dobbs decision, completely changing the landscape of health care delivery and access and denying federally protected reproductive rights to more than half of the population; and COVID cases keep rising in what appears to be an unending sea of infection.

However, no matter how grim the situation, the passion, the presence and the professionalism that are the hallmarks of the Department of Health Policy and Management (HPM) did not dampen

a bit, and, as a result, we have much to celebrate.

Several HPM faculty received impressive awards in their fields, either for their excellence in scholarship or excellence in teaching. Our faculty and research staff fielded many requests from the media on workforce issues in a world continuously impacted by COVID as well as the status of contraception, abortion and other reproductive care services in a post-Dobbs world. We recruited two new faculty members with expertise in long-term care and Medicare/Medicaid policy, who will help propel forward the already raised high sails of the department. Finally, we graduated another cohort of stellar MPH and MHA students and doctoral candidates, who no doubt will be great ambassadors for our programs.

The year ahead will continue to hold challenges, and we have much on our plates, including a departmental self-study and the reaccreditation of the school as a whole. But I know that, once again, we will work in solidarity and emerge successfully and stronger at the other end.



Study Finds That Majority of Community Health Centers Screen for Social Risks to Improve Health Outcomes

“Health centers are federally mandated to serve the most vulnerable communities and, thus, are optimally located and designed to have the greatest impact on social determinants of health.”

Sara Rosenbaum, the Harold and Jane Hirsh Professor of Health Law and Policy at Milken Institute SPH

Three out of four community health centers in the U.S. currently screen for social determinants of health in order to help improve patient outcomes, according to a 2022 report by the Geiger Gibson/RCHN Community Health Foundation Research Collaborative.

Researchers at the collaborative, which is based at Milken Institute SPH, analyzed 2020 data from the U.S. Department of Health and Human Services Uniform Data System to assess the extent to which community health centers are screening patients for issues of social risk, such as poverty, unsafe housing and poor nutrition. These social determinants of health play a significant role in poor health outcomes, so identifying and addressing them are important to preventing illness and keeping people healthy.

The researchers found that 75% of health centers in 2020 were collecting such data on their patients. “Health centers have long served as a critical source of both primary care and broader services that help to mitigate adverse social risks,

such as lack of housing and transportation,” Feygele Jacobs, the president and CEO of the RCHN Community Health Foundation, said. “The data provide a snapshot of the wide range of social needs and the opportunity to expand and strengthen screening and related services.”

The report also found that health centers reported nearly 790,000 patients screened positive for financial strain, nearly 500,000 patients said they had experienced food insecurity, 412,000 screened positive for housing insecurity, and more than 300,000 said they lacked access to transportation or public transportation.

Health centers that were more likely to use social risk assessments were located in larger, urban centers in Medicaid expansion states, while small health centers practicing in non-expansion states seemed to have more difficulty administering this type of screening, potentially due to a lack of resources to hire and train staff to conduct the screenings. Patients at these smaller health centers, however, are at higher risk of poverty, financial strain and other risk factors for poor health.

Thus, the new report suggests that health centers need both grant support and a critical volume of Medicaid revenue to sustain the costs of collecting—and using—data on social determinants of health. The authors also concluded that investing in social risk screening pays off because it can lead to improved patient and community health outcomes.

“Health centers are federally mandated to serve the most vulnerable communities and, thus, are optimally located and designed to have the greatest impact on social determinants of health,” Sara Rosenbaum, the Harold and Jane Hirsh Professor of Health Law and Policy at Milken Institute SPH, said. “Investments to improve health center access and quality benefit not just patients but also the communities they serve.”



Professor Rosenbaum Receives Award for Extraordinary Contributions to Public Health

In March 2022, Sara Rosenbaum, the Harold and Jane Hirsh Professor of Health Law and Policy, was awarded the Association of Schools and Programs of Public Health (ASPPH) Welch-Rose Award for Distinguished Service to Academic Public Health for her extraordinary contributions to the academic public health community. The ASPPH Welch-Rose Award recognizes the highest standards in academic public health and honors individuals who have made a lasting impact on academic public health. The award also honors Drs. Wickliffe Rose and William Henry Welch, whose seminal 1915 report continues to serve as a central reference point for the design of academic public health.

A lawyer by training, Professor Rosenbaum is a leading scholar of health law and public health, particularly related to the law governing health programs for the poor and medically underserved, such

as Medicaid and the Children's Health Insurance Program (CHIP). Since 1978, she has advised presidential administrations and Congress on health reform, financing and policy issues.

"Sara is a pillar of the public health community and has dedicated her life to fighting for issues such as 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," said Dean Lynn Goldman.

Professor Rosenbaum was also named to Washingtonian's 500 Most Influential People this year. Her current research focuses on the transformation of Medicaid and its effects on low-income populations and communities. Her research also focuses on national health reform, Medicaid managed care and the nation's community health centers, the largest primary health care system for



medically underserved rural and urban populations. She is best known for her research into the impact of laws affecting health care access and coverage, as well as the potential effects of major shifts in laws affecting low-income and medically underserved populations.

Professor Rosenbaum is also the founding chair of the Department of Health Policy at GW and helped to create Milken Institute SPH 25 years ago.

Six Decades Strong, the Master of Health Administration Continues to Flourish

Chalk it up to COVID: Last year, Milken Institute SPH enrolled a bumper crop of 54 students in the Master of Health Administration (MHA) program. In addition to the pandemic driving the need for skilled administrators in health care, MHA Director Robert Bonar credits three additional factors for the strong enrollment numbers. "*U.S. News & World Report* ranks the MHA program No. 12 in the country out of approximately 120 programs," Bonar said. "And because we're one of the oldest MHA programs in the country—our first class entered in 1959—we have an expansive alumni network. We are also one of very few programs that offers a fully paid third-year fellowship."

According to Bonar, the average third-year fellow earns between \$55,000 and \$65,000 a year, a figure calculated and reported annually to the program's accrediting agency, the Commission on the Accreditation of Healthcare Management Education.

The well-rounded MHA program incorporates business and medical informatics training, knowledge of health care systems, management theory, ethics, law, policy and critical values in decision making. The curriculum's special strengths include an emphasis on experiential learning and community service, distinguished faculty, research collaborations and relationships with policymaking and health care organizations in and around Washington, DC.

This year, while 31 students enrolled in the MHA—a number mirroring pre-pandemic trends—the program also bid farewell to longtime faculty member Doug Anderson. A teaching associate professor, Anderson retired at the end of the 2021-2022 academic year. Anderson is an expert in medical practices; at the SPH, he taught Introduction to Health Services Delivery, Ambulatory Care Management, and Health Services Management and Economics; he was also an MHA advisor. In addition, prior to Bonar's arrival in 2018, Anderson served as acting program director. "He was very gracious and made sure my landing here was a soft one," said Bonar. "Doug will be missed by students and faculty alike."

Milken Institute SPH Professor Named GW Professor of the Year by Student-Athletes

For a first-year student who found college generally intimidating, Sarah Patton found guidance and support in Teaching Assistant Professor of Health Policy and Management Elizabeth Gray, who provided information about different resources/tools available to students and brought in guest speakers from the study abroad office and career and academic centers during her First-Year Experience in Public Health class.

Patton, who is also a member of the GW Women's Soccer team, nominated Gray for the 2021 choice for Professor of the Year, which goes to the professor who makes the greatest contribution to the academic success of GW's student-athletes.

Each year, students participating in all sports are asked to submit nominations for the award, and once nominations

are closed, the student-athletes vote for professor of the year and five finalists.

"She definitely deserved [the honor]," Patton said of Gray, who is also the undergraduate Public Health Program director at Milken Institute SPH. "She was very lively and engaging with the class. She also had a good sense of humor."

Another student of Gray's, Michelle Ojo, a member of the women's basketball team, also spoke to Gray's passion for teaching and care for her students. "It's nice to have a professor that challenges you to grow and learn academically and personally," she said.

On the first day of class, Ojo said, Gray told them that they were "the future of public health" and drove the point home by "allotting time during class for students to write down questions and critiques that

she would address to give them a better understanding of the opportunities and services available to us."

The admiration students feel toward Gray is reciprocated. "A lot of student-athletes are in our [public health] program," Gray said during an award presentation in February. "They are some of the hardest working students, managing many things all at once and very exceptional, as all of our students are exceptional."

For Gray, the award was heartfelt and somewhat ironic given her lack of athleticism. "My first and last varsity letter," joked Gray during the event, where she received the letter along with a plaque. "I was thrilled, very pleased and delighted. I was not a student-athlete and am the least coordinated person to exist."



Gray was joined during the presentation by GW President Mark S. Wrighton, Provost Christopher Alan Bracey, Athletics Director Tanya Vogel and Faculty Athletics Representative Beverly Westerman.

The admiration students feel toward Gray is reciprocated. "A lot of student-athletes are in our [public health] program," Gray said during an award presentation in February. "They are some of the hardest working students, managing many things all at once and very exceptional, as all of our students are exceptional."

More than a Million Uninsured Patients Would Have Gained Health Coverage Under Build Back Better, According to Study

An analysis of the Biden administration's Build Back Better Act found that nearly 1.34 million uninsured community health center patients would gain health coverage if the bill passed.

The analysis was conducted by the Geiger Gibson/RCHN Community Health Foundation Research Collaborative based at Milken Institute SPH and was supported by the RCHN Community Health Foundation.

It found that while the share of uninsured community health center patients has declined over the past decade due to recent reforms including the Affordable Care Act, some 6.2 million community health center patients are currently without health insurance. Lack of insurance is much higher in states that did not expand Medicaid. For example, of the approximately 1.34 million health center patients who would have gained coverage under the Build Better Act, more than half live in the 12 states that have not expanded Medicaid.

While the Build Back Better Act passed the House, the legislation was negotiated in the Senate and resulted in the Inflation Reduction Act of 2022. Further analysis will be needed to determine the bill's effect on community health center patients.

To follow updates on new and pending legislation that could affect the uninsured, follow the GW Health Policy & Management Matters blog at gwhpmmatters.com.

New Research Shows Tangible Ways to Strengthen the U.S. Public Health System

As the U.S. continues to respond to and recover from the COVID-19 pandemic, strengthening the nation's public health system for everyone is of vital importance.

Helping guide the way is Health Policy and Management Professor Jeff Levi, who led two reports that examined ways the U.S. can improve its public health infrastructure.

First, as part of a report sent to the Biden Administration, Levi and fellow researchers recommended a set of equity-focused programmatic and policy changes that can ensure that, in both the response and the recovery efforts, the nation addresses the disparities in health outcomes related to race and class that the pandemic has laid bare.

"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."

The plan identified the services that are essential to an equity-centric approach to the COVID-19 pandemic, as well as the infrastructure and workforce needed to ensure these services are available and have an equity focus.

A second report found that Accountable Communities for Health (ACHs) and Community Health Centers (CHCs) are natural partners in efforts to advance community health.

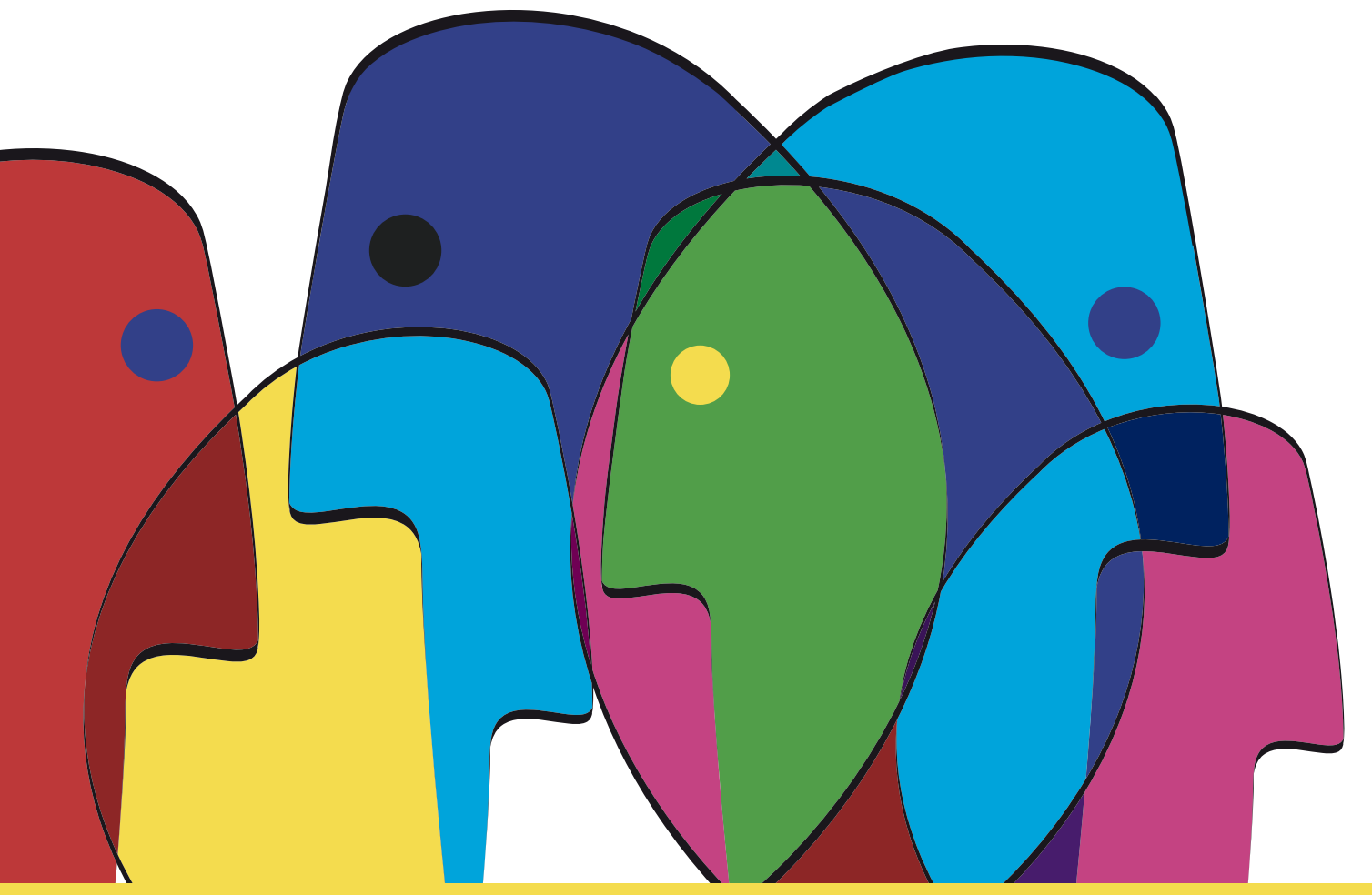
ACHs are multisector, community-based partnerships that aim to address community health and social needs, and CHCs provide essential community-based health care services for underserved and medically vulnerable populations. The research found that while ACHs frequently partner with CHCs, and CHCs often participate in ACH governance, the form and scope of ACH-CHC relationships varied widely, and strong partnerships do not always exist.

"Given the critical role that both groups play in addressing health-related social needs and social determinants of health,



our findings reveal an opportunity to strengthen the relationship between ACHs and CHCs," Levi said.

The report detailed a set of actions federal policymakers could undertake, including supporting relationship building, providing financial incentives, removing practice obstacles and better defining the shared value of partnerships.



PREVENTION & COMMUNITY HEALTH

Letter from the Chair

DEANNA KERRIGAN, PHD, MPH

Every day, the Department of Prevention and Community Health (PCH) embraces its mission to assess and address multilevel drivers of health inequities, catalyze social transformation and promote collective health across the lifespan. Faculty, staff and students move seamlessly from considering the contours of social-structural and behavioral theories to the application of mixed-methods approaches to collaborating with community partners to promote health equity.

In the last year, our self-study has fostered both an inward look at departmental structures and processes as well as a new lens from which to view rapidly evolving public health challenges, including those in maternal and child health, exercise and diet, violence prevention, cancer, HIV and the use of tobacco and other substances. These inward and outward looks have led us to further strengthen, align and integrate our efforts across academic training, research and practice to ensure optimal

outcomes in each endeavor. For example, our self-study led to the formation of a practice committee to ensure that key social determinants witnessed in our local and global practice efforts inform the development of community-based methods, interventions and implementation science and bring lessons learned to our students in real time.

Recent awards also show synergies across academic training, research and practice. Through a National Institutes of Health (NIH) funded T32 training grant, an innovative collaboration between PCH and the GW Columbian College of Arts and Sciences and the first award of its kind for both schools, doctoral students will receive funding to work with faculty in PCH and across the school and university on addressing social-structural determinants of HIV from an intersectional lens. A recently awarded NIH R25 research education program grant will support Latinx undergraduates as they work to become social scientists with HIV and substance use disorder expertise. The newly founded and PCH-led Behavioral Research Insights & DiGital Health Technology (BRIGHT) Institute and the Gill-Lebovic Center for Community Health in the Caribbean and Latin America will provide additional opportunities for growth, innovation and impact.

Department faculty have received other important awards including a George Washington Children's Hospital Clinical and Translational Science Award, NIH's Sexual and Gender Minority Early-Stage Investigator Award, NIH RoI awards, an NIH UG3 award for exploratory research, a Fulbright Scholar Award, a Centers for Disease Control and Prevention (CDC) five-year grant, as well as awards from numerous foundations. Faculty members have also received DC Center of AIDS Research (CFAR) pilot and Ending the HIV Epidemic awards. Faculty, staff and student work has been recognized through presentations, solicited reports and peer-reviewed publications, including *AIDS and Behavior* and *American Journal of Public Health* supplements, White

House invitations, *Wall Street Journal* interviews, and awards including the Juanita Cunningham Evans Award, the highest recognition in the field of school mental health.

There is important growth in academic training as well. PCH now has a women, youth and child health concentration in the online MPH@GW program and offers students access to an expanded inventory of practicum sites. PCH student recruitment is out-performing previous indicators, and we are gratified to see increased diversity among our students, staff and faculty. As we complete our strategic plan, our self-study's final stage, a central focus will be ensuring that future academic offerings reflect our outward look and are cohesive, highly tuned to evolving student needs, and fully reflective of the many strengths of PCH faculty.

I am grateful to the PCH community for their ongoing dedication to these processes of inward and outward examination that will further hone and amplify our strengths and vision and further enhance our contributions to both Milken Institute SPH and the broader field of public health.



These inward and outward looks have led us to further strengthen, align and integrate our efforts across academic training, research and practice to ensure optimal outcomes in each endeavor.



COVID-19's Increased Responsibilities Take a Toll on Latinx Teens

"This study is the first to show how burdens on U.S. Latino/a families due to the pandemic have put adolescents at risk of serious mental health problems and poor school performance," said Roche, who was the lead author.

It's not a pretty picture: Latinx adolescents who took on greater childcare responsibilities due to the pandemic experienced significant increases in depression, anxiety and acting-out behaviors, such as aggression. They also experienced a significant drop in their grade point average.

This is the conclusion of a first-of-its-kind study by Kathleen Roche, Milken Institute SPH professor of prevention and community health, which appeared in an April 2022 edition of the *Journal of Youth and Adolescence*.

"This study is the first to show how burdens on U.S. Latino/a families due to the pandemic have put adolescents at risk of serious mental health problems and poor school performance," said Roche, who was the lead author. "If not addressed, such difficulties can lead to suicidal thoughts, school failure and difficulties that last far into adulthood."

Roche and her colleagues surveyed 547 Latinx adolescents before the pandemic and two more times several months after COVID hit. They found that six months into the pandemic, one out of ten Latinx adolescents reported that a household member had been hospitalized due to COVID-19, more than one out of three reported increased childcare



responsibilities and nearly 50% reported increased household financial pressures.

Although household hospitalizations, family job and income loss did not have a direct effect on adolescent adjustment after COVID started, such stress seemed to have harmful effects on adolescents because it led to an increase in adolescent childcare duties. While other studies have shown that Latinx families are at greater risk of COVID-related infection, deaths in the family and financial difficulties, this study is the first to show how pandemic-related stressors affected important outcomes for Latinx adolescents a year after COVID started, she said.

Adolescents are undergoing rapid biological, cognitive and social changes that increase their vulnerability to very stressful situations, Roche said. Increased focus on caring for younger children may take time away from schoolwork and healthy coping behaviors such as time spent with peers and physical activity, she said.

The study was funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development at the National Institutes of Health.



Stopping the Spread of Anti-Vax Information on Social Media

Following years of growing vaccine opposition and several outbreaks of measles—a vaccine-preventable disease—Facebook established its first policy to stop the spread of misinformation about vaccines in 2019. But did this new policy actually help stop the spread of misinformation?

Yes, according to research by Milken Institute SPH Professor of Prevention and Community Health Lorien Abrams, PhD student Jiayan Gu and their colleagues. The team created a new paradigm to evaluate Facebook’s policy and found that it did indeed reduce people’s interactions with vaccine misinformation.

“There is a growing consensus that health misinformation on social media platforms presents a critical challenge for public health, especially during the COVID-19 pandemic,” Abrams said. “While new policies by social media companies are an important first step to stopping the spread

of misinformation, it is also necessary to rigorously evaluate these policies to ensure they are effective.”

Abrams and colleagues identified 172 anti- and pro-vaccine Facebook pages and collected posts from them six months before and after the policy went into effect. The study found that Facebook’s March 2019 vaccine misinformation policy moderately curtailed the number of “likes” of anti-vaccine content on its platform.

In the study, published in March 2022 in *Vaccine*, the team concluded that social media companies can take measures to limit the popularity of anti-vaccine content on their platforms.

“This research is a good first step in developing a process to evaluate the effectiveness of social media policies that are created to stop the spread of

misinformation,” Gu said. “We are excited to continue this work and grow our understanding of how social media policy interventions can positively change online information sharing ecosystems.”



Considering the Influence of Place in HIV Prevention

If you are a gay man, does where you live affect whether or not you will develop HIV? Assistant Professor Tamara Taggart in the Milken Institute SPH Department of Prevention and Community Health made the case for including place as a variable in HIV-prevention research among men who have sex with men (MSM).

Published in the June 2022 *American Journal of Public Health*, Taggart suggests that place is an important and understudied axis of intersectional stigma in HIV prevention research. “My research portfolio largely focuses on space and place—what resources and opportunities are available to you within your neighborhood and community,” she said. “So for minoritized groups, sexual and

gender minorities, and racial and ethnic minorities, where they live can make it challenging to access the types of care and services that lead to healthy, thriving lives. Understanding the influence of place has the potential to expand our understanding of intersectional stigma and highlight new avenues for intervention.”

Thanks to a \$10 million grant from the National Institute of Allergy and Infectious Diseases at the National Institutes of Health, Taggart and Jonathon Rendina, an associate research professor in the Department of Epidemiology, will have the opportunity to investigate this question. Their research will develop a new cohort of approximately 5,000 Black, Latinx and

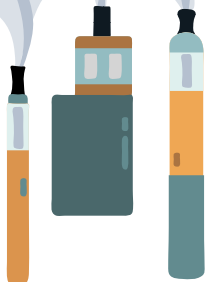
multiracial sexual and gender minorities across the nation. The researchers aim to understand the impact of socio-structural stigma via state and local policy and climate on HIV inequities. At its conclusion, the five-year project expects to develop new quantitative metrics of state-level structural racism and anti-LGBTQ stigma.

Considering place as a variable may shed light on race-based disparities in HIV infection, Taggart said. According to the Centers for Disease Control and Prevention, one in six MSM will be diagnosed with HIV in their lifetime, including one in two Black MSM, one in four Latinx MSM and one in 11 white MSM.

Vape Shops Stay One Step Ahead of Regulators

“Despite the potential of e-cigarettes to support cigarette cessation, their use increases health risks and risk for addiction, particularly in young people.”

Carla Berg, Milken Institute SPH professor and associate chair for research in the Department of Prevention and Community Health



When states restrict access to electronic cigarettes—banning flavored e-cigarette products, for example—the good news is that e-cigarette consumption may go down. The bad news is that consumers often transition to using other potentially more dangerous products, thanks to the Wild West atmosphere in the U.S. smoke and vape shop marketplace.

This is the conclusion of research by Carla Berg, Milken Institute SPH professor and associate chair for research in the Department of Prevention and Community Health. Published in a 2022 issue of the *International Journal of Environmental Research and Public Health*, Berg and colleagues summarized research findings concluding that as quickly as laws are passed to curtail e-cigarette use, retailers respond by offering additional unregulated products or moving sales online.

“Despite the potential of e-cigarettes to support cigarette cessation, their use increases health risks and risk for addiction, particularly in young people,” Berg

said. Increasingly restrictive policies are turning “vape shops into these alternative types of tobacco specialty stores that really are detrimental. Many carry delta-8-THC, kratom, and other products that are un- or under-regulated.”

Berg noted that future research needs to carefully consider the retail environment to see how it responds to policy and impacts consumer behavior. “There are also a lot of enforcement issues that need to be addressed,” she said. “In most states, there’s no regulatory agency that has purview over products, like delta-8-THC, that don’t neatly fit into categories. And then there are CBD products, which are regulated at the federal level very loosely, and that the states are trying to figure out how to manage. All this is to say that we’ve got a very broken marketplace. Unfortunately, this leaves consumers to navigate this confusing landscape on their own. They often mistakenly believe that if a product is available to them, then it must be safe or relatively safe. And that’s just not true.”

In Memoriam: Donald Strong



Donald Strong, a faculty member who served as the director of research coordination and external

funding for the Department of Prevention and Community Health, died October 29, 2021. He was 62.

According to the school’s leadership, Strong played an integral role in helping Milken Institute SPH expand its relationships with community health organizations. He also connected faculty

with research and training opportunities at agencies like the U.S. Department of Health and Human Services and the DC Department of Health.

Dean Lynn Goldman said the GW community will miss Strong, who cared deeply for his colleagues and students. She said that Strong advanced public health and health equity through his work at the school, including that as a leader in local and community organizations.

“Don was beloved by our community partners and met with our students to advise, counsel and mentor them through their practice experience,” said Dean Goldman. “He was a force of nature and the Milken

Institute SPH hallways will not be the same without his warm presence.”

Deanna Kerrigan, Chair of the Department of Prevention and Community Health, added, “Don brought his enthusiasm for community-based public health and his passion to connect students with professional development opportunities to every meeting and project. He inspired us all with his energy and commitment.”

Strong joined the department in 2013. He earned his bachelor’s degree from the University of Illinois, a master of business administration from Columbia University and a master of public health from GW.

Prevention and Community Health Faculty Receive Prestigious Awards

Milken Institute SPH prides itself in attracting talented faculty members from across the world. This year, three members of the Department of Prevention and Community Health received distinguished awards recognizing their important contributions to the field of public health.

Carla J. Berg, professor and associate chair for research in prevention and community health was awarded a Fulbright scholarship to advance cancer prevention efforts in Armenia.

Berg's research targets Armenia's soaring cancer rates, specifically through advancing cancer prevention and control. Nearly 30% of adults in Armenia smoke, leading the nation to have the second highest rate of cancer-related deaths globally and the eighth highest lung cancer death rate. But, as Berg notes, Armenia's national health system has insufficient capacity to address the cancer crisis.

Building on her 2013 Fulbright work in Georgia, Berg will collaborate with Armenian colleagues on cancer prevention strategies related to tobacco control and mentor students in conducting related research.

"It is truly an honor to receive support from Fulbright to bolster our program of work in this region with prominent national organizations and academic institutions," she said. "This marks a critical period for embracing opportunities to enhance global public health efforts, particularly in this region given the socio-political challenges that have historically and ongoingly impacted quality of life."

And this past June, the Faculty of Agricultural and Environmental Sciences at McGill University awarded William Dietz, director of the Sumner M. Redstone Global Center for Prevention and Wellness, with a Doctor of Science,



Carla J. Berg



William Dietz



Olga Acosta Price

honoris causa. Recognized as McGill University's highest honor and awarded to those who've shown outstanding dedication to improving the lives of others, Dietz's honorary doctorate serves as an acknowledgement of his exceptional public health career in the field of obesity prevention, nutrition and physical activity.

"What lies clearly at hand for all of us are the multiple little things that we can do to mitigate obesity, undernutrition, and climate change—in our own lives and the lives of our families, and the big things that that we must do to change the policies and practices of our institutions, municipalities, provinces and federal government," Dietz said upon receiving the award. "Remember that the Chinese character for crisis is a combination of the characters for danger and opportunity. Seize the opportunity."

And in October 2021, Olga Acosta Price was awarded the Juanita Cunningham Evans Memorial Award from the National Center for School Mental Health (NCSMH). The award is NCSMH's highest honor and is given to an individual who significantly impacted the advancement of school mental health policy, research and/or practice.

Price is an associate professor of prevention and community health. She is

also director of the Center for Health and Health Care in Schools, a national resource and technical assistance center committed to building effective school health programs. Price has dedicated her formal training in clinical psychology to improving the lives of young people.

"My experiences working with children, youth and families have driven my desire to understand resilience and to approach our work together from a strength-based perspective," she says. "I thoroughly enjoy creating opportunities for youth to share their insights. They don't hesitate to tell those of us who develop systems of care that we are clueless about what the world is really like for them."

Prior to joining the Milken Institute SPH faculty in 2006, Professor Price was director of the School Mental Health Program at the Department of Mental Health in Washington, DC, where she earned the Employee of the Year award. She was also an assistant professor at the University of Maryland's School of Medicine and served as associate director of the Center for School Mental Health Assistance, a national technical assistance center. In that latter capacity, she helped to promote the development of school-based mental health services across the country.



DEVELOPMENT

Milken Institute SPH Posted a Banner Year for Fundraising in FY22

In early 2022, Milken Institute SPH received the largest gift to date from a university faculty member to establish the Gill-Lebovic Center for Community Health in the Caribbean and Latin America. This gift was the latest in a round of new investments from philanthropists and created a banner year for the school's fundraising—a total annual giving dollars increase by nearly 20% over the previous year.

“In the past two years, the world has seen more clearly the critical need for public health investment and institutions like the Milken Institute School of Public Health received unprecedented support to serve this mission. Our mission to train the next generation of public health leaders and experts, deepen our vital research and serve the needs of our community attracted transformational gifts and interest in investment in our school,” said Patrick Sanders, executive director for development and alumni relations at Milken Institute SPH.

On the University's second annual GW Giving Day, 111 alumni, students, faculty, staff and friends donated nearly \$34,000 in a 24-hour period to support Milken Institute SPH student scholarships. The school reached 135% of its dollar goal, and FY22 was the University's best overall attainment year in the last five years, with Milken Institute SPH leading with the highest level of attainment for the university. Milken Institute SPH has led all schools and units in total attainment since FY20 thanks to the strong research grants secured by faculty.

As part of the school's annual I Heart GWSPH campaign in February 2022, more than 70 donors, including students, faculty, alumni and friends donated more than \$12,000 to support the Milken Institute SPH students facing financial hardships. “The connection between our institution and our donors is powerful and lasting, and in times of need, donors who can do so invest in the institutions they care about and whose missions they most align with,” said Sanders.

Milken Institute SPH Honors Exceptional Alumni: 950 Awards

The Milken Institute SPH 950 Awards were created in 2017 during the celebration of the school's 20th anniversary. Every year since, Milken Institute SPH has honored alumni who display outstanding service to the school and have made significant strides in their careers in public health, health policy and health management. The 950 Awards ceremony, held on September 30, 2021, honored five exceptional alumni:

Sunil Budhrani, MD '99, MPH '99
Chief Executive Officer and Chief Medical Officer of Innovation Health

Sunil Budhrani is chief executive officer and chief medical officer at Innovation Health and a board-certified emergency medicine physician. He also serves as a clinical associate professor of emergency medicine at GW and is a guest speaker in many classes at Milken Institute SPH.

Emily Howell, MPH '13
Director of Marketing and Communications at Aptive

Since graduating with her MPH in Health Promotion in 2013, Howell has led communications and marketing campaigns for multiple government agencies. Her work overseeing an integrated veteran suicide prevention campaign for the Department of Veterans Affairs and the White House garnered over a billion impressions.

Tammie Jackson, MHA '17
Chief Growth Officer, FinThrive

Prior to her role at FinThrive, Tammie Jackson led TransUnion Healthcare's go-to-market strategy and client-facing functions across the provider, payer and life-sciences domains. Jackson also serves as the national chair of the Healthcare Financial Management Association's Board of Directors, a professional association with more than 64,000 members. She was our first-ever 950 Award recipient from Milken Institute SPH's online master's program. As



a nationally recognized leader in health care financial management, Jackson makes time to mentor and lend her expertise to Milken Institute SPH students and programs.

Kelly Lorah, BSBA '03, MHA '06
Assistant Vice President, Ambulatory Operations at Cooper University Health Care

Kelly Lorah is the AVP for Ambulatory Operations at Cooper University Health Care and a fellow in the American College of Healthcare Executives. She has led adult, pediatric, rural and urban hospitals in Washington, DC, California, New Jersey and Pennsylvania. Lorah is an exemplary alumni volunteer and has served on the MHA Alumni Association's board since graduating and last year completed a successful, extended term as president.

Jennifer Porter, MPH '15
Executive Director, Office on Women's Policy and Initiatives, Office of the Mayor, Washington, DC

Jennifer Porter was appointed to serve as executive director of the Mayor's Office on Women's Policy and Initiatives by Mayor Muriel Bowser in February of 2019. In this role, she serves as the Bowser Administration's chief advocate for women and women's issues in Washington, DC. Porter has held a number of volunteer leadership positions in local, regional and national community service organizations that support and empower women. She served as chair of the DC Commission for Women, serves on the National Policy Advisory Group for Girls Inc., and has served on the planning advisory committee for the National Health Policy Conference. In her spare time, she is a lecturer at Milken Institute SPH.

In addition to alumni, two faculty members were recognized in this year's awards ceremony:

David Michaels, PhD, MPH
Professor of Environmental and Occupational Health

David Michaels received the 2021 Outstanding Faculty Achievement Award. Professor Michaels is an accomplished author and, notably, was the longest serving Occupational, Safety and Health Administration Administrator. During the COVID-19 pandemic, he has been a vocal advocate for the occupational health and safety of frontline workers from health care to meat-processing. His national leadership experience brings tremendous real-world experience into his classrooms.

Leana Wen, MD, MSc
Research Professor of Health Policy and Management

Leana Wen received the inaugural Dean's Medal. This award is conferred upon a member of Milken Institute SPH community who has rendered outstanding and exemplary community service, public service, and/or professional service in support of advancing humanity through public health. During the early days of the pandemic, Wen was featured almost daily on network news, quoted in national and international papers and heard on the radio. Wen's commitment to using her national platform to inform, educate, and encourage people the world over about COVID-19, vaccines and the important role of public health more broadly made her an exemplary inaugural recipient.

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James L. Roeder MBA '63	Keturah S. Solomon	Julie Viola MHA '17
Beth Roemer	Dr. Richard F. Southby and Dr. Janet R. Southby	Tanya E. Vogel BS '96, MS '99, MBA '06
Laura A. Rogers	Veronica T. Southerland MPH '13	Marie Voigt MPH '19
Kyle Roney MPH '21	Dionne Stanley	Wilsa Voigt
Sara Rosenbaum	Bret Douglas Stine MHSA '83 and Deborah Stine	Joy A. Volarich
Dr. Diane Rowland	Charlotte I. Stipanov	Marc Voyvodich MHSA '75 and Linda Voyvodich
Dr. Donna Ryan	John C. Stipanov and Cynthia Sherman	Ken VuJD '96 and Phuong Nguyen MHA '01
Nisha A. Sachdev MPH '06, PhD '12, MS '14	Emily Strickler	Dr. Amita N. Vyas
Dr. Jennifer Sackcheck-Ward	William A. Suk PhD '77 and Perry Suk	Dr. Ronald J. Waldman
Rachel K. Sadlon CERT '19	Megan Jacobs Swain MPH '10	Terry Walz
Melanie R. Sandquist MPH '22	Kate Howe Taft MPH '11	Weingart Foundation
Ashok and Nisha Sankar	Tsenu T. Tamrat	Scott A. Weinstein JD '11, CERT '11
Gary A. Sardon Jr. MPH '21	Emoni T. Tavarez	Jennifer Weiss Wilkerson MHSA '00
Dr. Jennifer Sauriol	Sarah Teague	Wellcome Trust
Save The Children Federation Inc.	Joel B. Teitelbaum LLM '98	Roger W. Wessels MHSA '72
Tyler C. Savoy MA '18 and Lauren Savoy MA '16	Marinella G. Temprosa MS '97, PhD '12	Aleena N. West BS '21
Kelly A. Scanlon PhD '13	Michael W. Thacher BA '70 and Rhonda Rundle	Katarzyna Wilczek MPH '19
James B. Scarborough BBA '81, MBA '83	Jane H. Thorpe	Sara E. Wilensky MPP '05, PhD '10
Jane A. Scarbrough MBA '80	Dr. James M. Tielsch and Dr. Ellen MacKenzie	Kawana J. Williams
Dr. Arthur M. Seigel and Ellen M. Seigel	Clark D. Todd Jr. MBA '69	Alexis R. Wing BS '19
Howard D. Sesso MPH '95	Mien Tran	Andrew C. Wiss
Dhruvil Shah MPH '20	Robert James Trefry MA '74	Jackie Wood
Yasir Shah MPH '08, DrPH '18	Trinity Church Wall Street	Nelson and Debra Woodruff
Emma L. Sheffert MPH '22	UC Davis Center for a Diverse Healthcare Workforce	Rohini S. Wurth MHSA '07
Bonnie S. Sherman AA '60, BA '62 and Neil Sherman	Dr. Durga Bhavani Valay and Prasad Valay	WW International Inc.
Mark M. Shimamoto MPH '15		Ellie Yoo
Dr. Peter W. Shin		Robert K. Zentmyer MHSA '67 and Donna Zentmyer
		Burton L. Ziskind CERT '78, PhD '84

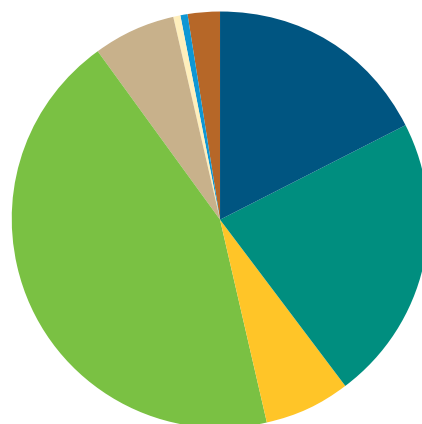
Although great care has been taken to list all names accurately, please notify Milken Institute School of Public Health of any errors or omissions by contacting 202-994-4196 or by emailing gwsphgiving@gwu.edu.

Financial Report

FISCAL YEAR 2022

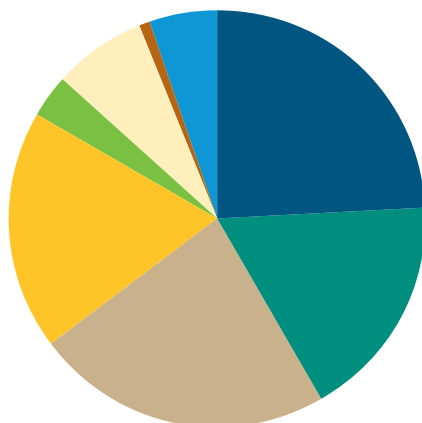
REVENUE (m)

Research – excl BSC	\$ 32.4	18%	
Research – BSC	\$ 40.7	22%	
Research – Indirect	\$ 12.7	7%	
Graduate Tuition & Fees	\$ 79.8	43%	
Undergraduate Tuition & Fees	\$ 11.8	6%	
Gifts & Pledges	\$ 1.0	1%	
Other Revenue	\$ 1.4	1%	
Endowments	\$ 4.2	2%	
TOTAL	\$ 184.0		

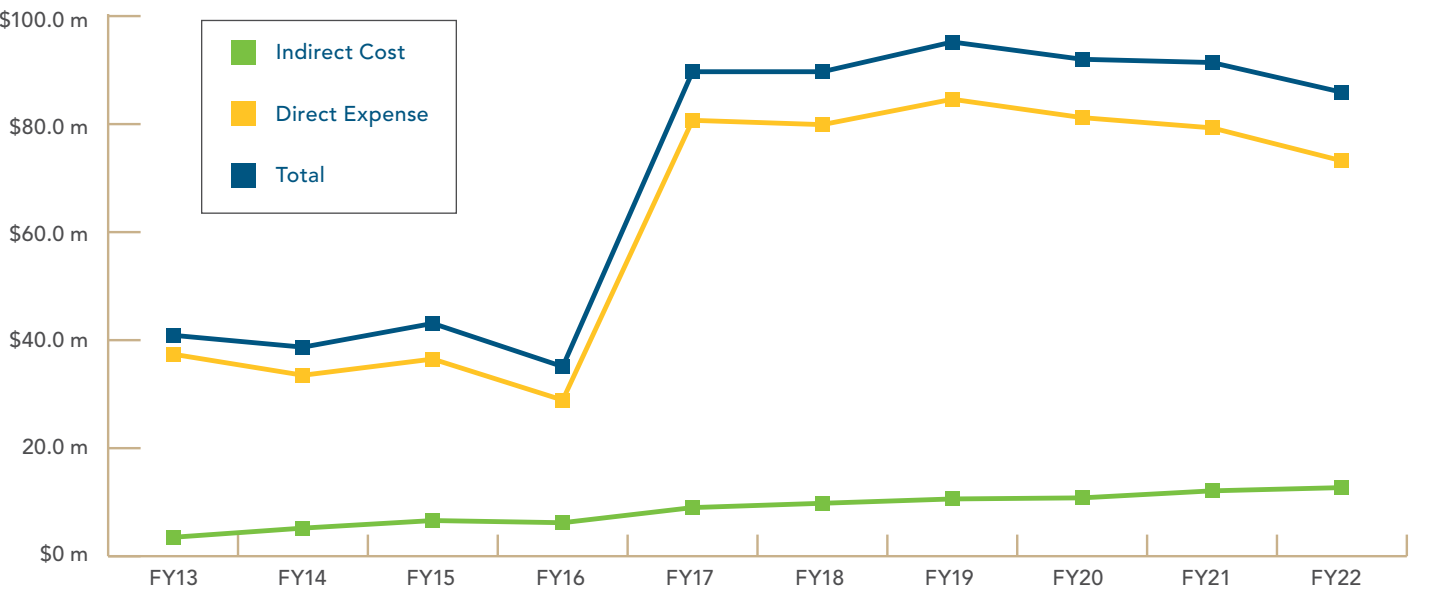


EXPENDITURES (m)

Salaries	\$ 42.2	24.4%	
Salaries – Research	\$ 30.1	17.4%	
Other Expenses – Research	\$ 40.2	23.2%	
Operations	\$ 31.9	18.4%	
Occupancy	\$ 6.0	3.5%	
Student Support	\$ 12.3	7.1%	
Student Support – Research	\$ 1.4	0.8%	
Allocations – Net	\$ 9.1	5.3%	
TOTAL	\$ 173.2		

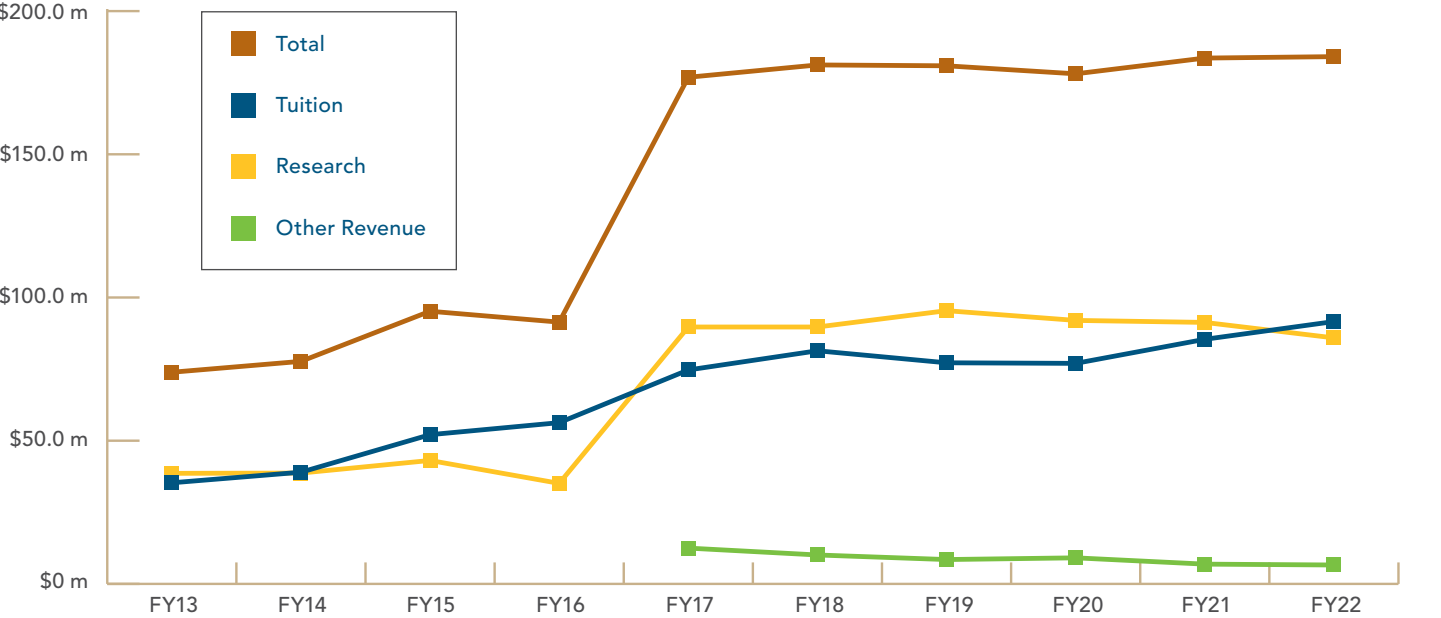


RESEARCH REVENUE TREND



Fiscal Year	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Indirect Cost	\$3.5	\$5.2	\$6.6	\$6.2	\$9.0	\$9.8	\$10.6	\$10.8	\$12.1	\$12.7
Direct Expense	\$37.4	\$33.5	\$36.5	\$28.9	\$80.7	\$79.9	\$84.6	\$81.2	\$79.3	\$73.2
Total	\$40.9	\$38.7	\$43.1	\$35.1	\$89.7	\$89.7	\$95.2	\$92.0	\$91.4	\$85.9

REVENUE TREND



Fiscal Year	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Tuition	\$35.3	\$39.0	\$52.1	\$56.3	\$74.7	\$81.4	\$77.2	\$77.0	\$85.4	\$91.6
Research	\$38.6	\$38.7	\$43.1	\$35.1	\$89.7	\$89.7	\$95.4	\$92.0	\$91.3	\$85.9
Other Revenue					\$12.5	\$10.1	\$8.5	\$9.1	\$6.9	\$6.6
Total	\$73.9	\$77.7	\$95.2	\$91.4	\$176.9	\$181.1	\$180.9	\$178.1	\$183.6	\$184.1

Milken Institute School of Public Health

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