

Carolina PUBLIC HEALTH

GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH | THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL | SPRING 2021 • VOLUME 3 • NUMBER 5

Gillings at 80:
Living Our Mission

COVID-19 (and How
We're Responding)

The Crisis of
Health Equity

Forecasting
Climate Change
Strategies

Working
Together
on Water

WE'RE ON IT!

1940-2020

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From Matthew Chamberlin, Director of Communications and Marketing

The year 2020 was unlike any other. COVID-19 touched every corner of our lives, forcing us all to make pivots both large and small. For the first time, Carolina Public Health magazine is digital first, although we did do a limited print run. The reasons are myriad and likely permanent, but we want to hear your thoughts on this maiden voyage. Please submit any comments to sphcomm@unc.edu. Thank you for your ongoing support of both the Gillings School and public health.

From the Dean

Greetings:

More than a year ago, we paused the magazine to address the deluge of information needs that arose every day as we navigated life, learning and research in the pandemic. As fall 2020 unfolded and the campus moved from on-site to remote within

the first two weeks of the semester because of rapidly rising COVID-19 cases, we decided it was time to resume work on the magazine. The current issue is both here-and-now and a look back at some highlights of our 80 years. We were the nation's fourth school of public health and first *public* school. We still are the top public school

and proud of it. In this issue, we highlight ways that our Master of Public Health classes deliver value to communities through practice — one of Gillings' strengths, even as students are being trained. We focus on big contemporary challenges, such as climate impact, where it is imperative that solutions are found soon. We highlight our collaborative research across North Carolina on PFAS, a class of chemicals that harms life and the environment. Read on for much more.

As SARS-CoV-2 evolved from a virus with pandemic potential to a global pandemic, our focus, research, education and practice tracked with it. Early on, we

created a COVID-19 working group to coordinate activities across our school. In the early stages, our faculty members focused on understanding the novel coronavirus and developing new methods to study and find it. Water research experts developed innovative methods to detect SARS-CoV-2 in wastewater — an early warning system for congregate living and working sites. Air-quality experts contributed to understanding how droplets function as disease promoters indoors. Health behavior faculty members advised how to motivate people to follow essential practices to reduce viral spread. Health policy experts and others advised state, national and global governments, and non-governmental organizations. Several epidemiology faculty members leveraged their experience with Ebola in 2016 to fast-track development of vaccines for COVID-19 in partnership with clinical and pharmaceutical colleagues. One faculty member was asked to serve on the leadership committee that designed treatment trials for COVID-19 worldwide, known as ACTIV and another is on the leadership team for vaccine trials under the umbrella of Operation Warp Speed.

During what should have been spring break in 2020, Gillings faculty members, like others across UNC-Chapel Hill and around the country, pivoted from in-person classroom teaching to remote teaching—in under two weeks! They and our students adapted—with some challenges. We have lived in a Zoom world for more than a year.

COVID-19 cases continued to rise throughout summer 2020, accompanied by increasing hospitalizations and death rates around the state, country and world. Students did internships and practica helping organizations deal with the consequences of viral spread. Faculty members rose to meet the pressing needs of the public, especially underserved populations, for information regarding SARS-CoV-2. Health equity was always front and center. One of our faculty members created a new webinar series on Emergency Preparedness, Ethics and Equity. Two of us were part of a National Academy of Medicine committee that planned a pandemic webinar series reaching thousands of people. Another wrote regular articles about ethical issues for *Medium*. We planned and executed a new COVID-19 course to meet in-person credit requirements for international students. Several faculty members collaborated with colleagues locally, with legislative support, to create a dashboard with essential SARS-CoV-2 and COVID-19 information specific to N.C. localities.

Over Memorial Day weekend in 2020, George Floyd was killed, and intense discussions about race, structural racism and inequity were happening everywhere, including in our school. Our school's focus on health inequities never has been greater or more determined.

We are living through an infectious disease pandemic, a racism pandemic and an economic pandemic and are determined to be part of solutions. Deans and program directors from schools and programs around the U.S. have had powerful, regular conversations about these issues. We joined with other schools and programs in responding to executive orders that placed additional restrictions on foreign students, decimated environmental regulations and prohibited training that included structural racism. Students were hard hit, losing the in-person support communities on which they depended. Our student services leaders increased efforts to help people cope, like Wind Down Wednesdays. We hosted COVID conversations to provide opportunities for faculty, staff and students to learn what we were doing, ask questions and voice opinions. We are a community.

Our experts on vaccines and communication were central knowledge sources for our school,



Still the number one *public* school of public health in the country

Once again, the UNC Gillings School of Global Public Health has been ranked the number one *public* school of public health in the United States by *U.S. News and World Report* — and number two overall. This is the fourth consecutive period in which the Gillings School has received this ranking. In the 2020 rankings, Gillings shared second place; in the new 2022 edition, Gillings stands alone in the second position.

university, local and state health authorities, and national and global bodies as vaccination efforts rolled out and gathered steam. And still, much of our usual research and other activities continued.

This issue of our magazine provides a glimpse (albeit selective) into the deep and varied world of Gillings in the pandemic. I am awed, amazed and grateful for the remarkable work that goes on every day at Gillings (onsite and remotely) and by our alumni in thousands of locations around the world. Our commitment to equity, action, acceleration and public health impact, always strong, grew stronger during the pandemic. We are a school grounded in practice and the application of research. Our proud history speaks to that. The future demands it. Thank you to our many friends and supporters. We would not be a top school without you!

Wishing you good health, vaccinations and better times ahead.

With gratitude to all,

Barbara K. Rimer





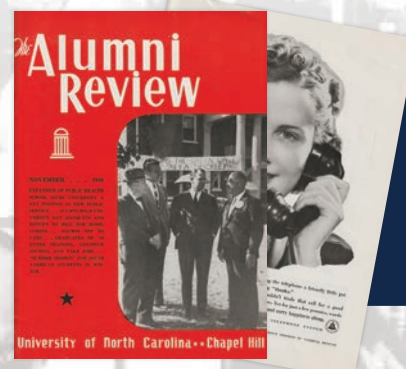
Dr. Amir Barzin and Amy Loftis explain the testing process by the PCR testing machine at UNC-CH COVID Surveillance Laboratory.

JON GARDNER/UNC-CHAPEL HILL

— GILLINGS AT 80 —

LIVING OUR MISSION

More than a century after the first global flu pandemic brought the importance of public health center stage, the year 2020 marked the School's 80th anniversary – a milestone occurring in the midst of another global pandemic that again put public health in the spotlight.



THEN AND NOW ...

Carolina Alumni Review from November 1940 trumpeting the opening of the school of public health. We opened with an enrollment of 63 master's candidates and in 2021, we received 1,445 residential Master of Public Health applications.

Some of the societal ills that led to the creation of UNC's public health school in 1940, such as poverty and inequity, still persist, and the pandemic and social justice protests we saw in 2020 have only amplified the need to make systemic changes.

UNC-Chapel Hill trustees officially established the School of Public Health in 1940 – but the road to a separate public health school began much earlier. In the early 20th century, North Carolina faced a health crisis: Illnesses like hookworm and tuberculosis and other illnesses were rampant, and many North Carolinians were poor and undernourished, making them even more vulnerable to disease.

To address these health challenges, UNC medical school faculty members and public health professionals began building partnerships in communities across the state to improve treatment and prevention of disease. Backed largely by support from private foundations, those efforts made it clear that N.C. needed a state-based training program for public health workers. In 1936, the widely renowned former Harvard Professor Milton Rosenau, MD, agreed to lead the division of public health within UNC's medical school.

“Our goal has always been to make a real difference for all people. And there’s still so much work to do.”

Our mission – to improve public health, promote individual well-being and eliminate health inequities across N.C. and around the world – hinges on our shared commitment to excellence and our collaborative approach to teaching, research and service. Over the School's eight decades, we've grown and changed, but those values remain a north star that guides our work.

At Gillings, we live our mission in many ways every day. In every department, students and faculty go beyond the classroom, working together in scientific labs and clinical settings, and with



A person approaches a COVID-19 testing location on the campus of the UNC-Chapel Hill.

community and global organizations, to help solve real-world problems. Gillings researchers contribute knowledge and discoveries that influence public policy and transform public health practices. We continue to build and nurture treasured and purposeful partnerships that increase our global impact.

We've also honed our ability to pivot. In the 1940s, as the field of public health grew and as World War II broke out, the School adapted to meet the demand for training and consultation on pressing public health issues. From the outset, the School's training programs and field work included a focus on racial equity. And throughout the 60s and 70s, as the civil rights movement took hold, we intensified our emphasis on the health of marginalized and underserved populations, and students and faculty organized and advocated for change. Even as the COVID-19 pandemic forced an adaptation to remote-based instruction and research, we collaborate – though often from a distance – to advance public health.

Through its eight decades, under the leadership of seven deans, and being home to thousands of faculty and students, the Gillings School has worked across all our disciplines to bridge the gap between academic research and the practice of public health. Our goal is – as it has always been – to make a positive impact for *all* people, in North Carolina and across the world. And there's still so much work to do.

At 80, we're Gillings. And we're *still* on it. 🏡



Throughout 2020, the COVID-19 pandemic put almost the entire world on lockdown, causing or contributing to millions of deaths globally and upending schools, businesses, families and daily life.

AND HOW WE'RE RESPONDING.

As countries, communities and people worked to slow the coronavirus spread, the pandemic highlighted the importance of public health education, research and practice.

From the very onset of the pandemic, Gillings faculty, students and alumni have been working tirelessly on all fronts during this global health crisis – and will continue to do so as the world continues to navigate life during and after COVID.

This special section highlights some of the many ways the Gillings community is leading in pandemic research and response.

School faculty members across every department, have asked important questions that have helped guide response efforts around the world. They have led studies that fueled the development of treatments and vaccines, helped establish

public health guidance intended to minimize risk of exposure to the virus, and served as go-to sources of key information for public health agencies, policymakers, the media and the public. (See the graphic on the next page for all the media outlets where Gillings faculty have been mentioned or interviewed throughout the COVID-19 pandemic). And, as so many educators did, our faculty adapted their coursework and instruction to remote teaching since COVID-19 disrupted the 2020 spring and fall semesters.

The School also held a special round of Gillings Innovation Lab funding awards to support innovative research projects to accelerate understanding and breakthroughs related to the pandemic. A record 41 teams submitted proposals for consideration – with each department at the Gillings School represented – and seven received awards.

COVID-19 has drawn attention to longstanding healthcare, education, housing and employment inequities in our nation's communities of color. Equity is a key focus at Gillings, and much of



The UNC Gillings COVID-19 Dashboard


our pandemic work has centered on issues of equity. Faculty, alumni and students have been engaged in efforts to reduce risk and improve outcomes for those who are most vulnerable to COVID exposure, severe illness and death.

Around the world, our alumni have been working to promote distancing and other strategies to slow the spread, and they have been helping healthcare providers and communities respond to the pandemic's substantial health and economic impacts. And students actively engaged in efforts throughout North Carolina to support frontline workers and help keep vulnerable residents safe and healthy.

More than a year since the onset of the pandemic, questions still abound, and we learn new information every day about the virus and its variants. That's why the School has launched the UNC Gillings COVID-19 Dashboard

Collaboration and teamwork have long been Gillings School values, and our COVID work is no different.

(gillingscovid19.unc.edu) as a resource center for policy makers, researchers and anyone interested in learning more about COVID-19 in N.C. It includes county-level profiles, interactive data visualizations and updates on the latest scientific findings. Whether you're a researcher, a healthcare provider or a concerned resident, our goal is to help make important and timely information about COVID-19 more accessible and understandable.

Collaboration and teamwork have long been Gillings School values, and our COVID work is no different. We continue to work together across disciplines and departments to further our knowledge of the virus and the actions we can take to endure this pandemic and, over the long term, improve the health and well-being of people throughout our world. 

Media outlets where Gillings faculty have been mentioned or interviewed throughout the COVID-19 pandemic.



TAYA JACKSON SCOTT

Public health is a full circle

The Gillings School's vice dean believes that public health is more than just a profession – it's a lifelong commitment.

Taya Jackson Scott, EdD, has taken many paths in a career that led her to the Gillings School, and each part of the journey has been driven by a deeply rooted commitment to family and community.

"It's critical for me," she said. "I don't do things for other people that I wouldn't also do for my family."

Experiences with her neighborhood, her church, her mother and her grandfather – who lived to age 101 – have instilled her with a curiosity to understand the intricacies of community health, especially in Black communities. What makes them resilient? What inequities do they face, and how can they be resolved?

Outreach has been at the heart of Jackson Scott's roles. On the advice of her mother, she has endeavored not to do things by halves. She has worked in finance, organizational strategy, career development, marketing and administration in order to understand how all of these aspects work together to affect cultural change in higher education and health care.

Many of her outreach efforts have come in partnership with her family. To contribute to workforce development, she and her husband co-founded the GIA Community Development Corporation – a nonprofit organization that connects youth to skill and career-building opportunities. Jackson Scott also works with her sister, Karen Scott, MD, in the mentorship of women in marginalized communities, connecting them with educational



"Public health is actually giving people tools to be able to care for themselves and their families."

opportunities needed to build skills, cultivate self-awareness and shape future careers.

Her belief that education is the great equalizer has now brought her to the Gillings School, where she uses business modeling and operational excellence strategies as part of a collective effort to advance public health initiatives. Jackson Scott embraces public health 3.0 – a modern concept of public health infrastructure that takes a holistic view on the aspects of a community that contribute to overall health and well-being.

"You can tell a person how to eat right or what they need to do for their health. But they may be hungry, or they may not have a job," she explained. "Solving that bigger-picture challenge is one of the great things about some of the public health programs that I've seen."

Since coming to Gillings, she has drawn inspiration every day from the work of students, faculty and staff and how it touches the lives of those affected by health inequities.

"Public health is really that full circle," she says. "It's not just what we say: 'from global to local.' It's actually giving people tools to be able to care for themselves and their families." 📖

BRENT WISHART

Facilities team makes Gillings campus safe

For nearly two decades, Facilities Manager Brent Wishart has been a major influence in the Gillings School's growth – literally.

From overseeing small and large renovation and construction projects, to facilitating the move of more than 200 faculty and staff to new offices, to dealing with daily facilities issues like events planning and parking logistics, to implementing COVID-19 safety measures, Wishart's work spans all departments of the School.

"The best part of working at Gillings is the great people who work as a team. No matter your department or whether you're faculty, staff or student, we're all working toward the same goal of creating a thriving environment for learning," says Wishart, who began working at the School's facilities office in 2002. "I have a great facilities group that makes the School inviting, and we are lucky to have a part to play in facilitating so many of the achievements that come out of the Gillings School."

While growing up in Lumberton, North Carolina, Wishart often came to Chapel Hill for football and basketball games. Working on campus now, he enjoys the excitement of each new semester and the constant opportunity to work with new people on projects and events – whether it's a student career fair or a food truck rodeo to celebrate the last day of class.

"There is no such thing as a typical day," Wishart says. "Every day provides an opportunity to help ensure important research and learning is advanced at the School."

With that in mind, Wishart and his team, which includes Facilities Coordinator Julie McManus and Facilities Assistant David King, execute facility




"Every day provides an opportunity to help ensure important research and learning is advanced at the School."


changes – for example, dealing with scheduling challenges posed by a \$10-million lab upgrade or implementing noise and dust abatement strategies due to an auditorium renovation – in a way that prioritizes the School's learning and research missions. "These types of facility issues intersect with busy classrooms, student study needs, research and work spaces," Wishart says, "so we use planning and project management to help connect all of these parts so that our operations can run as smoothly as possible."


In recognition of his work, Wishart received the School's Staff Excellence Award in 2008, with colleagues praising his helpfulness, calm demeanor and good humor. In addition to his full-time job, Wishart recently earned a master's degree in project management. His thesis project: writing a manual for project management at the Gillings School.


"Brent is our resident superhero. He quietly handles a huge array of facilities issues, including many that are stressful for those involved, and I have yet to see him respond with anything other than calm efficiency and a dry wit," McManus says. "Taking care of the Gillings campus, its students, faculty and staff comes very naturally to him – and he inspires it in others as well." 📖


GILLINGS WELCOMES FACULTY


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Assistant Professor of Epidemiology
Research interests: epidemiologic methods, infectious diseases, causal inference


 **Tanya Garcia, PhD**
Associate Professor of Biostatistics
Research interests: longitudinal data analysis, neurodegenerative diseases, prediction models, survival analysis


 **Lisa Gralinski, PhD**
Assistant Professor of Epidemiology
Research interests: the host and viral genetic factors that drive coronavirus disease severity that can be harnessed to develop new avenues of therapeutic intervention for emerging coronavirus like COVID-19


 **Abigail Hatcher, PhD**
Assistant Professor of Health Behavior
Research interests: social interventions for health, HIV care and treatment in the context of intimate partner violence, mental ill health, and poverty


 **Lauren Hill, PhD, MSPH**
Assistant Professor of Health Behavior
Research interests: behavioral interventions to address determinants of HIV/AIDS risk and treatment outcomes.

 **Chantel Martin, PhD**
Assistant Professor of Epidemiology
Research interests: social epidemiology and life course theory; reproductive, perinatal and pediatric epidemiology; biological markers of health


 **Amanda Northcross, PhD**
Associate Professor of Environmental Sciences and Engineering
Research interests: using chemistry and engineering to identify exposures to air pollution and to develop interventions to reduce pollution


 **Arrianna Planey, PhD, MA**
Assistant Professor of Health Policy & Mgmt
Research interests: interactions between health policies, healthcare access and utilization, and underlying population-level health inequities


 **Timothy Sheahan, PhD**
Assistant Professor of Epidemiology
Research interests: developing broad-spectrum therapeutics to treat coronavirus infections like COVID-19 and those that may emerge in the future

 **Bonnie Shook-Sa, DRPH**
Clinical Assistant Professor of Biostatistics
Research interests: causal inference, survey sampling, infectious diseases, epidemiology

 **Lisa Spees, PhD**
Assistant Professor of Health Policy & Mgmt
Research interests: improving access to care, social epidemiology, application of implementation science to cancer, large population-based datasets

 **Emma Tzioumis, PhD**
Assistant Professor of Nutrition
Research interests: maternal and child nutrition, both globally and locally – specifically malnutrition, complementary feeding and maternal experiences in the perinatal period

 **Karen Volmar, JD, MPH**
Associate Professor of Health Policy & Mgmt
Research interests: utilizing program evaluation and legal research to inform health policy development

 **Ciara Zachary, MPH, PhD**
Assistant Professor of Health Policy & Mgmt
Research interests: state and federal policy analysis; increasing access to affordable and quality care, especially to underserved populations; Medicaid

GROWING OUR GLOBAL FOOTPRINT

Suzanne Maman, PhD, professor and former vice chair of the Gillings School’s Department of Health Behavior, was appointed associate dean for global health.

As the School’s chief global leader and liaison, she is responsible for evolving global strategy and global health initiatives.

“The field of global health is so different than where it was 20 years ago, even 10 years ago! We need to be ahead of the curve when it comes to training researchers and practitioners to continue to lead in the field of global health,” said Maman, who joined Gillings in 2005. “Our focus on local-global and the interdisciplinary emphasis of our training and research will serve us well in terms of continuing to shape future global health leaders.”

Recognized for her research, student mentoring, teaching and service, Maman will continue with her faculty appointment as professor of health behavior and co-lead for the Master of Public Health Program’s global health concentration, which she helped to develop and launch two years ago. She succeeds Margaret (Peggy) Bentley, PhD, Carla Smith Chamblee Distinguished Professor of global nutrition, who served as associate dean for 17 years.

A national and international leader in global health research, practice and education, Maman’s work has focused on the intersection of intimate partner violence and HIV/AIDS. Programs she has

developed with global colleagues and community partners have helped mitigate women’s risks from both violence and HIV/AIDS. She has collaborated with the World Health Organization, the United States Centers for Disease Control and Prevention, and other governmental health agencies and educational institutions to advance this work.

“Gillings has so much depth and breadth in the work that we do addressing health challenges outside the U.S., particularly in our flagship international sites including Malawi, Zambia, South Africa and Vietnam. But we also have outstanding examples of work that our faculty, alumni and students are doing in global health here in the United States,” she says. “This includes taking lessons learned from our international work and applying it to work in the U.S. and vice versa, and addressing transnational health issues like COVID that have the same social determinants at their core, such as poverty, gender, race and ethnicity.”

Maman collaborates with colleagues within the School’s Research, Innovation and Global Solutions unit to integrate global initiatives into innovation, entrepreneurship and research, and lead programming that supports the School’s domestic and international students. She also will continue to partner closely with key research centers and institutes and enhance partnerships with global organizations and leaders.

“I believe we need to continue growing our global-local partnerships to expand our global footprint and continue to set us apart from our peers,” she says.



Look for Gillings Spotlights throughout this magazine to hear more about four of these faculty members.

PUBLIC HEALTH MEANS ...

**THE CRISIS
OF HEALTH
EQUITY**

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BEYOND THE CLASSROOM

**CAPSTONE
COMMUNITY
CONNECTIONS**

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**HIGHLIGHTING
WORK IN
HEALTH
EQUITY**

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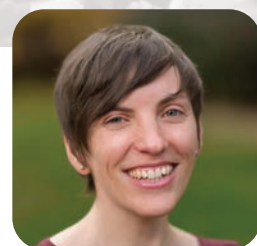


Screenshots of pitch videos from potential community partners. Due to the COVID-19 pandemic, 2020's Capstone Pitch Day was held virtually.

Capstone Community Connections

For nearly its entire existence, the Gillings School has offered opportunities for students to make an impact in local communities as part of their studies.

Over time, those opportunities were expanded and became more meaningful to both the students and the communities they served. The School's capstone program allows students to gain real-world experience while providing services to community partners.



MEG LANDFRIED, MPH



DENNIS W. STREETS

Capstone is a yearlong community-led, mentored service-learning course for second-year master's students in the Health Behavior concentration and the Health Equity, Social Justice and Human Rights (EQUITY) concentration. The scope of work is based on the community organization's needs, and students produce deliverables that meet their thesis requirement. Annually, capstone students provide more than \$255,000 of in-kind service to partner organizations.

"The capstone course is an opportunity for students to translate all the gold standards they've learned in the curriculum to real-world public health problems – and to wrestle with the tension of knowing that the gold standard can't always be

2020 Capstone Program

Community partners benefit from the work done by enthusiastic students who are embedded in current public health practices and trends.

51

MASTER'S STUDENTS

11

COMMUNITY PARTNERS

\$255,000

IN-KIND SERVICES TO PARTNERS GIVEN ANNUALLY

"Everyone who comes to Gillings is passionate about building partnerships. The capstone allows us to put this into practice."

implemented in a community-based setting," says **Meg Landfried, MPH**, assistant professor of health behavior and the department's capstone director. "The community partners benefit from the work done by enthusiastic students who are embedded in current public health practices and trends."

Over the past decade, 65 capstone partners have worked with student teams. Partner organizations define the scope of the capstone project, prioritizing their specific needs and giving students an opportunity to do applied public health work in a variety of settings with diverse populations. The Chatham County Council on Aging has worked with consecutive capstone teams, along with three summer interns from Gillings.

"Given our aging demographic in Chatham, we saw the need for a comprehensive plan for our county but lacked the capacity to undertake a significant and complex project of this nature. The capstone team brought tremendous energy, creativity, talent and commitment to the project," said **Dennis W. Streets**, the Council's executive director and a 1978 Master of Public Health graduate.

Community partners must be within an hour's drive of campus and work in the public health space, particularly health equity. Potential partners submit a proposal each year and, if selected, attend "Pitch Day," where they talk with students about working with them. (2020's Pitch Day was

virtual due to COVID-19.) Student teams and faculty advisers are matched with organizations based on their interest. A preceptor within the community organization supervises the team's work. This year, 51 students were split into teams and matched up with 11 community partners.

For second-year health behavior student Isabella Pallotto, the chance to work with the State Trauma Advisory Council was an opportunity she could not pass up. She's part of a five-student team working with the Council, an organization of hospitals and trauma treatment facilities throughout North Carolina, to improve care for pediatric trauma patients.

"Most members of our team want to partner public health with medicine in some way, which is why we all picked something with a medical focus," said Pallotto, who plans to earn a doctoral degree in clinical psychology and work in a hospital as a clinical pediatric psychologist. "Everyone who comes to Gillings is passionate about building partnerships. The capstone allows us to put this into practice. We're not just learning to write a paper. We gain professional team experience doing a big project and working with community members to make a real difference. It's one of the reasons I was drawn to Gillings." 📖

MORE ONLINE: sph.unc.edu/capstone-connect

The CRISIS of Health Equity

Racism isn't rhetoric. It's a public health crisis.



Above: The events of 2020 have exposed the need for critical and urgent solutions to systemic racism. Below: During the Reengage event, alumni and leaders came together to develop strategies to grow a more equitable Gillings community.

The United States is experiencing a collision of public health emergencies. As COVID-19 spreads and the country grapples with a reckoning on systemic racism and violence, the health inequities that lead to poorer outcomes for Black Americans have become more glaring and more deadly.

Through more than 80 years of public health education and research at UNC, the Gillings community is reminded that the mission to advance health equity can save lives. Black lives matter. Work at the Gillings School requires intention and introspection, acknowledging the need to incorporate anti-racism into all facets of scholarship, policy and community action.

"The events of 2020 helped expose that racism, not race, is the root cause of multiple health inequities," said Kauline Cipriani, PhD, associate dean for inclusive excellence and associate professor in the Public Health Leadership Program. "Inclusive excellence at Gillings is critical now, more than ever, if we are to adequately prepare the next generation of public health practitioners and researchers to achieve our mission of reducing health inequities in North Carolina and globally."



Guests at the 2020 Minority Health Conference attended a powerful keynote lecture from LaTosha Brown, co-founder of Black Voters Matter.

Rising to the challenge

In response to the collision of crises in 2020, the inclusive excellence team, led by Cipriani, launched the Emergency Preparedness, Ethics and Equity webinar series, which explores social inequities unearthed by the pandemic and our response to it. The series has covered topics such as protection for incarcerated persons, elevating and recentering LGBTQ+ health, and how faith leaders are sustaining community.

Leadership at the Gillings School is committed to full implementation of the Inclusive Excellence Action Plan, and advances have been made in each of six strategic focus areas. Faculty, staff and students have participated in trainings on anti-racism and creating inclusive environments in academic spaces. For the second year in a row, efforts in this area were recognized with receipt of the Health Professions Higher Education Excellence in Diversity (HEED) Award.

Raising awareness

This year is the 50th anniversary of the Minority Student Caucus (MSC), which advocates for students of color in the Gillings School and promotes research and programs addressing health concerns that affect people of color. Since 1977, the MSC has led the annual Minority Health Conference, which has addressed topics ranging from community-based research, social determinants of health, systems of power and more.

The 2021 Minority Health Conference was an all-virtual event held on Feb. 25-26. Co-led by health policy and management graduate students Rachel Singley and Shewit Weldense, its theme, "Body and Soul," explored avenues of health activism that go beyond the scope of politics.

"We wanted to focus on spiritual, mental and emotional health but also on health activism and how that takes many forms," Singley explained. "This was

inspired by the events of the summer following George Floyd's murder. People are looking for grassroots and 'boots-on-the-ground' activists to be our voice more than ever instead of looking to politicians."

The conference attracts attendees and speakers from across the country, and this year's virtual format brought the opportunity to reach an audience on a broader scale. Keynote speakers were Wizdom Powell, PhD, and Sharelle Barber, ScD, MPH.

Reconnecting and reengaging

The Minority Health Conference is a highlight for many, including Gillings School alumni, who often travel from across the country to attend. On the night before the 2020 conference, alumna Stephanie Baker, PhD, Dean Barbara Rimer, DrPH, and Cipriani led a reception to connect with many of these alumni. Called "Reengage," the event was both a reflection and a recognition that in 80 years of work towards equity at the Gillings School, there is still room for improvement and more work to be done. To that end, Baker and fellow alumna Anita Holmes co-founded the Alumni Inclusive Excellence Committee to further advance goals for inclusiveness and equity at the Gillings School.

Advancing research into health equity

Systemic inequities caused by racism, discrimination and unequal access can deny people the most important elements that contribute to good health and well-being, like quality education, good jobs, decent and affordable housing, safe neighborhoods and environments, clean water, nutritious foods, and adequate healthcare.

A majority of faculty at the Gillings School have published work on health equity. Get to know two who are continuing to contribute to equitable health outcomes, both in research and in practice.

CONTINUED →

Carmen Samuel-Hodge, PhD, RD

ASSOCIATE PROFESSOR,
DEPARTMENT OF NUTRITION

Before arriving in Chapel Hill, Carmen Samuel-Hodge, PhD, RD, spent nine years as a dietician in the United States Virgin Islands. She came to the Gillings School to research personalized strategies that could improve community health care needs.

Location, diet, support systems and access to health care resources are all factors that impact the management of conditions like Type 2 diabetes and hypertension, and they play a major role in the health disparities observed in communities of color and rural populations.

"If you know enough about that context," Samuel-Hodge explains, "then you can personalize the way you approach a patient's chronic care management." And yet these approaches are happening far less often than necessary.

The data on health disparities are clear, and the issues caused by health inequities are numerous, but the complex strategies needed to address them can be paralyzing for public health professionals. When inequalities must be addressed simultaneously on levels of policy, economics or housing, the pace of change can seem dauntingly slow.

Samuel-Hodge – whose focus is on behavior change related to food among Black Americans and those with lower income – sees her work as a critical part of that change. While systemic adjustments are necessary, a single policy can have disproportionate effects across different communities. This makes individual interventions just as necessary.

"When I first started working with diabetes self-management, I found the research priorities were moving away from interventions to policy, systems and environmental change," she says. "But the people with these conditions still wanted better care that would suit their needs. What are they supposed to do while waiting for policies and systems to change?"

The search for approaches led Samuel-Hodge to the field of community engagement through translational and implementation research. She is an associate professor of nutrition at the Gillings School and leads the Evaluation Core at

the UNC Center for Health Promotion and Disease Prevention. She is also embedded as a translational and implementation research specialist at the Granville Vance Health Department, where she adapts clinical data into actionable and customizable care strategies for rural and underserved communities.

"For these communities, the research has to be practice-based, because you work with what you have already," she explains. "And then you test what strategies and what systems work better than others."

"It's going to be difficult, but somebody needs to attend to it. These communities are here, and they deserve quality care."

This approach is necessary because many study cohorts do not reflect the communities that are disproportionately affected by the conditions being researched. The strategies based on study results are often too complex and expensive for smaller regions to implement, and they may take a longer time to produce significant change in outcomes.

For Samuel-Hodge, the challenge is in identifying how to adapt core elements of research into interventions that can work with the resources available in smaller populations.

"It's going to be difficult, but somebody needs to attend to it," she says. "These communities are here, and they deserve quality care."

Through her work, she has endeavored to address structural issues of health equity, and in 2020, she was honored with the inaugural Gillings Faculty Award for Excellence in Health Equity Research. 🏠

Dana Rice, DrPH

ASSISTANT PROFESSOR, PUBLIC HEALTH
LEADERSHIP PROGRAM; ASSISTANT DEAN
FOR MASTER'S DEGREE PROGRAMS

The United States has the largest incarcerated population in the world, and that population is experiencing negative public health outcomes as a direct result of the country's mass incarceration policies.

Dana Rice, DrPH, assistant dean for master's degree programs and assistant professor in the Public Health Leadership Program, began her career in public health in search of strategies to prevent the spread of infectious diseases within the correctional system. But she soon found that the health of people who are incarcerated was inextricably linked to challenges at a systemic level.

"I started off studying HIV and STD prevention in jails," she says, "because we know the risk factors for developing certain infectious diseases are similarly aligned with the risk factors that lead to someone being incarcerated. As I worked within the system, I came to realize it's not serving people, either for improving health outcomes or preventing crime. Studies have shown that incarceration is least effective at doing either of those things."

Rice says the criminal legal system is having a net negative impact because it's not designed to support health and well-being. And because of discrepancies in the way the law is applied across communities, people of color and other marginalized populations bear the heaviest burden of that impact.

"The disparities we observe in public health are seen more acutely in populations that have been incarcerated or that have contact with the criminal legal system," Rice explains. "There's nothing about interacting with the system that improves access to

things like housing or education, which are the exact things that make communities safe and healthy. Even moving downstream, there are negative implications – what we call collateral consequences."

Collateral consequences are legal restrictions imposed on those with a criminal conviction that create barriers for re-entry into society. A criminal conviction can impact a person's ability to find housing or employment, own property, get an education, vote or gain access to social services. These consequences increase the risk of recidivism and undermine the criminal legal system's ostensible goal of rehabilitation.

And they don't just impact those who have been incarcerated.

"Removing someone from a community has an impact at a family level, and it disrupts social cohesion," Rice says. "When you remove so many people from certain communities, you can create total disruption of the social capital that exists, which is important for physical and psychosocial well-being. Couple that with the other social- and political-determinant-of-health challenges experienced by under-resourced and marginalized communities, and you have an unhealthy environment for everyone."

"Public health disparities are seen more acutely in populations that have been incarcerated or that have contact with the criminal legal system."

In her current research, Rice examines how a broader system transformation can improve health outcomes for people who have been marginalized. This approach allows for thoughtful considerations of how the system impacts people before, during and after incarceration.

"I don't talk about the system as the 'criminal justice system' – I call it the 'criminal legal system,' because I think it's questionable whether the system has been just to everyone," she says. "We're at a tipping point where people recognize the need to do something about it. You cannot have a conversation around creating a healthy, equitable and just society that centers human rights if you leave out the discussion of how mass criminalization and mass incarceration have affected communities." 🏠

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The notion of climate change evokes images of hurricanes and flooding, rampant wildfires, and other extreme weather events ...



JASON WEST, PHD



GREGORY CHARACKLIS, PHD

FORECASTING CLIMATE CHANGE STRATEGIES

... but its complex financial and public health effects, while less obvious, can inform how government and market forces react to our planet's changing climate.

Jason West, PhD, professor of environmental sciences and engineering at the Gillings School, uses sophisticated computer models of the atmosphere to examine the link between climate change and air pollution. By analyzing how modeled changes in air pollution affect global populations, West's lab provided one of the first comprehensive glimpses of how climate change and air pollution affect public health globally.

"Climate change and air pollution are interrelated, and they are more important for global public health than people appreciate," says West, noting that ambient air pollution contributes to about 4.5 million premature deaths worldwide each year - about 1 of every 13 deaths globally — and is a risk

factor for increased mortality from heart attacks. Alternatively, stroke, lung cancer and chronic obstructive pulmonary disease.

Because greenhouse gases and air pollution are emitted by the same sources, West says, there are opportunities to address climate change — such as energy efficiency and moving away from coal as an energy source — that improve air quality at the same time.

West's models suggest that a significant global effort to reduce climate change could avoid about 500,000 premature deaths by 2030, and more than 2 million by 2100, mainly from reductions in air pollutants emitted by the same sources. His research also indicates that the benefits of these health improvements would exceed the costs of reducing greenhouse gas emissions.



"By taking action to reduce greenhouse gas emissions, we are also reducing air pollution and improving human health," West says. "It's important to think about strategies that do both."

While many climate-change strategies are geared toward mitigation, **Gregory Characklis, PhD**, William R. Kenan Jr. Distinguished Professor of Environmental Sciences and Engineering is working toward solutions that focus on adaptation. As director of the Center on Financial Risk in Environmental Systems, Characklis and his team develop computer models that analyze the risks of extreme weather events like droughts and flooding, and what steps in terms of improved infrastructure and regulatory systems can be taken to adapt to these changes.

"The train has left the station. Even as we reduce greenhouse gas emissions, we are going to continue experiencing the impacts of climate change for many years to come, and one of the biggest questions is, how do we adapt most effectively?" he says. "In order to determine that, we have

to better understand the risks: what impacts is climate change likely to have, how often and how severe those impacts are likely to be, and what actions can we take to limit the adverse effects?"

Water utilities, for example, are weighing how to address increasingly frequent droughts and hot weather that lead to demand spikes, while remaining financially stable so they can continue serving communities' needs. Building new reservoirs comes with high costs and environmental impacts, alternatively more conservation is both less expensive and more environmentally friendly but can reduce revenues and lead to financial instability for a utility.

"We are trying to remove disincentives for doing the right thing," says Characklis, who recommends a flexible approach that combines reserve funds, conservation, pricing adjustments, and new forms of financial insurance to protect against losses from extreme events. "There is no silver bullet. It's a layered solution."

RESEARCH AIMS TO CUT PFAS RISK

Since the 1940s, industrial chemicals called “per- and polyfluoroalkyl substances,” (PFAS) have been used to make nonstick cookware, food packaging, cleaning products, water repellent, firefighting foam and other products.

These chemicals aren’t federally regulated. But they don’t break down easily in the body or the environment – and they’ve been linked to a number of health problems.

Gillings researchers have been working with scientists across North Carolina on a major research collaboration that will help state agencies address PFAS, which has been found in state waters. The **NC PFAS Testing Network**, which includes more than 20 researchers at universities across the state, is collecting and analyzing water samples from municipal drinking water supplies and some private wells, testing atmospheric samples and other sources, such as landfills, to determine PFAS levels.

Members of the Network also are conducting field studies and laboratory experiments to assess potential health effects of exposure in humans, and testing the effectiveness of PFAS removal and remediation methods from commercially available filtration technologies to new materials being developed for removal of PFAS compounds.

This work, which is coordinated through the NC Policy Collaboratory at UNC and funded in 2018 by a \$5 million appropriation from the N.C. General Assembly, will help state regulatory agencies create additional guidance and regulations for the well-being of residents. Network researchers have published six research papers so far, with a final report completed in April 2021.

“Our final research report will communicate what we’ve learned from our findings, and from the communities we’ve interacted with, in order to make helpful recommendations in ways we can move the PFAS discussions forward – especially in terms of eliminating or mitigating the amount of PFAS people are exposed to,” said Jason Surratt, PhD, a professor of environmental sciences and engineering at Gillings who is the PFAS Testing Network’s program director.

Wanda Bodnar, PhD, research assistant professor in environmental sciences and engineering, is the Network’s scientific analyst and, along with Surratt,

is part of the Network’s project management team. Gillings researchers who are leading research projects as part of the PFAS Testing Network include:

- **Orlando Coronell, PhD**, associate professor of environmental sciences and engineering, co-leads a team testing the performance of technologies in removing PFAS.
- **Jackie MacDonald Gibson, PhD**, former Gillings professor of environmental sciences and engineering, co-leads a team developing predictive models to predict which private water wells are at greatest risk of PFAS contamination.
- **Barbara Turpin, PhD**, professor and chair of environmental sciences and engineering, co-leads a team examining air emissions to better understand how air particles may impact water on and under the ground.
- **Rebecca Fry, PhD**, the Carol Remmer Angle Distinguished Professor in Children’s Environmental Health and associate chair for strategic initiatives in environmental sciences and engineering, co-leads a team assessing the impact of PFAS on public health.

PFAS is just one of several Collaboratory projects involving the Gillings School. Since the Collaboratory was created in 2016, it has provided more than \$10 million in research funds to Gillings faculty.

“For as long as we’ve been in existence, the Collaboratory has had a productive relationship



Wanda Bodnar, PhD, assistant professor of environmental sciences and engineering, discusses the PFAS project in Wilmington, North Carolina, as part of the Tar Heel Bus Tour. Bodnar is the PFAS Testing Network’s Scientific Program Analyst.

with the talented academics at the nation’s No. 1 public school of public health,” said NC Policy Collaboratory Executive Director Jeffrey D. Warren, PhD. “It should be no surprise that as soon as the General Assembly directed the Collaboratory to lead its statewide PFAS investigation, we immediately turned to Gillings experts, including Drs. Surratt and Bodnar, to create a project management team to lead the overall effort. Through our long history of Gillings partnerships, we have been able to engage some of the State’s foremost public health and environmental researchers to provide relevant and critical data to undergird major public policy discussions and decisions.” 📄

GILLINGS SPOTLIGHT

Tanya Garcia, PhD

Associate Professor of Biostatistics

- **Research interests:** longitudinal data analysis, neurodegenerative diseases, prediction models, survival analysis
- **How do you unwind?** Salsa dancing and making up games with my daughter **Professor Garcia was in the early stages of labor while responding for this article. She gave birth to a son soon after.*
- **COVID aside, what do you see as the biggest issue in public health today?** Reporting stat results in an understandable way that can help public policy

(See more faculty on page 10.)



COVID RESPONSE: GILLINGS ALUMNI, STUDENTS & FACULTY

DECADES OF RESEARCH GROUNDWORK FUELS COVID TREATMENTS

Ralph Baric, PhD, was one of the 30,000 participants in last year's Phase III clinical trials for Moderna's coronavirus vaccine. Besides being one of the studied, he's a world-leading expert on coronaviruses.

For the past 35 years, Baric, the William R. Kenan Jr. Distinguished Professor of epidemiology, has been developing and using unique methods

to study coronavirus genetics, to investigate how they replicate and spread, and to test drugs that could help fight multiple coronavirus strains in the event of a future outbreak.

Baric and his team first conducted experiments in the mid-1990s suggesting that animal coronaviruses

could jump to other animals fairly quickly. They later found that the viruses also had the potential to easily enter human cells. "We proposed that this family of emerging viruses are on the move and that we needed to be alert to their

potential to cause human disease outbreaks," he says. After the 2003 SARS-CoV outbreak in Southeast Asia, his group identified a number of zoonotic SARS-like coronaviruses that were poised for cross-species transmission, alerting the world of potential future outbreaks of this highly pathogenic respiratory virus.

Decades of fundamental groundwork meant that when the COVID-19 pandemic hit, Baric's lab – one of the first places in the country to receive a sample of the virus to study – already had two potential treatments ready for clinical trials.

Remdesivir, the first experimental treatment shown in clinical trials to speed recovery time for COVID-19 patients, was developed in Baric's lab as part of a years-long collaboration with Gilead Sciences and is being used in hospitals around the world. The lab has played a key role in the development and testing of Molnupiravir (EIDD-0128), which can be administered orally, and participated in the development of several human monoclonal antibody therapies.

Baric and his team – which includes expert virologists and assistant epidemiology professors **Lisa Gralinski, PhD**, and **Timothy Sheahan, PhD**, along with nearly 40 other faculty, postdocs, staff and students – have done pivotal research on antibody treatments, the Moderna and Johnson & Johnson vaccines, and other potential therapies. They developed and tested a new design approach for a universal vaccine that works against many different "high risk" SARS-related coronavirus strains and already have a paper under review describing this work.

"I can't say enough about the extraordinary people in the lab. We were all working 16 to 18 hours a day and on weekends doing research, writing papers and engaging with a dozen federal task forces that were trying to get vaccines and drugs out to people and make policy," Baric says. "It has been nonstop efforts by a community of dedicated researchers. So far, there are nine products

we've been associated with that are in Phase II trials or being used in humans to prevent or treat COVID-19 infection, and some other drugs are also moving forward. That feels pretty good."

WASTEWATER TESTS MAY SHOW COVID HOTSPOTS

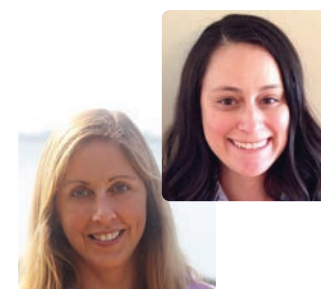
Scientists believe the number of asymptomatic people who are not tested for the coronavirus is significant. To account for asymptomatic carriers and to provide a more complete view of community health, Gillings researchers are quantifying SARS-CoV-2 concentrations in North Carolina wastewater samples.

Leading the study are **Rachel Noble, PhD**, the Mary and Watts Hill Jr. Distinguished Faculty member at the Institute of Marine Sciences and joint professor of environmental sciences and engineering at Gillings, and **Jill Stewart, PhD**, the Philip C. Singer Distinguished Professor of environmental sciences and engineering.

Studying concentrations of SARS-CoV-2 in wastewater is a way to better understand the prevalence of COVID-19 infections in a community, because not all who carry the virus have symptoms, and not all people seek clinical testing. Preliminary data showed an increase of SARS-CoV-2 in wastewater five to seven days before spikes in clinical cases, suggesting that viral concentrations in wastewater could be a key indicator for community spread.

"I am excited about the possibilities for wastewater surveillance for COVID-19 and other pathogens," Stewart says. "Wastewater provides a composite sample for pathogens circulating in a community and includes symptomatic and asymptomatic cases. This type of information is useful for monitoring disease trends at the population level and is more cost effective than traditional epidemiological methods."

Noble and Stewart collaborate with state agencies and universities across North Carolina



RACHEL NOBLE, PHD & JILL STEWART, PHD

to test wastewater systems in about a dozen large cities and smaller municipalities. Originally funded by the NC Policy Collaboratory, the study recently received additional support from the CDC to include more municipalities.

"Our original intent was to build capacity for wastewater surveillance, but we've realized that we have fantastic and diverse expertise across the state that can really lead progress in this area," Noble says. "Not only are we building the pieces of a surveillance system, but we are thinking about the best ways to build surveillance systems for future pandemics. That's really exciting."

VACCINATION STUDY FOCUSES ON COLLEGE STUDENTS

Audrey Pettifor, PhD, professor of epidemiology, is co-leading a nationwide study to test how well COVID-19 vaccines prevent people from spreading the coronavirus to others.

As part of the national Prevent COVID U study conducted by the COVID-19 Prevention Network, UNC is recruiting students who have not yet been vaccinated or had COVID-19 to participate in the four-month trial, where they will be randomized to get the Moderna COVID-19 vaccine immediately or in four months. All participants will be asked to swab their nose daily to test for infection. They also will be asked to enroll their close contacts in the study to examine transmission if the main participant or their contact tests positive.

The study, sponsored by the National Institute of Allergy and Infectious Diseases, includes about 30 universities

across the United States. Any university or community college student taking classes is eligible, whether they are studying on campus or online. Results are expected in the fall.

Early in the pandemic, Pettifor, an HIV/AIDS researcher with expertise in risk behaviors among adolescents, began applying her experience in HIV prevention to identify ways to control the spread of the coronavirus.

"There are not a lot of studies looking at the question of transmission – they infer transmission



AUDREY PETTIFOR, PHD

Baric inducted into National Academy of Sciences

In April 2021, Distinguished Professor Ralph Baric, PhD, was inducted into the National Academy of Sciences in recognition of his visionary research on some of the world's most infectious viruses. His scientific discoveries made a significant impact on the COVID-19 pandemic by identifying antivirals to fight COVID-19 and collaborating with the National Institutes of Health to test vaccine candidates. Induction into the National Academy of Sciences is one of the highest distinctions for a scientist or engineer in the U.S.

based on infection because if people don't get the virus, they can't transmit it," Pettifor says. "This study is more rigorous and systematic, as the daily nasal swabs will allow us to examine viral dynamics among vaccinated individuals in great detail. Importantly, we will look at how well the vaccine works in the face of new variants that are circulating. We hope the study will answer the question of what you can do when you are vaccinated with a lot more certainty."

ANTIBODIES PAINT CLEARER PICTURE OF COVID-19 PREVALENCE

The actual prevalence of COVID-19 is likely higher than estimates suggest due to asymptomatic infection, limited access to testing, and other factors. Ross Boyce, MD, MSc, assistant professor in the School of Medicine, and **Allison Aiello, PhD**, professor of epidemiology at Gillings, are co-leading antibody research to provide a clearer picture of the virus's presence.



ALLISON AIELLO, PHD

Aiello and Boyce launched a community-based study of nearly 200 residents in Chatham County, a central N.C. county whose demographics broadly reflect the state's, to determine more accurate estimates of and risk factors for SARS-CoV-2 infection. Researchers collect nasal swabs every

two weeks to test for asymptomatic infection and a blood sample monthly to test for antibodies indicating a prior or recent infection. They collaborate with other universities using similar protocols and surveys, so their data can be aggregated to identify trends in the prevalence of COVID-19 across North Carolina.

Boyce hopes the work in Chatham County will continue even as the pandemic recedes. "A lot of hard work goes into building a population-based cohort. Leveraging that work could advance our understanding of other public health problems," he says. "If it's sustained, the Chatham cohort could be a valuable and unique platform for researchers across the UNC community."

Aiello also co-leads a longitudinal study of front-line health care professionals (HCPs) with Emily Ciccone, MD, MHS, clinical instructor at the UNC School of Medicine, following a group of UNC Health employees to examine risk factors for infection and change in antibody levels over time.

"As we were reviewing the antibody testing results over time for the HCPs and throughout the period when they received their vaccinations, it was evident that those who had prior SARS-CoV-2 infection were experiencing a higher antibody response to the first vaccination," Aiello says. "When our team analyzed the data, we identified a statistically significant higher antibody response after vaccination among those with prior infection versus those without."

Their findings offer hope that some who were infected with SARS-CoV-2 might be able to forgo a second vaccination – which could potentially change vaccine distribution strategies – but more research is needed to assess the durability of these responses.

COORDINATING AN INTERNATIONAL RESEARCH RESPONSE TO CORONAVIRUS

Biostatistics Chair and Professor **Lisa LaVange, PhD**, is helping lead U.S. efforts to speed development of effective treatments for COVID-19 as part of Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV), a public-private partnership bringing together more than a dozen leading biopharmaceutical companies and government agencies to collaborate internationally on coronavirus research.

LaVange is a member of the Therapeutics Clinical Committee, co-chairs the ACTIV Master Protocol Subcommittee and is lead statistician on the ACTIV-1 clinical trial of immune modulators. The Therapeutics Clinical Committee focuses on testing potential therapeutic agents through a series of master protocols around the world, following the study design principles and framework developed



LISA LAVANGE, PHD

by the Master Protocol Subcommittee early in the pandemic.

Master protocols allow scientists to evaluate multiple experimental drugs within a common clinical trial protocol using a shared infrastructure. Since the National

Institutes of Health (NIH) convened ACTIV in March 2020, it has evaluated hundreds of potential therapeutic agents to prioritize for testing, designed and developed five master protocols for COVID-19 treatment trials, and leveraged existing NIH-supported networks to launch master protocols of prioritized therapeutic candidates.

"The ACTIV collaboration is like nothing I've ever seen – we've learned so much just in this one year about how to structure the trials, form partnerships, launch studies, and ensure results will be timely, interpretable and robust," LaVange says. "We have a road map for how to get a public-private partnership together to solve the next public health problem of pandemic proportions."

One of the few academics in the partnership, LaVange was invited to join ACTIV by NIH Director Francis Collins because of her expertise developing master protocols during her tenure as Director of the Office of Biostatistics in the U.S. Food and Drug Administration's Center for Drug Evaluation and Research.

"Being part of ACTIV has been a satisfying experience professionally as a member of the public health community, and it's been a great opportunity for the School," she says. "I have been able to bring back trial design challenges in a rapidly evolving pandemic for use in classroom instruction as well as ideas about how to get students excited about public health research and the impact you can have."

HELPING HEALTHCARE WORKERS BALANCE FAMILY, WORK DURING PANDEMIC

The closure of schools and daycare centers last year after the pandemic's onset left parents who are health care professionals wondering how to care for both their children and their patients.

The UNC Task Force for Childcare for Healthcare Workers – led by Assistant Professor of Health Behavior **Liz Chen, PhD, MPH**, and alumna **Hannah Prentice-Dunn, MPH**, project manager at the UNC Lineberger Comprehensive Cancer Center – was created to help generate solutions for health care workers affected by school and daycare closings.

The task force quickly launched childcarenc.org, a website for health care workers in the Triangle

that provides a needs-assessment survey, in-home COVID-19 safety suggestions, family guidelines, emergency services and resources offered by organizations across the state.

Chen also is helping people cope with COVID-19 through the mobile app Real Talk. Founded in 2017 by Chen and health behavior alumna Cristina Leos (MSPH, PhD '19), Real Talk crowdsources teen stories about mental health and other topics and pairs each story with helpful resources. As COVID-19 spread, app users described feeling worried about health concerns, having trouble coping with school closures, struggling with strained relationships and not having any sources of support. Real Talk created the first mental health resource guide available specifically for teens to help them deal with COVID-19 concerns.

ASSESSING RISK ACROSS THE AMERICAS

Benjamin Puertas, DrPH, is helping to protect front-line workers and patients by working with the Pan American Health Organization (PAHO) to train health care workers and ensure the use of best practices in fighting COVID-19.

As PAHO's adviser in human resources for 26 Caribbean countries, Puertas was deployed to Grenada when the pandemic first hit. By conducting risk assessments and trainings and analyzing capacity, he and the PAHO team increased the safety and efficiency of the response in Grenada's hospitals.

Puertas monitors shortages of health care professionals across the Caribbean to ensure that reinforcements go where they're needed most and advocates for measures that have proven effective in other countries. For example, instead of hiring doctors, Jamaica, with PAHO support, trained community health workers to do the contact tracing, triage and referral of COVID-19 patients.

"Many countries must put more effort into strengthening their health systems based on primary health care," he says.

CONTINUED →



HANNAH PRENTICE-DUNN, MPH & LIZ CHEN, PHD, MPH



BENJAMIN PUERTAS, DRPH

EXPANDING PHILANTHROPY BY EXPANDING EQUITY

After receiving both bachelor's and master's degrees from the Gillings School, **Edgar Villanueva, MHA**, turned toward bringing more equity into philanthropy. Now, he's been helping Native American communities, which are disproportionately affected by COVID-19, recover from the pandemic.

Based on the success of his first book, *Decolonizing Wealth*, Villanueva launched the Decolonizing Wealth Project (DWP) to help philanthropic organizations give more equitably by bringing more diverse voices to funding conversations. Through its Native American Community Response Fund, the DWP directed \$2 million in pandemic aid through Native American-led nonprofits that work to alleviate food insecurity and inadequate access to housing and care, especially among elderly Native Americans.

"It's not about charity; it's about solidarity," he says. "Native communities offer solutions to society's most pressing problems. We must practice radical solidarity and understand that all of our suffering and thriving are mutual."



EDGAR VILLANUEVA, MHA

ADVANCING EQUITY THROUGH PANDEMIC RESPONSE

As emergency response director for the CDC Foundation, Gillings alumna **Turquoise Sidibe, MPH**, leads the Foundation's 200-plus active COVID-19 projects.

The CDC Foundation is an independent nonprofit that channels philanthropic and private-sector resources to support the health-protection work of the U.S. Centers for Disease Control and Prevention (CDC). The Foundation supports CDC projects and manages its own international and domestic projects that advance the CDC's work and mission.



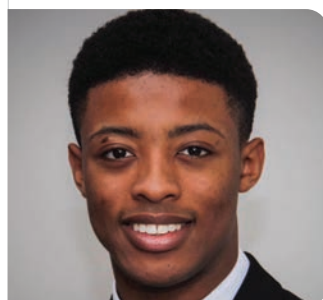
TURQUOISE SIDIBE, MPH

While health equity has always been a focus for Sidibe, the COVID-19 pandemic brought them to the forefront. For example, she's studying COVID-related resilience among Asian American, Black, Latinx, LGBTQIA and immigrant communities to learn what kind of social stigma comes with testing positive or having a family member test positive for COVID-19. Her goal is to create a model for collecting information on groups that are often underrepresented in existing data.

"My unit has a strong history of bringing a health equity lens into emergency response," said Sidibe, a health behavior alumna. "The pandemic has increased awareness of this need, and there is a specific emphasis from CDC on making sure projects are equity focused. It's important to be sure we're making an impact in the communities with the most need."

SHARING FRONTLINE WORKERS' COVID STORIES

As a summer intern for the North Carolina Institute for Public Health (NCIPH), **Brandon Adams**, a Master of Public Health (MPH) student in global health, helped develop NCIPH's curation project called *Behind the Numbers*, which focuses on the experiences of COVID-19 frontline



BRANDON ADAMS

health care workers. The project relies on qualitative techniques to effectively collect the stories and feelings from those affected by this unprecedented time. "What I love about this project is its emphasis on the mental health and support of our frontline workers," said Brandon, who was recognized for his work in "Students Who Rocked Public Health 2020" by JPHMP Direct, the companion website of the *Journal of Public Health Management and Practice*.

health care workers. The project relies on qualitative techniques to effectively collect the stories and feelings from those affected by this unprecedented time.

"What I love about this project is its emphasis on the

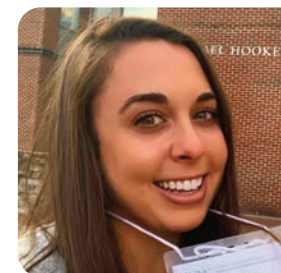
OUTREACH EFFORTS PROTECT, SUPPORT FARMWORKERS

Graduate student **Courtney Peragallo** began her pursuit of a Master of Public Health degree in January 2020, but her work in global health started as an undergraduate when she took an internship related to her double-major of Spanish and public health.

In that internship, she worked with Spanish-speaking farmworkers at a nonprofit organization in the NC Farmworker Health Program (NCFHP), which serves migrant and seasonal farmworkers and their families. She then became a project coordinator with the NC Office of Rural Health as part of a disaster preparedness initiative for the farmworker community.

During the pandemic, Peragallo has been securing grants for projects to protect and support farmworkers and to provide rural outreach staff with personal protective equipment so they can keep themselves and their communities safe at mobile clinics in farmworker campsites.

"Outreach staff members are vital for farmworker populations, since they are most likely the first point of contact in a crisis, whether it be the COVID-19 pandemic or natural disasters," she says.



COURTNEY PERAGALLO

EDUCATING FAMILIES, PATIENTS THROUGH VOLUNTEER WORK

An active volunteer, Vennela Avula, a student in environmental sciences and engineering, has helped three different organizations with COVID-19 outreach.

Working with Carolina Conexiones, a volunteer group within UNC Hospitals, Avula created easy-to-understand visuals on COVID-19 and other health issues that are targeted toward local Spanish-speaking populations. She also worked with Durham-area grocery stores serving Spanish-speaking customers to help implement social distancing protocols, hand out masks and provide shoppers with public health information.

As a volunteer at the Women's Health Information Center at UNC Medical Center, during the pandemic Avula has given virtual maternity tours of UNC Hospitals to expecting women to update them on COVID-19 policies and prepare them for their labor and delivery.

Avula is also co-president of UNC's chapter of GlobeMed, a national non-profit organization that fosters partnerships between university chapters and grassroots organizations around the world that is partnered with the Association for Health and Development Guatemala (ASSADE), a non-profit that provides primary health services and health education to rural and indigenous communities in Guatemala. GlobeMed members created infographic manuals on preventive education and mental health that ASSADE has used in Guatemalan communities to reduce the spread of COVID and give local residents tools to deal with pandemic-related stress.



VENNELA AVULA

RAISING AWARENESS OF VIRUS' DISPARATE IMPACTS

Since the pandemic began, pediatrician and MPH student **Khadijia Tribie Reid, MD, FAAP**, has been increasing awareness about COVID-19's disparate impact on communities of color, often due to higher rates of pre-existing conditions like cardiovascular disease and diabetes that make people more susceptible to the worst effects of the virus.

"Unfortunately, just in North Carolina, we've dealt with infant mortality rates twice as high for African American babies," says Tribie Reid, who is enrolled in MPH@UNC's Leadership in Practice concentration. "Babies less than one year old are more than twice as likely to die before the age of one than white babies."

Tribie Reid, a pediatrician at MedNorth Health Center in Wilmington, studies increased risks of child maltreatment and childhood adversity during times of social isolation and during natural disasters. Her practicum will include a webinar presentation for regional child welfare stakeholders. 📺



KHADIJIA TRIBIE REID, MD, FAAP

IMPROVING HEALTH POLICY AND PRACTICE

CLEAN AIR AND WATER

The late **Philip Singer, PhD**, professor emeritus of environmental sciences and engineering, spent his career working to improve drinking water quality. As director of UNC's Drinking Water Research Center, his research focused on minimizing human exposure to disinfection by-products (DBPs), substances that are created when the chemicals used to disinfect water react with organic material. DBPs can cause cancer, and Singer was devoted to lowering DBP concentrations to keep communities safe. In recent years, he served on the Flint Water Interagency Coordinating Committee, which provided guidance on long-term solutions to the lead problem in Flint, Michigan.

Construction began on a reservoir to triple the University's water supply after severe droughts in the late 1960s, which led **Daniel Okun, PhD**, and his students to study Chapel Hill's water supply. Finding that Cane Creek was a better



source of high-quality water than the polluted Jordan Lake, they persuaded UNC trustees to drop a plan to integrate Jordan Lake waters into University Lake and instead build the Cane Creek Reservoir. The reservoir was built in 1989.

Research by **Will Vizuete, PhD**, associate professor of environmental sciences and engineering, on the geographic and chemical origins of large ozone concentration helped to inform the Texas Commission on Environmental Quality's issuance of new air quality controls for Houston, where ozone pollution has been a public health concern for decades.

IMPROVING CARE ACCESS AND QUALITY

Jo Anne Earp, ScD, professor emerita of health behavior, has reduced the racial gap in breast cancer screening, diagnosis and treatment in eastern North Carolina. She founded the NC Breast Cancer Screening Program (NC-BCSP) to train lay health advisors as advocates for mammography screening for older Black women in five rural eastern N.C. counties.

After his research revealed that the way hospitals provide care to stroke patients has a significant effect on patient outcomes, epidemiology professor **Wayne Rosamond, PhD**, created the Stroke Care Collaborative registry, a network of hospitals across the state involved in quality improvement efforts in acute care of stroke patients and getting best practices for stroke care in place to improve stroke



response time. He's also researching how to improve heart attack survival rates by using drones to deliver automatic external defibrillators (AEDs). Rapid defibrillation increases chances of surviving a heart attack, but bystander use of AEDs remains low in part due to low AED placement and accessibility.

For the past 80 years, faculty, staff and students from the Gillings School have sought to put research into practice. From shaping local, state, and federal policies and regulations to helping a wide range of health organizations improve their processes, and putting proven interventions to work in clinics, schools, other organizations and communities, the reach and expertise of Gillings faculty from every department have influenced public health policy and practice in North Carolina and across the world.

CHILDREN'S HEALTH

Jonathan Kotch, MD, former Carol Remmer Angle Distinguished Professor of Children's Environmental Health in maternal and child health, has vastly improved child care workers' awareness of ways to make children safer and healthier. He created the National Training Institute (NTI) to ensure that health and childcare professionals from every U.S. state and territory are available to train child care health consultants, who in turn provide assessments and guidance to out-of-home child care centers and family child care homes. The Institute has trained more than 4,000 child health care consultants and more than 300 trainers from all over the U.S., Europe and the U.S. Army.

In 2000, the U.S. Congress passed the Physical Education for Progress Act to expand physical education programs for K-12 students, based in part on results of a study by Gillings nutrition professors **Penny Gordon-Larsen, PhD**, Carla Smith Chamblee Distinguished Professor of Global Nutrition; **Barry Popkin, PhD**, W. R. Kenan Jr. Distinguished Professor of nutrition; and **Robert G. McMurray, PhD**, that recommended increasing the frequency of physical education classes to boost the physical activity of schoolchildren, particularly those who are unfit or inactive. Additionally, Popkin's research on soda and other



sugary drinks, a common source of added sugar products that can contribute to obesity, has found that placing higher taxes on those beverages can effectively reduce consumer consumption.

In 2004, based on early research by **Michael Kosorok, PhD**, W.R. Kenan Distinguished Professor of biostatistics, the Centers for Disease Control and Prevention recommended that states institute newborn screening for cystic fibrosis (CF). CF is a progressive genetic disease that is the second most common life-shortening, childhood-onset, inherited disorder in the U.S. Kosorok and his colleagues used a controlled randomized trial to demonstrate that newborn screening for CF led to long-term benefits – such as improved growth and, in one study, cognitive development – due to early nutritional treatment. Since its implementation, N.C.'s screening test has identified between 30 and 34 newborns with CF each year.

TEEN HEALTH & SAFETY

In the 1990s, N.C. became one of the first states to adopt a graduated driver's license model, where young drivers could gain more experience behind the wheel before receiving full driving privileges. **Lew Margolis, MD, MPH**, now professor emeritus in maternal and child health, and colleagues studied the effects of the new approach, and their findings – that teen motor vehicle deaths and hospitalizations dropped by 25 percent – led to the adoption of graduated licensing in every other state.

CONTINUED →



Studies by **Steve Marshall, PhD**, professor of epidemiology, in collaboration with researchers in the UNC College of Arts and Sciences' Department of Exercise and Sports Science, have helped inform laws that were passed in 11 states to require special protocols for managing high school athletes who suffer concussions. In 2005, Marshall and colleagues' study of retired professional athletes found that prior concussions are linked with an increased risk of mild cognitive impairment and with earlier onset of Alzheimer's disease. The issue has gained more scientific and media attention since then, with further links suggested between concussion and depression.

Noel Brewer, PhD, professor of health behavior and health education, is a global expert in health communication, especially when it comes to the importance of human papillomavirus (HPV) vaccinations. He developed a training program

that has helped thousands of health care providers in more than 15 states effectively communicate the importance of HPV vaccines and other adolescent vaccinations. He chairs the National HPV Vaccination Roundtable and has advised on vaccination for the World Health Organization, the Centers for Disease Control and Prevention, the President's Cancer Panel under two presidents, and the National Vaccine Advisory Committee.

Kurt Ribisl, PhD, Jo Anne Earp Distinguished Professor and chair of the Department of Health Behavior, and **Shelly Golden, PhD**, associate professor and vice chair of health behavior, have investigated how pricing policies affect tobacco use, as well as how tobacco companies and retailers use marketing and product availability to promote smoking among youth. In 2016, New York City raised cigarette prices to \$13 per pack based in large part on their pricing study.

HEALTH CARE WORKFORCE AND FACILITIES

The work of **George Pink, PhD**, Humana Distinguished Professor of health policy and management, and **Mark Holmes, PhD**, health policy and management professor and director of the Cecil G. Sheps Center for Health Services Research, has helped small, rural hospitals across the country measure their financial strengths and weaknesses and improve quality. Critical-access hospitals (CAHs) are small, rural hospitals that are more vulnerable to financial distress because they serve small, isolated and in relatively low-income communities. Holmes and Pink created the CAH Financial Indicator system to help hospitals be more accountable for the money they spend while also improving quality. With hospitals often being one of the larger employers in a community, their financial stability is critical not only to the community's health, but also to its economy.

Sandra Greene, DrPH, professor of the practice in health policy and management, is an expert on using data to analyze and improve health care in N.C. For years, she served on the North Carolina Health Coordinating Council, which steers the placement and construction of hospitals and related medical facilities. She also was instrumental in building the Carolina Cost and Quality Initiative, a massive data resource on the health care services that N.C. patients receive, to promote population-based research with the goal of improving the delivery and quality of care across the state.



Tom Ricketts, PhD, professor of health policy and management, has shared his expertise on the healthcare workforce with policymakers in N.C. and at the federal level. As director of the North Carolina Rural Health Research Program in the UNC Cecil G. Sheps Center for Health Services Research, he studied how the distribution of the state's health care workforce affected access to care and the health status of North Carolinians, often calling lawmakers' attention to looming shortages of doctors, allied health workers and other health care professionals. He also advised the U.S. Secretary of Health and Human Services on health policy issues.

A health services research expert, **Becky Slifkin, PhD**, is regularly consulted by federal and state staff and elected officials regarding the potential impacts of health care legislation, in particular rural health, Medicare, Medicaid and the Affordable Care Act.

HELPING LOCAL BUSINESSES SURVIVE AND THRIVE

Small- and medium-sized businesses play a critically important role in N.C.'s economy. The coronavirus pandemic had a crushing impact on many of these businesses and their employees.

In response, the North Carolina Occupational Safety and Health Education and Research Center (NC OSHERC) within the Gillings School created a new study, Carolina PROSPER (Promoting Safe Practices for Employees' Return), to assist businesses in staying open or re-opening safely while maintaining a healthy workforce. The study was funded by the North Carolina Policy Collaboratory and is led by Gillings School Senior Associate Dean **Laura Linnan, ScD**, and **Leena Nylander-French, PhD**, professor of environmental sciences and engineering and director of NC OSHERC.

Using a Total Worker Health® (TWH) approach, the team developed technical assistance on best practices that encouraged worker safety for



A Carolina PROSPER team member swabs a sink faucet handle to test for the presence of coronavirus.

participating businesses. This included testing workplace surfaces for coronavirus, encouraging healthy behaviors, maintaining employee mental health, implementing infection control, improving ventilation, addressing ergonomic factors and strengthening leadership approaches. Carolina PROSPER is one of the first efforts to implement a TWH approach to worker safety and health during an emergency like the COVID-19 pandemic.

The PROSPER team is continuing to consult with area businesses and has applied for additional funding. The team hopes to continue their work with new businesses in the future, take advantage of existing collaborations and forge new partnerships to be able to deliver evidence-based occupational safety and health resources and guidance to businesses locally and nationally.

MORE ONLINE: sph.unc.edu/osherc



One hundred years of protecting public health from environmental exposures

This year, the Department of Environmental Sciences and Engineering (ESE) celebrates a century of impact toward safe and abundant water, healthy air and equitable policy solutions for a sustainable future on this planet.

Faculty, students and alumni are working to address the most critical threats to public health and the environment, many of which have a disproportionate impact on vulnerable communities. These threats include climate change, COVID-19 and other viruses transported by airborne particles, hazardous agents in contaminated floodwaters, antibiotic resistance, air pollution from wildfires, water availability in low-income countries, and the impacts of extreme weather.

This work is uniquely possible at the Gillings School, where engineering, science and public health are found together and where health equity has always been a central part of our mission.

"As environmental scientists and engineers located within the top public school of public health, ESE is ideally positioned to provide holistic, intersectoral responses to mitigate and prepare for the pressing environmental challenges," said Barbara Turpin, PhD, professor and chair of environmental sciences and engineering. "On the occasion of our centennial, we affirm our commitment to build public health resilience to climate and environmental change."

ESE is celebrating throughout the year with a seminar series, paired student and alumni stories, student speed talks and a keynote lecture from alumnus Gary White, CEO of Water.org, which can be found at sph.unc.edu/ESE-centennial. Department leaders are also looking forward to an in-person celebration when the pandemic allows.

MORE ONLINE: sph.unc.edu/ESE-centennial

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WORKING TOGETHER ON WATER

Water Institute leader wants to mobilize expertise across UNC, strengthen global partnerships



Gillings professor **Aaron Salzberg, PhD**, is bringing his international water policy experience and conflict resolution skills to the table to help expand The Water Institute's role in global water security.

OCTOBER 2020 • VIRTUAL

Annual Water & Health Conference

Practitioners, investors and the research community engage each other directly to find solutions to deliver sustainable water and sanitation services for the more than one billion people across the world who currently live without it.

3,500+ **140+**
PARTICIPANTS COUNTRIES

Salzberg, the Don and Jennifer Holzworth Distinguished Professor of environmental sciences and engineering, took the helm of The Water Institute in late 2019. Before joining UNC, Salzberg was the lead water adviser to five United States Secretaries of State, negotiated major international agreements, and created partnerships that strengthened the United States' and capacity of communities around the world to address water challenges.

The Institute is respected globally for its policy-relevant research around drinking water, sanitation and hygiene (WaSH) and its annual Water and Health Conference. Salzberg believes The Water Institute is well-positioned to become a world leader on water if UNC can fully leverage its faculty expertise and strengthen key partnerships with regional and global organizations.

"We are building off of an institution that has a great reputation on drinking water and sanitation, and we need to look toward getting this whole region to work on providing services where water is more scarce or suffers from contamination, drought and climate change," Salzberg says. "How do we make this campus the No. 1 place in the world to work on and solve complicated water problems? We have tremendous capacity. There are 60-70 faculty connected to water in some way and others who could be. And the Research Triangle is one of the most water-rich areas in the world in terms of expertise. If we can unite ourselves, the world will come to us."

“The Research Triangle is one of the most water-rich areas in the world in expertise. If we can unite ourselves, the world will come to us.”

He envisions The Water Institute serving as a university-wide platform for solving complex water problems by mobilizing the expertise, knowledge and research that the University has to offer – not only in environmental sciences but also in the business school, the law school, humanitarian studies, engineering, health and other areas of study. In addition to leveraging partnerships across campus, Salzberg wants to strengthen outside relationships and expand UNC's reach across the globe.

"Water is a lens through which we can inspire people to solve human problems," he says. "I'm here to change the way the world works on water, but I'm also here to change the way the University works. Wouldn't it be great if we could mobilize everything we have to offer to solve critical conflicts across the world – and put these resources in people's hands?" 🗣️

(🗣️) MORE ONLINE: sph.unc.edu/waterworks

PLACE-BASED HEALTH IN THE PANDEMIC ERA



Improving health outcomes means going beyond a one-size-fits-all framework.

For the Mountain Area Health Education Center (MAHEC), this philosophy was the foundation for partnering with the Gillings School of to launch the Master of Public Health (MPH) program in Asheville, North Carolina. Recognizing that health challenges in western N.C. often differed from other parts of the state, program founder **Travis Johnson, MD, MPH**, saw a need for public health education to go beyond the walls of the classroom.

The Asheville MPH, with its concentration in Place-Based Health, has an administrative home in the Gillings School's Public Health Leadership

Program (PHLP). "It's the only program of its kind in the country," said **Anna Schenck, PhD, PHLP** director and associate dean for practice. "It was designed to celebrate and leverage the unique context of the western part of our state."

The program uses connections that the Gillings School, UNC Asheville and MAHEC have in western N.C. to its advantage. Students, who are often employed in local health professions, learn to work with providers, community leaders and government officials to understand place in the context of public health.

"We want to teach learners how to work with others, especially in an era of team-based care and population health."

The curriculum demonstrates agility and adaptability, both in its principles and its delivery, with a hybrid learning model that occurs in-person and online.

That agility became critical in early 2020. In February, Johnson died after an eight-year battle with cancer, and the onset of COVID-19 in the weeks that followed rocked the program.

Pushing forward with the same resilience Johnson modeled, program leaders and students adapted modules to emerging issues from the pandemic. For MAHEC, the pivot was possible because it aligned with the MPH program's case-based learning objectives.

COVID-19 magnified challenges local communities were already facing. Health care workers were thinly spread and had trouble communicating critical information. Insufficient broadband access only exacerbated this issue. Vulnerable populations were at high risk of outbreaks. And concerns grew around stress and its impact on substance abuse and opioid death rates.

Assistant Director **Sarah Thach, MPH**, and Director of Academic Affairs **Amy Joy Lanou, PhD**, have been leading the effort to integrate place-based coursework into the local public health response to these issues.

"We want to teach learners how to work with others, especially in an era of team-based care and population health," Thach said. "We were able to quickly change existing plans to focus on COVID, and the students thought it was helpful to work on something very timely."

Students have participated in COVID-19-related case studies, health assessments and volunteer opportunities. In their practica, they have helped design plans for testing, food distribution and more. Culminating experiences have engaged the Latinx community and higher education peers in health communication.

"Our partnership with MAHEC has been a real advantage in terms of being right up in the middle of the western N.C. pandemic response,"



MPH student Hannah Robinson completed her practicum with Partners Aligned Toward Health in Yancey and Mitchell counties over the summer. Hannah supported the Summer Food Program by helping distribute fresh, local produce to the community.

said Lanou. MAHEC's leadership has been critical for obtaining funding and research support for MPH faculty, staff and student initiatives.

Through service and circumstance, the team has forged a strong bond with communities and within the program. Students and faculty work together with the knowledge that they will be colleagues even after graduation. In 2020, the program saw its first cohort graduate – over Zoom – and students continue to integrate coursework into practice today.

As the program evolves, Johnson's enduring spirit lingers.

"One student said she felt him on her shoulder as she helped her organization pivot to address the pandemic," Thach recalled. "As we oriented the Fall 2020 cohort to Travis' legacy, we spoke of his vision, relentless optimism, deep connection with everyone he met and humility. Those are the lessons our students are reflecting on as they learn to meet community needs." 📖

MORE ONLINE: sph.unc.edu/place-based-health



PARTNERSHIP EXAMPLES THROUGH TIME

1940s

School faculty begin serving as consultants to health agencies in developing countries

1945

The School helps establish a Department of Health Education at the N.C. College for Negroes (NCC) in Durham.

1948

The School's first field training station is established at the Orange-Person-Chatham District Health Department.

1950s

Faculty members help create a sanitary engineering program at the National University of Engineering (UNI) in Lima, Peru

1990

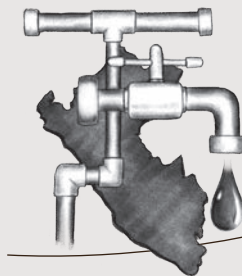
Gillings epidemiologists collaborate with Ulm University in Germany to create an International Summer School in Germany.

2007

Gillings professor Thomas Ricketts initiates a partnership with the French national school of public health.

2008

Gillings is designated a World Health Organization (WHO) Collaborating Center for Research Evidence for Sexual and Reproductive Health.



1960s

The School works with the Peace Corps to create the Malawi Public Health Program.



1973

Area Health Education Center (AHEC) was established to provide educational programs in areas that lacked easy access to major health centers.

1980s

The School expands work with voluntary health organizations, schools, local environmental agencies and corporations.

1985

The School of Public Health Board of Advisors is created, including various civic and advocacy groups, voluntary health organizations, professional associations, and government agencies.

2012

Gillings forges a research partnership with the University of Cambridge that builds on the two universities' complementary strengths and promotes multidisciplinary collaborations to undertake innovative research.



2017

The Water Institute at UNC is designated as a Pan American Health Organization/World Health Organization (PAHO/WHO) Collaborating Center for Water and Sanitation.

KEY PARTNERSHIPS BOTH NEAR AND FAR YIELD GLOBAL IMPACT

From its earliest days, the Gillings School built partnerships in nearby communities – and across the world – to support critical public health research, practice and student learning. The collaborations have grown too numerous to detail each here, but they are all an important part of the School's unique collaborative environment for advancing the field of public health.

One of the Gillings School's greatest strengths is that collaboration is at the heart of its culture. The relationships the School has built over the years continue to expand its worldwide reach.

Peggy Bentley, PhD, former Carla Smith Chamblee Distinguished Professor of nutrition and associate dean for global health, was a key force behind many of the partnerships that give students the opportunity to practice public health in a real-world environment.

"It is really important for our students to get that practical experience," said **Naya Villarreal, MPH**, Gillings global health associate director of research, innovation and global solutions. "We are grateful for Peggy's vision and these partnerships that help us train the next generation of public health workers."

FHI 360 – an international nonprofit human development organization headquartered in Durham, North Carolina – spun out of UNC's Carolina Population Center nearly 50 years ago. Since 2004, the Gillings-FHI 360 partnership has included research collaborations, sponsorship of the annual Water and Health Conference, and the FHI 360-UNC Global Health Research Fellowships, which have benefited 39 Gillings students with tuition and stipends, training, and mentorships.

"The fellowship program is a 'win-win-win,'" said FHI 360 Chief Science Officer **Timothy Mastro**, an adjunct epidemiology professor at Gillings and a global health physician. "It's a win for FHI 360 to get two-to-three incredibly bright graduate students each year; it's a win for Gillings because we pay for tuition, which is a nice attractant when you're recruiting students; and it's a win for the students who do the program and get this wonderful mentoring experience."

The School's 11-year relationship with global nonprofit IntraHealth International has given more than 40 graduate students real-world experience as UNC-IntraHealth Summer Fellows. Fellows

fhi360

IntraHealth

**THE NORTH CAROLINA
Institute for Public Health**

**RTI
INTERNATIONAL**

receive a \$5,000 stipend to spend 10 weeks at the nonprofit's Chapel Hill office, where they are fully integrated into the organization's work – collaborating with staff, being guided by assigned mentors and gaining practical experience.

"The fellows always bring valuable perspectives to their individual projects and to IntraHealth as a whole," said **Emily Kiser, MPH**, a Gillings alumna and IntraHealth strategy and development officer. "Each year we look forward to the infusion they bring of enthusiasm and new ideas."

The School's partnership with RTI International accelerates innovative clinical and public health programs. In 2018, RTI and Gillings launched a \$500,000 initiative, UNC Gillings-RTI Initiative to Maximize Partnerships and Catalyze Teamwork (IMPACT), and jointly seeded three research projects. The active research portfolio of Gillings-RTI projects is more than \$7 million; the number of RTI researchers who are adjunct faculty has doubled since this partnership began.

"North Carolina is fortunate to have these two amazing institutions here who can have even greater impact in the world by working together on critically important public health issues," said

Gillings Professor of the Practice **Leah Devlin, DDS, MPH**, who helped create the partnership.

Since 1999, the North Carolina Institute for Public Health (NCIPH) has been a bridge between academia and public health practice partners – providing training, coaching, technical assistance with community health assessments and accreditations, facilitating discussions with other partners, and other forms of support.

"One entity can't do it all, but if we work together, much can be accomplished," said NCIPH Director **Doug Urland, MPA**, who was a local public health director for almost 25 years before leading NCIPH. "We want to help communities build capacity so they can continue and sustain the work and have a lasting positive impact on health."

Farther from home, Gillings has longstanding research-based partnerships in Malawi, Zambia, Vietnam and China, as well as the Galapagos Islands, where students and faculty travel to work with local health partners and researchers from other institutions. 🌐

MORE ONLINE: sph.unc.edu/key-partnerships

GRANVILLE VANCE PUBLIC HEALTH MODELS SUCCESSFUL RURAL HEALTH PARTNERSHIPS

Granville Vance Public Health (GVPH) was created in the 1970s to pool scarce resources to meet public health needs in two neighboring rural counties in northern North Carolina. Today, under the leadership of Director **Lisa Macon Harrison, MPH**,

it is the hub for an innovative partnership between local public health leaders, higher education institutions, organizations and community members that leverage resources and expertise to improve community health.

“We want the best outcomes for our community, so we work on

elevating the practice of public health at every turn,” says Harrison, an adjunct professor in the School’s Public Health Leadership Program. “It’s important to build or maintain community partner relationships and improve public health practice at the same time.”

Harrison began building these partnerships in 2012, inspired by the Academic Health Department (AHD) model. Like a teaching hospital trains aspiring doctors, AHDs educate the current and future public health workforce, strengthen the connection between public health practice and academia, and provide opportunities for research and service.

Key partners for GVPH include the North Carolina Institute for Public Health, Gillings students and faculty, other colleges and universities, the Research Triangle Institute, and community members. GVPH’s partnership with the Gillings School hinges on the work of **Carmen Samuel-Hodge, RD, PhD**, an associate professor in the School’s Department of Nutrition and a researcher at the UNC Center for Health Promotion and Disease Prevention.

Working on site at GVPH one to two days per week as an embedded researcher, Samuel-Hodge leads the department’s chronic disease prevention strategies, including interventions for improving nutrition and physical activity behaviors and the Minority Diabetes Prevention Program. She advises staff on evidence-based program implementation and has used her grant-writing expertise to help support the agency’s work in the community, which primarily focuses on mental health and substance use, youth well-being, and access to healthcare.

The partnership has been critical in securing an additional \$1 million yearly in grant funds, as well as increased funding support from the county. New evaluation, quality improvement, grant management and project management strategies have been implemented in the agency. GVPH leads the region’s coordinated approach to child health as part of the Working on Wellness community coalition, collecting data and conducting analysis. It publishes in journals and presents at national conferences, which is uncommon for local health departments.

“We want the best outcomes for our community, so we work on elevating the practice of public health at every turn.”

Samuel-Hodge’s research has become a model for using community engagement to solve health inequities. “Most of the evidence for public health interventions is generated from non-rural samples, so we don’t know if an intervention will actually work in a rural context where the resources are often limited,” she says. “How do you adapt what has been shown to work, to make it work in a different setting? A one-size-fits-all public health solution doesn’t work in practice – it ignores context and the need to adapt to people and place.”



REMEMBERING JOAN GILLINGS

An enthusiastic and dedicated philanthropist whose name and spirit will live on in the Gillings School of Global Public Health, Joan Gillings passed away Feb. 18, 2021.

Born in Philadelphia and raised in Michigan, she moved to Chapel Hill in the early 1970s with her two sons and joined the staff of the UNC Department of Biostatistics from 1974-1976.

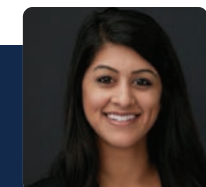
The \$50 million gift that Gillings and her former husband, Dennis, pledged to the School in February 2007 was transformative. It supports innovative research through the Gillings Innovation Labs, created the Experts in Residence program and has supported more than 100 Gillings Merit Scholars.

Joan Gillings fully believed in the School’s research mission and took time to talk with and listen to students, encouraging them and taking sincere interest in their goals and aspirations.

“Joan was a force of nature, a wonderful leader, a person with a big heart and a deeply generous donor who cared especially about our students,” says Barbara K. Rimer, DrPH, Alumni Distinguished Professor and School dean.

WORLD OF DIFFERENCE COMPETITION WINNERS

Aditi Borde (MHA/MBA, 2020) and **Jacqueline Gerhart**, (PhD/MBA, 2021), won the 2020 World of Difference student pitch competition, which was held virtually due to COVID-19. Teams lead by Gillings students and alumni competed head-to-head for the chance to win cash and consulting support to bring their idea to life. Their winning proposal leverages a partnership with Walmart and Blue Cross Blue Shield NC to bring an incentivized lifestyle management program to diabetics in rural communities. The Convenient Access for Rural Diabetics (CARD) program will provide convenient, one-stop-shopping for key components of diabetes management — healthy foods, exercise, filling prescriptions, regular A1c testing, retinopathy screens and diabetes education.



ADITI BORDE



JACQUELINE GERHART



LEADERSHIP: GIVING BACK

Getting to know our current and past board chairs of the UNC Gillings Alumni Association and Public Health Foundation

For Raleigh, N.C. attorney **Todd Jones**, who earned a bachelor’s degree in health policy and administration from Gillings in 1993, serving on the School’s Alumni Association board was a way to stay connected to the place where everything started.

After graduating, Jones got a job at an internal medical practice in Durham, North Carolina working with 10 physicians – managing schedules, coding medical records, helping patients, ensuring adequate hospital coverage and transitioning the practice into a new facility. As Duke Hospital prepared to acquire the practice, Jones headed to law school at



TODD JONES
Alumni Association Board (Past Chair)

Campbell University. He’s now a managing partner at Anderson Jones, PLLC, in Raleigh.

“I loved my time on the board. It gave me a great chance to come back, to get together with like-minded folks and help the students,” says Jones, a Durham native who served on the board for six years and chaired it for four. “I consider Gillings my place, always.”

Although Jones termed off the board in 2020, his service to Gillings will continue. “The School’s

profile is better than ever, and so many professors are on the cutting edge of global issues,” he says. “I will support the School in as many ways as I can. It really has a special place in my heart.”

Serving on the Gillings School’s Public Health Foundation Board is a way for **Fred Hargett**, executive vice president and CFO of Novant Health in Winston-Salem, N.C., to stay connected to a place that helped prepare him for his career and inspired him to make a difference.

Before joining Novant, Hargett was Ernst & Young’s manager of health care consulting. He graduated with a Bachelor of Science in Public Health degree from Gillings and a Bachelor of Science degree in Business Administration and a Master of Accounting degree from UNC’s Kenan-Flagler Business School. Combining skills from both schools led him to a career in healthcare management. “Public health has been a passion of mine since I was an undergraduate. I wanted



FRED HARGETT
Chair of the Public Health Foundation Board

a career that made a difference in people’s lives,” says Hargett, who joined the board in 2016 and was elected chair in July 2020.

One of Hargett’s top priorities as chair is to bring in new members from different backgrounds and experiences. “We need to open our lens and identify talent from diverse backgrounds,” he says, “to ensure that we are hearing voices from everyone we represent.”

In addition to raising funds to help support faculty teaching and research efforts and student

support, foundation board members provide fiduciary oversight to the assets of the Public Health Foundation. “Gillings is an inclusive, vibrant place where really smart students care about what’s going on,” he says. “They are engaging in real-world issues of public health and wanting to be part of developing the solutions. It gives me optimism.”

Celette Sugg Skinner, PhD, came to Gillings in 1987 with a master’s degree in communications and a background in marketing – and an aspiration to empower people with information that would help them improve their health and well-being.

An expert in health communication, health equity and health care delivery research, Skinner is Parkland Professor of Community Medicine, founding associate director for population science for the Harold C. Simmons Comprehensive Cancer Center, and inaugural chair of the Department of Population & Data Sciences at the University of Texas (UT) Southwestern Medical Center. She remains involved at Gillings through the Public Health Foundation board, recently finishing a term as board chair and continuing to serve as a member.



CELETTE SKINNER
Public Health Foundation Board (Past Chair)

After graduating from Gillings in 1991 with a PhD in health behavior, Skinner broke ground as a pioneer in individual-level-tailored health communications research. Working primarily among underserved groups, she has developed and tested innovative behavior-change interventions for more than 30 years, with a focus on facilitating cancer screening. At UT Southwestern, Skinner has led growth in research in the Department of Population & Data Sciences, with a focus on generating discoveries that translate into improved clinical practice.

Before joining the Public Health Foundation board, Skinner maintained a connection to Gillings as a visiting course lecturer, dissertation committee member, and research collaborator.

“I have always been thankful for the training and inspiration I received at UNC,” she says, “and want to do what I can to help the School have the resources and recognition to stay at the top.”

A summer internship at Mission Hospital in Asheville, N.C. started **Joanna Conley’s** career in hospital administration, but her interest in health care as a profession began as a child.

“I knew I wanted to work in healthcare from the time I was a child and survived a significant illness,” says Conley, CEO at TriStar Southern Hills Medical Center in Nashville, Tennessee. “I wanted to help others as I had been helped, but I wasn’t sure the best avenue to pursue.”

A California native, Conley came to Gillings to earn an undergraduate degree in health policy management. While at UNC, she took a summer internship at Mission – and after graduating, she continued to work there for several years in strategic planning before moving to Nashville to



JOANNA CONLEY
Chair of the Alumni Association Advisory Board

earn an MBA at Vanderbilt. Since then, she has held leadership roles in several hospitals before returning to Nashville to serve in her current role.

“I enjoy serving as a hospital CEO. I believe in fostering a culture of inclusion for our colleagues, physicians and patients while focusing on advancing patient care quality,” she says.

As chair of the Alumni Association Advisory Board and an *ex officio* member of the School’s Public Health Foundation Board, Conley enjoys the opportunity to give back,

connect with other alumni and support students.

“Gillings is a wonderful institution that provides an education and experience that students reap the benefits from for the rest of their career through the relationships they foster, experiences that they gain and challenges they overcome,” she says. 📖

CZI, GOOGLE.ORG GRANTS SUPPORT COVID-19 RESEARCH AT GILLINGS

Two grants totaling more than \$900,000 will boost Gillings researchers’ efforts to address COVID-19 – one funding key lab equipment and another supporting a study of how genetic changes may affect risk of severe illness and death.

Researchers in the lab of **Ralph Baric, PhD**, William R. Kenan Jr. Distinguished Professor of epidemiology at Gillings, are on the forefront of developing COVID-19 treatments. They aided in preclinical trials of the antiviral drug remdesivir, which speeds recovery from COVID-19.

A \$433,000 grant from the Chan Zuckerberg Initiative, a philanthropic organization founded by Priscilla Chan, MD, and Mark Zuckerberg, funded a new robotic arm for Baric’s lab that can pipette fluids much more quickly and accurately than humans can, along with a robot that detects active virus particles and an RNA-sequencing machine, which increase the rate of testing compounds by 20-fold and accelerate the development of effective treatments.



“This equipment will make it easier to do the experiments necessary to verify that the vaccines and therapeutics generated by others are efficacious and safe, and it will ultimately save hundreds of thousands of lives,” said **Rachel Graham, PhD**, assistant professor of epidemiology.

A \$500,000 grant from Google.org supports a Gillings-Vanderbilt University study analyzing blood samples from a cohort originally established to study chronic diseases among Mexican-Americans in Texas. Some of the 4,000 cohort participants were infected by SARS-CoV-2, allowing researchers to use artificial intelligence to compare blood samples from before and after infection to look for gene expression changes that may be due to the virus.

“This study is unprecedented,” said principal investigator **Kari North, PhD**, Gillings professor of epidemiology. “The identification of changes in gene expression associated with COVID-19 infection and severity will contribute to global knowledge on the biology of SARS-CoV-2.”

GILLINGS SPOTLIGHT

Arrianna Planey, PhD, MA

Assistant Professor of Health Policy and Management

- **Research interests:** interactions between health policies, healthcare access and utilization, and underlying population-level health inequities
- **How do you unwind?** I like to cook and bake! I rarely cook the same thing more than once every six months, so there is a lot of variety on the menu. On the shelf, my husband and I have Japanese, Lebanese, Indian, Italian and Soul Food cookbooks. We use them fairly frequently.
- **COVID aside, what do you see as the biggest issue in public health today?** Structural racism. No matter what other public health issue or outcome you name, racism contours outcomes in terms of who is most exposed to hazards, who has access to resources to maintain and improve their health and well-being, and the distribution of morbidity and preventable deaths.

(See more faculty on page 10.)

ANNUAL DONORS: WHY I GIVE



STUART & KAREN GANSKY

Stuart Gransky is professor and chair of oral epidemiology and associate dean for research at the University of California, San Francisco; 1996 DrPH graduate in biostatistics; Karen Gransky, MS, is a special education teacher in the San Mateo-Foster City School District

“We both are grateful for the opportunities we’ve been fortunate to have had, especially to attend Carolina – where we met – and to be involved in UNC campus and community activities. We want to ensure current and future Carolina students continue to have similar opportunities.”



DERRICK MATTHEWS, PHD

Assistant professor of health behavior. Research focus: LGBTQ health; the racial inequity in the US HIV/AIDS epidemic among sexual minority men

“The Hatch-Barnhill Scholarship is a great way to support efforts to create a more diverse student body in health behavior and a more inclusive department. In many ways, our students are already leading us; the extent to which I can support their training is one of the best ways I can advocate for health equity.”



NED BROOKS, DRPH

Retired professor of health policy management; 1985 DrPH graduate in maternal and child health

“One of the biggest lessons from 2020 is that high quality public health is essential to our well-being. The Gillings School is one of the very best in the country, so when I give to it, I know my gift will be well spent on crucially important teaching, research and service.”



KHADIJA JAHFIYA, MSPH

Legislative fellow with the Senate Agriculture Committee; 1999 MSPH graduate; monthly donor to the Minority Health Conference and the Department of Health Policy Management

“I am very intentional about my giving – I want to make sure my money is supporting work I feel passionate about. People my age can make a difference – having been students, we can understand that it’s nice to have that support. Even if you just give a little bit, it goes a long way.”



JASON ZAKS

Managing Director, Alex Brown Institutional Consulting in Winston-Salem, North Carolina. The Laurel E. Zaks Master of Public Health Scholarship in Global Public Health Nutrition was created by Zaks’ family in her memory.

“My sister loved her time in graduate school and loved traveling and helping people. It’s been awesome to meet the scholarship recipients – they all share that same passion to help people. We are happy to be a small part of continuing the School’s great work and its impact felt around the world.”

IMPACT OF PLANNED GIVING

Former Gillings staff member **Rebecca Mabe** earmarked her planned gift for the Michel A. Ibrahim Fellowship, which provides \$10,000 annually to support graduate students across the School. Mabe was the School's assistant dean for business and later became associate dean for administration.

"Public health means so much because of the work that all the different public health fields do, and because I worked in administration, I wasn't wed to a particular department," she says. "But graduate students were the ones I saw and worked with on a daily basis, and I want my gift to support students to be our future public health professionals."

Steve (MS '82, PhD '83 Biostatistics) and **Sylvia** (MPH '81 Biostatistics) **Snapinn's** planned gift supports students in the biostatistics department, where they met. Through their estate, the Snapinns will support the Innovation in Biostatistics Premier Fellowship to cover tuition and related expenses and a stipend for living expenses for a biostatistics student in financial need.

"There are not many careers where you can apply your skills to developing new drugs to improve public health," said Steve Snapinn, now a consultant at Seattle-Quilcene Biostatistics after retiring from Amgen, having worked in the pharmaceutical industry for more than three decades. "We wanted to give that opportunity to another student who might not have that opportunity to afford it otherwise."

Retired public health microbiologist **Sally Liska**, who earned a master's degree and a doctoral degree in the former Department of Parasitology and Laboratory Practice, is using retirement funds and a gift through her estate to create the Gillings Global Health scholarship, which will support international students or students interested in global health. Throughout her career, Liska traveled to roughly 20 African countries to help train public health and clinical lab workers.

"I was lucky enough to have attended UNC on a financially supported program, so I'm not just paying it back by funding a scholarship," says Liska, whose career included directing public health labs in Orlando, San Francisco and San Jose. "When you come to that age where you have money coming available that you've got to use, why not think about giving it to your alma mater to further education?" 📖

MORE ONLINE: sph.unc.edu/planned-impact

Planned Gifts AT CAROLINA

There are a multitude of ways to include Carolina in your gift planning – some of them may even surprise you!



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ESTATE



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ASSETS



ANNUITY
OR TRUST



BEQUESTS



ARTWORK, ANTIQUES,
COLLECTABLES &
INTELLECTUAL PROPERTY

Please contact a member of the UNC Gillings Advancement team for more information about how to make a planned gift: email.sph@unc.edu

RIMER CREATES SCHOLARSHIP ENDOWMENT IN PARENTS' MEMORY

One of the University's longest-serving and most accomplished deans, Barbara K. Rimer, DrPH, Alumni Distinguished Professor, strives to keep the Gillings School a world-class leader in public health. She mentors and encourages students, faculty and staff; creates an inclusive and collaborative environment within the School; and pushes to improve health equity and advance knowledge in the field of public health.

As the number of public health schools and programs continues to grow across the country, competition for the best and brightest students has become fiercer. That's why Dean Rimer accelerated a previously planned estate gift (established in 2009) and made a \$100,000 gift in support of The Irving and Joan Rimer Scholarship Endowment Fund. This fund — named in memory of her parents to recognize their lifelong commitment to health communication, social justice and equality of opportunity — supports Gillings graduate students seeking a degree in health behavior, with a focus on enhancing inclusive excellence at the School.



Dean Barbara K. Rimer donated to a scholarship endowment fund named for her parents, Irving and Joan Rimer.

"The Gillings School is an incredible place, and our people are our greatest strength," says Associate Dean for Advancement Karissa Grasty. "Our community demonstrates remarkable levels of commitment, inclusivity and excellence, and these values are a testament to our leadership. Dean Rimer's professional contributions ensure that Gillings remains the top destination for deserving scholars seeking a public education in public health, and her personal contribution demonstrates her commitment to making Gillings more inclusive. She is amazingly generous and is often the first to support the greatest needs of the School." 📖



GILLINGS SPOTLIGHT

Amanda Northcross, PhD
Associate Professor of Environmental Sciences and Engineering

- Research interests:** using chemistry and engineering to identify exposures to air pollution and to develop interventions to reduce pollution.
- How do you unwind?** I like to take my dog for a walk, have a nice glass of wine and watch a movie with my husband.
- COVID aside, what do you see as the biggest issue in public health today?** The effects of racial injustice permeate every corner of our society and make it impossible for us to achieve health equity. We must end systemic racism.

(See more faculty on page 10.)

SCHOOL NEWS

STUDENTS

Nikhil Rao, who is working toward a Bachelor of Science degree in health policy and management (HPM), led a student team that won a prestigious COVID-19 Policy Hackathon organized by the Stanford Economics Association, the Massachusetts Institute of Technology Undergraduate Economics Association and the Business Association of Stanford Entrepreneurial Students. Their proposal called for the North Carolina Department of Public Safety and Department of Health and Human Services to intervene to alleviate COVID-19 burden on one of the state’s most vulnerable populations.

A team of doctoral and graduate students – including epidemiology doctoral students **Mekhala Dissanayake** and **Erica Zeno**, and health behavior master’s students **Kathryn Carpenter** and **Emily Newman** – won first place in the North Carolina Well-Being Data Analysis Competition. The virtual competition included 116 students across 29 academic disciplines and was designed to drive local insights around well-being in N.C.

Katherine LeMasters, an epidemiology doctoral student, received an Office of the Provost Engaged Scholarship Award for her work on the partnership-driven research project “MI-PHOTOS: Mothers Informing Pregnancy and Postpartum Health Outcomes Through Story Sharing.” The award honors individuals and campus units for public service through engaged teaching, research and partnership.

Four Master of Public Health (MPH) students won awards for product innovations developed in response to current health care challenges as part of the fifth cohort of the Eshelman School of Pharmacy’s E(I) Lab program. The winning team, LiRA, worked on a project to restore voice to aphonic patients through the development of lip-reading technology. The four teams, including the Gillings students, were:

- **First Place:** LiRA, with Nga Nguyen, dual MPH and Medical Doctorate (MD) student

- **Second Place:** IM Fearless, with Elyse Miller, MPH student in applied epidemiology
- **Third Place:** Medicare Fair, with Chelsea Leversedge, MPH student in global health
- **Fourth Place:** OTC Buddy, with Brandy Sullivan, MPH student in public health leadership

Nine of the 17 Impact and Horizon awards bestowed by the UNC Graduate School for 2020 were given to students or recent graduates of Gillings. Gillings School honorees include **Liz Chen** and **Elizabeth Davidson** (health behavior), **Stacey L. Klamon** (maternal and child health), **Kathleen Knocke** (health policy and management), **Nicholas Lenze** (population health for clinicians), **Libby McClure** and **Asher Schranz** (epidemiology), **Jessica Soldavini** (nutrition) and **Kirsten Studer** (environmental sciences and engineering).

Lenze received one of six Horizon Awards, and the others received eight of the 11 Impact Awards. The awards recognize student research that benefits the people of N.C.

Daniel Malawsky, a recent biostatistics graduate, will attend the University of Cambridge and pursue a doctoral degree in genomic sciences as a Churchill Scholar. Malawsky is one of 15 American scholars selected for this research-focused award, which provides funding for graduate study at the University of Cambridge in England. He was also one of 28 individuals chosen nationwide for the prestigious Gates Cambridge scholarship.

GRANTS/CONTRACTS

Marisa Domino, PhD, professor of health policy and management, is leading the School’s work as part of a \$2.5 million contract with the N.C. Department of Health and Human Services to serve as the official evaluation center for the state’s Medicaid transformation to managed care. The work includes a number of faculty and students, with **Mark Holmes, PhD**, professor of health management and director of the Cecil G. Sheps Center for Health Services

Research, and Professor of the Practice **Sandra Greene, DrPH**, also in HPM, providing leadership roles.

Led by **Rebecca Fry, PhD**, the Carol Remmer Angle Distinguished Professor in Children’s Environmental Health at the Gillings School, UNC researchers are working together across disciplines to find solutions for arsenic-induced diabetes in N.C., funded by a 5-year, \$12.2 million award from the National Institute of Environmental Health Sciences. Fry is principal investigator of the UNC Superfund Research Program.

Lisa Gralinski, PhD and **Timothy Sheahan, PhD**, assistant professors of epidemiology, have received \$280,000 for COVID-19 research from the Fast Grants program, a new venture from the Mercatus Center at George Mason University that invites researchers to apply for grants with the promise that application decisions will be made within 14 days. Gralinski is working to identify combination therapies that could potentially be used to improve health outcomes in patients with advanced respiratory disease due to COVID-19 infection. Sheahan hopes to learn more about the antiviral activity of therapeutic antibodies in mice infected with SARS-CoV-2, with the goal of identifying and learning more about antibodies that are effective against the virus.

Barbara Turpin, PhD, professor and chair of environmental sciences and engineering, is leading a study exploring the airborne transmissibility of SARS-CoV-2, funded by a \$199,997 grant from the National Science Foundation (NSF).

Anissa I. Vines, PhD, assistant professor of epidemiology, is N.C.’s principal investigator for a \$12 million award from the National Institutes of Health (NIH) to support outreach and engagement efforts in ethnic and racial minority communities that are being disproportionately affected by the COVID-19 pandemic. The award to RTI International, a nonprofit research institution supports teams in 11 states that are being established as part of the NIH Community Engagement Alliance (CEAL) Against COVID-19 Disparities.

Vines is a faculty associate at CEAL’s administrative home, the UNC Center for Health Equity Research.

With a \$1.6 million grant from the National Science Foundation (NSF), Gillings researchers are studying how droughts are linked with air pollution in the United States and how that connection may evolve due to climate change. **Jason West, PhD**, a professor of environmental sciences and engineering, co-leads the study with **Jordan Kern, PhD**, a Gillings doctoral graduate who now works with North Carolina State University’s College of Natural Resources. The research team also includes **Gregory Characklis, PhD**, W.R. Kenan Jr. Distinguished Professor of environmental sciences and engineering and director of the Center on Financial Risk in Environmental Systems.

Stephanie Wheeler, PhD, professor of health policy and management at Gillings and associate director of Community Outreach and Engagement at UNC’s Lineberger Comprehensive Cancer Center, is co-leading a study addressing racial disparities in breast cancer care quality in N.C. Wheeler and **Katherine Reeder-Hayes, MD**, associate professor and chief of breast oncology at the UNC School

of Medicine and UNC Lineberger, received a two-year, nearly \$400,000 grant from the American Cancer Society and Pfizer as part of the Addressing Racial Disparities in Cancer Care Competitive Grant Program to promote equity in factors that impact cancer outcomes for Black women and men.

Members of the **Carolina Global Breastfeeding Institute (CGBI)** at the Gillings School received a \$1.35 million subcontract from Abt Associates to provide training and technical assistance on the implementation of the World Health Organization and UNICEF’s *Ten Steps to Successful Breastfeeding*.

FACULTY/STAFF HONORS

Carmen Samuel-Hodge, RD, PhD, associate professor of nutrition, was selected as the recipient of the inaugural Gillings Faculty Award for Excellence in Health Equity Research.

Jill Stewart, PhD, was named the Philip C. Singer Distinguished Professor of Environmental Sciences and Engineering.

Gregory Characklis, PhD, was named the W.R. Kenan Jr. Distinguished Professor of Environmental Sciences and Engineering.

Rebecca Fry, PhD, the Carol Remmer Angle Distinguished Professor in Children’s Environmental Health, was elected as a member of the Council of the Society for Pediatric Research.

Emily Gower, PhD, associate professor of epidemiology, was honored at the Recognizing Excellence Around Champions of Health (REACH) awards during the Reaching the Last Mile Forum in Abu Dhabi for her innovative work on trichiasis treatments.

One of the School’s most prestigious awards, the Bernard G. Greenberg Alumni Endowment Award for teaching, research, and service was awarded to **Todd Schwartz, DrPh**, associate professor of biostatistics, in 2020. In 2021, **Catherine Sullivan, MPH**, assistant professor of maternal and child health and director of the Carolina Global Breastfeeding Institute, and **Stephanie Wheeler, PhD**, professor of health policy and management, won the award – the first time ever that two faculty members were chosen for this honor in the same year.

The John E. Larsh Jr. Award for Mentorship, one of the School’s most prestigious awards, *recognizes the faculty member who best exemplifies the qualities of mentoring and*

GILLINGS SPOTLIGHT

Emma Tzioumis, PhD

Assistant Professor of Nutrition

- **Research interests:** maternal and child nutrition, both globally and locally – specifically malnutrition, complementary feeding and maternal experiences in the perinatal period.
- **How do you unwind?** Spending time with the family outside hiking, biking, camping, engaging in whatever activity the kids are currently enjoying. On any given day there is a high probability you’ll find me watching my kids tear around the pump track at Martin Luther King Jr. Park in Carrboro. One of my favorite ways to unwind solo is to go to the grocery store by myself on a Saturday night after bedtime.
- **COVID aside, what do you see as the biggest issue in public health today?** Racism. It is pervasive and at the root of every system, institution and discipline.

(See more faculty on page 10.)

commitment to students. The 2020 winner was the late **Steven Meshnick, MD, PhD**, professor and associate chair of epidemiology; in 2021 the award went to **George Pink, PhD**, Humana Distinguished Professor of health policy and management.

The Edward G. McGavran Award for Excellence in Teaching, which *recognizes career-long excellence in teaching by a faculty member at the Gillings School*, was awarded to **Alyssa Mansfield Damon, PhD**, assistant professor of health policy and management, in 2020 and to **Meghan Shanahan, PhD**, assistant professor of maternal and child health, in 2021.

Penny Gordon-Larsen, PhD, associate dean for research and professor of nutrition, was named to the National Institute of Diabetes and Digestive and Kidney Diseases' Advisory Council. She also received the 2020 George A. Bray Founders Award from the Obesity Society "for significant contributions that advance the scientific or clinical basis for understanding or treating obesity and for extensive involvement with The Obesity Society."

Gene Matthews, JD, adjunct professor of health policy and management and a senior investigator at the NC Institute for Public Health, received the Lifetime Achievement in Public Health Law award from the American Public Health Association.

Ada Adimora, MD, MPH, professor of epidemiology in the Gillings School and Sarah Graham Kenan Distinguished Professor of medicine with UNC's Division of Infectious Diseases, has been honored by her peers with the 2020 Thomas Jefferson Award. The University's most prestigious faculty award, it recognizes one UNC faculty member each year who, through personal influence and performance of duty in teaching, writing and scholarship, has best exemplified the ideals and objectives of Thomas Jefferson.

Lori Evarts, MPH, assistant professor in the Public Health Leadership Program, received the UNC Graduate School Faculty Award for Excellence in Graduate Student and Academic Program Support.

Peggy Bentley, MA, PhD, Distinguished Professor Emeritus

of nutrition, was inducted as a Fellow of the American Society for Nutrition. This is the highest honor the Society bestows and recognizes her distinguished career in nutrition.

Martin Kohlmeier, MD, nutrition professor, received the Excellence in Nutrition Education Award from the American Society for Nutrition for his outstanding contributions to teaching.

Barry Popkin, PhD, received the W.R. Kenan Jr. Distinguished Professor of Nutrition, received the Obesity Society's 2020 Thomas A. Wadden Award for Distinguished Mentorship in recognition of his distinguished mentorship of the Society's early career investigators.

Anastasia Ivanova, PhD, professor of biostatistics, was elected American Statistical Association Fellow, a prestigious distinction bestowed on very few members of the largest statistical society in the world.

Sandra L. Martin, PhD, professor and associate chair for research in maternal and child health, received the UNC Mentor Award for Lifetime Achievement, which acknowledges lifetime contributions to teaching, learning and mentoring beyond the classroom.

Dianne Stanton Ward, EdD, FTOS, FACSM, professor of nutrition, and Laura Linnan, ScD, senior associate dean of academic and student affairs, professor of health behavior and director of the Carolina Collaborative for Research on Work and Health, co-led a study that was named Paper of the Year by the International Journal of Behavioral Nutrition and Physical Activity. The study – a five year, first-of-its-kind randomized controlled trial on worksite wellness programs for childcare staff – confirms the need to focus on social determinants of health as essential to the overall health of childcare workers.

Richard L. Smith, PhD, professor of biostatistics at Gillings and the Mark L. Reed III Distinguished Professor of statistics at the UNC College of Arts and Sciences, has been named a Fellow of the American Association for the Advancement of Science for his distinguished contributions to statistics, particularly the statistical analysis of extreme events and environmental applications including climate change and air pollution.

MPH@UNC's first cohort

MPH@UNC, the Gillings School's online Master of Public Health (MPH) program, graduated its first students in 2020.

Almost all of 2020's 38 graduates worked full-time while studying, and reflected the diverse range of public health professionals that the online degree was designed to serve. Another 116 students enrolled in MPH@UNC in January 2021.

In addition to its original three tracks of study - public health leadership, nutrition, and registered dietitian - Gillings launched a fourth concentration, applied epidemiology, in March 2021. The program accommodates the unique needs of working professionals, with a rolling admissions process, four annual start dates, and degree completion pacing options ranging from 20 months to five years. As part of the curriculum, all MPH@UNC students complete a hands-on practicum.

The School's partner in developing this online offering is 2U, a global leader in education technology. For more than a decade, 2U has worked with universities to build, deliver, and support more than 300 digital and in-person educational offerings, including degrees, professional certificates, Trilogy-powered boot camps, and GetSmarter short courses. [2U](#)

Eight Gillings faculty members were named to the 2020 Highly Cited Researchers list from the Web of Science Group. This acclaimed list identifies scientists and researchers who produced multiple papers ranking in the top 1% by citations for their field and year of publication, demonstrating significant research influence among their peers. The 2020 Highly Cited Researchers from Gillings are:

- **Noel T. Brewer, PhD**, professor of health behavior. Brewer's research explores why people engage in vaccination and other health behaviors that prevent cancer.
- **Myron Cohen, MD**, professor epidemiology and Yeargan-Bate Eminent Distinguished Professor of medicine, microbiology, and

immunology at the UNC School of Medicine. Cohen is also director of the UNC Institute for Global Health and Infectious Diseases and UNC-Chapel Hill's associate vice chancellor for global health. His research focuses on the transmission and prevention of HIV, with emphasis on the role played by STD co-infections.

- **Stephen R. Cole, PhD**, professor of epidemiology. Cole studies causal inference and the methods of epidemiology, including the design and analysis of randomized experiments and observational studies.
- **Kelly R. Evenson, PhD**, professor of epidemiology. Evenson's research focuses on physical activity and sedentary behavior, with specific interests in measurement, surveillance, intervention and associations with outcomes.
- **Hans W. Paerl, PhD**, professor of marine and environmental sciences and engineering and William R. Kenan, Jr. Distinguished Professor at UNC's Institute of Marine Sciences. His research specializes in water quality, eutrophication, harmful algal bloom and food web dynamics of freshwater and marine ecosystems — locally, nationally and internationally.
- **Barry M. Popkin, PhD**, William R. Kenan, Jr. Distinguished Professor of nutrition. Popkin's research focuses globally on understanding the stages of nutrition transition, which is the study of the dynamic shifts in dietary intake and physical activity patterns and trends around obesity and other nutrition-related noncommunicable diseases.
- **Kurt M. Ribisl, PhD**, Jo Anne Earp Distinguished Professor and Department Chair of health behavior. Ribisl's research focuses on evaluating and improving the reach of population-level efforts to reduce tobacco use, with a particular emphasis on policy and information technology.
- **Jason D. Surratt, PhD**, professor and co-chair of undergraduate studies in environmental sciences and engineering. Surratt's research specializes in the atmospheric multiphase chemistry that leads

to air pollution — specifically suspended fine particulate matter (PM2.5). His fundamental lab and field studies have helped to improve air quality predictions of PM2.5 levels resulting from interactions of natural and human emissions.

The student-nominated **Teaching Excellence and Innovation Awards** honor Gillings faculty members who inspire students; enhance student learning through creative, engaging and innovative teaching methods; and/or support student success in the classroom and student growth as public health professionals. *The 2020 award winners are:*

- **Susan Helm-Murtagh, DrPH**, assistant professor of health policy and management
- **Yuchao Jiang, PhD**, assistant professor of biostatistics
- **Meg Landfried, MPH**, assistant professor of health behavior and MPH practicum director
- **Stephanie Martin, PhD**, assistant professor of nutrition
- **Aimee McHale, JD, MSPH**, assistant professor of public health leadership practice
- **Aunchalee Palmquist, PhD**, assistant professor of maternal and child health
- **Kimberly Powers, PhD**, associate professor of epidemiology
- **William Vizuete, PhD**, associate professor of environmental sciences and engineering.
- **Michael Love, PhD**, assistant professor of biostatistics and genetics
- **Courtney Woods, PhD**, assistant professor of environmental sciences and engineering (ESE) and ESE program director for the Master of Public Health (MPH) program
- **Christy Avery, PhD**, associate professor of epidemiology
- **Liz Chen, PhD**, assistant professor of health behavior (HB) and HB concentration lead for the MPH program

- **Cleo Samuel-Ryals, PhD**, associate professor of health policy and management
- **W. Oscar Fleming, DrPH**, assistant professor of maternal and child health and adjunct assistant professor in the Public Health Leadership Program (PHLP)
- **Tamarie Macon, PhD**, assistant professor in the PHLP's Asheville MPH program.

RETIREMENTS

Marilie Gammon, PhD, professor of epidemiology

Dean Harris, JD, associate professor of health policy and management

Jason Smith, MPH, PhD, clinical associate professor of health behavior

Bill Sollecito, DrPH, clinical professor in the Public Health Leadership Program

Marci Thomas, MHA, assistant professor of health policy and management

ALUMNI

Kathy Colville, PhD, was selected as president and chief executive officer of the North Carolina Institute of Medicine (NCIOM). Colville received a Master of Science in Public Health from the School's Department of Maternal and Child Health in 2005, the same year she received a Master of Social Work degree from UNC.

Lisa Macon Harrison, MPH, was elected vice president of the National Association of County and City Health Officials (NACCHO) 2020–2021 board of directors.

Dr. Randi Foraker, PhD, received the Academic Women's Network 2020 Presidential Award for exceptional service in science and medicine during the COVID-19 pandemic.

The Harriet Hylton Barr Distinguished Alumni Award, which honors an alumnus or alumna for outstanding achievements and contributions to public health, was awarded to **Edith Parker, DrPH**, 1989 and 1995 alumna of the Gillings School and dean of the University of Iowa's College of Public Health, in 2020. **Leandris Liburd, PhD**, 1982 alumna of the Master of Public Health program

in health behavior and associate director at the Centers for Disease Control and Prevention's (CDC) Office of Minority Health and Health Equity, received the honor in 2021.

The NC Department of Health and Human Services honored **Evelyn Foust, MPH**, and **Belinda Pettiford, MPH**, with the Ronald H. Levine Legacy Award for outstanding accomplishments and continued commitment to the cause of public health.

Lindsay Dubbs, PhD, received a U.S. Clean Energy Education & Empowerment Initiative (C3E) Award from the U.S. Department of Energy for her work at the North Carolina Renewable Ocean Energy Program at the Coastal Studies Institute, where she leads environmental assessment and permitting and conducts research associated with marine hydrokinetic energy.

SCHOOL NEWS

The Department of Health Policy and Management was named a recipient of the Award for Sustainability in Healthcare Management Education and Practice by the Commission on Accreditation of Healthcare Management Education and Canon Solutions America.

IN MEMORIAM

Michael (Mike) Demilt Aitken, PhD, age 64, professor emeritus in environmental sciences and engineering, passed away Sept. 19, 2020. From 1988 to 2019, he taught and conducted research in wastewater treatment and the bioremediation of contaminated soil at the Gillings School. In addition to serving as chair of the Department of Environmental Sciences and Engineering from 2006 to 2016, Aitken was a member of numerous professional societies and received a variety of awards and honors, including his election as a fellow of the Association of Environmental Engineering and Science Professors in 2018, a distinction bestowed on the field's best practitioners. As department chair, Aitken led many significant evolutions in the department and helped launch The UNC Water Institute. He received a 2009 Gillings Innovation

Laboratory award to study the feasibility of a new method to remediate hog waste and was one of the leaders for the department's important Superfund projects.


Steven Richard Meshnick, MD, PhD, professor of epidemiology at the Gillings School and of microbiology and immunology at the UNC School of Medicine, passed away Aug. 5, 2020.

From the start of his career, Meshnick focused on global health issues, collaborating with scientists in Thailand, China and Vietnam, as well as colleagues from America, Australia and Europe. For more than 30 years, he worked in Africa to better understand, prevent and treat malaria, HIV/AIDS and other infectious diseases. With one of his graduate students, Meshnick worked to establish and fund Malawi's first School of Public Health in 2003. In the United States, Meshnick studied the epidemiology and prevention of tick-borne diseases and was involved in groundbreaking work on tuberculosis. While his own research resulted in more than 350 scientific publications, he also held a longstanding commitment to training and capacity-building, serving as mentor for more than 30 doctoral students and eight postdoctoral fellows.

Ethel Jean Jackson, MPH, clinical assistant professor emerita of health behavior and health education, passed away July 5, 2020. She earned a master's degree in health education from Gillings in 1974 and worked at Duke University Medical Center with Eva Salber, MD, to coordinate and manage a community health education program. Together, they created the concept of the lay health advisor (LHA): a local mentor who provides health care advice to the community. Jackson joined the faculty in the Department of Health Behavior and Health Education in the early 1980s. She was director of the undergraduate program and practicum coordinator for MPH students who worked with health agencies in the U.S. and several foreign countries, while continuing her work in the community. She was also a visiting professor at North Carolina Central University. Upon her retirement from UNC in 1998, the Gillings School established the Ethel

Jean Jackson Health Education Practice Award to support students working in health education who serve in disadvantaged communities or communities of color.

Philip Singer, PhD, professor emeritus of environmental sciences and engineering, passed away Feb. 17, 2020. A member of the School's faculty for 38 years, he was a nationally renowned expert in water quality issues and a member of the National Academy of Engineering. Dr. Singer edited two books and authored more than 240 scientific articles; served as investigator on about 70 grants funded by the Environmental Protection Agency, Centers for Disease Control and Prevention, and other agencies; and mentored more than 100 master's and doctoral students at the Gillings School. He held the Daniel A. Okun Distinguished Professorship in environmental engineering from 2002 until his retirement in 2011. Upon his retirement, the Philip C. Singer Distinguished Professorship in Environmental Sciences and Engineering was established in his honor.

Peggy Leatt, PhD, emeritus professor and chair of health policy and management, passed away Nov. 3, 2019. Born in Skipton, North Yorkshire, England, Leatt started her patient care career as a registered nurse at Leeds General Infirmary. Later moving to Canada, she obtained her undergraduate, graduate and doctoral degrees in sociology and chaired the Institute of Health Policy, Management and Evaluation (IHPE) at the University of Toronto for 10 years. Leatt joined the Gillings School in 2002 along with her husband, George Pink PhD, Humana Distinguished Professor of health policy and management. She chaired the Department of Health Policy and Management (HPM) between 2003 and 2013, and served as associate dean of academic affairs from 2005 to 2010. Under her leadership, HPM funding increased more than fourfold, and several academic programs were redesigned to strengthen the curricula and pedagogy, and the department made major strides in the areas of cancer outcomes, dental health, mental health and rural health. 

Ashton Madison, MPH '17, serves on the advisory board of the UNC Gillings School of Global Public Health Alumni Association and as the Health Behavior Alumni president to stay engaged with the School and foster her sense of community in North Carolina.



WHY I GIVE:

“ I love that we are building a foundation for more equitable public health systems at the Gillings School, starting with training that centers the values of diversity, equity and inclusion. The diverse populations we serve deserve a public health workforce that better reflects them, and the Gillings School is leading in this area.

” Young alums may have financial obligations that limit their giving. Giving my time is just as important to me as my monetary contributions.

YOUR GIFT IS CRUCIAL TO OUR CONTINUED INNOVATION IN RESEARCH, EDUCATION AND PRACTICE.

Please contact us to learn more about how you can support the School's mission to improve public health, promote individual well-being and eliminate health inequities across North Carolina and around the world: (919) 966-0198 or email.sph@unc.edu



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CELEBRATING 50 YEARS OF THE Minority Student Caucus

For five decades, the Minority Student Caucus has been an advocate for students of color and has promoted research and programs addressing critical issues of health equity. Since 1977, they have organized the Minority Health Conference, the longest running student-led health conference in the United States. Here's to another 50 years of outstanding work.

1977: Students at the registration table during the first Minority Health Conference.



1980s: Students attend a Minority Health Conference.



1999: Bill Small, associate dean for students (middle), poses with Minority Student Caucus co-presidents LaMont Bryant (left) and Tonya Stancil (right).



2007-08: The late Bill Small and the Minority Student Caucus executive board



2013: The 2013 Minority Health Conference planning committee



2020: The 2020 Minority Student Caucus and Minority Health Conference leadership: Deanie Anyangwe, Ishani Patel, Hailey Mason and Rakiah Anderson smile together.



2020: Minority Health Conference attendees had the opportunity to pose at a social media booth.



2021: Members of the 2021 Minority Student Caucus gather at a local park.

