

ROLLINS

FALL 2018

EMORY | Public Health

PREPARING

FOR THE

NEXT FLU

PANDEMIC

Experts say it's a
matter of when, not if.

ARE WE READY?



A day at the CDC

First-year students took the short walk from the Rollins School of Public Health to the Centers for Disease Control and Prevention on the third day of their orientation. Continuing a 12-year tradition, the students spent a half day at the agency learning about the history of connections and collaborations between Rollins and the CDC. This year, Rollins Emeritus Presidential Distinguished Professor of International Health William Foege gave the keynote address.







Preparing for the next pandemic 12

Rollins researchers are including vulnerable populations in flu pandemic planning.

Enabling women to GROW 19

A Rollins initiative promotes research on women's issues and supports female scholars and practitioners.

COVER STORY



Influenza claims 12,000 to 56,000 lives in the U.S. every year, and that's in a normal flu season. Every so often a flu pandemic emerges, like the 1918 scourge, which infected about a third of the world's population and killed 50 million to 100 million people. Are we ready for the next pandemic?

Pictured | Walter Reed Hospital Flu Ward

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As the new chair of epidemiology, Dr. Tim Lash has big plans for the department.



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The Rollins-teer Day tradition continues as Rollins students, staff, and faculty fan out to serve local organizations.

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YONAIRA M. RIVERA 10MPH

The founder of nonprofit Puerto Rico Stands, Rivera is raising money and relief supplies for a small community that was devastated by Hurricane Maria.



EMORY

ROLLINS
SCHOOL OF
PUBLIC
HEALTH



Flu pandemic preparedness

I've spent half my life worrying about a formidable virus—HIV. But I have come to believe influenza is the most challenging virus we see in the world today. So it is fitting that on the 100th anniversary of the 1918 flu pandemic, our school and the CDC hosted a conference that brought together experts from academia and the government to discuss flu pandemic threats and preparedness. Organized by **Dr. Carlos del Rio**, Hubert Professor and chair of the Hubert Department of Global Health, the conference drew a capacity crowd, including more than 1,000 online viewers. In this issue, we look at many of the issues discussed in this important conference as well as detail specific work by Rollins researchers regarding flu and vulnerable populations.

The #MeToo movement recently has been shining the spotlight on sexual assault and other obstacles women encounter in their personal and professional lives. **Dr. Kathryn Yount**, the Asa Griggs Candler Chair of Global Health, has been ahead of the game, studying these issues for more than two decades. She founded and directs an initiative that brings together researchers from around the globe with the goal of advancing research, scholarship, and social change around women's and girls' empowerment. Read about some specific projects of Global Research for Women beginning on page 19.

In this issue we also welcome a new department chair. **Dr. Timothy L. Lash**, Rollins Professor and Chair of the Department of Epidemiology, came from our own faculty, joining Rollins five years ago. He is a renowned cancer epidemiologist and has big plans for the department. Tim replaces **Dr. Viola Vaccarino**, Wilton Looney Chair of Cardiovascular Research, who will stay on and focus her time on her research and teaching. I want to thank Viola for her leadership during the past eight years.

Finally, please join me in congratulating **Dr. Kathy Miner** for winning the 2018 Charles R. Hatcher, Jr. Award for Excellence in Public Health. Kathy is cutting back to part time after a more than 40-year career in which she made incalculable contributions to our school and to the field of public health. Her legacy is firmly imprinted at Rollins.

James W. Curran, MD, MPH

James W. Curran Dean of Public Health

Charles R. Hatcher award honors Kathy Miner

In presenting **Dr. Kathleen Miner** the 2018 Charles R. Hatcher, Jr. Award for Excellence in Public Health last April, Dean James Curran described her as having been “an integral part of the Rollins School of Public Health for more than 40 years, one of the principal builders of our school, and beloved around the world by generations of students and practitioners.” He then asked how many people in the crowded room considered her a mentor. Hands shot up. Some belonged to self-proclaimed “Kathy’s Kids,” successful former students who have given and collected multiple gifts from faculty, staff, alumni, and friends to fund public health scholarships in Miner’s name.

Miner’s roles are changing this year, but Richard Levinson, senior associate dean for academic affairs, says her influence is unlikely to do so. “Kathy has been tireless in linking Rollins to the world of public health practice, giving the school national visibility in this area,” he says. “She also has been a leader in the creation of health education and the professionalization of public health in general, through her extensive work with development of competencies, accreditation, and quality assurance. Her DNA is everywhere.”

In February, Miner made the decision to go part time. She continues as professor in the Department of Behavioral Sciences and Health Education (a department she helped shape) but steps away as associate dean for applied public health, a position she’s held since 1997.

When Curran created the new position, designed to build and strengthen relationships between the then-young school and local, state, and federal public health agencies and programs, Miner was his obvious choice. She already had designed the school’s first public health practice curriculum, building in part on her front-line experiences working for the Georgia Division of Public Health. She already had far-reaching contacts with public health practitioners in Georgia and the Southeast. And she already was winning state, federal, and foundation grants for practice-related programs.

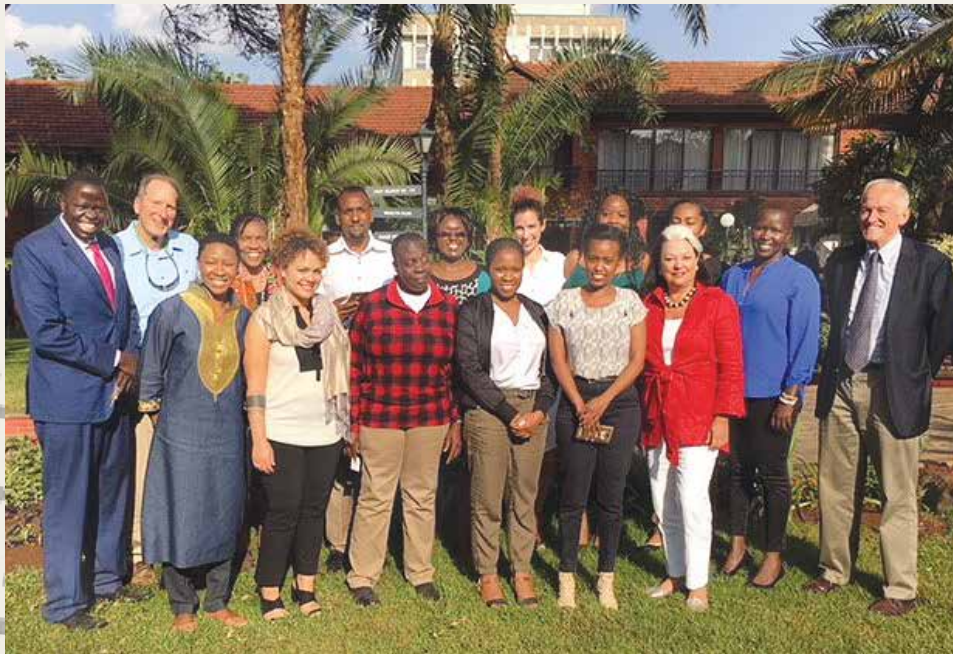
Miner recognized the hunger among public health professionals working in the field for training, educational, and preparedness programs. She developed and headed the Southeastern Institute for Training and Evaluation, which has trained myriad



CDC professionals. She also developed the Certificate in Public Health and Career MPH, one of the first distance-based workforce training programs offered by a school of public health. Career MPH has since become the Executive MPH program.

Throughout her career, Miner has been the principal investigator on grants including the Southeast Education and Training Center for AIDS, which trains health care workers and was established early in the AIDS epidemic when the disease was not well understood, and the Tobacco Technical Assistance Consortium, which made Emory the prime source of training and technical assistance for a number of states engaged in smoking prevention/cessation and tobacco policy. Thanks to Miner, the Emory Center for Public Health Preparedness has trained thousands of professionals throughout the Southeast in the application of public health in emergency situations.

What’s next? Miner wants to spend more time on the road with her husband of 50 years, in their well-traveled, 17-foot camper “Born Free.” They will add to their already long list of national parks and unusual monuments and museums. But Miner remains involved with the school and, not surprisingly, finds it hard to stay away too long from her new office or resist the knocks on the door from Rollins colleagues and advice-seeking emails from professionals across the country, many of them former students. And that’s ok, she says. After all, public health—and Rollins—are in her DNA.—*Sylvia Wrobel*



In August, **Kathryn Graves 93MPH**, Rollins senior associate dean for development and external relations (third from right) and **Aneesah Akbar-Uqdah 08MPH**, president of the Rollins alumni board (third from left) hosted an afternoon reception for Emory and Rollins alumni, students, and friends in Nairobi.

Study of trans women links hormone therapy to vascular side effects

A study coordinated by **Dr. Michael Goodman**, professor of epidemiology, found a link between hormone use in trans women and an increase in vascular side effects, such as stroke and venous thromboembolism (VTE). Specifically, he found rates of stroke and myocardial infarction among trans women were 80 percent to 90 percent higher than those observed in cisgender (individuals whose gender identity corresponds to their gender at birth) women, but similar to the rates found in cisgender men. Rates of VTE in trans women were nearly twice as high as those among cisgender men and women.

“While our study confirmed elevated risks of certain vascular events related to hormone therapy, these risks need to be weighed against the important benefits of treatment,” says Goodman. The researchers are quick to note that the study represents an early phase of research in this area and that more work is needed to better understand the roles of specific hormone formulations, doses, drug combinations, and routes of administration. The study was led by the Kaiser Permanente Southern California Department of Research & Evaluation in collaboration with Kaiser Permanente colleagues in Georgia and northern California. ■





Benefits of fortifying flour with folic acid

Approximately 57,000 birth defects of the brain and spine could be immediately prevented every year in 71 countries by adding folic acid to wheat flour, according to a study led by **Dr. Vijaya Kancherla**, research assistant professor of epidemiology.

“It’s important to note that 57,000 is an annual number. If fortification is sustained, in 20 years there will be more than 1 million fewer children with severe birth defects in these 71 countries,” says Kancherla. “Fortification in these countries can be easily started using their current milling infrastructure, and the result would be an immediate prevention of unnecessary disability and death in children for years ahead.” ■

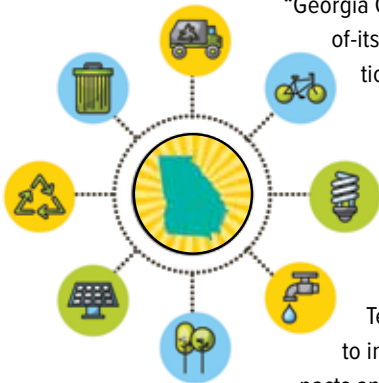
A roadmap for climate research in Georgia

A multi-disciplinary team of experts from across Georgia led by Rollins environmental health instructor **Daniel Rochberg** has developed the

“Georgia Climate Research Roadmap,” a first-of-its-kind list of 40 key research ques-

tions that can help policymakers and practitioners better understand and address climate change in Georgia.

The roadmap is a non-partisan initiative of the Georgia Climate Project, a statewide consortium founded by Emory University, Georgia Institute of Technology, and University of Georgia to improve understanding of climate impacts and solutions in Georgia. ■



Studying impact of water improvement on child health

The World Bank is investing \$140 million for a water improvement project in four urban areas in Mozambique. Rollins researchers have received an NIH grant to assess the health impacts of the project in collaboration with the Mozambican water and health authorities. Led by **Drs. Matthew Freeman** and **Karen Levy**, both associate professors in environmental health, the researchers will explore the impact of improvements in the water supply in low-income urban areas on child health, specifically focusing on gut microbial conditions.

“Evidence shows that repeated exposures to diarrheal pathogens change the microbiome of a person’s gut,” says Freeman. “These changes are potentially irreversible and could change a person’s life course—in terms of nutritional uptake and obesity.”

Levy notes that implications of this go far beyond acute diarrhea in populations. “If early gut exposure impacts nutrition absorption and child growth, that can impact cognitive development,” she says. “That, in turn, could impact whole cultures and the economic growth of countries.” ■



Like mother, like daughter

At the Rollins commencement ceremony in May, a mother and daughter accepted their MPH degrees at the same time. **Dr. Karen Andrea Armstrong 17MPH** (above left) and her daughter, **Shenelle Alyssa Armstrong 18MPH** (above right), walked on to the stage within minutes of each other and left it together.

“It was quite an experience,” says Karen.

The journey began years ago, when Karen was working for Emory’s school of nursing as a research coordinator. She had previously sent middle-school-aged Shenelle to a summer camp on the Emory campus, and the youngster decided then and there she wanted to go to Emory. Several years later, she did, earning a degree in neuroscience and behavioral biology.

Karen moved to the school of medicine as research director and later decided she wanted to broaden her research expertise. So when Shenelle started her senior year at Emory, Karen started her MPH in epidemiology at Rollins.

After graduation, Shenelle decided to follow in her mother’s footsteps, although she chose the department of health policy and management. Last August they realized that Karen would finish her degree in December and Shenelle would finish hers in May, which meant they could walk together.

“At first, Mom said she didn’t want to walk with me because she didn’t want to steal my spotlight,” says Shenelle. “But I said, ‘Mom, this is your spotlight too!’” ■



Teaming up with IBM

Rollins researchers have received one of IBM’s Climate Change and Environmental grants, which provide technology resources to assist research on climate change and environmental issues.

Drs. Howard Chang and **Yang Liu**, associate professors of biostatistics and environmental health, respectively, were selected from a pool of more than 70 applicants for their project aimed at examining the impact of climate change on temperature and air pollution on human health at the local level.

Through the grant, the researchers will receive one or more of IBM’s technology resources, which include supercomputing power through the World Community Grid, weather data from the Weather Company, or data storage from IBM Cloud. In return for IBM’s support, the researchers will publicly release their data, enabling the global community to benefit from their findings. ■

Updated HIV treatment and prevention guidelines

A panel of the International Antiviral Society USA, which included **Dr. Carlos del Rio**, Hubert Professor and chair of the Hubert Department of Global Health, has developed new guidelines for HIV treatment and prevention. “Advances in HIV prevention and treatment have made a tremendous difference in our ability to save and extend lives as well as decrease new HIV infections, but as knowledge advances and new drugs are approved,

we must continue to refine our guidelines and processes,” says del Rio. “These new recommendations reflect careful consideration of all the information and tools currently available.” View the recommendations at emry.link/HIVrec. ■



MEDIA SAVVY

“Today, with appropriate treatment, there is **no reason a person living with HIV shouldn’t be able to serve in any capacity in the military.**”

CARLOS DEL RIO,

HUBERT PROFESSOR AND CHAIR OF THE HUBERT DEPARTMENT OF GLOBAL HEALTH, TOLD *THE WISCONSIN GAZETTE*.

“Exercising every day may decrease **cravings for substances you’re trying to quit.**”

FELIPE LOBELO,

ASSOCIATE PROFESSOR OF GLOBAL HEALTH, TOLD *U.S. NEWS AND WORLD REPORT*.

“Half of Medicare beneficiaries are being treated for **five or more conditions,** accounting for 75 percent of what Medicare spends.”

KENNETH THORPE,

ROBERT W. WOODRUFF PROFESSOR AND CHAIR IN THE DEPARTMENT OF HEALTH POLICY AND MANAGEMENT, TOLD *U.S. NEWS & WORLD REPORT*.

Black-white heart disease mortality gap has increased

Heart disease is the leading cause of death in the U.S., accounting for one in four deaths in 2015. Although heart disease death rates have decreased 68 percent from 1968 to 2015, those rates fell more steeply for whites

than for blacks, resulting in increased disparities. **Miriam Van Dyke 15MPH,** doctoral student in epidemiology, and **Dr. Michael Kramer,** associate professor in epidemiology, analyzed data from the National Vital Statistics System and published their findings in the March 30, 2018 issue of *MMWR*.

Heart disease death rates for blacks and whites were similar at the start of the study period but began to

diverge in the late 1970s, when rates for blacks plateaued while rates for whites continued to decrease. The biggest surge in disparities occurred in the 1970s and 1980s, followed by a slow but steady increase until 2005. Since 2005, the black-white disparity in heart disease death rates has modestly narrowed. In 2015, heart disease mortality rates were 21 percent higher among blacks than among whites. ■



Take part in research for All of Us

Want to take part in the largest, most diverse national health study ever?

The National Institutes of Health has opened enrollment for All of Us—an effort to advance health care for people of all backgrounds.

Volunteers 18 and older can join the more than 60,000 participants who have already enrolled. The aim is to enlist 1 million or more volunteers. The study will look at personal characteristics of participants, including home, work, family life, and mental health. Some will be asked to provide information from wearable devices, which can be used to track blood pressure, heart rate, sleep cycle,

and exercise. Volunteers may also be asked to give blood and urine samples that could help reveal how environmental threats—like toxins and air pollution—activate genes that cause disease.

Personal information will be coded for anonymity, and volunteers can choose which tests and surveys to participate in. The information gathered will create a huge database that scientists can use to explore why people get sick or stay healthy.

Dr. Alvaro Alonso, Rollins epidemiology faculty member, is on the team leading Emory’s participation in the study.

To join, go to allofus@emory.edu or call 404-778-1284. ■

Hepatitis C eradication hinges on prisons' drug costs

Successful eradication of hepatitis C must include prisons, according to **Dr. Anne Spaulding**, associate professor of epidemiology.

Because of the opioid epidemic, high numbers of prisoners are infected with the hepatitis C virus. While the correctional system is an ideal place to screen for and treat hepatitis C, care for infected prisoners is stuck in a vicious catch-22. New, direct-acting antivirals are effective but pricy, carrying a \$70,000 list price that is expensive for prisons. Yet, these agents are cost-effective for society as a whole.

“Hepatitis C has not generated a sense of urgency,” says Spaulding, “perhaps because of its slow course, low prevalence in the general population, high cost of treatment, or spread outside the public’s eye, primarily within groups that reside in the social shadows of poverty and drug use.”

Correctional facilities actually face a disincentive to even screen for hepatitis C virus because positive test results legally increase their responsibility to treat infected patients. Prisons bear the up-front costs for screening and treating, but society reaps the future benefits in averted medical costs from end-stage liver disease, lives saved, and prevention of new infections in the community.

Based on the \$70,000 sticker price of a full course of direct-acting antivirals, providing treatment to the 135,000 people who remain in prison in the U.S. long enough to complete it would collectively cost prison systems approximately \$9.4 billion.



Spaulding explains that complex federal laws prevent pharmaceutical companies from discounting the cost of these medications for prisons, as they do for safety-net hospitals and the Veterans Affairs system. In a recently published paper in *ID Clinics in North America*, Spaulding proposes a scenario whereby drug manufacturers could use nominal pricing (defined as less than 10 percent of the average manufacturer price) to supply antivirals to correctional facilities at \$200 to \$4,000 per course. Prisons are a sizable undertapped market for manufacturers, and these substantially lower prices provide a “win-win scenario” in which more incarcerated persons can be treated in a first step toward hepatitis C eradication, and pharmaceutical companies would still make money.— *Lori Solomon, 99MPH*



Rollins-developed PrEP Locator adopted by CDC platform

The CDC’s National Prevention Information Program (NPIN) recently incorporated the PrEP Locator tool into its directory of HIV/STD/hepatitis testing locations. Created by **Dr. Aaron Siegler**, associate professor of behavioral sciences and health education, PrEP Locator is the first national database of clinics prescribing Pre-Exposure Prophylaxis (PrEP)—a drug that is highly effective in preventing the spread of HIV for those at risk.

Moving forward, Siegler’s team will continue to manage the PrEP Locator website, while NPIN will maintain the database. “I think if you provide a good public health resource, it will grow in unexpected ways,” says Siegler. “One of the most exciting things about NPIN is that they are so established in the community, which will enable a much broader base of people to find and use the PrEP finding tool.” ■



The high cost of treating antibiotic resistance

Each year, some 23,000 Americans die of antibiotic-resistant infections, according to the CDC. Treating a patient with an antibiotic-resistant infection, which typically requires complex treatments and extended hospital stays, adds \$1,383 to the cost, according to Rollins researchers. That adds up to an additional \$2.2 billion annually in health care costs.

Led by **Dr. Kenneth E. Thorpe**, Robert W. Woodruff Professor and Chair in the Department of Health Policy and Management, the study authors analyzed data from 2002 through 2014. They found that the number of bacterial infections remained relatively constant, totaling 13.5 million in 2002 and 14.3 million in 2014. However, the share of these infections that were antibiotic resistant doubled, from 5.2 percent to 11.0 percent, in the same period.

The study likely underestimates the total costs, according to Thorpe, because the data used came from the Medical Expenditure Panel Survey, which does not include people in nursing homes, prisons, and other institutionalized sites of care. It is believed to be the first national estimate of the costs for treating antibiotic-resistant infections. The study appeared in the April issue of *Health Affairs*. ■



The benefits of adult team sports

Everybody knows exercise is crucial to good health, but only about two in 10 adult Americans get the recommended level of physical activity each week. A big reason—many people’s opinions of traditional exercise range from not fun to torturous.

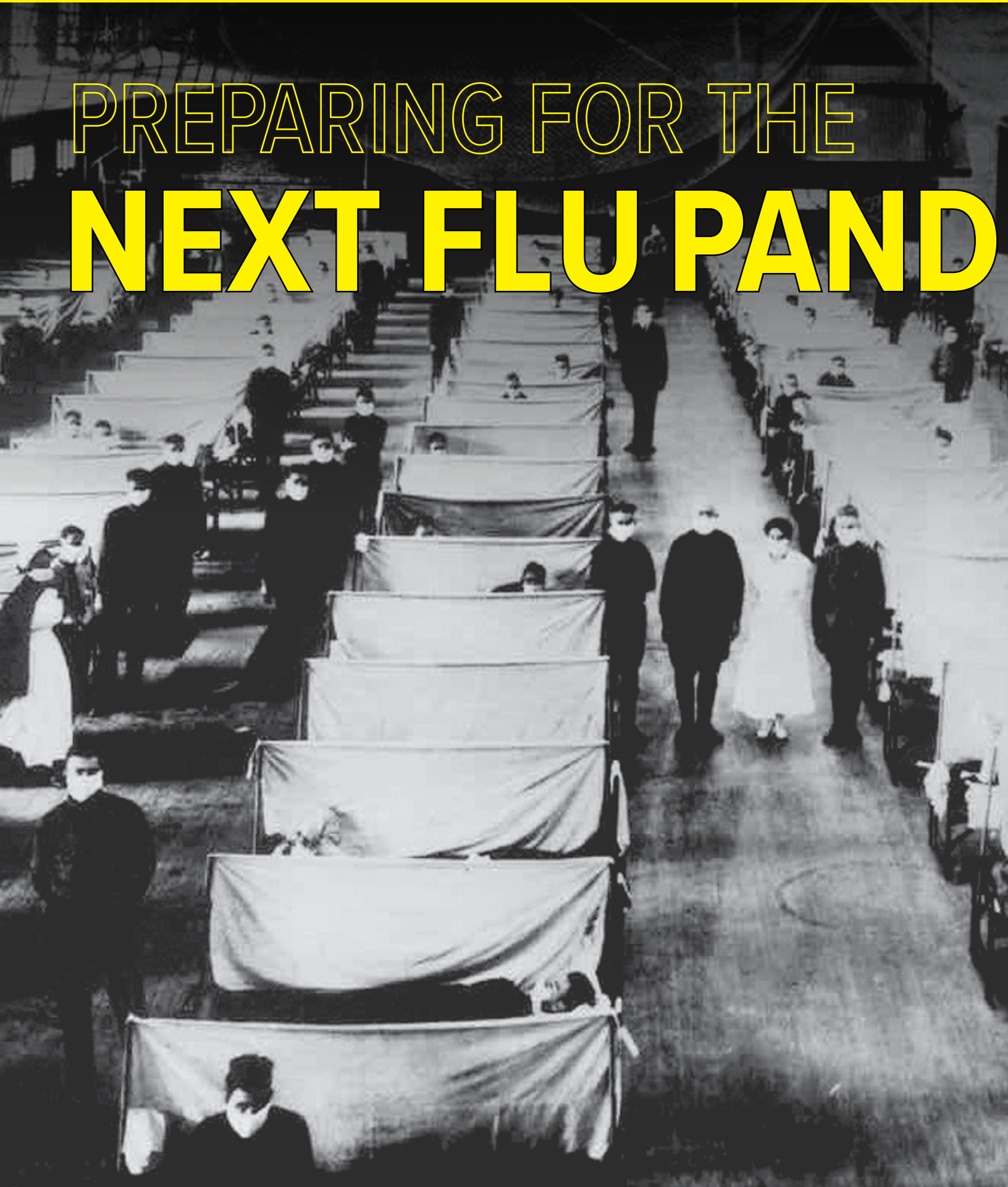
Rollins researchers led by **Dr. Felipe Lobelo**, associate professor of global health, found that recreational team sports may be a good alternative for inactive adults. The variety of movement patterns associated with team sports—sprints, bursts of intense action, changes in direction and acceleration, muscle loading—provide a combination of aerobic, endurance, and resistance training. A meta-analysis of published literature on the topic revealed that compared with control subjects, people who participated in recreational group sports saw important reductions in weight, percentage of body fat, blood pressure, and lipid levels, and large increases in aerobic fitness, which can translate into reduced risk for diabetes and cardiovascular disease.

Group sports participants also reported lower levels of perceived exertion than those who jogged, did strength training, or ran intervals, possibly because for some, team sports tend to be more social and fun than solitary exercise. That could explain why people who play group sports tend to stick with them longer and attend sessions more often than those in traditional exercise interventions.

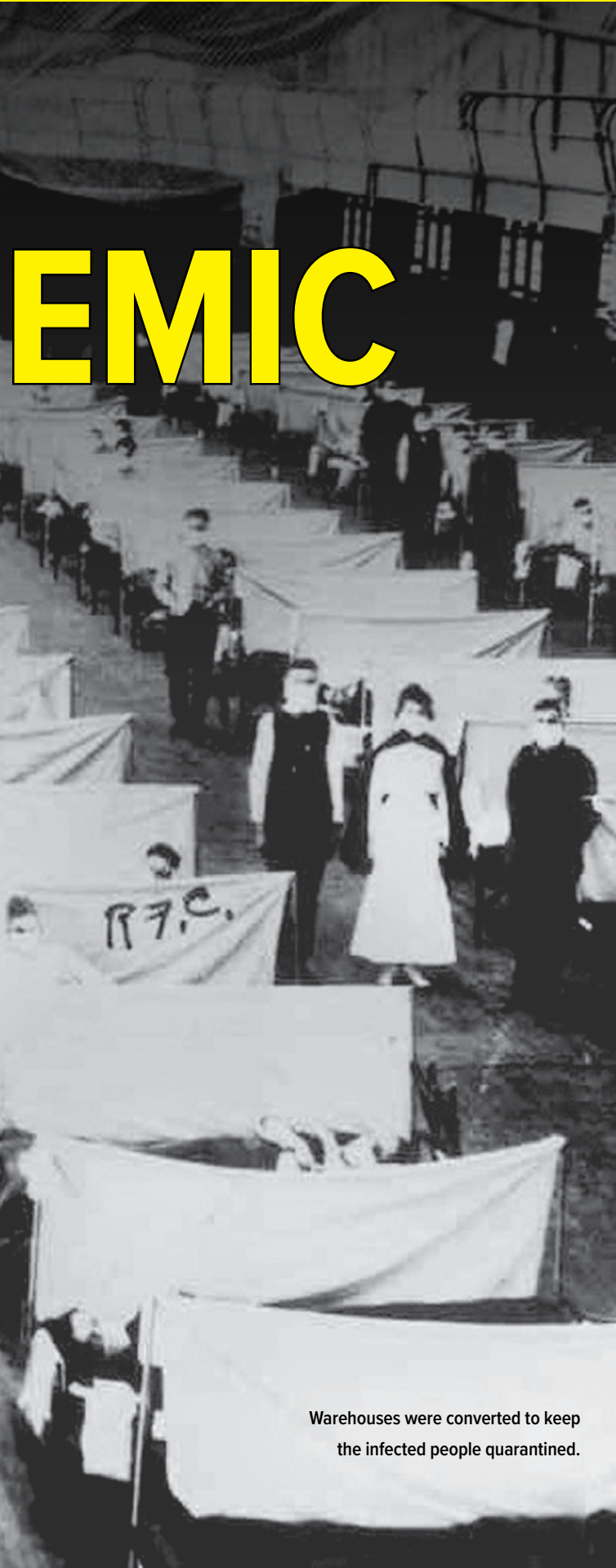
“The results of this study can have important clinical and population health implications,” says Lobelo. “For some of us, playing group sports can be an appealing way to remain active. Broader implementation of programs using group sports as a vehicle to deliver lifestyle change can help reduce the growing burden of physical inactivity.”

Lobelo’s Exercise Is Medicine research group is currently conducting a program using recreational soccer for Latino men at risk of diabetes and plans to translate it to other populations, ages, genders, and team sports. ■

PREPARING FOR THE **NEXT FLU PAND**



EMIC



Warehouses were converted to keep the infected people quarantined.

IT'S A

MATTER OF

WHEN, NOT

IF. ARE WE

READY?

Dr. Daniel Jernigan looked out over the crowd in the Rollins Auditorium and quipped that from his vantage, it looked like a rock concert. Indeed, the director of the influenza division of the Centers for Disease Control and Prevention was addressing a venue that was filled to capacity. Reporters from the *Wall Street Journal*, CNN, and *Wired* circulated, along with a TV crew from Japan. At least 1,000 more people in 18 different countries were watching online.

By MARTHA MCKENZIE



Lynnette Brammer 92MPH (left) and Danielle Iuliano OOC 02MPH track emerging influenza strains as part of the CDC's influenza surveillance team.

So when the next pandemic hits, could it be as devastating as its 1918 precedent? Experts agree that huge strides have been made in the last century, and much has been learned from each subsequent pandemic. Still flu is a very tricky adversary with an ability to mutate and spread rapidly. Some

The event was a one-day conference in May put on by Rollins and the CDC commemorating the centenary of the 1918 flu pandemic. Speakers were slated to address current pandemic influenza threats, the future of pandemic preparedness, and influenza prevention and control. Rollins Dean James Curran summed up what many in the audience likely felt, accounting for the outsized interest in the conference. "I've come to believe influenza is the most formidable and challenging virus we see in the world," he told the audience. "There is nothing that scares me more than influenza." This from the man who led the fight against HIV/AIDS in the epidemic's earliest days.

Curran's remark may confuse people outside the world of public health. Some people misunderstand the disease, labeling everything from a cold to a stomach bug as "the flu." Many dismiss the virus's threat, even after the severity of last winter's flu season. More than half of Americans don't even bother to get their annual flu shot.

Scientists who study influenza, however, mirror Curran's concern. "Flu causes up to 56,000 deaths in the U.S. every year, and up to 646,000 worldwide," says Lynnette Brammer 92MPH, who leads the CDC's domestic influenza surveillance team. "For what other disease would you accept that?"

Those numbers are just for the seasonal flu. A pandemic such as the one in 1918, which infected about a third of the world's population and killed at least 50 million people, would cause many more deaths. And experts agree that a flu pandemic is a question of when, not if.

populations are particularly vulnerable, such as pregnant women and people in jails and nursing homes. Rollins researchers have focused their work on these populations.

"In the Center for Public Health Preparedness and Research at Rollins, we've been focusing on pandemic and seasonal flu for more than a decade," says Ruth Berkelman, Rollins professor emeritus of Public Health Preparedness and Research. "We've also worked on preparedness for other infectious disease disasters, like Ebola and SARS, but I'd put influenza at the top of the list of threats. We have looked at vulnerable populations that have not otherwise been a focus in pandemic planning."

PREPAREDNESS PROGRESS

The fields of medicine and public health have come a long way since 1918. Physicians now have flu vaccines, antivirals, and antibiotics in their arsenals. A robust surveillance system actively searches for new outbreaks and reports findings instantaneously. The medical community and the public know how to limit the spread of an outbreak with social distancing, hand washing, and quarantine.

Each subsequent flu pandemic, which hit in 1957, 1968, and 2009, brought valuable lessons. In the United States, the CDC took advantage of additional funding it received during the 2009 pandemic to make improvements it couldn't otherwise afford.

"We went into the pandemic with four of our state public health labs able to automatically transmit data to us electronically straight out of their lab information systems

into our database. We came out of the pandemic with 20-something able to do that,” says Brammer. “We went into the pandemic with a culture-based system for testing for flu and came out with a molecular-based system, so results went from taking a week to being available the same day. The midst of a pandemic is not the best time to make changes like this, but we needed to take advantage of the funding when it was available.”

The CDC has also reached out to under-resourced countries to help them set up or improve flu surveillance systems, including monitoring influenza in poultry populations, since many fear the next pandemic could spring from a novel virus circulating in birds. Some countries send specimens to the CDC to be analyzed, and the CDC can quickly develop and ship diagnostic tests when a new strain emerges.

“We’ve worked to develop strong relationships with other countries in the hope that we can share information back and forth to be better prepared when a pandemic hits,” says Danielle Iuliano 00C 02MPH, senior research epidemiologist in the CDC’s influenza division and an adjunct professor of epidemiology. “It’s unlikely the next pandemic will start in the U.S., so we have to have good relationships and open communication with countries where it’s likely to emerge.”

SHORTFALLS

Despite massive advances in flu prevention and treatment, Brammer, Iuliano, and their colleagues are anything but complacent. For one thing, 85 percent of flu vaccines are still developed in eggs, which represents “1950’s state-of-the-art technology,” quipped Dr. Luciana Borio, director for Medical and Biodefense Preparedness Policy at the National Security Council and a speaker at the Rollins/CDC pandemic conference. That means a flu strain can spread widely in the four to six months before a vaccine can be developed and distributed.

And the virus itself is a formidable, changeable adversary. “Yes, I do think we could see a pandemic as devastating as 1918,” says Brammer, who has a sign in her office that reads “Flu Is Coming.” “You can do a lot to get ready, but at the end of the day, the flu seems to find a way around everything you’ve done. It’s wildly unpredictable.”

Just look at the 2009 pandemic. Flu watchers were convinced the next pandemic would come from an avian influenza strain out of Asia, but the 2009 outbreak was a strain that circulates among swine, H1N1 (a variant of the strain responsible for the 1918 pandemic), and it emerged from Mexico. The outbreak also began in April, when flu is



Red Cross Motor Corps On Duty

HISTORY’S DEADLIEST PANDEMIC

The pandemic that would become the deadliest disease

outbreak in history started out mildly. The first wave hit in the spring of 1918, causing the usual chills and fevers. The second wave that crashed over the world in the fall of the same year was the stuff of horror movies. Victims often died within hours or days of developing terrifying symptoms—their skin turned blue; they often coughed up blood, bled from the nose, and sometimes even the eyes; and their lungs filled with fluid that caused them to suffocate.

“You could be well at breakfast, sick at lunch, and dead at dinner,”

Dr. Robert Gaynes, an infectious disease professor in Emory School of Medicine, told the audience at a one-day Rollins/CDC pandemic conference.

With no vaccines or antivirals, the disease quickly spread to all corners of the earth, helped by the movement of troops in World War I. It came to be known as the Spanish flu, not because it originated in Spain but because the Spanish press widely covered it. News outlets in countries that were embroiled in the Great War downplayed the outbreak for fear it would hurt morale.

“Never in American history has the government tried to control information as much as it did in World War I,” said John Barry, author of *The Great Influenza: The Story of the Deadliest Pandemic in History* and a speaker at the conference, “The government and media said there was no cause for alarm.”

Of course, people knew they were being lied to because they saw the flu strike down co-workers, neighbors, and family members. In the absence of truthful information, hysteria ensued. “People were actually starving to death because people, even family members, refused to visit them and bring them food,” said Barry.

Its lethality was not the only unusual characteristic of the Spanish flu. While most flu deaths occur in the very young and very old, more than half the people who died in the 1918 pandemic were in the prime of their lives.

By the time the pandemic died out in the spring of 1919, at least 50 million people had died—three times the number that had died in World War I. Some say that the actual death toll was likely much higher, with as many as 100 million deaths. The H1N1 strain responsible for the devastation did not go away, but it evolved into a much milder seasonal flu.

not typically circulating in the Northern Hemisphere.

“The outbreak in 2009 caught everyone by surprise,” says Dr. Allison Chamberlain, acting director of the Center for Public Health Preparedness and Research and research assistant professor of epidemiology. “It started in such a strange location and at such a strange time of year. It just underscores how hard it is to stay ahead of the flu.”

The last flu season—the worst since 2009—highlighted other potential shortcomings. Demand for hospital beds quickly outstripped supply, causing many institutions to set up triage tents in their parking lots and ask staff to work overtime. Grady Memorial Hospital converted waiting rooms into inpatient units, and staff were looking into doing the same in the lobby when the season waned, says Dr. Jeffrey Lennox, an infectious disease professor in Emory School of Medicine. “If you are depending on hospitals to have extra capacity if major disaster hits, you need to rethink your plans,” he says.

Last winter’s flu season also exposed how vulnerable the U.S. is to events outside its borders. Hurricane Maria’s devastation of Puerto Rico resulted in a saline shortage in the U.S. In fact, many medications and medical supplies used in the U.S. are made in other countries, which means natural disasters could cut off or reduce supply.

THE ROLLINS FLU FIGHTERS

Rollins scientists have focused their research on populations

that would be particularly vulnerable during a pandemic. For Chamberlain and Dr. Saad Omer, the William H. Foege Chair in Global Health, that has meant concentrating on pregnant women. During both pandemics and seasonal flu, pregnant women are disproportionately affected—they face a higher risk of complications and death in addition to preterm delivery and stillbirth.

“Flu can get pretty complicated and severe for pregnant women, particularly in their second or third trimester,” says Chamberlain. “Their lung capacity is reduced because of the baby growing inside, and their response to infection changes. While pregnant women are not more likely to catch the flu than anyone else, if they do get it, the outcomes tend to be worse.”

The good news is that flu vaccines can protect pregnant women, and they are safe for both mother and baby. Omer was instrumental in establishing flu vaccines’ efficacy and safety for pregnant women through clinical trials, and he continues his work today. “We have very good evidence at this point that flu vaccines are safe for pregnant women,” he says. “And the vaccines not only protect the mother, there is strong evidence to suggest they protect the babies in their first four months of life, before they are able to be vaccinated.”

Despite these promising findings, about half of pregnant women do not get vaccinated for the flu. The reasons vary. Some are skeptical about the vaccine’s effectiveness. And to be fair, in some seasons the vaccine is only about 30 percent effective. Others are afraid the vaccine will actually give them the flu, which is a myth. And others worry about the vaccine’s effect on their baby.

“What worries me is not the scientific evidence part of vaccinating pregnant women,” says Omer. “It’s the

Allison Chamberlain, left, and Saad Omer, right, study the safety and effectiveness of the flu vaccine for pregnant women, who face a high risk of complications if they get the virus. They are pictured here with Shannon Vassell.



Anne Spaulding found that flu vaccination rates in jails during the 2009 pandemic were dismal. She recommends including jails in pandemic preparedness planning.



PANDEMIC TIMELINE

	1918-1919
	SPANISH FLU
Strain	H1N1
Mortality	50 - 100 million
	1957-1958
	ASIAN FLU
Strain	H2N2
Mortality	1.5 - 2 million
	1968-1969
	HONG KONG
Strain	H3N2
Mortality	1 million
	2009
	SWINE FLU
Strain	H1N1
Mortality	284,000*
	*CDC estimate

implementation part, working with women and providers to make sure pregnant women actually get the vaccine.”

Dr. Anne Spaulding, associate professor of epidemiology and director of the Center for the Health of Incarcerated Persons, has looked at another vulnerable population—residents of jails. Specifically, she looked at how well public health authorities included correctional facilities into their response to the 2009 pandemic.

“We found authorities did a pretty good job of getting vaccines to federal prisons,” she says. “They did a mediocre job of getting it to state prisons.

And when it got down to small, typical jails, they did a horrendous job.”

Spaulding found that 55 percent of jails did not receive the vaccine during the 2009 pandemic. That’s particularly troublesome, given that jails’ overcrowding makes them ideal environments for disease transmissions, and the rapid turnover of jail populations—most inmates are released within a matter

of days—sends infections back out into the community.

Jails lagged in vaccinations, Spaulding discovered, due in part to misperceptions on the part of local health departments. Some jails contract with a private vendor for health care services, so local health departments thought they did not have to work with jail staff on pandemic preparedness. They assumed these private firms were supplying flu vaccines, but that was not necessarily the case.

“In this study, we found that whether a jail had privatized health care or not had no bearing on whether they had an appropriate response to the H1N1 outbreak,” says Spaulding. “State and local health departments must include all jails in their pandemic preparedness planning.”

Toward that end, Spaulding and her team developed a toolkit to foster better communication between local health departments and local jails. Has it worked? “We’ll have to wait until the next pandemic to find out,” she says.

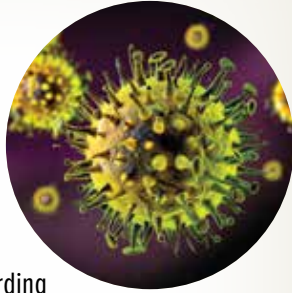
Unlike jail inmates, nursing home residents largely do get their flu vaccines, according to Dr. Sarah Blake, assistant professor of health policy and management. Blake and Dr. David Howard, professor of health policy and management, received a CDC grant to assess long-term care disaster preparedness, and they asked nursing home staff to describe a disaster and how they handled it. They were expecting to hear about fires and hurricanes, but the disaster that was brought up again and again was a flu outbreak. So they decided to look at how nursing homes protect their residents from pandemic flu.

Influenza vaccination is a quality indicator that all nursing

FLU 101

Two main types of influenza virus infect humans, A and B.

Both are associated with seasonal epidemics, but only type A viruses have caused pandemics. Influenza A viruses are further broken down according to two surface proteins, hemagglutinin (HA) and neuraminidase (NA). There are 18 different HA subtypes and 11 NA subtypes, and they combine to cause different strains—H1N1, H3N2, etc. Small mutations in either of these proteins result in a new subtype, which is why flu vaccines have to be updated annually. A bigger mutation could result in a subtype that humans haven't encountered before, so they lack any immunity to it. That situation could lead to a pandemic.



homes must report to the Centers for Medicare and Medicaid Services. Blake and Howard examined the accuracy of nursing home resident influenza vaccination rates in three states. From interviews with these nursing home administrators and senior staff, they found 85 percent to 100 percent of nursing home residents received the flu vaccine, excepting those who were hospitalized.

However, the situation was not as rosy for staff. Nursing homes affiliated with hospitals require staff to get annual flu vaccines, but unaffiliated facilities do not. In these facilities, vaccination rates among staff varied wildly, from 15 percent to 97 percent. “That is very concerning, considering how medically vulnerable the people they care for are,” says Blake. “More education needs to be done among staff about the importance of getting vaccinated every year.”

And more needs to be done to prepare for the next pandemic. Dr. Julie Gerberding, director of the CDC from 2002 to 2009, addressed this need at the Rollins/CDC pandemic conference in a panel with three other former CDC directors. “Starting in 2001, we had 9/11, then anthrax, then West Nile, then SARS,” she said. “That context set the stage for the period of investment in public health which was unprecedented. The government set up preparedness plans. The CDC set up tabletop exercises. The Secretary of Health and Human Services visited almost every state for flu summits to plan for a pandemic. It was a period of remarkable cross-

governmental, cross-sector engagement with substantial financial investment at the federal level. I feel really sad looking at what has happened since. We are looking at 50,000 public health jobs lost and budgets declining over time. Preparedness has to be a sustainable function—it can't be year to year, crisis to crisis.” ■



Sarah Blake found that most nursing home residents do get annual flu vaccines, but that many of the nursing home staff do not. She is concerned since they deal with a medically vulnerable population.

Enabling women to **GROW**

Rollins initiative supports scholarship,
leadership, and change | By MARTHA MCKENZIE

Kathryn Yount, front right, leads Global Research for Women, which brings together researchers from around Emory and the world to study women's issues. Pictured here are some of the GROW professors, doctoral students, and postdocs. Back row, l-r: Monique Hennink, Dabney Evans, Lauren Maxwell, Stephanie Miedema, Kristin Wall. Middle row, l-r: Usha Ramakrishnan, Irina Bergenfeld, Sheela Sinharoy, Emily Dore. Front row, l-r: Cari Jo Clark, Bethany Caruso, and Yount.



r. Kathryn Yount has been leading the public health equivalent of the #MeToo movement since well before Harvey Weinstein made headlines. She began studying violence against women and girls, particularly when inflicted by husbands or intimate partners, more than 20 years ago. She has since spearheaded an initiative that connects a global network of like-minded scholars.

Global Research for Women (GROW) unites researchers from across Emory and across the globe with a three-pronged agenda—promote research on women’s and gender issues, support women scholars and practitioners to address the shortage of female leaders in global health, and use both to promote lasting social change. The initiative has grown to a network of individuals and institutions in countries across the globe.

“I started GROW in response to demand from students, faculty, and global partners for a community of scholars who were committed to social change,” says Yount, the Asa Griggs Candler Chair of Global Health and professor of global health and sociology. “The community has just taken off...it has its own momentum and continues to grow.”

GROW’s research spans three interconnected areas: women’s global health, women’s and girls’ empowerment, and gender-based violence. Topics of recent research include child marriage, female genital mutilation/cutting, access to contraception, and cyber violence.

Global interest in these areas seems to be surging. For example, the UN Sustainable Development Goals, launched in 2015, for the first time included gender-based violence as a focus for goals.

“Demand for research in this area is reaching new heights among private foundations and international agencies,” says Yount. “We are moving as quickly as we can to respond to invitations for funding.”

Though demand for research about

women’s and girls’ issues is high, women’s presence in global health leadership positions is lacking. Across 191 countries, only 51 have a female minister of health, according to the World Health Organization. Closer to home, at Emory University, 91 percent of undergraduates and 84 percent of master’s students in global health are women, yet 75 percent of full professors in the area are men.

To fill this gap, GROW affiliates are committed to training the next generation of female leaders. “GROW engages early career professionals in a way that advances their careers, connects them with peers, assists in their scholarship support, and builds mentorship into their training,” says Yount. “A training program for early career women also dovetails with our focus on women’s empowerment. Part of our training includes skill-building in negotiation, project management, and leadership.”

The initiative has a core research team of about 15 from across the university, and many more researchers participate on specific projects. Postdoctoral fellows, doctoral students, masters students, and undergraduates routinely collaborate on GROW projects, including traveling abroad to work with partners.

Yount and her team also have assembled a robust graduate curriculum around women’s issues, including courses in gender and global health, gender-based violence in a global perspective, maternal and child nutrition, Roger Rochat’s Global Elimination of Maternal Mortality Abortion seminar, and a



KATHRYN YOUNT

webinar and journal club. “I don’t know any other school of public health that has a curriculum as comprehensive as ours,” says Yount.

Building an evidence base and moving women into leadership positions count for naught if they don’t produce actual change on the ground. To that end, GROW sustains a social media presence that reaches more than 7,800 connections—researchers, practitioners, policy makers, activists—on a bimonthly basis. It sends out a quarterly newsletter to more than 2,000 people. Its researchers blog regularly and are quoted in national media.

Here is a look at a few GROW projects:

POST-PARTUM FAMILY PLANNING

For the health of babies, mothers, and families, WHO recommends a gap of at least two years between births. However, many women have little to no control over the size or spacing of their families, lacking access to contraception and family planning services.

Dr. Kristin Wall, assistant professor of epidemiology, is testing a novel intervention in Rwanda to encourage



Medical staff in Rwanda educate pregnant women and their partners about the effectiveness of IUDs in family planning as part of an intervention by Kristin Wall, who is not pictured here.

women who have just delivered to get an IUD. To get funding, Wall won a highly competitive Grand Challenges Explorations grant from the Bill & Melinda Gates Foundation. These grants support innovative thinkers worldwide to explore ideas that can

break the mold in how persistent global health and development challenges are solved.

Previous interventions concentrated on training providers to offer IUDs, but Wall focused on building demand, which in Rwanda was extremely low. After focus groups revealed common myths and misconceptions about IUDs among

Rwandan women—the IUD could travel throughout the body and end up anywhere or the baby would be born holding the IUD—Wall developed a flip chart explaining the basic facts, debunking the myths, and showing a picture of the actual size of the device.

In two hospitals in Kigali, the Rwandan capital, trained staffers presented the flip chart and answered questions in groups of pregnant women and their husbands when they came in for regular checkups. Uptake was impressive. In the first 18 months, approximately 3,000 IUDs were inserted, accounting for about a third of the women who gave birth during that time.

In the second phase, Wall plans to expand the program to other hospitals and health centers in Kigali and expand promotions with community health workers. In Rwanda, government-employed community health workers are assigned households, which they visit regularly for years.



KRISTIN WALL

“If these community health workers could fold information about IUDs into the conversations they are already having with their families, they could reach women of reproductive age who are not yet pregnant,” says Wall. “We would like to make this into a sustainable intervention that we could just hand off to the Rwandan Ministry of Health.”

VIOLENCE AT HOME

About one in three women suffers physical, sexual, or emotional violence at the hands of their intimate partners, according to data from 81 countries published in *Science*. **Cari Jo Clark**, associate professor of global health, is hoping to change those statistics with the help of a radio drama and community engagement.

Clark is working with Equal Access International, an international nonprofit, in Nepal. The country is a patriarchal society in which women rank in the household hierarchy below men and older women, and where it is widely acceptable for men to use violence to maintain order in the household.



CARI JO CLARK

Equal Access has wrapped up a nine-month intervention in which a group of couples met each week to listen to a radio drama about a husband and wife navigating typical marital issues. The couples broke into discussion groups and then went home with assignments. Every few weeks, extended family members were invited to attend.

“Of course, we don’t expect a radio drama alone to

A radio drama is part of an intervention to curb intimate partner violence in Nepal. Cari Jo Clark, who is not pictured here, is working with Equal Access International to roll out the next phase.



change complex human behaviors,” says Clark. “But it can be an effective way to model different behaviors. We would modify the storyline based on the feedback we got during the discussion sessions to make them very lifelike and reflective of what the couples were dealing with.”

In the last three months of the intervention, the couples were taught and supported in how to be ambassadors of what they had learned. They hosted events and showed films in their communities, and just spread the word day by day.

Although Clark’s team is still evaluating the data, an MPH student looked at results at the halfway mark and found changes among participating couples in the use of alcohol, in communication in general and around sex (many men said they seek consent now, where they had not before), and in the distribution of household chores.

In the next phase of the study, Clark wants to see if the couples who went through the program were able to nudge the norms in their extended families and villages. “Did family members and neighbors pick up on how the couple’s interactions had changed? Did the husband reprimand his brother for smacking his wife? Did the wife feel she was able to voice concerns to her mother-in-law?” says Clark. “For this intervention to be sustainable, it must reach beyond the couples who participated into the wider community.”

MEASURING DISCLOSURE IN CAMPUS SEXUAL ASSAULT

Kathleen Krause 18PhD was drawn to Emory to pursue her doctorate by the chance to work with Yount. After volunteering for five years at a rape crisis center in Boston and studying gender violence and health, Krause was ready to take her interest in gender-based violence to the next level.

“Dr. Yount has done such extensive and important work in this area, I wanted the chance to study under her,” says Krause. “When you do research about gender-based violence, you can collect data

that is accurate and focused on prevention, but you want to do it in a way that emphasizes the safety of participants and is respectful of them. That is what I knew Dr. Yount could teach me.”

Krause devised a dissertation topic focused on those skills. When she came to Rollins, activism around sexual assault on campus was bubbling across the country. It was an issue whose time had come to be addressed.



KATHLEEN KRAUSE

But, before it could be dealt with effectively, it needed to be accurately measured. And that’s where Krause found a bit of a roadblock—how best to measure the scope of the problem.

Specifically, WHO and an Obama White House task force had different recommendations regarding how to survey women about sexual violence.

WHO prescribed face-to-face interviews while the White House backed an online questionnaire. Also, WHO favored using supportive language emphasizing that the woman is not to blame and reminding her she can stop the questionnaire at any time or skip any questions. The White House recommendation did not include any such language.

“We want our data to be accurate, but at the same time, we don’t want our questions to cause harm to people who have had traumatic experiences,” says Krause.

She enrolled 200 Georgia college students and divided them into four groups with different combinations of face-to-face vs. online delivery and supportive language vs. neutral language. In the end, Krause found no significant differences between the groups, perhaps because her survey size was small. “I see my study as adding to the evidence base and hopefully inspiring more research into the methods about how we ask these questions,” she says.

Krause is now an Epidemic Intelligence Services officer at

the CDC. She credits landing this competitive position to her Rollins experience. “I think Dr. Yount’s mentorship and all the opportunities she exposed me to helped make me a desirable candidate for the EIS program,” she says.

SOWING SEEDS OF EMPOWERMENT

Some of **Dr. Amy Webb Girard**’s work revolves around empowering women through agriculture. “That’s because women do the bulk of agricultural work globally,” says Girard, assistant professor of global health and epidemiology. “They are often the food producers, food procurers, and food preparers. So, when you look at ways to empower women, to improve their ability to generate income, and to have more voice in decision making, you are often looking at agricultural interventions.”

Girard is involved in several agriculture-based projects in East Africa and India that aim to improve women’s empowerment and maternal and child nutrition. In Tanzania and Kenya, she works with partners to develop and evaluate dairy cooperatives, which bring dairy producing households together. The organizational structures of the co-ops are designed to give women more voice in running them, and training is included in an effort to make men more open to input from women. In addition, women receive education in matters of livestock management, finance, and resources.

In Ethiopia, Girard is working with other groups to form similar sweet potato farming cooperatives, again with the aim of giving women greater access to nutritious crops, income from those crops, and agency in how to use those crops for the household. “Men typically control how much land is allocated to crops to be sold and how much to crops for the household, as well as what is planted,” she says. “We develop strategies that engage husbands to

think about the benefits of allowing women greater participation in agriculture decision-making. For example, women are likely to keep more and higher quality food for the household; they also are more likely to use their income on food and health care, which translates into better health and nutrition for their children.”



AMY WEBB GIRARD

In Ethiopia, Girard worked with colleagues at Georgia Institute of Technology and a local NGO, Stand for the Vulnerable, to establish women-run agricultural businesses. The businesses, which use low-technology duckweed algae ponds, allow women to grow a nutrient-rich

material that can be converted into animal feed. Ethiopia has a huge shortage of high quality animal fodder, so demand for the product is strong.

Groups of about 20 women band together to establish and run the ponds and micro-businesses. They are also supported to develop small-scale poultry or fish pond businesses to complement this work. The curriculum, developed by Girard and partners, trains women in business plans, budgeting, financial literacy, negotiation, and conflict resolution skills. It also includes training in nutrition and health. As of May 2018, the team had reached about 2,400 households. Over the next five years they expect to scale up to 15,000 households.

“The whole curriculum is built around increasing women’s independence and empowerment,” says Girard. “It dovetails with GROW’s founding principal— women’s and girls’ empowerment is a pillar of sustainable development.”

For more information about GROW, visit growmemory.org. ■



Amy Webb Girard, who is not pictured here, works to empower women through agriculture, including women-run duckweed ponds in Ethiopia and dairy cooperatives in Tanzania and Kenya.

A middle-aged man with short grey hair, wearing black-rimmed glasses and a light pink button-down shirt. He is smiling and has his arms crossed. He is wearing a dark watch on his left wrist. The background is a bright, out-of-focus indoor setting with colorful bokeh lights on the right side.

**Cancer
Epidemiologist**

Editor

**Department
Chair**

The man is ***non-stop***

Sitting in his well-ordered office, **Dr. Timothy L. Lash** comes across as contemplative and deliberate, measuring his words and expressions. He meticulously schedules his day.

The calm exterior, however, belies a tremendous amount of energy humming beneath the surface. Since joining the epidemiology department nearly six years ago as a professor, Lash has expanded a robust research portfolio in his field of cancer epidemiology, assumed various leadership roles in his department, and taken the helm of the Cancer Prevention and Control program, which coordinates and promotes all of the cancer prevention and control-related research activities at Winship Cancer Institute. In addition, he edits one of the field's leading journals, *EPIDEMIOLOGY*, and is editor and co-author of two textbooks. And in July, Lash took on another role— Rollins Professor and Chair of the Department of Epidemiology.

So when does he plan to sleep? “When I retire,” he says.

Lash succeeds Dr. Viola Vaccarino, who will stay on in the department as the Wilton Looney Professor of Cardiovascular Research. He was chosen to lead the department after a nationwide search, which speaks well of the depth of the department's bench. “We are fortunate to have Tim's expertise and leadership,” says Rollins Dean James Curran. “I feel confident in his ability to advance Rollins' research and education efforts and reputation on a global level.”

By **MARTHA MCKENZIE** • Photography by **STEPHEN NOWLAND**



Timothy L. Lash will continue his research, which focuses on identifying biomarkers that could be used to predict cancer recurrence. He is pictured here at Winship Cancer Institute, where he leads the Cancer Prevention and Control program.

PLANS FOR THE DEPARTMENT

Advancing the department is just what Lash plans to do. “I believe we are already in the top 10 of internationally ranked departments of epidemiology, and it’s very difficult to break into the top five,” says Lash. “But that is absolutely my vision.”

To do that, he is focusing on continuing to improve the department’s curriculum and collaboration. He has a jump on the former since he participated on the department’s curriculum committee, led by Roberd Bostick, professor of epidemiology, for several years. He has already helped innovate in areas, says Vaccarino, such as a closer coordination between epidemiology and biostatistics training. Though there are many parallels, the two subjects have been taught independently with too little communication or cross-fertilization. Lash and the curriculum committee pushed to better integrate the disciplines so students learn the basic concepts of each at the same time and see how they are related.

To further his work on the curriculum, Lash plans to talk with employers—state and local public health departments, the Centers for Disease Control and Prevention, businesses—to better understand what skills each sector values from MPH and doctoral graduates and then make sure the department is teaching those skills. He is also adding soft skills to the offerings, such as negotiating, influencing, compromising, and leading. Soft skills are now routinely taught in business, law, and even medical schools, but public health schools typically have not embraced the trend. “We want our graduates to come out of this school and be influential,” says Lash. “Having the knowledge and skills is critical, but if you can’t get the ideas across, it won’t get you over the line.”

On the research side, Lash would like to increase collaboration, within the department, within the school, and within the university. To help in that area, he plans to reorient the department’s internal communication to focus on what

researchers are planning to do versus what they have already done. “I’ve seen the usefulness of this mindset in my work with Winship,” says Lash. “One of my roles as a program leader there is to recognize when people could be working together.”

CANCER RECURRENCE RESEARCH

In his research, Lash has long focused on identifying molecular biomarkers that could be used to predict cancer recurrence. He and his colleagues have developed large biobanks of tumor tissues from cancer patients, and connected these to clinical outcomes including cancer recurrence.

Most recently, he has extended his interest to finding biomarkers to predict a late recurrence of cancer. In these studies, as in

his previous ones, Lash is working closely with colleagues in Denmark at Aarhus University, where he is an honorary professor in cancer epidemiology and where he worked for two years on the faculty.

“Something like 20 percent of breast cancer recurrences happen 10 years or more after the original diagnosis, yet it is an understudied area,” says Lash. “Other cancers, such as melanoma, prostate, and renal cell carcinoma, have a similar pattern of lifelong risk of recurrence. We would like to see if there are genetic or protein patterns that can be identified that would be predictive of this type of late recurrence.”

This latest study falls under an umbrella Lash created called ProBe CaRe—Predictors of Breast Cancer Recurrence—which brings together researchers from all over the world with similar interests into a loose consortium. The group meets every three years to discuss findings, form collaborations, and plan future areas of interest.

For example, scientists affiliated with ProBe CaRe have been thought leaders in demonstrating that statins, which are cardiovascular drugs, may reduce the risk of breast cancer recurrence. “People in our group have really moved this forward, and now we need a clinical trial, which we are trying to find a way to do,” says Lash. “Statins are very cheap and don’t need to be refrigerated, so they have the potential to be a huge benefit to women with breast cancer in under-resourced countries.”

Lash also has an interest in disparities in the quality of cancer care, especially age-related disparities in the quality of care. Older cancer patients who receive less than guideline care sometimes die of cancer that could have been successfully treated, which his research over the last decade has documented.

JOURNAL EDITOR

Lash edits EPIDEMIOLOGY, an official journal of the International Society for Environmental Epidemiology. The journal, which is published six times a year, gets around 1,000 submissions a year, and Lash is the first person to read each one. He accepts only about 20 percent, sending some of these to other editors and editing some himself. It’s a time-consuming endeavor, but one he values. “The journal has an influence on the way epidemiology is practiced, so I want to be a part of that,” he says.

Lash was instrumental in launching a sister journal, ENVIRONMENTAL EPIDEMIOLOGY. “We consistently receive more good environmental epidemiology papers than we can print, so I pushed the publisher to launch a second journal,” he says. “It’s now in its second year.”

PATH TO PUBLIC HEALTH

Lash was drawn to public health by his interest in epidemiology rather than the other way around. After getting a degree in molecular biology from Massachusetts Institute of Technology, he worked for an environmental health consulting company. While he was there he was introduced to epidemiology, and the more he learned about the discipline, the more he was intrigued.

“It appears quite easy, but it’s actually extremely difficult to design and analyze a high-quality study and make reasonable inferences from the results,” says Lash. “It’s like those puzzles that have only nine pieces that look so easy but are practically impossible to solve.”

He was still working full-time at the consulting company when he earned his MPH in environmental health and epidemiology and completed his coursework for his DSc in epidemiology from Boston University.

“I think we’ve done a lot since I’ve been chair, doubling the size of our department,” says Vaccarino. “But eight years is a long time, and I feel like it’s time for fresh ideas. I’m looking forward to seeing what comes next.” ■

5 THINGS TO KNOW ABOUT TIM LASH

1 | His partner, Dr. Maria Mirabelli, got her MPH at Rollins in environmental health in 1998. She is an environmental epidemiologist at the National Center for Environmental Health at the CDC working on air pollution and respiratory health. She is also an adjunct professor in environmental health.

2 | He plays bass guitar in a small rock band called Toasted Oak.

3 | He is a past president of the Society for Epidemiological Research.

4 | He is chair of the Cancer, Heart, Sleep Epidemiology, Panel B study section at NIH’s Center for Scientific Review.

5 | He was born and raised in Canton, Ohio and enjoys visiting his three sisters and their families in Northeast Ohio.



Connecting *with* *the* **community**

The Rollins-teer Day tradition continues

Community engagement starts on Day One at Rollins.

Each year, as part of the school's fall orientation, students, faculty, and staff fan out across the city, lending their time and their talents to help local organizations that focus on poverty, homelessness, disease prevention, and environmental health.

Since Rollins-teer Day started in 2007, more than 5,000 Rollins students have worked with more than 60 area organizations, including the Atlanta Hospitality House, Community Farmer's Market and Learning Garden, Friends of Disabled Adults and Children, International Women's House, Jerusalem House, MedShare International, Open Hand, and the Park Pride Nature Preserve. Students provide physical labor in improving parks, grounds, and facilities, packaging and distributing food, providing assistance to refugee families and victims of domestic violence, and supporting those in drug rehabilitation and families affected by AIDS and chronic medical conditions. ■



The photos on these pages represent more than a decade of Rollins' service in the community. Cutlines for these photos—and more photos—are available at emry.link/Rollinsteersideshow.



New scholarships help recruit top students

Scholarship funds allow Rollins to compete with other leading schools of public health in attracting the brightest and most committed students. Rollins is grateful to two generous couples who have established new endowments to support outstanding students.

Jeffrey P. Alperin and Bernardine Brandis have established the Jeff Alperin and Bernardine Brandis Scholarship Endowment in honor of Jeff's uncle, M.B. ("Bud") Seretean and Jeff's mother, Phyllis Alperin, Bud Seretean's sister. Seretean was an early supporter of the Rollins School of Public Health and a founding member of the Rollins Dean's Council. He endowed the M.B. Seretean Scholarship which is awarded annually to a student in the Executive MPH program. Jeff and Bernardine were introduced to the school at the dedication of the M.B. Seretean Center for Health Promotion in 1998 and reconnected with Emory when their daughter Hayley Alperin became an Emory student. Hayley graduated from Emory College in May.

"Hayley had a wonderful experience at Emory," says Alperin. "She was fully stimulated by her class work, made great friends, and engaged in many campus activities. She leaves with an outstanding education and lifelong memories!"

Rajan Sharad Patel, PhD, 06G, and Kinnery Naik Patel, 06MPH, have established the Patel Naik Family Scholarship in Biostatistics to support outstanding PhD students or second-year MPH students in



JEFFREY ALPERIN AND BERNARDINE BRANDIS
WITH THEIR DAUGHTER HAYLEY.



KINNERY NAIK PATEL AND RAJAN
SHARAD PATEL

biostatistics, with a preference for those interested in pursuing a PhD. The gift was made in honor of their parents.

"Rollins was not only the place Kinnery and I met, but it was the place that helped each of us get started on the career path that we were passionate about," says Rajan. "Many of the people we met during our years there are still close to us, from Dr. Mike Kutner, Dr. Manatunga, and Dr. Lance Waller through former faculty like Dr. DuBois Bowman. This gift is a small token of appreciation for the foundation Rollins provided us and the people who educated us. Hopefully it will help pass on a similar experience to a new generation of students." ■

Due to our alumni's privacy, class notes have been removed.

Due to our alumni's privacy, class notes have been removed.

In Memoriam



DR. JEROME BERMAN 45C 48M 89MPH

died May 31, 2018, at age 93. Born in Atlanta, he served for two years in the U.S. Army Medical Corps during the Korean War and then began a solo pediatric practice in Sandy Springs. He served on the executive committee of the state chapter of the American Academy of Pediatrics. He also served as chairman of the pediatrics section of Northside Hospital and conducted sick and well-baby clinics at Fulton County health centers.

After 33 years, he ended his pediatric practice when he lost his vision. Undeterred by his new condition, Berman went on to earn his MPH at Rollins, the first blind student to achieve that degree. He then helped others in a number of different ways for the rest of his life, including co-founding the Babies Early Growth Intervention Network program, which provides an early intervention program for visually impaired pre-schoolers in the Southeastern United States. He is survived by three daughters, a son-in-law, and two grandchildren. He is predeceased by his wife, Betty Green Berman.

CAROLYN ALVINO KHOURY 09MPH

of Crestwood, N.Y., died on March 9, 2018, at age 35. She was the wife of Nicholas Miller Khoury and mother of their late son, Nicholas Steven Khoury, or "Little Nick." She grew up in Crestwood and met most of her closest friends during her school years at the Ursuline School, Fordham University, and Emory. She dedicated her life to social work, was a devout Catholic, and loved music. Survivors besides her husband include her parents, three siblings, her in-laws, a niece, and a nephew.

Hurricane relief in Puerto Rico

On September 20, 2017, **YONAIRA M. RIVERA 10MPH**, watched helplessly from Baltimore as Hurricane Maria made landfall in Puerto Rico. For the first two days after the storm, Rivera was in a perpetual state of anxiety as she monitored social media for updates.

This wasn't just a crisis happening to strangers; it was personal. Both Rivera and her husband, José R. Rodríguez Castillo, were born in Puerto Rico. They grew up there. Their families on both sides still live there. It's home.

By day three, Rivera was ready to get to work.

Pulling from her public health background and the skills she learned while earning her MPH at Rollins, Rivera, her husband, and others in Baltimore with Puerto Rican ties gathered together and started making plans. On October 10, Rivera and Castillo were on the ground in Puerto Rico hand delivering 500 pounds of resources to communities in need. By December of that year, they founded Puerto Rico Stands.

Every week since then, Puerto Rico Stands has met at least once a week at Rivera's dining room table to strategize and coordinate the group's relief efforts. So far, their tiny grass-roots group has made an immense impact on an area that is still largely in a state of devastation. They raised \$2,755 and more than 5,000 pounds of donations which the team hand-delivered to Naranjito, Carolina, Barranquitas, and Coamo. They have hosted multiple seminars, forums, and panels in the United States and coordinated donations and supply drives between Johns Hopkins (and others) and Puerto Rican hospitals. They even hosted a holiday celebration in Sector Maná last January, during which donations were distributed and mental health workshops and public health sessions were offered.

The group selected this small community—Sector Maná in the mountain municipality of Naranjito—to focus its capacity-building efforts. “Our goal is to help with the long-term recovery of the island,” says Rivera. “So, the best way we thought we could do that was by focusing our efforts on a specific community hit directly by the storm.”

They are working directly with community leaders to raise money for a solar-powered water system and meet

their community needs. The organization was just awarded \$10,000 through the Bloomberg American Health Initiative to do a community needs assessment and capacity building workshops in partnership with Sector Maná's community leaders. “We want to leverage our resources to help them build capacity efforts and to become self-sustaining and resilient should another disaster like this hit them down the road,” says Rivera.

This wasn't Rivera's first brush with disaster relief. During spring break her senior year at Rutgers, Rivera headed to New Orleans to assist with Hurricane Katrina relief in the Lower Ninth Ward. That experience piqued her interest in community health and communication, which ultimately led her to Rollins.

“What I particularly love about the BSHE program at Rollins is that they prepare their students to be able to work in any area of public health,” she says. “You learn how to work with a team on creating quality research protocols, analyzing data, working with curricula and creating surveys. You get these skill sets that are transferrable between projects and topics.”

In addition to her efforts with Puerto Rico Stands, Rivera is using those skills as she works on earning her PhD in the Department of Health, Behavior and Society at Johns Hopkins. Ultimately, Rivera hopes to become a professor, so she can continue her passions for innovative research and for mentoring the next generation of public health leaders.

Riviera is also taking steps to turn Puerto Rico Stands into a nonprofit, with hope that any successes in the work with Sector Maná can be used in other communities in the future.

“It's in the Puerto Rican spirit to give back to your community, your island, your family, as well as people you don't know,” says Rivera. “It's rewarding to know our skill sets can translate to things that aren't just about research but also about seeking health equity and just helping people who really need it.”—*Kelly Jordan*



Are you a Rollins graduate doing interesting work? Let us know with an email to the editor: Martha.mckenzie@emory.edu

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Four former CDC directors sat on a panel at a one-day Rollins / CDC conference titled “100 years of influenza pandemics and practice: 1918 – 2018.” The former directors discussed public affairs and policy making during pandemics and high-profile outbreaks. Pictured l – r: Dr. Richard Besser, acting CDC director 2009; Dr. William Foege, CDC director 1977-1983; Dr. Jeffrey Koplan, CDC director 1998 – 2002; and Dr. Julie Gerberding, CDC director 2002-2009. For more on the conference and pandemic preparedness efforts, see page 12.

