

ROLLINS

SPRING 2019

EMORY | Public Health



Going glocal

Making an impact here and abroad

Palla Performance

Renee De Shay 19MPH was on a Global Field Experience trip in India studying sanitation interventions when she took this photo. She writes: "Palla is a traditional form of theater from the state of Odisha, on India's east coast. Though it was falling out of popularity with the younger generation, the palla has experienced a sort of revival, including being used to disseminate health messages in rural villages. This palla skit portrays Laxmi, the goddess of wealth and prosperity, visiting Sriya Chandaluni, a scavenger. Despite Sriya Chandaluni's low status, Laxmi visits her because of how clean and beautiful her house is. This palla performance was part of a multi-level behavior change intervention to increase latrine use in the Puri district."





► Going Glocal 15

Rollins faculty, students, and alumni tackle pressing public health problems in our backyard and across the globe.



MATERNAL & CHILD HEALTH 16



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MENTAL HEALTH 21



WASH 24

COVER STORY



Public health issues do not respect boundaries. Problems in maternal and child health, diabetes, HIV/AIDS, mental health, WASH, and cancer can be found in Atlanta as readily as they can around the world.

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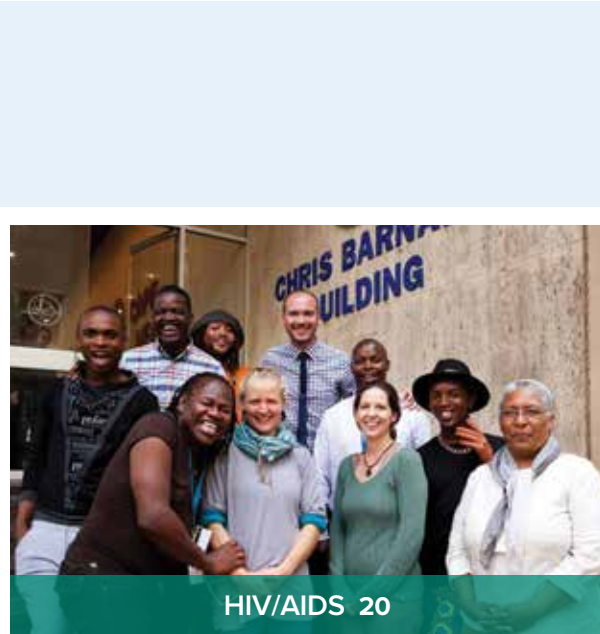
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CAREY MELMED 07MPH 07MSN

Melmed has used the skills she acquired with her MPH to help the Makah and Jamestown S'Klallam tribes in Washington state improve health, increase self-sufficiency, and bolster knowledge of traditional customs and practices.



EMORY

ROLLINS
SCHOOL OF
PUBLIC
HEALTH



Unwavering support

Here at the Rollins School of Public Health, we have much to celebrate. I am pleased to announce the extraordinary \$65 million gift from the O. Wayne Rollins Foundation, which will enable us to build the R. Randall Rollins Building (see the article on the adjoining page). We are deeply grateful to the Rollins family for their continued contributions. Their unwavering belief in our school has propelled Rollins to international prominence.

Emory President and Rollins faculty member, **Dr. Claire E. Sterk**, has been elected to the 2018 class of the National Academy of Medicine, one of the highest honors bestowed upon members of the academy. Longtime friend and philanthropist, **Richard Hubert**, has been awarded the university's highest alumni honor, the Emory Medal (see articles on the following pages). Their support of our school has been instrumental to our success.

Elsewhere in this issue, we highlight the work of Rollins faculty, students, and alumni at home and around the globe in the areas of maternal and child health, HIV/AIDS, cancer, mental health, diabetes, and WASH (water, sanitation and hygiene). Their efforts exemplify our mission of promoting health and preventing disease—locally, nationally, and globally.

I am writing this on the day we announced that the latest *U. S. News & World Report* ranked the Rollins School of Public Health No. 5 among the nation's 177 accredited schools and programs of public health. In other accolades, Rollins ranks sixth nationwide in National Institutes of Health research funding, reflecting the commitment and excellence of our faculty.

Each of you has played a role in these successes. Your dedication to public health and your investment in our mission have made all the difference, and I am deeply grateful.

James W. Curran, MD, MPH
James W. Curran Dean of Public Health

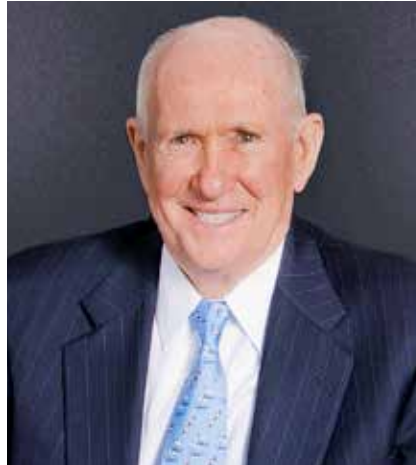
Rollins Foundation pledges a gift toward a third building

The O. Wayne Rollins Foundation pledged \$65 million toward construction of a third Rollins building on the Emory campus.

To be named the R. Randall Rollins Building, the new 11-story facility will be adjacent to the existing Rollins buildings. Groundbreaking is tentatively planned for 2020, with completion slated for 2022.

“The Rollins family continues to demonstrate an extraordinary commitment to the health of global communities,” says Claire E. Sterk, president of Emory University. “This new investment is a gift for the future that will have worldwide reach. It will propel the faculty, staff, and students of Rollins to new levels of leadership and service for the greater good. We are truly grateful for the Rollins family’s partnership with Emory.”

The O. Wayne Rollins Foundation’s long history of support of Rollins includes the construction of the Grace Crum Rollins and the Claudia Nance Rollins buildings, opened in 1994 and 2010 respectively. The buildings house six academic departments, more than 20 centers, and 200 faculty members. The new building



R. Randall Rollins

will increase the number of classrooms and faculty offices and will include state-of-the-art conferencing and distance-learning space. R. Randall Rollins is a trustee of The O. Wayne Rollins Foundation and chairman of the board of Rollins, Inc.; RPC, Inc.; and Marine Products Corporation. He is the son of O. Wayne and Grace Crum Rollins and grandson of Claudia Nance Rollins.

“The facilities we have built thanks to the Rollins family are widely considered to be among the very best at any school of public health in the world and have proven critical in our ability to attract world-renowned scholars, students, and research to our campus,” says Dean James Curran. “This new commitment will enable us to continue that path forward in order to fulfill the university’s mission of serving humanity through research and education.”

In addition to the school, the Rollins Foundation actively supports programs in Emory School of Medicine and Candler School of Theology. The foundation was instrumental in construction of the six-story O. Wayne Rollins Research Center and Candler’s Rita Ann Rollins buildings. ■

Hubert awarded Emory Medal

Richard Hubert 60L was awarded the 2019 Emory Medal, the highest of all alumni awards at the university. Emory Medal recipients are recognized for service to Emory, the Emory Alumni Association or a constituent alumni association; service to the community; as well as achievement in business, the arts, the profession, government, or education.

Hubert has long been actively involved in community service, serving as the president of the Druid Hills Civic Association for two terms and of the Lawyers Club of Atlanta. He was former treasurer and now emeritus board member with the Global Health Action Committee, and he earned a spot on Best

Lawyers in America lists in Eminent Domain and Condemnation Law practice areas.

Hubert’s philanthropic support of Emory has been vast. As executor and trustee of the Hubert Foundation, he established the Hubert Department of Global Health, the first named global health department among schools of public health in the U.S. The foundation has created three endowed professorships, endowment funds, and fellowships as well. The O.C. Hubert Fellowships in International Health have enabled more than 700 public health students to engage in research and fieldwork throughout the world, participating in such diverse projects as refugee health surveillance in



Richard Hubert accepted the Emory Medal at a ceremony at The Carter Center.

Belgium, assessing disaster preparedness in the U.S. Virgin Islands, and evaluating interventions for domestic partner abuse in Nepal. ■



Sterk elected to National Academy of Medicine

The National Academy of Medicine (NAM) has elected **Dr. Claire E. Sterk** to its 2018 class of leading health scientists and international members. Sterk is the 20th president of Emory University and the Charles Howard Candler Professor of Public Health.

A pioneering public health scholar, Sterk has served for the past two decades as a social scientist, academic leader, and administrator at Emory. Prior to becoming president on September 1, 2016, she served as the university's provost and executive vice president for academic affairs. At Rollins, she served as associate dean for research, chair of the Department of Behavioral Sciences and Health Education, and acting and associate director of the Women's and Children's Center.

Sterk's scientific leadership includes chairing a section of the American Sociological Association and serving as a member of study sections, task forces, and conference committees for the National Institutes of Health, the Centers for Disease Control and Prevention, and the World Health Organization. She has been a Rosalynn Carter Fellow in Public Policy and a Fellow in the Society for Applied Anthropology.

Both in her role as president and in her previous role as provost, Sterk has emphasized the choices and responsibilities of research universities and their real-world impact. She is leading efforts at Emory to broaden research across the university and its nine colleges and graduate and professional schools, including enriched opportunities for student research. Emory's new strategic framework includes a heightened focus on serving both Atlanta and global communities through enhanced research partnerships.

Membership in the NAM is considered one of the highest honors in health and medicine. ■

Research links PBB exposure to DNA modifications

Dr. Michele Marcus, professor of epidemiology and environmental health, has been studying the effects of polybrominated biphenyl (PBB) for 25 years. Her most recent findings show that PBB exposure is associated with epigenetic markers, which affect the way genes are expressed.

This research is based on the Michigan PBB Registry, which was established in the late 1970s to track the health of thousands of residents after PBB was accidentally mixed into livestock feed and sold to farmers throughout the state. By the time the mistake was discovered a year later, up to 90 percent of Michiganders had been exposed to PBB by eating contaminated meat, milk, and eggs.

Since she began studying this group, Marcus and her team have found many adverse health outcomes, including an increased risk of breast cancer among women with high PBB exposure.

For the current study, Marcus and her team tested blood samples of 658 PBB Registry study participants. They found that people with higher levels of exposure to PBB have common patterns of DNA methylation, which can change the way genes are expressed in ways that are similar to those caused by hormone exposure.

This is the first study to identify epigenetic differences that associate with exposure to PBB. It goes beyond characterizing health conditions in those exposed to PBB to identify molecular differences in their DNA.

"That means that we may be able to connect the biological dots between PBB exposure and hormone-related health effects," says Marcus. "Our findings suggest that areas other than hormone functioning may be impacted by PBB exposure as well."

The Emory research findings can help affected individuals and their doctors know more about what PBB does to the body while assisting in finding the best types of health care for their conditions. ■





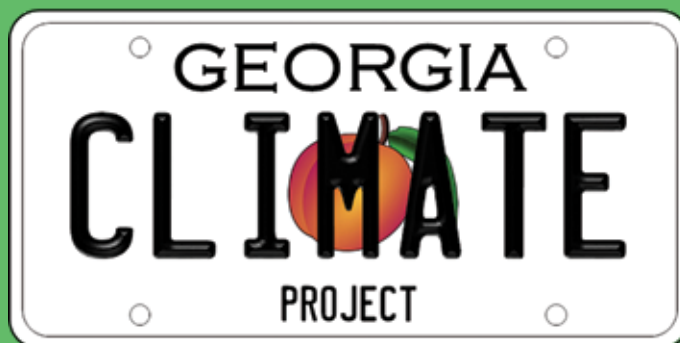
Members of the newly formed Rollins student organization, **WARP (WASH Action, Research, and Practice)**, celebrated Global Hand-Washing Day with a display where passersby could test their hand-washing prowess. Participants rubbed their hands with a lotion-like liquid called Glo Germ, went

inside and washed their hands, and then came back to put their hands into a box where a black light lit up all the spots where the Glo Germ remained. Pictured above, Rollins students and WARP officers **Meredith Lockwood, Lisa Emerson, and Olivia Zarella** (all on left) help hand-washing participants. ■

More funding for Georgia Climate Project

Co-founded by Rollins instructor **Daniel Rochberg**, the Georgia Climate Project recently received a \$650,000 grant from the Ray C. Anderson Foundation. The grant will provide support to build a network of experts who can improve understanding of climate impacts and solutions and better position Georgia to respond to a changing climate.

“Our universities have tremendous expertise to examine and explore solutions for climate change in the Georgia,” says **Dr. Dwight A. McBride**, provost and executive vice president for academic affairs at Emory University. “This grant offers Georgia institutions an opportunity to leverage our shared research expertise to address one of this century’s defining challenges.”



Working with partners in the public, private, and nonprofit sectors, the Georgia Climate Project recently released a Georgia Climate Research Roadmap. Planned upcoming activities include a Georgia Climate Information Portal, a collection of Georgia climate stories, expanded support for student-driven climate solutions, and a Georgia Climate Conference November 7-8, 2019. ■

An app to diagnose anemia

Diagnosing anemia typically involves drawing blood for testing in a lab—an unpleasant and potentially costly prospect for many. **Dr. Melissa Young**, with a colleague from Emory School of Medicine, Dr. William Lam, is testing a new smartphone app created by Emory and Georgia Tech that can diagnose anemia from photos of a patient's nail bed. This project is funded by the Emory Global Health Institute. Young, assistant professor of global health, is focusing on the large refugee community in DeKalb County. That's because anemia affects 40 percent of all refugees. If not properly diagnosed and treated, anemia may impair cognitive, behavioral,

and psychomotor development in children; increase risk of preterm birth, low birth weight, and neonatal/maternal mortality in pregnant women; and decrease work capacity and earning potential in adults. However, many refugees don't get screened, often due to the cost.

Young will evaluate the app against the gold standard of blood testing as well as assess its usability in the hands of clinicians and patients at the DeKalb County Board of Health. This project represents a new research collaboration between Emory, Georgia Tech, CDC, and the DeKalb Board of Health for future global health research and implementation. ■



LGBTQ Health Conference coming to Emory

Emory will host the 6th National LGBTQ Health Conference on May 31 - June 1 at the Emory Conference Center. The

conference first convened in 2012 at Northwestern University to address the substantial health inequities experienced by lesbian, gay, bisexual, transgender, and queer (LGBTQ) persons.

This is the first year the conference will venture outside of Chicago. Given that the southern U.S. is disproportionately impacted by HIV, STDs, and adolescent health issues including among LGBTQ persons, Atlanta was chosen as the new conference site. As a leader in health care services and public health research, Emory was a natural choice for the host institution. **Dr. Jodie Guest**, professor at Rollins and the school of

medicine, is the national conference chair.

The conference brings together scientists, public health professionals, health care providers, and advocates with the aim of bridging science and practice to eliminate LGBTQ health disparities. Presentations will cluster around the health disparities of HIV and other sexually transmitted infections, adolescent health, substance abuse, suicide and mental health, and violence and trauma.

The day before the conference—May 30—the National Institutes of Health will hold its second Sexual & Gender Minority Research Workshop. Attendance is free but spots are limited.

Visit emory.link/LGBTQConf for more information or to register for the conference and/or the NIH pre-conference. ■



MEDIA SAVVY

“All disease transmission is local, JUST LIKE POLITICS.”

DR. SAAD OMER,
WILLIAM H. FOEGE CHAIR IN GLOBAL HEALTH, TOLD *PBS NEWSHOUR*.

“THERE’S KIND OF A RACE GOING ON BETWEEN PROVIDERS AND INSURERS IN TERMS OF WHO CAN GAIN BARGAINING LEVERAGE.”

DR. DAVID HOWARD,
PROFESSOR OF HEALTH POLICY AND MANAGEMENT, TOLD *THE ATLANTA JOURNAL-CONSTITUTION*

“‘LEGIONNAIRES’ DISEASE IS BECOMING OF MORE INTEREST BECAUSE IT’S REALLY SORT OF A NEGLECTED INFECTIOUS DISEASE.”

DR. ALLISON CHAMBERLAIN,
ASSISTANT PROFESSOR OF EPIDEMIOLOGY, TOLD *GEORGIA HEALTH NEWS*.



Why did Rollins researchers cross the road?

To study chickens, of course. Drs. Karen Levy and Matthew Freeman are examining the link between poultry production and enteric diseases in children under age 5 in low-income countries.

The study builds off recent studies that showed improved water, sanitation, and hygiene in low-resource settings did not necessarily translate into better health for children. Animal feces is a logical culprit. Levy and Freeman, both associate professors in environmental health, reviewed literature to find out which pathogens carried by which animals caused the most harm to children. Chickens, carrying *Campylobacter* and *Salmonella*, came out on top.

At the same time, chicken farming is being widely promoted globally as a way to improve nutrition and income. “Chickens are easy to raise, have a high protein content, and have good economic development potential,” says Levy.

So, with funding from the Bill & Melinda Gates Foundation, Levy and Freeman are looking at chicken production in Mozambique, one of the many countries where poultry agriculture is ubiquitous. They will look at the entire poultry production system—from eggs to carcass—to assess high-risk points.

“For example, we think the marketplace is a place that’s been largely ignored, and it may be a hotspot,” says Levy. That’s because these markets have live or freshly slaughtered chickens, and they typically use the same water to rinse the chickens all day long. There are a lot of opportunities for people to come in contact with chicken waste.

“Together, *Campylobacter* and *Salmonella* are estimated to cause more than 100,000 deaths annually and are responsible for about 14 percent of deaths due to diarrhea worldwide, most of which occur in children,” says Levy. “Finding new ways to limit these infections by improving food safety could help make a dent to improve child health globally.” ■



Rollins alumna named president-elect of APHA

Lisa M. Carlson 93MPH was named president-elect of the American Public Health Association (APHA). She will assume the presidency at the close of the association's 2019 annual meeting.

Carlson is executive administrator of research programs and operations at Emory School of Medicine as well as an affiliated instructor in the Executive MPH program. She has spent more than 25 years working in public health and medicine and has served in a leadership capacity at Emory for more than 16 years, including as a director with the Child Health and Mortality Prevention Surveillance (CHAMPS) network. She was a fellow of the 2013 class of the Emory Woodruff Leadership Academy, served three terms on the Emory Alumni Board, and is a past president of the Rollins Alumni Board.

Throughout the course of her career, Carlson has been actively involved with APHA and has taken on a number of public health-related leadership roles. More than 25 years ago, she joined Georgia Public Health Association (the Georgia affiliate of APHA) and was elected as that organization's youngest-ever president. In the past, she has also served as chair of APHA's executive board.

As president-elect, Carlson hopes to build both internal and external relationships, expand APHA's influence, strengthen the role of affiliates, and strengthen APHA's impact on public health. "I am proud to represent Rollins and the Emory School of Medicine as I undertake this amazing honor," says Carlson. "Over the 25 years I've been active in APHA and GPHA, I've appreciated our diversity, richness, and—yes—complexity. We are a big tent, with a lot of voices. Yet we maintain a strong, shared vision of the power of public health. We must strengthen our collective voice. Our sound science base gives APHA its credibility as we advocate to policy makers and to (and for) the public." ■

Lifetime achievement award for Curran



Dean James W. Curran received a lifetime achievement award for his work in HIV/AIDS from the Fulton County Board of Health. The award was presented during #StopHIVATL's World AIDS Day breakfast at The Carter Center on November 30.

"I feel fortunate to receive a lifetime achievement award while I'm still alive," said Curran during his acceptance speech. He ended his talk echoing Winston Churchill, challenging the crowd to, "Never give up, never give up, never, never, never, never give up in the fight against AIDS."

Curran's involvement with AIDS work can be traced back to 1981 when he was asked by the CDC to lead a task force that would investigate what was behind the mysterious new disease now recognized as AIDS. He went on to lead the agency's HIV/AIDS Division, and while at the CDC, he attained the rank of assistant surgeon general. ■

40 under 40

Dr. Carla J. Berg, associate professor of behavioral sciences and health education and associate director for population sciences at Winship Cancer Institute, was selected for the *Atlanta Business Chronicle's* 2018 class of 40 Under 40. The award honors Atlanta



leaders across all industries who have made significant career achievements and demonstrated social and community responsibility.

Berg's research primarily focuses on factors related to substance use, particularly tobacco and marijuana. She has also conducted extensive research regarding health behaviors and quality of life among cancer survivors. ■

Young teens are not getting the HPV vaccine

Only about 16 percent of U.S. adolescents have been fully vaccinated against human papillomavirus (HPV) by the time they turn 13, despite national recommendations that call for vaccination at 11 to 12 years of age.

“Providers need to be aware that, while we have seen gains in HPV vaccination coverage, we are still falling behind at the younger ages,” says **Dr. Robert A. Bednarczyk**, assistant professor of global health and lead author of the study. “In general, we need to do a better job of recommending the HPV vaccine at routine adolescent and well-child visits, with a particular focus on patients 11 to 12 years of age.”

Nearly 80 million people in the U.S. are currently infected with some type of HPV, a common virus transmitted through sexual contact. Every year, HPV causes approximately 34,000 cancers, including cervical, vaginal, and vulvar cancer in women; penile cancer in men; and mouth, throat, and anal cancer in women and men. The most recent version of the vaccine protects against seven of the most common types of HPV that cause cancer.

For the study, researchers analyzed 2016 data from a nationwide survey of parents conducted annually by the CDC that includes vaccination information verified by providers. Overall, an estimated 43 percent of 13-to-17-year-olds were fully vaccinated against HPV, but only about 16 percent of adolescents had received all recommended HPV vaccine doses by their 13th birthday.

Timely HPV vaccination has several advantages. The immune response to the vaccine is stronger at a younger age, providing better protection against HPV infections and the cancers they can cause later in life. If an adolescent is vaccinated before age 15, only two doses of the HPV vaccine are required instead of the three doses that are



recommended for vaccination after this age. In addition, the HPV vaccine is one of three vaccines recommended for 11- to 12-year-olds that can be given at the same time. (The tetanus, diphtheria, and acellular pertussis [Tdap] vaccine and the meningococcal conjugate vaccine are the other recommended immunizations at these ages.)

The new analysis also found that adolescents with more than one health care provider were not as likely to be up to date on their HPV vaccination by age 13 or 15. These results highlight the need for good record keeping, effective use of state immunization information systems, and increased provider awareness to make sure these patients are not overlooked when considering vaccination opportunities, Bednarczyk says. ■

Despite FDA regulation, corn masa flour is not being fortified

Rollins researchers discovered that the U.S. Food and Drug Administration's 2016 regulation permitting folic acid fortification of corn masa flour has not resulted in addition of folic acid to these products. Researchers at Emory's Center for Spina Bifida Prevention, directed by **Dr. Godfrey P. Oakley**, evaluated folic acid content in 41 corn masa flour and tortilla products available in 11 northeast Atlanta groceries and convenience stores. Their samples, when tested in a lab, showed that all of the soft corn tortillas and most of the corn masa flour products were not fortified with folic acid.



Adding folic acid to flour has dramatically reduced the number of birth defects of the brain and spine, such as spina bifida and anencephaly, globally. Given that the prevalence of these disorders is 21 percent higher among Hispanics than non-Hispanics, the researchers emphasize the necessity of fortifying corn masa flour and products. They also recommended for all women of reproductive age to consume a daily vitamin pill with 400 micrograms of folic acid to prevent birth defects and folate-deficiency anemia. ■

► **EMORY CARES** | Emory Cares International Service Day celebrated its 15th anniversary on November 10, 2018. Emory alumni organized 20 projects in Atlanta, more than 40 in other cities across the U.S, and nine internationally. Pictured below, Rollins alumni join forces with counterparts from the college and the schools of nursing and law to volunteer with Books for Africa. Back row, l-r: Michelle Schmitz 15MPH, Diane Harris 10MPH, Anne Benford 95N, Glenn Chitlik, Jo Chitlik 12L, Peter Yang 17MPH 12C, Lucy Zhang 13C, and Ada Ogee 14MPH. Front row, l-r: Maya Kahn (daughter of Diane Harris), Naomi David 15MPH, Julia Chen 17MPH, and Melia Haile 15MPH, 12C. ■



New mental health center

Rollins has established a Southeast Mental Health Technology Transfer Center. The 21st Century Cures Act, passed by Congress in 2016, established a national network of 10 regional technical assistance and training centers to promote uptake of evidence-based practices for people with serious mental illnesses. The Rollins center will be the only one of these to be based in a school of public health. It will build upon public health training available through the Region IV Public Health Training Center (also headquartered at Rollins) and partner with a variety of area mental health organizations.

“Establishment of this center is going to synergize

with the various research projects Rollins is already doing and give us an opportunity to make a greater impact throughout the Southeast,” says **Dr. Benjamin Druss**, Rosalynn Carter Chair in Mental Health. “It’s also going to bring new opportunities for faculty and students to think about the space where implementation meets implementation science.”

In addition to the research opportunities afforded to Rollins students through the center, they can specialize in mental health with the Certificate in Mental Health program. Students can further build upon their interest in this field through the student organization, Emory Mental Health Alliance, which gives members the opportunity to network with faculty, alumni, and researchers working in public mental health. ■

Public health solutions for declining life expectancy

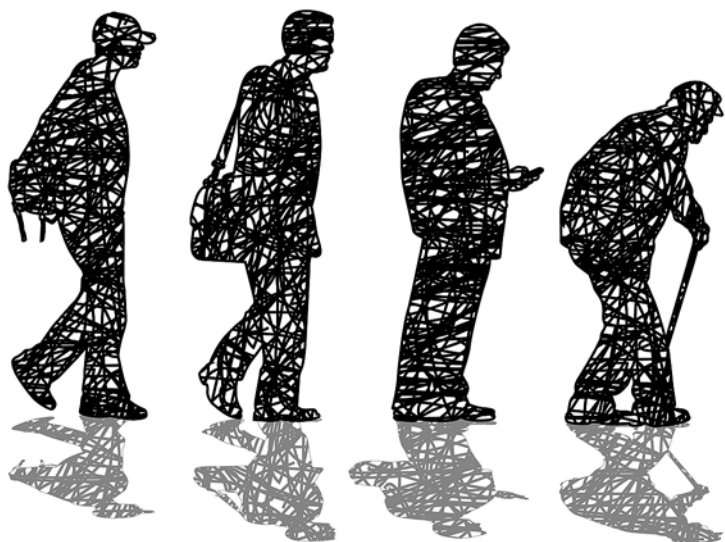
Since 2015, average life expectancy in the U.S. has gradually declined among all racial and ethnic groups. Causes include substance abuse, chronic diseases, mental health factors, metabolic diseases, and various cancers. In a recent opinion piece published in the February 12 online edition of *Annals of Internal Medicine*, Rollins researchers recommended possible solutions to this growing health issue.

“Our recommendation is that we take a more integrated and more holistic approach to research whereby we do not study biology in a vacuum, but in the context of socioeconomic and political factors,” says **Dr. K.M. Venkat Narayan**, co-author and the Ruth and O.C. Hubert Chair in Global Health.

Life expectancy in the U.S. ranks lowest among other high-income countries of the Organisation for Economic Co-operation and Development (OECD). OECD includes 36 of the world’s most advanced and emerging countries. The U.S. also averages 2.5 times the average health spending of OECD countries and spends nearly \$171.6 billion annually on medical and health research.

“The difficult part is that we are not dealing with a single factor,” says **Dean James W. Curran**. “We have to understand how all of these additional important factors—socio-economic and political—interact with biology and access to care.”

Authors call for a realignment of the nation’s research investments toward transdisciplinary science in order to better identify actionable solutions to improve population health. ■



At the tipping point

Researchers at the Rollins Global Research for Women (GROW) initiative have entered into a four-year partnership with CARE’s Tipping Point Project, aimed at improving the lives of adolescent girls. Researchers will evaluate the CARE project, which uses a social norms approach in Nepal and Bangladesh to empower adolescent girls and their communities to delay marriage and promote girls’ rights.

“Child marriage has harmful effects on women throughout their lives, in critical areas such as employment and economic agency, the risk of violence in marriage, and long-term health,” says **Dr. Kathryn Yount**, the Asa Griggs Candler Chair of Global Health and co-principal investigator of the evaluation in Nepal. “Intervening in adolescence hopefully interrupts a cascade of adverse outcomes for girls.”

The CARE Tipping Point Project is innovative and comprehensive, so findings from the evaluation will advance knowledge about how adolescent, family and community-oriented programming can improve the life trajectories of girls.

“Our team at Rollins has a critical role to play in partnerships with implementing agencies like CARE,” says Yount. “We provide complementary expertise that can strengthen the rigor and visibility of impact evaluations of important programs, like CARE’s Tipping Point. We are excited to work with CARE and for this evaluation to be the start of a longer-term partnership.” ■



Studying vaccine VIPs

Most of the unimmunized children in the world live in Southeast Asia and Africa. Within these regions, however, a few countries—including Zambia, Nepal, Senegal, and India—have been able to achieve high and sustained vaccination rates, some even comparable to those in the U.S. yet with much fewer resources.

Drs. Matthew Freeman and Robert Bednarczyk are leading a team of interdisciplinary scientists from Emory and Georgia Tech to find out why and how these countries have been so successful. “We know the factors that are essential to a strong vaccine program, such as a functional supply chain, a strong workforce, low vaccine hesitancy, and robust monitoring,” says Freeman, an associate professor of environmental health. “We want to go beyond that to understand how and why particular components function well in these countries.”

Hence the multidisciplinary approach. Public health researchers will explore issues of vaccine demand and policy enforcement. Political scientists will identify incentives for bureaucrats and elected officials in each setting that led to prioritization of vaccines. Investigators from the business school and Georgia Tech will assess the use of technology and the role of multilateral networks to enable success. The team will also explore how the vaccine system fits within the country’s health system.

“Our goal is to provide actionable information to the Bill & Melinda Gates Foundation and Gavi, the Vaccine Alliance,” says Freeman. “Our findings will enable stakeholders to determine areas for investment and test new interventions that could catalyze changes in countries with lower immunization rates.” ■

The measure of a child

A low-cost, portable, 3D scanner may reliably determine body measurements of young children within one millimeter of gold-standard manual measurements, according to a recent Rollins study. Anthropometry, or the measurements of young children, is used to estimate the prevalence of malnutrition in populations. That information, in turn, is used to design and evaluate preventive programs for needy populations. Anthropometry is also useful clinically to diagnose and treat malnutrition.

Getting reliable measurements, however, can be challenging. Someone, usually in a household or clinic, must manually measure the length, height, and head and arm circumference of an often squirming, uncooperative child.

“The standard, manual process for measuring children requires considerable training in order to obtain reliable estimates of child malnutrition,” explains **Dr. Reynaldo Martorell**, the Robert W. Woodruff Professor of International Nutrition, who led the study. As a result, the measurements are often inaccurate.

Martorell and his team tested a lightweight, hand-held 3D scanner against the traditional manual method of measurement on 474 children aged five and younger in Atlanta. Although the researchers noted that software modifications are needed to improve the accuracy of the 3D imaging system they tested, they found great promise in the benefits of the device.

“Our research suggests that the lightweight, hand-held imaging technology has the potential to replace traditional methods and improve the quality of nutritional indicators around the world,” says Martorell.

The study was funded by the Bill & Melinda Gates Foundation and conducted by researchers at Rollins, the CDC, and Body Surface Translations. ■



Going glocal

Making an impact globally and locally

Whether it's investigating why black women are more likely to die of breast cancer than white women in Atlanta or consulting with a child psychiatry program in India, studying water quality in irrigation ponds in south Georgia or identifying social factors of child mortality in Sierra Leone, Rollins researchers are searching for answers to pressing public health issues both at home in Atlanta and across the globe.

There is a growing acceptance that global is local and local is global—each sector can learn from the other. Specifics may vary widely, but many public health problems share common themes, particularly as they focus on vulnerable populations whether they reside within Atlanta's I-285 loop or below the Sahara Desert.

"We are committed to improving health globally and locally," says Dean James Curran. "Our faculty and students work collaboratively with partners here and abroad to address issues surrounding HIV, sanitation, mental health, cancer, and more."

Following is a look at some of the work being done by Rollins researchers here and around the world.

By MARTHA MCKENZIE • Illustrations by MIKE AUSTIN

► Maternal & Child Health

{ LOCAL } STRESS EN LA CIUDAD: ASSESSING MATERNAL OUTCOMES IN THE LATINO COMMUNITY

Pregnancy can be a stressful time for any woman. Kaitlyn Stanhope wants to see how stress impacts pregnant Latina women in Atlanta—a group that often suffers from low income, discrimination, and worries over immigration status. “Heightened stress has been shown to be associated with unhealthy pregnancies and birth outcomes,” says Stanhope, a fourth-year PhD student in epidemiology. “But despite having a lot of social disadvantages, Latina women in the U.S. have unexpectedly healthy births, comparable to those of white women in the U.S.”

Stanhope and others theorize strong social support may protect Latina women from the effects of stress. To test this idea, she is teaming with an Emory ob/gyn resident to look at maternal outcomes—such as gestational diabetes and hypertension—and birth outcomes—such as prematurity and low birth weight—in a group of Latina women.

She surveyed women in their first and second trimester at several Atlanta maternity centers, asking about the presence of chronic stressors such as unemployment, death or illness of a loved one, and divorce. The survey did not ask about immigration status or the current political climate—intentionally. “I didn’t want to include any questions that would scare people away,” says Stanhope.

She followed up with in-depth interviews with some of the women who fell into two groups—those who have stressful things going on in their lives but say they are not stressed and those who have stressful things going on in their lives and say they are very stressed.

In the interviews, Stanhope did ask about the current political climate, eliciting a wide range of responses. One woman said she is undocumented, but she just can’t think about it. She has to work two jobs, put food on the table,

and get ready for her baby. Another woman, who is a U.S. citizen, told Stanhope of her undocumented husband who cannot drive and is stuck in a low-paying job. She says she thinks about the risk of his deportation every day.

Although many of the women in the survey described conditions that most would consider stressful, few of the women



reported actually feeling stressed. Stanhope thinks a strong social support network may be the reason. Most of the women said they have a committed partner and describe strong family ties, whether their family lives here or back home. Their communities seem to form a type of extended family, particularly for women newly arrived to the city.

“I ask women how they decided to come to this clinic, and they usually say a neighbor not only told them about it but gave them a ride to it as well,” says Stanhope.

She and her ob/gyn partner will continue to follow women until they give birth, exploring the relationship between stress and maternal and child health outcomes. “We have this population that in theory experiences a lot of disadvantages but doesn’t have the riskier birth outcomes that you would expect,” says Stanhope. “If we can understand what is going on in this



Kaitlyn Stanhope wants to know why Latina women have healthy births despite many stressors.





▶ Jessie Preslar works with CHAMPS staff members in Sierra Leone as part of her study of the social contributors to child mortality. (Right) Preslar took this photo of mother and child in Sierra Leone.



population, maybe we can find something that is useful to help other groups of disadvantaged women.”

[GLOBAL] WHY CHILDREN ARE DYING: LOOKING FOR SOCIAL FACTORS THAT CONTRIBUTE TO CHILD MORTALITY IN SUB-SAHARAN AFRICA

In sub-Saharan Africa, one in nine children dies before reaching their fifth birthday. Jessie Preslar seeks to identify social factors that contribute to that grim statistic. An MD/PhD (epidemiology) student, Preslar is piggybacking her study on the Child Health and Mortality Prevention Surveillance (CHAMPS) network.

CHAMPS is the Bill & Melinda Gates Foundation-funded initiative focused on identifying the causes of death in children in sub-Saharan Africa and South Asia. The initiative focuses primarily on biomedical causes—which specific strain of bacteria caused the diarrhea that led to the child’s death or preterm birth complications. It gathers little data on the “upstream” social contributors to child mortality. Preslar is working to add those contributors to the equation.

She spent a year in Sierra Leone adapting a surveillance tool to collect information from the mothers of children who

have died about possible non-biological contributors. Questions delve into socioeconomic status, household factors, and access to care. She then trained the interviewers who were already collecting CHAMPS data to add this survey to their visit. She also surveyed a group of women with young children who have not died to serve as a sort of control group.

Preslar is still collecting and analyzing the data, but she can already see that many of the women in both groups report some barriers to care. It’s hard to take time off work to take the child to the doctor. Transportation is unavailable or unreliable. A doctor’s visit is too costly.

Given that nearly everyone faces hurdles in accessing care, Preslar wants to see if she can identify factors that may contribute to some children dying while others survive. Maybe some women are simply more likely to seek care early in an illness or are more willing to push through barriers. Maybe some women are free to take their children to the doctor



Jessie Preslar is piggybacking off the CHAMPS network.

as they please, while others must ask permission of their husbands. Maybe it's just the luck of the draw—some women's children are able to stay healthy while others fall ill.

"When you ask these parents why their children are dying, many point to underlying social factors or the lack of available health care," says Preslar. "I think collecting this data and putting numbers to these stories can help local health workers and policy makers take targeted action and prevent children from dying in the future." ■

▶ Diabetes

{ LOCAL } ROOM FOR IMPROVEMENT: *DIABETES MANAGEMENT IN PEOPLE LIVING WITH HIV*



Thanks to new antiretroviral therapy, people living with HIV can have a similar life expectancy as the general population. However, people living with both HIV and type 2 diabetes don't share in that advantage. Karla Galaviz wants to find out why—and how to change it.

Last year, Galaviz, an assistant professor of global health, and colleagues published a study comparing data on HIV-positive women and HIV-negative women, all with diabetes. Over the 15 years for which these data were collected, the number of HIV-positive women who achieved viral suppression more than doubled, thanks to HIV treatment improvements. However, over that same time period, the number of HIV-positive women who met diabetes treatment goals rose only 5 percent. The HIV-negative women didn't do much better. But since both HIV and diabetes independently contribute to higher risk of cardiovascular disease, uncontrolled diabetes may pose a heightened risk for HIV-positive people. Her study showed that management of diabetes needs to be improved in the HIV-positive population.

Galaviz's second study found that standard tools to detect people at high diabetes risk simply aren't as effective in women with or at risk of HIV infection. Women considered at risk are

from low socioeconomic status, inject drugs, or engage in risky sexual behavior.

The bottom line, says Galaviz, is that standard diabetes risk screening tests aren't giving the whole picture for people living with HIV. To better understand diabetes risk in this group, she says we need to explore HIV-related risk factors. She currently is conducting a study among HIV-positive and HIV-negative men and women to explore ways to incorporate HIV-related information in screening tools. For example, what kind of medications are participants taking? Are the medicines working, that is, is the virus suppressed? Are they experiencing body changes in response to the HIV medicines?

She hopes adding these HIV-related factors will enhance the screening process in an often underserved population, better nailing down who should be tested for diabetes and prescribed preventive interventions such as lifestyle modifications.—*Sylvia Wrobel*

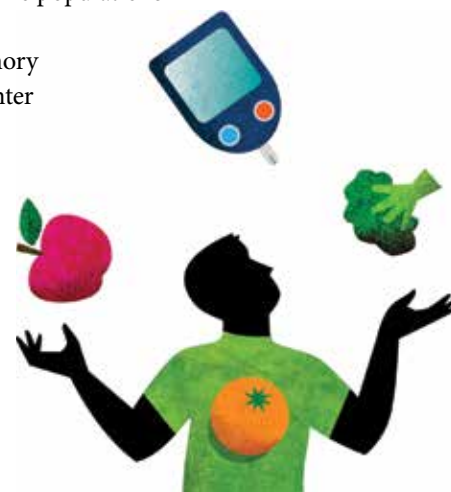
{ GLOBAL } LOOKING BEYOND BMI: *TYPE 2 DIABETES IN NON-OVERWEIGHT ADULTS*

In the United States and other western countries, being overweight or obese is a major risk factor for type 2 diabetes. But in fast-developing Asian and African countries, where rates of diabetes are shooting up, there is another side of the coin, says Dr. Unjali Gujral, assistant professor in the Hubert Department of Global Health. In these countries, more and more cases are occurring in normal weight and even underweight men and women. Gujral led an extensive literature review that found lean individuals represent up to 80 percent of all type 2 diabetes cases in some populations from developing economies.

With colleagues in the Emory Global Diabetes Research Center and the Madras Diabetes Research Foundation in India, Gujral compared diabetes prevalence in Asian Indians living in India with that of whites living in the U.S. She found that weight mattered, but the direction and impact varied markedly by ethnicity and sex. For



Karla Galaviz studies how to prevent and manage diabetes in the HIV population.





► Type 2 diabetes increasingly develops in normal weight and underweight people in Asia and Africa. Courtney Peters 14MPH took this photo while on a Global Field Experience trip.

example, not a single underweight U.S. white man in the study had type 2 diabetes, compared with 5.4 percent of underweight Asian Indian males in India. Of underweight white women, 2.3 percent had diabetes, compared with 5.6 percent of their Asian counterparts. Overall, the prevalence of type 2 diabetes in normal weight Asian Indians was even higher than in overweight whites in the U.S. Adjustment for waist circumference, insulin resistance, and insulin secretion did not explain the differences, suggesting additional factors may play important roles.

Such findings present an emerging public health challenge, says Gujral. They also raise the possibility that individuals who are under- or normal weight may develop type 2 diabetes through a different pathophysiological pathway than those who are overweight. In her study, both Asian Indians and white normal or underweight persons with diabetes had lower fasting insulin and poorer insulin secretion than their overweight or obese counterparts.

And, she adds, the findings definitely suggest that using BMI

(body mass index) as the main criterion for diabetes screening, as currently recommended, may fail to identify diabetes risk and/or other cardiometabolic risk factors in patients with ancestry from different regions.

Gujral takes the issue personally. Her parents arrived in North America from India in the 1970s. Her parents' generation's American-born children are now having their own children. In addition to her ongoing work focused on the challenges facing Asia, Gujral wants to understand how ethnicity and environment will affect risk and outcomes not only for immigrant populations, but also for subsequent generations living in the U.S. and worldwide.—*Sylvia Wrobel*



Unjali Gujral is unraveling the mysteries of a different type of diabetes.

▶ HIV/AIDS

[LOCAL] HIV: PHONING IN PREVENTION: *TESTING AN APP TO BOOST PREP UPDATE*

The fight against HIV/AIDS got a huge boost seven years ago with the introduction of pre-exposure prophylaxis (PrEP), a daily pill that can dramatically reduce the risk of contracting the virus. Unfortunately, only a small percentage of those who could most benefit from PrEP take it, according to the CDC. Dr. Jeb Jones 16G 12MPH is trying to boost uptake with the help of an app.

Jones, assistant professor of epidemiology, is updating HealthMindr, an app developed at Rollins five years ago that focuses on men who have sex with men (MSM). With the app, men can enter personal information about their health and sexual activity, receive information about their risk for HIV and other STDs, and plan an appropriate testing schedule.

HealthMindr was originally tested in Atlanta and Seattle among HIV-negative MSM. Over the four-month trial, the participants were receptive to the app. More than half used it to order condoms and HIV test kits. One in 10 of the PrEP eligible men started using the medication, with most attributing their decision in part to the app. The results validated the idea that men want to take care of their health and that they are open to technology that helps them do it.

Jones is building on that success by revamping HealthMindr to freshen its look—five years is ancient by app standards—to make it more appealing, particularly to young men. “The age group we target is 18 to 34, but we are really focusing on the younger end of that spectrum,” says Jones. “HIV incidence is highest among this group, particularly among black MSM.”

More important, he is expanding PrEP offerings and bringing them front and center. The updated app includes a screener to see if PrEP is appropriate, information about where the user can get the drug, how to pay for it, and, if he is taking it, a monthly prompt to check his adherence to taking it every

day. It also includes answers to frequently asked questions, such as possible side effects and what to do in the case of missed doses. “We are doing our best to answer all questions we can foresee that could be barriers to starting PrEP,” says Jones.

He will be testing the updated app in Atlanta, Washington D.C., and Jackson, Mississippi—locations dictated by the epidemic. “The South is the most heavily impacted



in terms of HIV incidence,” says Jones. “It’s also where PrEP uptake has been the lowest. So there is a clear need here.”

Jones will follow young men using the new HealthMindr for a year to see how effective it is in getting them to start and continue PrEP use. He’ll compare those results with those from a control group he recruits to use a similar app that lacks PrEP information. “PrEP is a really intensive prevention intervention for a population that doesn’t even go to the doctor all the time,” says Jones. “But they are on their phones, and we’re hoping this app can reach them.”

[GLOBAL] SOLUTIONS IN SOUTH AFRICA: *TESTING COMMUNITY- AND PEER-BASED INTERVENTIONS*

Sub-Saharan Africa contains only about 11 percent of the Earth’s population, but it accounts for two-thirds of all HIV infections and more than 70 percent of all AIDS-related deaths. Despite these dismal statistics, there have been few studies focused on interventions for men who have sex with men (MSM) in this region.

Dr. Travis Sanchez recently wrapped up one such study and has embarked upon another. The former bundled a host of prevention tools—HIV and STI testing, condoms, lubricants, pre-exposure prophylaxis (PrEP), behavioral counseling, and community engagement. “We were not testing any novel individual interventions,” says Sanchez, associate professor of epidemiology. “Rather, we were testing the level of uptake and fidelity to the interventions if we provided them all at once in the same package.”

Sanchez and his team rolled out the package of interventions in two South African cities, Cape Town and Port Elizabeth. In Cape Town, he partnered with an organization that has an established research clinic for HIV prevention studies with an experienced staff. By contrast, Port Elizabeth



Jeb Jones wants to see if an app can help persuade young men at risk for HIV to start PrEP.



► Cape Town staff prepare materials for participant visits as part of Sanchez's earlier study.

lacked an HIV clinical research facility, so study staff were embedded in local community health centers. Participants there got all their services, testing, and medications at that local center.

Surprisingly, both settings worked equally well. Nearly 90 percent of participants in both cities stayed in the study through the 12 months. About half of them started on PrEP—a rate comparable to similar studies in Atlanta. “Our results not only showed this type of intervention can be effective in high-capacity research clinics, but it can be just as effective in community clinics,” says Sanchez.

Sanchez is in the midst of another study, this one targeting men already infected with HIV. MSM living with HIV have a

difficult time getting into and staying in treatment in South Africa, at least partly due to the stigma associated with sexual orientation and HIV infection.

Sanchez and his team are testing a community- and peer-based intervention to improve retention in HIV care and increased viral suppression with men from six South African cities. The intervention includes using small nondescript community offices where MSM can discreetly get HIV testing. If they test positive, they can immediately begin antiretroviral medication, get a peer health navigator, and get a referral to local HIV care. “We start the men on treatment on the same day they get tested,” says Sanchez. “And we assign them a peer navigator, a local person who will stay in touch with them for a year, making sure they stay in care.”



Travis Sanchez tests HIV interventions in the field.

Nearly every eligible participant started antiretroviral treatment and accepted peer health navigator support. The final outcome results of this study are still being analyzed. “The study has already helped us better understand and respond to the challenges MSM face even in South Africa, where there are good public health resources to treat HIV infection,” he says. “Many of the challenges are related to stigma and economic hardship. Addressing these issues is critical to providing better HIV care for MSM in other settings and countries.” ■

► Mental Health

{ LOCAL } **POWER OF THE PRESS: REDUCING THE STIGMA OF MENTAL ILLNESS THROUGH A JOURNALISM FELLOWSHIP**

Mental illnesses are some of the most serious, unrecognized, and under-reported health problems in the U.S. and around the world. To help reduce stigma and discrimination, the former first lady founded the Rosalynn Carter Fellowships for Mental Health Journalism more than two decades ago. Dr. Robin McGee 06MPH 17G, assistant professor of behavioral

sciences and health education, works closely with the program to evaluate whether it's meeting its goals. "Those goals are really threefold," says McGee. "To increase accurate reporting on mental health issues, to help journalists produce high-quality, contextualized work on mental health issues, and to build up a cadre of journalists working in this area."

McGee surveys alumni and follows their work during and after leaving the program to chart the fellowship's impact. She developed a guide to score and evaluate how well they adhere to the standards of reporting on mental illnesses and whether they include an angle that highlights recovery. She looks at everything from the language journalists use in their reporting to policy changes that result from their work.

Using language that doesn't stigmatize mental illnesses lays a foundation for better understanding of the issues, according to McGee. Examples include using phrases such as: "He has schizophrenia" instead of "He's a schizophrenic," which labels the person by their illness, and avoiding the use of psychiatric terms out of context, such as "schizophrenic economy," which trivializes mental illness.

Linking mental illness with violence is of growing concern. Media covering shootings, for example, are often quick to report that the shooter has a mental illness. "Sometimes that is the case, but on the whole, people who have mental illnesses are more likely to be the victims of violence than the perpetrators of it," says McGee. "If journalists can include that context, it can help dispel the myth that mental illness and violence go hand in hand."

Through comprehensive case studies of several fellows' work, McGee has been able to document some of the ways they have contributed to change. For example, a fellow from *The Seattle Times* exposed a practice of "boarding" patients with mental illness in hospital emergency rooms because of a lack of psychiatric beds. His reporting led to the appropriation of \$100 million in new funding to fix problems in the mental health system and to a new law to assist families of people who have mental illnesses.

"My analysis shows this fellowship has had



► Rosalynn Carter speaks to a group of journalists in the program she created to improve the quality of reporting around mental health issues.

a considerable impact on the journalists and their readers. The fellows' work contributes to better mental health reporting, increases public awareness, and helps shape policy," says McGee.

{ GLOBAL } SHARING AND LEARNING LESSONS: AN ALUM BOLSTERS CHILD PSYCHIATRY SERVICES IN INDIA

Dr. Peter Ferren 96MPH was studying to become a pediatrician when he decided to pursue his MPH simultaneously. At that time, mental health was not widely considered a domain of public health. There were few courses, professors, or practitioners of the topic. But Ferren wanted to move beyond treating one child at a time to devising interventions that could improve mental health for thousands.

Now a professor of child psychiatry at University of California, San Francisco, Ferren began making annual trips to Christian Medical College (CMC) in Vellore, India, in 2007. The hospital had a child psychiatry department—a rarity in India—but the country lacked a nationally recognized child psychiatry training program. The director of CMC wanted Ferren to help establish the first such program.

Ferren began by observing, volunteering with the inpatient and outpatient clinical child psychiatry facilities as well as with the pediatric department. He discovered there were some things they did very well—working with adolescents who had schizophrenia, bipolar disorder, and major depression, and children



Robin McGee evaluates a program that promotes appropriate coverage of mental health issues.



with autism and intellectual disability.

He found other areas that needed work. “Their view of childhood trauma was relatively restricted,” says Ferren. “This province has been affected by a tsunami and other natural disasters, and they recognized those

experiences as traumatic. But they avoided addressing domestic violence, child abuse, and bullying as traumatic, which are endemic in this population. They lacked interventions for this type of trauma.”

Ferren worked with CMC staff to refine their patient intake questions to include very specific queries about domestic violence, child abuse, and bullying. He also introduced the use

of toys, games, and drawings in play therapy to get children to open up about their experiences.

Through his work over the years, Ferren’s consultation helped the CMC director create India’s first nationally recognized child psychiatry fellowship, but the experience was very much a two-way street. When he first started working in India, he noticed CMC child psychiatrists regularly visited pediatric outpatient clinics to identify mental health issues and collaborate with the pediatricians.

That practice was uncommon in the U.S. at the time, and Ferren pushed to integrate more mental health services into primary care at Zuckerberg San Francisco General Hospital where he has spent his career.

His experiences in India also brought home the importance of engaging the entire family in treatment. Families from all over India, Nepal, and Bangladesh travel for days to access treatment for their children at CMC. If the child is admitted for



Peter Ferren helped a medical college in India establish the country’s first recognized child psychiatry training program.



► Peter Ferren (far left) visits a school in India where he helped establish school-based mental health services.

inpatient treatment, the entire family often stays, sleeping in the same room with their child and cooking their meals in the hospital unit.

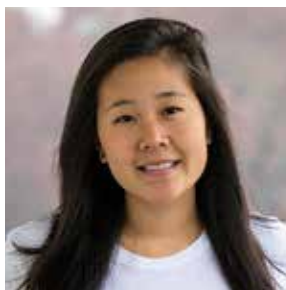
"We don't have the luxury of hospitalizing an entire family here, but it got me thinking about what we can do to increase family participation," says Ferren. "I've been looking for ways to get families more involved. My ongoing collaboration inspires my creativity daily to broaden my impact on the mental health of children and adolescents." ■

► WASH

{ LOCAL } PATHOGENS IN PRODUCE: DEVISING BETTER TESTS FOR IRRIGATION WATER CONTAMINATION

Salmonella once was considered primarily a problem of contaminated meat, poultry, milk, and eggs. Today, however, nearly half of the annual 1 million cases of *Salmonella* illnesses in the U.S. are attributed to produce, often contaminated before harvest by manure-based fertilizers or by tainted irrigation water.

In 2015, recognizing the growing risk posed by contaminated irrigation water, the Food and Drug Administration issued new water quality requirements. But, says Dr. Debbie Lee 18G, now a postdoctoral research fellow at Temple University's College of Public Health, the



Debbie Lee looks for better ways to evaluate irrigation water.

requirements don't come with any instructions about how and where to sample pond water to make sure the samples are adequately representative of what is often a large area.

Nor, she adds, do the federal standard tell growers to actually look for *Salmonella*. Like the current standards for drinking water and recreational water quality, the standards for irrigation source water use

coliform bacteria, such as *E.coli*, as "indicators" of water quality. The logic is that coliform bacteria live in the gut of animals, so the presence of coliforms in the water samples will indicate whether or not water has been contaminated with fecal matter. No coliforms, no contamination.

But that is not what Lee and her colleagues found.

While working toward her PhD in environmental health at Rollins, Lee and her mentor, Dr. Karen Levy, explored how to sample irrigation ponds in South Georgia in ways that would effectively capture contamination levels without being prohibitively complex and expensive. Lee's team found that although the ponds they analyzed met the federal criteria, *Salmonella* was detected regularly in all of them over the

19-month study. Concentrations were low, and the study was not designed to determine if these levels posed any health risk.

However, the study was designed to determine the best and most user-friendly sampling strategies. Lee and her team believed that water at the intake pipe of the irrigation ponds would best approximate irrigation water applied to crops. But intake pipes are generally located in the middle of often very large ponds and are thus difficult to access. They found that samples taken from the shoreline nearest the intake pipe were close enough to be



► Debbie Lee and a colleague collect cucumber samples during a test of the water quality of an irrigation pond in Tifton.

an adequate alternative.

In the next study, the team found *Salmonella* contamination in the irrigation ponds, the irrigation distribution systems, and the produce that was irrigated. Risk assessment studies are needed to determine whether concentrations at the low levels she found even pose a risk to consumers.

In the meantime, she hopes her findings will make growers more aware of *Salmonella* prevalence—and that future studies will lead to improvements to current water quality criteria and testing standards, promoting higher levels of produce safety.—*Sylvia Wrobel*

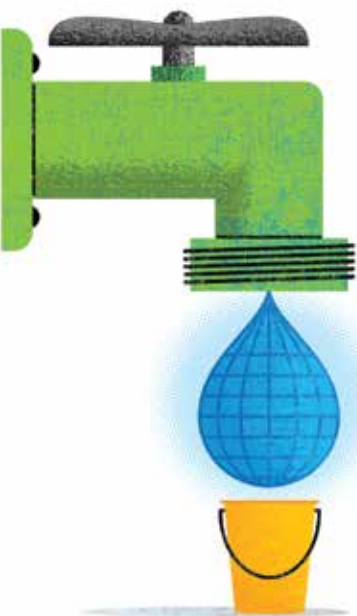
[GLOBAL] WATER SAFETY IN HOSPITALS: ADDRESSING A GAP IN WASH PRACTICE

Working as executive director of a health care facility in Haiti, physician Joanne McGriff increasingly realized that infection prevention and control—a long-standing mainstay of good health care—simply wasn't enough to keep her patients and staff safe.

The facility also had to be mindful of the impact of clean water.

So when she had a chance to join the Rollins Center for Global Safe WASH (CGSW) as associate director, she jumped at it. The CGSW is one of the oldest, largest water, sanitation, and hygiene programs in the country and one of the few to focus on water safety issues outside of community development, particularly in hospitals. “The WASH sector typically assumed that if a hospital was running and functioning, everything must be fine,” she says. “But that’s just not the case.”

McGriff worked on a team led by Christine Moe, Eugene J. Gangarosa Professor of Safe Water and Sanitation and director of the CGSW. Her team discovered the true WASH conditions in health care facilities through working with the GE Foundation to



► **Staff at a Cambodian hospital get training in mixing proper cleaning solutions and in sanitizing the facility.**

monitor water treatment systems installed in hospitals in Ghana, Honduras, Rwanda, Uganda, and Cambodia. McGriff’s team was charged with identifying facilities that had the leadership, staffing, and infrastructure to support the water system. Along the way, they found that many of the hospitals they visited lacked piped water or even a protected well, and even those that had them sometimes dealt with contaminated water.

McGriff’s team also identified a crucial gap in infection prevention and control training in Cambodia. The cleaning staff, while arguably the most important part of the work force when it comes to environmental cleanliness, was the most neglected: overworked, undertrained, with high levels of turnover. And despite lacking basic knowledge in infection prevention and control, they were often involved in tasks beyond their sphere of expertise, such as helping with deliveries and sterilizing operating room equipment.

“We devised a training regimen that included Ministry of Health trainers going in and doing hands-on demonstrations of how to mix proper cleaning solutions to kill pathogens and bacteria,” says McGriff.



Joanne McGriff works to improve WASH conditions in hospitals.

McGriff and her team spent several years advocating for improvements in water safety in hospitals in Cambodia—an effort that finally paid off. In 2017, Cambodia created its first National Guidelines for WASH in Health Care Facilities and added a line item in its national budget that could be used for WASH-related activities in hospitals.

With everything they learned working on WASH in hospitals over more than 12 years, McGriff and her team are now leading a monthly webinar series that gathers experts from across the field to share their work with clinicians, field staff, and policy officials who are interested in improving WASH in their facilities. Says McGriff, “We are connecting WASH and health technical experts with frontline workers and decision makers in a forum where the highest level of information and best practice can be shared.”—*Sylvia Wrobel*

► Cancer

{ LOCAL } IT'S NOT BLACK AND WHITE: DELVING INTO PUZZLING BREAST CANCER MORTALITY DISPARITIES

Breast cancer strikes black and white women at equal rates, but black women are 40 percent more likely to die from it. That dismal fact has long been known. The mystery is why.

Dr. Lauren McCullough believes she is perfectly situated to find the answer. For one thing, she's in metro Atlanta, where African Americans make up 30 percent of the population. For another, she's at Rollins, home of the Georgia Center for

Cancer Statistics, which collects information on each new cancer diagnosis within the state.

McCullough, assistant professor of epidemiology, and her team are scouring the vast registry, looking at the characteristics of tumor, treatment, and patient to see if variations can account for the higher mortality rate in black women. It's early in the investigation, but she has already been surprised by what she's found.

One type of breast cancer, triple-negative, typically strikes younger women and spreads more aggressively than other types. Though relatively rare, triple negative cancer occurs in black women more frequently than white women. Researchers have focused on this type of cancer when trying to understand mortality disparities.

However, McCullough and her team have found the real difference occurs with the more common, less aggressive ER-positive breast cancers. “In metro Atlanta, black women with triple negative breast cancer are approximately 35 percent more likely to die compared with white counterparts,” she says. “Yet black women with ER-positive breast cancer have a more than 2.5-fold increased risk of death compared with white women.

“This was totally unexpected,” continues McCullough. “ER-

positive tumors account for about 75 percent of breast cancer. They are often caught early through screening. We know how they grow and progress. We have targeted therapies that treat this type of cancer really well. So why are black women dying of this very treatable cancer?”

Even more surprising, mortality disparities rise with income—the difference in mortality rates between affluent black and affluent white women is greater than the difference in lower income black and lower income white women.

“Presumably, these women have equal access to care, have insurance, have support systems,” says McCullough.



Lauren McCullough wants to know why black women die from breast cancer more often than white women.





“It’s very perplexing.”

So the team is mining the registry database again to search for answers. Perhaps there are some biological differences even within ER-positive tumors of black versus white women. Maybe black women are less likely to receive guideline-concordant care or adhere to endocrine therapy. Maybe they are operating in a higher stress environment.

“A lot of attention has been focused on finding ways to treat triple negative tumors,” says McCullough. “Our findings suggest we could make a lot more progress by figuring out why disparities exist in tumors for which there are established therapies. That’s where we are going to be digging deeper.”

{ GLOBAL } PREDICTING CANCER RECURRENCE: *USING RICH DANISH REGISTRY TO LOOK FOR CLUES*

Colorectal cancer is the third most common cancer in the world, with more than 1.8 million new cases in 2018. Many survivors are at risk of dying from a recurrence of the cancer, most commonly in the first few years after diagnosis. Dr. Veronika Fedirko is using a wealth of high-quality nationwide data in Danish medical, clinical, and population registries to find clues that could be used to predict colon cancer recurrence.

Currently, there are no definitive biomarkers to identify colon cancer with a high likelihood to recur. Treatment

decisions are based largely on the size and grade of the tumor, not on tumor risk profiles. As a result, patients with relatively small but more aggressive tumors could be undertreated, and patients with larger but less aggressive tumors could be overtreated, according to Fedirko, assistant professor of epidemiology. That could translate into some patients suffering the debilitating side effects of cancer therapies unnecessarily and others not getting the treatment they need to prevent recurrence.

To find biomarkers of recurrence, Fedirko is working with cohorts in Denmark who have been collecting colon tumor samples for several years and following the patients from whom the samples were collected. They are analyzing the gut microbiome composition in the samples to see if different bacteria correlate with cancer recurrence.

To validate the findings in the Denmark cohorts, Fedirko is duplicating the study at Emory, recruiting at least 200 colon cancer patients with stage II and III tumors, analyzing the bacterial composition of the tumors, and following the patients for recurrence. Her team is also taking blood samples and asking participants questions about lifestyle, medications, and diet.

“We know colorectal cancer is related to Westernized lifestyle, driven by diet and low physical activity level,” says Fedirko. “Emerging basic science and animal evidence suggests that the gut microbiome, which could be modified by diet, plays an important role in colorectal cancer development and progression. That made me think differences in the gut microbiome would be a good place to look for biomarkers.”

In parallel to biomarker studies, Fedirko is looking at whether use of antibiotics or gastric acid reducers (proton-pump inhibitors or PPIs) increase the risk of colorectal cancer recurrence. Studies have shown that these drugs alter the composition and diversity of the gut microbiome. These two types of medications are also widely overused. Taking advantage of high-quality data in Danish registries, Fedirko and her collaborators at Aarhus University Hospital are analyzing colorectal cancer patients’ data to see whether antibiotic or PPI use before their diagnosis is associated with higher risk for cancer recurrence. ■



Veronika Fedirko thinks the gut microbiome may hold the key to predicting colon cancer recurrence.

Appreciation Dinner

Rollins alumni, faculty, staff, and friends gathered at the Capital City Club in February for an evening to celebrate donors and scholarship recipients. The Distinguished Achievement and Matthew Lee Girvin Alumni Awards presentation kicked off the event, followed by a reception and dinner.



Above: 1. Dean James Curran (center) with Phil and Leslie Graitcer; 2. Anne and Mark Kaiser; 3. Dick and Ginny Harris; 4. Kathleen

and Gary Rollins; 5. Attendees enjoy a fine meal; 6. Melissa Lowe and Commander Ali Danner; 7. Students mingle at the reception;



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8. Linda and Jon Lewin (right) with Mike and Trina Jones; 9. Matthew Lee Girvin Award winner **Charlotte Kaboré LCDR** (center) with friends and family; 10. Godfrey and Mary Ann Oakley; 11. Dick Hubert and Wade Mitchell; 12. Yetty Arp and Mary Lu Mitchell ■

Rollins Alumni Association Awards

Promoting health through healthy eating and preventing HIV infections in low-resource settings

Distinguished Achievement Award

Dr. Diane Harris 10MPH (pictured far right) would like for people to be able to eat better. Harris's career has included positions in both academia and government where she has developed new research and initiatives to advance wellness and prevent chronic disease through better nutrition. She currently serves as a health scientist and team lead at the CDC in the Division of Nutrition, Physical Activity and Obesity. She is also an adjunct faculty member at Emory University in the graduate Nutrition and Health Sciences program and in Georgia State University's Department of Nutrition.

In her current post, Harris promotes policy, systems, and environmental change strategies that increase access and availability to healthy foods in multiple settings. That work falls into three main areas: developing institutional food service guidelines based on Dietary Guidelines for Americans for settings such as hospitals, universities and colleges, private workplaces, and state, local, and tribal government facilities; promoting a healthy supply of food coming into institutions, particularly through "farm to" programs; and promoting ways to increase demand for healthy foods in various settings through behavioral design strategies.

Harris provides subject matter expertise to the CDC and grantees and is often called upon as a national expert in a number of areas related to creation of healthy food environments. She worked extensively on Let's Move Salad Bars to Schools, part of former First Lady Michelle Obama's Let's Move! initiative, serving as a liaison to the White House and participating in a congressional briefing.

Matthew Lee Girvin Award

Since earning her MPH in 2011, **Lieutenant Commander Charlotte Kaboré**, United States Public Health Service, has dedicated her career to reducing morbidity and mortality attributable to preventable diseases and improving the quality of life of underserved communities. She grew up in a region of the Mississippi Delta with only one county health department that provided services to nearly 70,000 people. Her first-hand experience witnessing the impact of health disparities on poor,



rural communities of color influenced her desire to pursue a public health career with a focus on underserved populations.

Kaboré currently serves as a public health analyst in the CDC's HIV Prevention Branch within the Division of Global HIV & TB, which is one of the primary agencies of PEPFAR. In this role, she supports program and management operation initiatives in more than 40 PEPFAR field offices around the world. Her group works with each country's U.S. embassy, ministry of health, USAID office, and other government and nongovernmental agencies to interpret policies and regulations and assist in organizing and implementing projects.

Prior to her current post, Kaboré served in the CDC's National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health, Arthritis, Epilepsy, and Well-Being Branch, and before that in the Center of Global Health, Division of Global HIV/AIDS and TB, Overseas Strategy and Management Branch. In this latter role, she provided technical assistance to host country governments and international partners in seven West African countries to integrate HIV/AIDS clinical and preventive services and provided epidemiologic science, informatics, and research support to develop sustainable public health systems in resource-constrained countries. ■

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

In Memoriam

1970s

ANN (LEVIN) BROWN 79MPH of San Diego, Calif., on July 14, 2018. She and her family lived in the Atlanta area from 1960 to 2009. After earning her MPH, she became a genetic counselor at Emory and was elected to serve on the first board of the American Board of Medical Genetics and Genomics. Survivors include her husband, Dr. Leonard Brown, four children and their spouses, and eight grandchildren.

1980s

SHEILA CORT ISOKE 86MPH of Atlanta, on July 7, 2018. She was a native of New York.

1990s

DR. SANDRA L. EVANS GOINS, COL. (RET.) 90MSN 90MPH of Clayton, N.C., on July 9, 2018, at 61. She served with distinction as an officer in the U.S. Army from 1978 until 2006. Later she taught nursing at Fayetteville State University and North Carolina Central University and helped develop a new nursing program at Campbell University in Buies Creek, N.C. Survivors include her husband, Thurmond, three children, three grandchildren, two sisters, and three brothers.

PATRICIA "PATSY" TOAL WESTALL 90MPH of Delray Beach, Fla., on Dec. 21, 2018, at 76. She worked in health administration in the Atlanta area for nearly 30 years. Survivors include her husband, Scott, their three children, eight grandchildren, and a brother.

DR. KATHLEEN GAY DYLLA 91MPH 98MR (medicine) of Omaha, Neb., on Dec. 20, 2018, at 61. Survivors include her husband, Robert (Robbie), two sons, one stepson, their wives, five grandchildren, her parents, and three sisters.

Helping a tribe navigate its journey

CAREY MELMED 07MPH 07MSN is not a member of a Native American tribe, but she has become part of their communities. Located on Washington State's Olympic Peninsula, she has worked and lived with both the Makah and Jamestown S'Klallam tribes. She has been allowed to take part in eight Tribal Canoe Journeys, an annual multi-day event for indigenous people of the Pacific Northwest to celebrate their history and heritage. She was named Volunteer of the Year by the Jamestown S'Klallam tribe for the many hours she has devoted to causes of the tribe.

"There are 29 federally recognized Native American tribes in Washington state, and four in the county where I live," says Melmed. "The Makah and Jamestown S'Klallam tribes have become my community and my family."

Her close affinity for the tribes made it all the more frustrating for her when she was working as a community health nurse in the Jamestown S'Klallam tribe in the early 2000s and was unable to provide data to support new programming. Working one-on-one with clients providing maternal-child, diabetes, and elder health care, she wanted to create more opportunities to prevent the illnesses she was seeing.

"I saw community health issues that needed to be addressed, but I didn't have the tools to be able to create a cohesive, data-driven argument to convince my health director," says Melmed.

So she came to Rollins to acquire those tools. She earned an MPH in global health and an MSN from the school of nursing. Upon graduation, she worked with Public Health Seattle & King County for two years to further develop her research and evaluation skills. She then took a job with the Makah tribe and put the skills gained at Rollins to work, leading the development of a tribal public health department and securing a community transformation grant from the CDC with a focus on preventing chronic disease.

After five years with the Makah tribe she returned to the Jamestown S'Klallam tribe to lead an Administration

for Native Americans grant-funded community assessment charged with increasing self-sufficiency of the tribal community.

After planning and directing the years-long assessment, Melmed had a good idea of what the tribal citizens wanted and needed. They wanted to know the benefits that were available to them as tribal citizens. They wanted more cultural activities, especially around traditional food gathering and preparation, language, and tribal practices. And they wanted to stay in their homes as they aged.

The first fix was straightforward. Melmed compiled a directory of resources and programs that was mailed to all tribal citizens. The directory covers everything from fishing rights to substance abuse programs.

Melmed was able to help the tribe translate the data she gathered in the community assessment into programs around cultural activities. The planning department used the information to create new cultural classes and community gatherings. Melmed secured a grant from the CDC allowing the tribe to launch a traditional foods project with a manager and an intern from the tribe. The project, titled "Yehumetz—Taking Care of Ourselves With Traditional Foods and Culture," offers classes on traditional food gathering, harvesting, and preparation. And the tribe's Social and Community Services Department used the assessment data to justify S'Klallam language classes.

"There are no living Jamestown S'Klallam native speakers," says Melmed. "But there are recordings, and there is a dictionary. Some people in sister Klallam tribes know the language, and they are helping out with the classes."

Survey findings were used to develop a program, "Be Careful Everyone," aimed at increasing elders' self-sufficiency in their homes.

The tribe was so energized by everything Melmed had accomplished, they created a planning position to continue the work in the future. As for Melmed, with the grant funding at an end, she will move on to her next project. She leaves with a feeling of accomplishment.

"It has been wonderful seeing the cohesiveness of the programming framed around what the community told us they needed for self-sufficiency," says Melmed. "That is exactly the kind of work I wanted to be able to do when I got my MPH."—Martha McKenzie



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

Rollins School of Public Health

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Tuesday Morning at School

Sydney Herndon 18G took this photo while on a Global Field Experience trip. She writes: "Here, boys and girls are pictured in a classroom of the only school on Mali island in Northern Fiji. During the day kids learn about public health issues as part of their curriculum, including basic hygiene practices and nutrition. There is no secondary school on the island, so children must move to the mainland if they want to continue their education past grade 8."

