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GLOBAL HEALTH MATTERS

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Inside this issue

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CUGH meeting explores COVID-19 and health equity

The global coronavirus pandemic dominated discussions at the Consortium of Universities for Global Health (CUGH) first virtual annual meeting. "COVID-19 has exploited and exacerbated many of our world's social and economic inequalities," said WHO Director-General Dr. Tedros Adhanom Ghebreyesus in opening remarks. Nearly 1,900 attendees from more than 100 nations participated in the three-day conference that was preceded by 30 topical satellite sessions.

Investments should be made to increase the scientific capacity of lower-income regions and countries so they can test and produce vaccines against COVID-19, said Dr. Anthony Fauci, director of the NIH's National Institute of Allergy and Infectious Diseases. "This is not something that's going to go away in one year. It will have to go away for the entire planet before we can feel comfortable that we are out of danger."

Scientists and policymakers need to be a beacon of truth and a source of evidence-based knowledge on COVID-19, he said. "You have to go by your conscience and maintain your integrity—once you lose it, you're done."

Fauci encouraged students with the slightest inclination to pursue careers in global health. "It certainly is a very gratifying choice of a life."

More advice was given to early-career scientists during a panel discussion of NIH leaders. Trainees should consider identifying potential mentors by studying publicly available information in the NIH Reporter database to see what's going on in a specific country or research topic, suggested Dr. Diana Bianchi, who leads the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD). "Seek mentors in the area that you are interested in, in the kind of scientist you'd like to become, maybe even the kind of scientist you'd like to eclipse," offered Dr. Joshua Gordon, director of the National Institute of Mental Health (NIMH). Students should also look for opportunities to conduct research overseas, said Fogarty Director Dr. Roger I. Glass. "Those field experiences are really life-changing."

COVID-19 was the main topic of the CUGH annual meeting, including during this interview with NIH's Dr. Anthony Fauci, conducted by Stanford University's Dr. Michele Barry.

Photo courtesy of CUGH

The COVID-19 response has benefited from leveraging global networks that were built through previous NIH investments, the discussants noted. For instance, NICHD is using scientists with machine learning expertise to see if artificial intelligence can predict which children who test positive for the virus will need treatment "because they can turn on a dime" and quickly deteriorate, said Bianchi. COVID-19 has also caused NIH to look inward to speed progress and award critical funding more quickly, observed Dr. Bruce Tromberg, who leads the National Institute of Biomedical Imaging and Bioengineering. "It's all about introducing innovation in the process as well, so this example has shown us that we can go faster. We can be impactful and we can do better."

NIH-funded advances made in low-resource settings often hold valuable lessons for the United States. Bianchi said a global network her institute supports to improve maternal and child health demonstrates the benefits of personal

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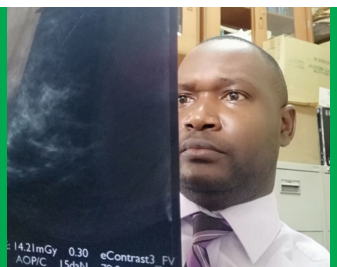

MEPI Junior Faculty program strengthens Africa's research capacity

- Offers protected research time to nurture independent investigators
- Develops skills in writing research proposals and scientific publications
- Propels career advancement, influence in health policymaking

Read more on pages 6 – 9

CUGH meeting explores COVID-19 and health equity

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contact. "The workers who are a part of that network have frequent contact with the women during their pregnancies and after they deliver. They are collecting data but also providing information and support—that's something that's sorely lacking in the U.S." Similarly, an NIMH project known as the "friendship bench," designed to task-shift mental health care from professionals to specially trained community members, was developed in Zimbabwe and is now being adapted for use in New York City. "They're finding this really improves access to care and reduces stigma," said Gordon.

As research becomes more complex, the need for data analysis capabilities in LMICs has increased, which is why NIH is starting a major initiative in Africa, said Tromberg. "The idea here is to support a continental network to develop tools, build on many years of NIH investments and take us another step forward."

A cadre of emerging global health leaders also shared their efforts to advance science. Six previous participants of Fogarty's Global Health Fellows and Scholars program presented research on diverse topics such as air pollution exposure, dengue diagnostics and HIV-associated cognitive impairment. For Dr. Adaeze Wosu, the opportunity to conduct research in Uganda taught her about leadership, collaboration, patience and perseverance. "I challenged my own perspectives and assumptions and gained a deeper understanding of research ethics."

Strategies to address global health inequities were explored in a pre-meeting satellite session, co-hosted by Fogarty. A fundamental shift in approach and underlying assumptions is required, according to Dr. Lisa Adams of the Geisel School of Medicine at Dartmouth. "We really need to make sure that we strive to understand the context, the historical legacies of the places where we work—and this is true whether they are across an ocean or across town." Research partnerships should enable reciprocal learning and there should be recognition of the burden hosting trainees places on LMIC hosts, she added. "We need to put our relationships under the microscope and give them critical review and honest appraisal. We need to understand the historical and colonial legacies of the places where we work to be able to bring equity to the partnerships we engage in."

Global cancer research and control was the subject of a side meeting hosted by NIH's National Cancer Institute (NCI). Despite numerous NCI-funded advances, they are not accessible to all, said NCI Director Dr. Ned Sharpless. "We should acknowledge this progress that we've seen over the last five decades has not been equitably delivered to all people everywhere."

Climate change was explored during a session organized by the NIH's National Institute of Environmental Health Sciences. There's a huge gap between the evidence-base for action and actual practice, according to NIEHS's Dr. John Balbus. "If there was ever a time, place and subject where we need to be able to apply our knowledge as swiftly and surely as we possibly can, it's now, here, in the realm of climate change in health."

Finally, the science of stigma reduction was discussed by a panel coordinated by Fogarty's Center for Global Health Studies. The conversation examined various aspects of stigma and best practices to reduce it. The session grew from a trans-NIH effort to develop a cross-cutting agenda that transcends disease, population and geographic silos.

Award established to honor Dr. James G. Hakim

Photo courtesy of the International AIDS Society

Dr. James G. Hakim

The late scientist Dr. James G. Hakim will be memorialized through an annual award to be established in his name, supported by the African Forum for Research and Education in Health (AFREhealth), the Consortium of Universities for Global Health (CUGH) and Fogarty.

Hakim, who died in January 2021, was an acclaimed researcher and professor and an important leader in advancing medical research and education in Africa. Chair of medicine at the University of Zimbabwe, he was also a founding member of AFREhealth, a CUGH member and partner, and a longstanding Fogarty grantee.

Each year, the James G. Hakim award will provide an African health trainee or early-career health professional with funding to cover registration and travel to the annual CUGH meeting, where they will be recognized for their achievements. The inaugural award will be given in 2022.

Experts urge global adoption of One Health approach

By Susan Scutti

The theme of interdependence dominated discussions at a recent workshop on One Health, which aims to improve the well-being of people, animals and the environment by integrating the efforts of multiple disciplines. "COVID-19 reminds us that no country acting alone can respond effectively to human, animal or environmental health threats in a globalized world," said Dr. Eric Goosby in his keynote address at the event hosted by the National Academies of Science, Engineering and Medicine.

The current paradigm of pandemic management is "typically reactive" with nations and health organizations working in silos—an approach that leads to "breathtaking" economic and human losses, observed Goosby, who is professor of medicine at the University of California, San Francisco. Meanwhile, 60% of human diseases arise from pathogens in animals, and, in the U.S. alone, animals are consuming two times the medically important antibiotics as people. Within the coming decades, scientists project that spillover animal-to-human viral events plus antimicrobial resistance could result in huge death tolls. If nations collaborated to implement a One Health approach, the globe could better prevent, prepare for and respond to inevitable future outbreaks of infectious disease, said Goosby, who also serves on Fogarty's advisory board.

Photo by Boniface Mwangi/Africa Knows

A global One Health approach to disease surveillance and pandemic response should include low-resource settings where people and animals often live in close proximity, scientists said in a recent workshop.

Lower-resource regions often have little surveillance capacity, which makes it especially difficult for them to identify and respond to outbreaks, Goosby explained. He envisions an effective, sustainable surveillance system that would function as a rolodex of talent that is regionally identified. A team could mobilize in hours after an alarm is raised "to assess and report back and initiate an infusion of resources." While creating "a blanket of surveillance that covers everything" is unrealistic, Goosby said better use of sophisticated technologies that utilize cellphone, purchasing pattern and human movement data could help anticipate threats. The WHO may be best suited for identifying unmet needs, yet filling those needs must be a shared responsibility, he said. "For so many countries, the option of acting alone and expecting that to achieve what's needed is not realistic."

The workshop also featured experts from various academies and international institutions who explored research opportunities, collaboration mechanisms, community engagement strategies, educational opportunities and policies to operationalize One Health principles. A panel of experts that examined challenges to integrating policy within health systems included Dr. John Balbus, of the NIH's National Institute of Environmental Health Sciences, and Dr. Christopher Braden, of the CDC.

Public health interventions dealing with wildlife or land management or ecosystem manipulation—as opposed to vaccine or drug interventions—are often met with skepticism, said Balbus. "We have to build-in metrics and evaluation to demonstrate that these methods are successful." Another stumbling block: One Health programs in the U.S. government have not been "mainstreamed" and currently function as policy islands. One Health is not just zoonotic crossover and pandemics, it also includes the less-studied ocean, fungal and microbial worlds, Balbus noted.

Examining national coordination from another angle, Braden emphasized the need for technological modernization to help scientists collaborate across silos. Layering data so that agencies and researchers can see "what's being collected in the animal health sector, the human health sector and the environmental sector—that's where we struggle. We work with rather antiquated systems and ideas about how data and surveillance can work," he said. Use of modern system architectures, new data sources and sophisticated integration tools could address these issues and also improve data interactions in the cloud.

Finally, participants explored better ways to prepare a One Health workforce. Academies need to "work backwards" to provide a needs-based and critical competency-based education, according to Dr. Lonnie King, dean emeritus of veterinary medicine at Ohio State University. Graduates need to have multidisciplinary knowledge and the ability to form effective partnerships, King said. "Relationship-building is the number one skill for this decade."

RESOURCES

http://bit.ly/global-one-health

PROFILE

Fogarty Fellow investigates HIV self-testing in Ugandan fishing communities

By Susan Scutti

Self-test kits can improve rates of HIV testing but distributing them in remote regions can be challenging. When social network leaders were trained to disseminate the test kits within a Ugandan fishing community, more than 95% were properly used and returned, a study by Fogarty Fellow Dr. Joseph Matovu found.

Matovu, a behavioral research scientist with a doctorate in public health, concentrates on HIV testing research because only when patients know their status can they begin treatment and care. HIV prevalence is thought to be as high as 37% in Ugandan fishing communities, explained Matovu. Since workers typically fish at night and sleep during the day, they miss out on health care services, he said. "So, we've been looking for something innovative that would reach them when they are awake, self-testing they can do in the convenience of their own homes."

For his Fogarty project, Matovu and his team identified 21 overlapping social networks within the targeted community. They included groups such as boat pushers, motorcycle taxi operators, card players and sex workers. After each group chose a "peer leader," Matovu's team vetted and trained these leaders to use the kits and counsel others, making referrals for treatment when necessary. Next, the peer leaders distributed self-testing kits to their networks. "We gave out 298 self-testing kits and of these only two people refused the kits, so we had 99% acceptability," said Matovu, who added that results also showed "just under 98% confirmation of use."

About 7% of the test-kit receipt population tested positive for HIV, which is a much lower prevalence than estimated, said Matovu, who believes his team had unknowingly missed some higher risk networks. Ten of the 12 individuals who tested positive for the first time had their results confirmed by laboratory analyses and 9 went on to receive care. The study was co-funded by the Africa Research Excellence Fund.

The fellowship taught Matovu new skills, including how to design interventions and how to write and apply for grants. It also helped him strengthen and expand his network of collaborators. With his travel stipend, he made stops at Yale University, the Rand Corporation and South Carolina University's School of Medicine in September 2019, delivering presentations on his research at each. "The fellowship connected me with people I'd never have met otherwise," said Matovu.

Joseph K.B. Matovu, M.H.S., Ph.D.

Fogarty Fellow:	2018-2019
US Institution:	Yale University
Foreign Institution:	Makerere University School of Public Health
Research area:	HIV self-testing in Ugandan fishing communities

His project also helped to strengthen existing research capacity in Uganda. "I'd worked with this team in the past and this time they not only helped to collect data but also in the analysis of data and writing and publishing papers," explained Matovu. "Usually you work with people collecting data and when they finish, they disappear. Now they know how data analysis is done and how to write and publish a paper." In his next study, he plans to include master's degree students.

Since completing his study, Matovu has published two papers with two more underway. He also applied for and won a grant from the European and Developing Countries Clinical Trials Partnership to expand the research to other Ugandan fishing communities. "We have about 4,000 fishing communities in Uganda, so this pilot study was a drop in the ocean," he said. "I believe the findings will also translate to other countries since fishing communities share similar characteristics and are organized in the same way—fishing done at night, far from medical centers."

A Fogarty fellowship is a "lifetime experience," said Matovu, who expects to continue working with his newfound mentors and collaborators for many years. "The opportunities that come mean you actually achieve more in one year than you normally could in 10."

RESOURCES

http://bit.ly/joseph-matovu

Q&A

JOHN REEDER, PHD

Microbiologist Dr. John Reeder is director of TDR, the Special Programme for Research and Training in Tropical Diseases, based at the WHO. He also heads the WHO Department of Research for Health. Reeder previously held leadership posts at the Centre for Population Health and the Burnet Institute. Earlier in his career, Reeder directed the Papua New Guinea Institute of Medical Research. Reeder—who has advised organizations including Fogarty, the Wellcome Trust and the Bill & Melinda Gates Foundation—has published more than 180 scientific papers.

What did your early career look like?

I left school at 16 and, as luck would have it, I managed to get a job as a technician in the public health laboratory of a local hospital, so I spent my first dozen or so years working for the U.K.'s National Health Service. It's been an incredibly good foundation in technique—being clean on the bench—because people's lives depend on it in a hospital laboratory. While working in the laboratory I undertook a series of part-time higher education courses and at the age of 22, I became the youngest person in the country to become a fellow of the Institute of Medical Laboratory Sciences. By the age of 26, I was running a teaching hospital laboratory while working part-time on my Ph.D. I completed my doctorate while still in my late 20s.

The town where I grew up outside Manchester, England was not an area that typically sent people to university, so my experience coming up gave me an appreciation for the importance of giving people a break. There's a lot of potential out there and not everybody has an easy road to get an education, to become qualified and move forward.

What are TDR's goals?

Like Fogarty, we aim to ensure that good science makes a difference and we focus on increasing capacity. Over the past few years, TDR has emphasized training for implementation science—others are driving for creative innovation within countries but there's a massive gap in delivery science. We work closely with product development partnerships as well.

TDR also aims to democratize research, all while making sure it's done to an appropriate standard so we can rely on the evidence. We've got a real interesting program called the Social Innovation and Health Initiative where we work with grassroots projects—for instance, people who train teachers to test school children for malaria. And the idea is not to drive the projects but instead put the *tool* of research in their hands and help them strengthen their case for a fantastic idea that otherwise might not get scaled up due to a lack of research expertise. The absolute truth is we miss so much innovation if we don't listen to the voices of the people on the ground.

What about neglected tropical diseases?

I've started talking about neglected populations rather than neglected tropical diseases (NTDs). The key to these diseases is a lack of interest because the populations they affect do not have the political power to drive advancements. If you look at drugs in development, this is the bottom end where no one is really working even though the population sizes are immense. Not all NTDs have high mortality rates, but all have enormous socioeconomic and well-being impact.

Some issues are common to many, if not all, these diseases. While we need to be specialists about certain aspects of disease—for example, we will always need people who know every single thing about the biochemistry of a specific parasite—we also need to keep in mind that the issues of implementation science are often similar. Whether it is river blindness or malaria, some *thing*, some therapy, must be delivered to the neglected population.

Do you miss your days at the bench?

The way I see it is if you're a virtuoso musician, it's great fun and you can play your violin or whatever but if you get the chance to pick up the baton and conduct a whole orchestra, you can do so much more. I feel my current role at TDR is picking up the baton.

I hope to someday look back and see that less people have a disease or a problem because of work we've done together. It isn't the individual performance that you might get at the bench but at a bigger scale you can look at your career and think, *I did my best work then.*

RESOURCES

http://bit.ly/john-reeder-tdr

MEPI Junior Faculty program strengthens Africa's research capacity

MEPI Jr faculty fellows reported the program helped them become independent investigators, improve their ability to write successful grant applications and journal articles, and advance in their careers.

Photo by Richard Lord for Fogarty

Although sub-Saharan Africa (SSA) bears an enormous portion of the global burden of disease, it lacks the adequate research capacity to investigate locally relevant solutions needed to improve health. Brain drain is also a problem, with many well-trained professionals continuing to leave SSA to work in better-resourced health systems. To help address this shortfall, the NIH began a program in 2015 to develop research expertise and improve faculty retention at institutions in eight countries across the region. More than $36.4 million was invested over five years, with funding from the President's Emergency Plan for AIDS Relief (PEPFAR), the NIH Common Fund and nine other NIH partners. Fogarty managed the program, which provided training, mentorship and research support to 362 junior faculty fellows. The Medical Education Partnership Initiative Junior Faculty Research Training (MEPI-Jr) program builds on its predecessor, MEPI, which earlier provided $130 million over five years to enhance the quality and quantity of medical school graduates in SSA.

As the MEPI-Jr program comes to a close, its participants are reporting impressive accomplishments. Many said the fellowship helped them begin to envision a scientific career and provided their first opportunity for protected time to carry out research projects. Their study topics were intended to focus on urgent local research priorities and ran the gamut from infectious diseases such as HIV and TB, to maternal and child health, to noncommunicable diseases including diabetes, hypertension and depression.

Many fellows said they were able to complete master's or doctoral degrees with MEPI-Jr support. A number revealed the program helped them earn promotions in their academic institutions, expand their networks and gain confidence in applying for grants and submitting research papers for publication. Writing workshops hosted by the program resulted in a total of 886 published scientific papers. With an additional 191 papers currently in-process, the total is more than 1,000 manuscripts. Over the life of the program, participants submitted 552 applications for grants and fellowships, with a success rate of 34% or 187 awards.

The program also enabled fellows to take part in regional and international conferences, where they made more than 450 scientific presentations. The initiative also spawned 71 independent classes, courses and workshops focusing on epidemiology, mentorship training, project management, biostatistics analysis and scientific writing. Early reports from three participating institutions indicate that MEPI-Jr fellows have themselves mentored 866 students and postgraduates. Post-program success stories include fellows whose research results have earned them a place at the table with health ministry policymakers.

Generally, MEPI-Jr fellows reported acquiring important new skills, particularly in the areas of research design, project implementation and data analysis. All expressed greater confidence in their ability to communicate both in writing and in day-to-day interactions with other scientists. They also said the local and international mentors framed their expectations, provided them with new opportunities and taught them invaluable lessons about mentoring others.

MEPI Jr funding partners included PEPFAR; the NIH Common Fund; *Eunice Kennedy Shriver* National Institute of Child Health and Human Development; Fogarty; National Heart, Lung, and Blood Institute; National Institute of Dental and Craniofacial Research; National Institute of Mental Health; National Institute of Neurological Disorders and Stroke; National Institute of Nursing Research; National Institute on Minority Health and Health Disparities; NIH Office of AIDS Research and NIH Office of Research on Women's Health.

Articles in this section by Susan Scutti
Resources: http://bit.ly/mepi-jr-faculty

Voices of MEPI Junior Faculty fellows

Photo courtesy of Kevin Omondi

DR. EDWIN WALONG

Pathologist and lecturer
University of Nairobi, Kenya

Autopsy is a platform for gaining insight and learning additional pathology—for example, a patient's cardiovascular response to a disease or the liver's response. We can save lives when we communicate our findings to colleagues in frontline clinical care. My fellowship project aims to identify what happens to the kidneys of children who've died due to pneumonia, a major cause of child death in Kenya. The MEPI-Jr program exposed me to biostatistics, epidemiological techniques and public health-based studies, which helped me identify what is of clinical, epidemiological and general scientific importance in each autopsy report I write. The main skill I acquired is communication. The fellowship also expanded my research skills. I can now construct case-controlled studies and broad cross-sectional projects that can define populations. I learned how to acquire data and then properly clean and analyze it. This experience helped me transition my practice from a single case-based approach to using data to identify patterns of disease. By training others to conduct time-consuming autopsies, I can scale up and spend more time on statistical research. This fellowship also broadened my network and improved my ability to interpret clinical trials and apply what I've learned. We may have challenges in Kenya but we also have opportunities. I intend to apply autopsy and broad mortality-based surveillance to identify areas that need improvement.

DR. BONGANI NKAMBULE

Hematologist and associate professor
University of Kwazulu-Natal, South Africa

Photo courtesy of UKZN

A common complication among people living with HIV (PLWH) are blood clots and associated diseases, so my MEPI-Jr project focused on PLWH and platelets, which can cause clots. One result is a published meta-analysis showing how baseline platelet hyperactivity continues even when PLWH go on treatment and so over time they become susceptible to cardiovascular disease. The fellowship's personal development workshops were the most important part of the program. These helped me envision a career direction and make progress as both a researcher and a teacher. I have moved up from senior lecturer to associate professor. MEPI-Jr also taught me grant writing, project budgeting, supervision methods and communication skills. Students come from very different educational backgrounds and now I can look at an individual and understand their unique needs and assist them in their individual journey. This fellowship helped me acquire leadership skills, where I learned how to "read" and work with different personalities. Some mentors were not in my field and this helped me to find, articulate and explain the impact of my work beyond just publishing papers. My collaboration with an HIV clinician really opened my eyes; beyond my test tubes, I now see a patient, a family and a story and I can appreciate the societal impacts of my work. Opportunity is what often makes a career, yet opportunity is exactly what a lot of excellent individuals lack. This fellowship allowed participants to gravitate toward other scientists who were equally eager to excel.

DR. PATIENCE A. MUWANGUZI

Emergency and trauma nurse, head of nursing
Makerere University, Uganda

Photo courtesy of Racheal Nabunya

In Uganda there is a high prevalence of HIV—every family is affected—so we offer HIV testing to everyone who comes into the ER. The women usually accept but men typically say "no." For my MEPI-Jr project, I thought, what if we brought the HIV test to men at work? In one district we found that most who came to be tested were at the lower levels of the hierarchy, maybe janitors or security guards, while the managers did not participate. One recommendation was that we bring a variety of tests, such as blood pressure, blood glucose, cancer screening and also HIV self-test kits. This worked well. Some people had never had a blood pressure test, while others discovered they might have diabetes. Overall, this was a very good strategy so that men would not be stigmatized when taking an HIV test. We did find HIV positive cases and linked them to care and treatment, which is the most important outcome. This fellowship was the best two years of my life! I learned and practiced both advanced statistics and writing skills; I have submitted eight manuscripts and applied for 10 grants of which four have been successful. My research project opened doors to international networks and also at Uganda's health ministry, where I am now invited to contribute because I have data from research and evidence that can influence policy.

Voices of MEPI Junior Faculty fellows

DR. TARIRO MAWOZA-CHIKUNI

Ethnopharmacologist and pharmacology chair
University of Zimbabwe

In Zimbabwe, many women take folk medicines during pregnancy and delivery to help open the birth canal. This inspired my MEPI-Jr project, where I looked at prevalence of traditional medicine use. I found that just under 70% of women used folk medicine during pregnancy, mainly in hopes of facilitating labor and making delivery easier, while more than 17% of women used them for postpartum care. My previous work was mainly lab-based so asking people about a sensitive issue taught me a lot about how to conduct questionnaire-based research and then translate the results. Despite the widespread use of traditional medicines, there is insufficient scientific data to justify their use in pregnancy and concerns some might be harmful to the mother and fetus. To shed light on this, I conducted in vitro animal experiments with some of the most commonly used folk remedies. Through this fellowship, I also learned more about scientific writing, starting with a skeleton and going step-by-step, perfecting the methodology, refining the conclusion and finally submitting it for publication. The program provided mentors, local and international, who taught me how best to mentor my own students. I also met researchers in other fields and now we are coordinating our work and writing grants together. Next, I am planning to examine the active substances of traditional medicines to better understand their effects.

DR. GEORGE GWAKO

OB/GYN and lecturer
University of Nairobi, Kenya

For obstetricians, nothing is more disheartening than losing a mother during childbirth or seeing a mother or couple lose a baby. In my MEPI-Jr project, I examined why stillbirth is still so prevalent in Kenya and determined the risk factors. My study showed the prevalence of stillbirth in Kenya is 35 in every 1,000 deliveries, compared with 20 to 100 across Africa and 1 to 3 in the U.S. One of the main drivers of stillbirth in Kenya is preeclampsia, my study showed. Other factors are antepartum hemorrhage, diabetes mellitus and prematurity, and there are associations with anemia and HIV. Through the fellowship program, I took courses in data collection and data analysis so I applied what I learned directly to my project. In general, I learned practical skills, including grant and manuscript writing, grant management, and new leadership and mentoring methods. Importantly, the fellowship provided me with time as well as funds to conduct my research. I had both local and international mentors, which opened my eyes to the unique health challenges in each setting. Having done research with topnotch scientists, I now participate in WHO projects as a co-investigator. Together with other fellows, I formed a consortium of African researchers, the Stillbirth Advocacy and Research in Africa Hub (SARAH), which aims to understand prevalence, risk factors and possible prevention interventions that can work in our unique contexts.

Photo courtesy of University of Nairobi

DR. MARGARET ILOMUANYA

Pharmacist, biomedical engineer and lecturer
University of Lagos, Nigeria

Working as a pharmacist in a hospital that delivers HIV care opened my eyes to HIV drug adherence problems due to medication design—children couldn't swallow the large tablets or drink the bitter medications, and discordant couples and women in polygamous relationships needed to protect themselves from spreading or contracting the virus. These clinical issues inspired me to obtain a Ph.D. in pharmaceutics and led to my MEPI-Jr project, where I developed a palm oil-based gel for HIV prophylaxis. The product is applied using an applicator in the vagina, where the presence of semen and body heat triggers release of an antiretroviral drug. This offers protection for six hours, preventing a woman from becoming infected by HIV or transmitting the virus to her partner. The fellowship provided me access to the NIH's AIDS reagent program, so I could obtain materials to test my product against HIV cell lines. MEPI-Jr also taught me scientific writing skills, leading to the publication of two project-related papers and two successful grant applications. The fellowship also helped me transition from a university lecturer to a senior lecturer. In 2019, the U.K.'s Royal Academy of Engineering named me one of the top 100 biomedical researchers in Africa. In 2020, I spent six months in New York as the first African fellow at the Population Council. Ultimately, I want to develop a pharmaceutical product used worldwide. Research should be translatable, something used at the bedside to make a difference.

DR. TSITSI MONERA-PENDUKA

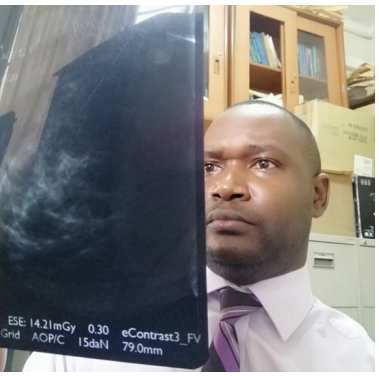
Pharmacist and senior lecturer
University of Zimbabwe

Photo by Sarudzai Muyambo

Surveys have shown that herbal medicine use among people living with HIV (PLWH) ranges from 54% to 96%. When I checked the patient assessment tools used in our HIV clinic, I found there is only one question about herbal medicine. For my MEPI-Jr project, I developed a new tool to help clinicians and pharmacists talk about herbal medicine use with PLWH. My fellowship offered qualitative research classes delivered by experts so I learned how to frame research questions, what methods to use and how to apply statistics. The mentoring sessions included weekly meetings where we informally talked with experienced researchers at the university. I liked how they delivered feedback; it was always in a kind and gentle way but with authority. The meetings were inter-professional, so I learned from colleagues in other departments and at the same time I had the opportunity to express myself as an expert in my own domain. That was invaluable to me and helped me build confidence. My association with the MEPI program gave me clout so I was invited to work with the health ministry on HIV management and to help write COVID-19 guidelines. Here in Zimbabwe, we recently started regulating formulated herbal supplements and I am on the national regulatory committee for reviewing these products. We should not be quick to dismiss traditional medicine since so many modern therapeutics come from herbs.

DR. MUBUUKE GONZAGA

Breast imaging specialist and lecturer
Makerere University, Uganda



Two of my relatives passed away as a result of breast cancer, so I became interested in radiology and specialized in breast imaging. We don't have a national breast cancer screening program in Uganda so many women end up dying. Mammography is the gold standard but it is very expensive, while ultrasound is more widely available and relatively cheap. My fellowship project examined whether there's enough evidence to use ultrasound as an initial evaluation tool and discovered the sensitivity of ultrasound in a small cohort of women was around 58%, which was only slightly below that of mammography. This was encouraging because it means we might at least use it to identify patients with highly suspicious masses in need of immediate biopsies. People were excited by the findings and we have published two papers and received funding for a larger follow-up study. This will help us acquire more evidence to inform policy. MEPI-Jr taught me how to design a scientific investigation and analyze the findings. This fellowship was quite an enriching experience—I improved my research skills, expanded my network and collaborated on a few successful grant applications. I've grown as a faculty member and now help vet research submissions by students and faculty here at Makerere. I also work as a consultant, facilitating academic workshops and as an external examiner. In addition, I sit on editorial boards and work as an associate editor and reviewer. This fellowship has been a great journey and I've advanced immensely in my career. Through this program, we have built a critical mass of people who are transferring their skills to colleagues. As we improve training, eventually we will see better health outcomes in our communities.

DR. HENRY MARK LUGOBE

OB/GYN and lecturer
Mbarara University of Science & Technology, Uganda

Photo by Christine Mukiza

My MEPI-Jr project looked at the maternal and fetal outcomes for Hypertensive Disorders of Pregnancy (HDP). Our study found 12% of HDP mothers had experienced these disorders in their previous pregnancies—most of their babies had low birth weight and over a quarter were stillbirths. HDP mothers often had postpartum hemorrhage and their babies had heightened risk of brain disorders. Our most unusual finding was that a high number of patients presented with HDP in the wet season. If HDP has seasonality it needs to be understood, especially in light of global warming. The other thing I noted is the difficulty in follow-up. Many patients had to travel from quite a distance so we might need to come up with an innovative solution to offer them continued care. In addition to supporting my research, the fellowship also provided classes on research methods, including one with experts from the U.K. and U.S. where I learned cohort study skills and how to write and publish my manuscripts in peer-reviewed journals. The grant writing sessions taught me how to respond to funding calls and how to put together applications. I've also worked with mentors here on quality improvement processes for mothers with HDP. We developed a treatment sheet so health care workers can provide and document proper care for these women. Every mother deserves a live baby at the end of her term.

OPINION

By Dr. Roger I. Glass, Director, Fogarty International Center

NIH and Fogarty stand against structural racism

I applaud NIH Director Dr. Francis S. Collins on the strong stance he is taking to eliminate structural racism at NIH and throughout the biomedical research community.

We at Fogarty join him in condemning racism and bigotry in all its forms and remain committed to our mission to work toward achieving equity for all the world's people. While the NIH has long supported programs to improve the diversity of the scientific workforce, those efforts have not been sufficient to achieve racial equity across the biomedical research enterprise. We're committed to identifying and dismantling any policies and practices that may harm our workforce and our science. To begin this critical work, NIH has launched a new program called UNITE.

UNITE has five components with the following specific aims:

U – **Understanding** stakeholder experiences through listening and learning

N – **New** research on health disparities, minority health and health equity

I – **Improving** the NIH culture and structure for equity, inclusion and excellence

T – **Transparency,** communication and accountability with our internal and external stakeholders

E – **Extramural** research ecosystem: changing policy, culture and structure to promote workforce diversity

The UNITE initiative was established to identify and address structural racism within the NIH-supported and the greater scientific community. With representation from across NIH, UNITE aims to establish an equitable and civil culture within the biomedical research enterprise and reduce barriers to racial equity in the biomedical research workforce. To reach this goal, UNITE is facilitating research to identify opportunities, make recommendations, and develop and implement strategies to increase inclusivity and diversity in science. These efforts will bolster the NIH's effort to continue to strive for diversity within the scientific workforce and racial equity on the NIH campus and within the extramural community.

The COVID-19 pandemic has heightened awareness of the deeply ingrained inequities, racist violence and bigotry that continue to exist in our society. This was brought home to me recently with the tragic shooting of Asian-Americans in Atlanta, the city where I live. It is painful to me that many of my longtime research colleagues of Asian descent are experiencing unpleasant acts of bigotry and discrimination. I am distressed that some of them and their families now feel unsafe and unwelcome in the country they have called home for decades, where they have worked tirelessly to make scientific contributions that improve health for all people.

The Atlanta violence spurred the White House to issue a statement condemning acts of discrimination, bullying, harassment and hate crimes directed toward Asian American and Pacific Islander (AAPI) communities. NIH Director Dr. Francis S. Collins pointed out recently that the COVID-19 vaccines we have today were made possible by the rapid public disclosure by Chinese researchers of the novel coronavirus's genetic sequence. Science continues to be a global effort, he added, and we are all in this together.

This is an opportunity for all of us to reflect on what more we can do to address these continuing problems, to determine how we can contribute to meaningful solutions—individually and through our collective efforts—so that one day all people will live in a just and equitable world. We must channel our outrage, grief and frustration into positive change.

For us in the global health community, we are also considering how we can work together with our grantees and collaborators to decolonize and democratize global health research. Both remain complex and challenging barriers to health equity.

Identifying and dismantling racist components of a system that has been hundreds of years in the making is no easy task and this is just the beginning. I call on all in the Fogarty community to join us in our quest for peace, equality and social justice, here at home, as well as around the globe.

RESOURCES

http://bit.ly/nih-fogarty-unite

PEOPLE

Becerra confirmed as HHS Secretary

Xavier Becerra, the former Attorney General of California and long-time champion of expanding access to health care, has been confirmed as Secretary of Health and Human Services. A lawyer and former member of Congress, Becerra helped drive passage of the Affordable Care Act. He is the first Latino to lead HHS.

Pace to helm HHS Office of Global Affairs

Loyce Pace, a former member of President-elect Joe Biden's COVID-19 advisory board, has been tapped to head the HHS Office of Global Affairs. Until recently, Pace led the Global Health Council, where she advocated strongly for increased investments in global health. Previously, she directed regional programs for the American Cancer Society.

U.S. global malaria coordinator selected

Dr. Raj Panjabi has been appointed to lead the U.S. President's Malaria Initiative. Born in Liberia, Panjabi settled in the U.S. after fleeing civil war at age 9. Before joining PMI, Panjabi served as CEO of Last Mile Health, a nonprofit he founded to deliver care to remote places.

Elvander to represent US in Beijing

Erika Elvander has been selected to serve as the U.S. health attaché to China. Until recently, she was director of the Asia and Pacific portfolio in the HHS Office of Global Affairs. In that role, she worked to foster global relationships and coordinate international engagement across HHS and the U.S. government.

Fogarty McAndrew honored for advocacy efforts

Mary Fogarty McAndrew, daughter of Fogarty's namesake, the late Congressman John E. Fogarty, is being honored by Research! America with the 2020 Gordon and Llura Gund Leadership Award in recognition of her advocacy for health research. Fogarty McAndrew is chair of the Fogarty Foundation for Persons with Intellectual and Developmental Disabilities in Providence, R.I.

Research!America recognizes scientists

The advocacy group Research!America is honoring two scientists with its Clear Voice Award in recognition of their effective public communication regarding COVID-19. Awardee Dr. Anne Schuchat has served as the CDC's Principal Deputy Director since 2015. In that role, she has provided leadership in several emergency responses including the COVID-19 pandemic.

Honoree Dr. Michelle Williams is dean of Harvard University's T.H. Chan School of Public Health and holds a joint faculty appointment at Harvard's Chan and Kennedy schools. She is an internationally renowned epidemiologist and public health scientist, an award-winning educator and a widely recognized academic leader. Williams currently serves on Fogarty's advisory board.

Global HEALTH Briefs

Equitable partnerships hub launched

A new online toolkit provides information about the principles of equitable partnerships from institutions around the world. The hub aims to help funders, scientists and administrators develop or embed equitable policies and practices into their research partnerships. It was developed by the U.K. Collaborative on Development Research and ESSENCE.
Website: http://bit.ly/equitable_research

Africa needs investment in research

Despite considerable advances made by African scientists over the past decade, African governments still invest little in health research, according to a study funded by the Wellcome Trust. The project's findings underscore the importance of centering research capacity strengthening and investment in Africa on national ownership of health research systems.
Full report: http://bit.ly/Invest_Research_Africa

CEPI launches plan to end pandemics

The world should invest $3.5 billion to reduce the risk of future pandemics, according to CEPI, a global partnership focused on developing vaccines to stop future disease outbreaks. CEPI's plan calls for investment in preparation against known threats, transformation in pandemic response and enhanced global coordination.
Full report: https://endpandemics.cepi.net/

Global COVID data repository unveiled

A COVID-19 dataset containing detailed information on more than five million anonymized cases from over 100 countries has been made publicly available. The platform is a collaboration of leading international institutions intended to build a trusted, detailed and accurate resource of real-time infectious disease data.
Website: https://global.health

WHO: violence against women pervasive

Violence against women remains devastatingly pervasive and starts alarmingly young, according to new data from the WHO and partners. During their lifetime, 1 in 3 women–around 736 million–are subjected to physical or sexual violence by an intimate partner or sexual violence from a non-partner.
Full report: http://bit.ly/WHO_violence

Funding Opportunity Announcement	Deadline	Details
Global Trauma and Injury Research Training D43 International Research Training Grants	Apr 16, 2021	http://bit.ly/injurytrauma
International Bioethics Training R25 Clinical Trial Not Allowed D43 Clinical Trial Optional	Jun 4, 2021	http://bit.ly/BioethicsTraining
Hubs of Interdisciplinary Research and Training in Global Environmental and Occupational Health (GEOHealth) U01 Research Project Cooperative Agreements U2R International Research Training Cooperative Agreements	July 8, 2021	http://bit.ly/geohealthhubs
Global Infectious Disease (GID) Research Training D43 Clinical Trials Optional	Aug 3, 2021	http://bit.ly/IDtraining
Fogarty HIV Research Training for LMIC Institutions D43 Clinical Trial Optional D71 Clinical Trial Not Allowed G11 Clinical Trial Not Allowed	Aug 20, 2021	http://bit.ly/NIHGlobalHIV

For more information, visit **www.fic.nih.gov/funding**

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WHO examines global burden of hearing loss

Nearly 2.5 billion people worldwide—one in four—will be living with some degree of hearing loss by 2050, warns the WHO's first World Report on Hearing. At least 700 million of these people will require access to ear and hearing care and other rehabilitation services unless action is taken.

Courtesy of the WHO

"Our ability to hear is precious. Untreated hearing loss can have a devastating impact on people's ability to communicate, to study and to earn a living. It can also impact on people's mental health and their ability to sustain relationships," said Dr. Tedros Adhanom Ghebreyesus, WHO Director-General.

Lack of accurate information and stigmatizing attitudes to ear diseases and hearing loss often limit people from accessing care for these conditions, according to the study. Even among health care providers, there's often a shortage of knowledge about prevention, early identification and management of hearing loss and ear diseases, hampering their ability to provide the care required. The report is being widely disseminated to promote implementation of its recommendations by WHO member states. WHO has said it will provide technical support and, where required, develop evidence-based guidance to facilitate country responses.

RESOURCE

Full report: www.who.int/publications/i/item/world-report-on-hearing