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FOGARTY INTERNATIONAL CENTER • NATIONAL INSTITUTES OF HEALTH • DEPARTMENT OF HEALTH AND HUMAN SERVICES

## CUGH 2022 examines corruption, anti-science movement

Ubuntu, the African concept of humanity, includes the philosophy of “health is wealth,” explained Thuli N. Madonsela, keynote speaker at the 2022 Consortium of Universities for Global Health (CUGH) conference. Madonsela added: “nothing has evidenced this truism so vividly in our lifetime as the COVID-19 pandemic.” As the wealth of health became a reality for everyone, “it was inconceivable that the dark side of humanity in the form of the scourge of corruption” would show “its sordid face...yet it did,” said Madonsela.

This year’s annual CUGH conference, dedicated to “Healthy People, Healthy Planet, Social Justice,” hosted more than 2,000 scientists and students representing a range of medical and non-medical disciplines who addressed some of the most pressing challenges faced by the world.

### Pandemic scourge

Corruption tips the scales in favor of the politically connected and the wealthy, noted Madonsela, recalling the looting of pandemic resources in developing nations and the hoarding and exorbitant pricing of vaccines, tests, and treatments in developed nations. “An unexplored ugly side of this competition-driven response to COVID-19 was how African indigenous systems and solutions were dismissed,” added Madonsela, chair of Social Justice at Stellenbosch University, South Africa. Neglect of indigenous knowledge and health resource asymmetries exist far beyond the scope of the pandemic. One-size-fits-all policies persist despite their failure to meet the needs of many.



The theme of the 2022 conference was “Healthy People, Healthy Planet, Social Justice”

What would health look like if everyone counted? It is time to weave ubuntu into our pursuit of health equity, said Madonsela, who feels hopeful. “Today is better than yesterday when it comes to health equity and social justice.” While problems still exist, “Africa is becoming more than just a market where everyone else dumps their health outputs. It’s becoming an equal partner.”

### Global security at risk

The 2022 conference dedicated a plenary session to “Corruption, Money Laundering, Governance and Global Security.” The COVID-19 response, including lockdowns,

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## NIH, Fogarty see budget increases for Fiscal Year 2022

President Joseph Biden signed into law the Consolidated Appropriations Act, 2022 in March which provides budget increases for both NIH and Fogarty. NIH received \$45 billion, a \$2.2 billion rise from Fiscal Year 2021. Fogarty was allocated \$87 million, a 3.4% rise.

The measure also included \$20 million to study the mental health effects of COVID-19, \$700 million for global health security to USAID, and \$1 billion for HHS’ Advanced Research Projects Agency for Health (ARPA-H) initiative. Fiscal Year 2022 began on Oct. 1, 2021.

## FOCUS



### Rethinking the scientific diaspora

- Diaspora scientists focus on capacity building in sub-Saharan Africa
- Using home-grown knowledge to advance health in Suriname
- Building research capacity in East Africa with the One Health Initiative

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## CUGH 2022 examines corruption, anti-science movement

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led to the rise of totalitarianism, said co-founder of Transparency International Frank Vogl: “The pandemic has had a negative impact on democracy in every region in the world.” Corruption is “universal” and not confined to low and middle-income countries, he noted. In the same session, Olusoji Adeyi, a former director at the World Bank Group, said higher resource nations “codify their corruption.” To rectify corruption, high income country governments need to rework banking laws and expose corruption through transparency, while developing countries need to promote accountability using checks and balances.

### Colonial mindset & anti-science movement

AFREhealth hosted a satellite session focused on decolonizing global health post-pandemic, a topic covered heavily in this year’s conference. The session’s keynote speaker, Dr. Jimmy Volmink of Stellenbosch University, argued, “The most egregious shortcoming of the global response to COVID-19 was the lack of solidarity between nations in the face of a common threat.” He later added, “The colonial perspective of global health needs reconceptualization to move towards a more equitable future.”

Deputy director of Fogarty, Dr. Peter Kilmarx, presented findings from the AFREhealth CUGH research subcommittee, which he co-chairs. They highlighted increased collaboration in multi-country studies, the impact of COVID-19 on vulnerable populations in Africa, and vaccine hesitancy as one area for future work. The group also discussed using metrics to help make Fogarty’s capacity-building projects in LMICs more equitable and effective.

In a satellite session focused on the anti-science movement, panelists addressed growing mistrust of public health authorities and anti-vaccine sentiments. Renowned virologist Dr. Peter Hotez reminded the group that ‘anti-science’ has been a leading cause of preventable death in the United States throughout the pandemic.

Dr. Maureen Lichtveld, an epidemiologist and dean at the University of Pittsburgh School of Public Health whose work centers around environmental health, said, “This mistrust in science is not a new phenomenon to environmental health. The pandemic has simply amplified it.”

### NCI’s Cancer Research Symposium

This year also marked the 10th anniversary of the Symposium on Global Cancer Research hosted by the

National Cancer Institute (NCI). The 3-day satellite session included an Early Career Investigator Day in addition to the symposium, “New Models for Global Cancer Research, Training, and Control.” Dr. Satish Gopal, director of NCI’s Center for Global Health, opened and closed the symposium with a remembrance of the late global health leader, Dr. Paul Farmer. Quoting him, he said “The idea that some lives matter less is the root of all that is wrong with the world.”

### Fogarty Fellows & Scholars

In the annual Fogarty Fellows and Scholars session, recent fellows presented projects in various disciplines. Keenan Withers, a psychiatry resident at UCLA, presented on factors impacting PrEP adherence among men in Vietnam with a history of recreational drug use. “The Fogarty fellowship is unique as it allows you to have mentors at every level of your project.” Other presentations included adapting trauma neuroimaging paradigms in South Africa; identifying resources for children with neurodevelopment disorders in Ghana; Zambia-based studies on the correlation between gender, HIV, and hypertension; and a project on the prevalence of cervical and breast cancers and HIV in aging patients in Latin America.

### Implementation science in LMICs

Rachel Sturke, deputy director of Fogarty’s Center for Global Health Studies, moderated a session centered on the role of implementation science in evidence-based interventions in LMICs. The panel included leaders from public sector health systems, academia, and funding agencies. “Investments in training local researchers and governments will continue to be a key mechanism to decolonize global health,” said panelist Anita Zaidi of the Bill and Melinda Gates Foundation. She later added, “we must fund the entire ecosystem to see the result in capacity-building projects, not just the end goal.”

To end the conference, Dr. Joseph Kolars, incoming CUGH chair, shared his thoughts on the “important, compelling, and frankly daunting” work ahead: “We’ve got climate and environmental crises. We have political systems that are giving way to conflict ... So many of us have been struggling to overcome the COVID pandemic, where the problems of equity have really been illuminated.” He called for community, dialogue, connection, and shared commitment to the common good. “We’ve all gotten much more in touch with the need to have a decolonizing mindset ... we can do this despite some of the clouds overhead.”

# H3Africa achievements endure beyond its end

The Human Heredity and Health in Africa (H3Africa) program wraps up this August after 10 years of funding. When H3Africa was first discussed—less than a decade after the human genome was first sequenced—next generation sequencing had finally become affordable and genome-wide association studies (GWAS) were beginning to come to fruition. Still, only a small portion of the world carried out this important work. “To a large extent, African populations, diseases of interest to Africans, and African scientists were not being included in genomic studies,” said Dr. Jennifer Troyer of the National Human Genome Research Institute (NHGRI).

To remedy this, members of the African Society of Human Genetics approached the NIH and Wellcome Trust to discuss scientific leadership of research projects exploring the genetic contributors to regional diseases. H3Africa was born. A year later its first awards were granted.

Flash forward to 2022. H3Africa has funded 51 projects and spawned a consortium with multiple sites—primary sites, lab sites, collection sites, and analysis sites all using common protocols and capabilities—in different countries across the continent. The H3Africa Consortium comprises 500 members and 445 trainees in more than 30 countries. Notable achievements include 100,338 participants recruited for studies, 50,000 samples genotyped, 26 core phenotypes identified, 2,062 workshops/meetings held, and nearly 700 papers published.

In addition to standing up computing infrastructure across the continent, the consortium created three regional biorepositories—in Nigeria, Uganda, and South Africa—that share common methodologies and house DNA samples. One of the most requested datasets is from a whole-genome sequencing analyses of 426 individuals comprising 50 ethnolinguistic groups (including previously unsampled populations). The research team on this project uncovered more than three million previously unknown variants, described in a *Nature* article, “High-depth African genomes inform human migration and health.” Resources and archives from H3Africa studies are accessible to researchers via H3ABionet.

H3Africa working groups, which established policies and guidelines for member scientists, had a particularly strong impact. “In some cases, these guidelines for genomic research, consent, community engagement, and feedback of findings have informed or been adapted for national policies within Africa,” explained Troyer. H3Africa also developed research tools and products available to scientists, including a genotyping array for capturing and tagging African variation.



The H3Africa consortium has sites in 30 countries spanning the continent

Photo courtesy of Dr. Jennifer Troyer/NHGRI

Throughout the H3Africa program, NHGRI and Fogarty staff led a team of dedicated program directors from across the NIH. Fogarty’s seminal H3Africa project, the Global Health Bioinformatics Research Training Program, was created to support African institutions develop genomics research capacity. Recent headline scientists from H3Africa include Dr. Charles Rotimi, a driving force behind H3Africa and now scientific director at NHGRI; Dr. Ambroise Wonkam, one of the program’s PIs, world-renown geneticist and sickle cell disease expert, and recently appointed director of the Department of Genetic Medicine and the McKusick-Nathans Institute of Genetic Medicine at Johns Hopkins; and Dr. Christian Happi, also an H3Africa PI, director of the African Center of Excellence for Genomics of Infectious Diseases at Redeemer’s University in Nigeria and the first African scientist to sequence an African SARS-CoV-2 genome. “One of the outcomes we’re most proud of is the highly-trained workforce that has been developed across Africa with cutting-edge skills in genomics research and analysis plus responsible sample and data management,” said Troyer.

As H3Africa nears conclusion, the original aims of the program—to identify genetic and non-genetic factors that contribute to diseases and individual responses to medications while increasing collaboration between African researchers—have largely been met. While there have been delays due to COVID-19, productivity past the designated end of the program and no-cost-extensions are expected. Overall sustainability is also anticipated. H3Africa investigators are now contributing to other NIH programs, including NHGRI’s Polygenic Risk Methods in Diverse populations (PRIMED) Consortium and the Common Fund’s Harnessing Data Science for Health Discovery and Innovations in Africa program (DS-I Africa), as well as obtaining research grants through NIH and other international funders.

## RESOURCES

<https://bit.ly/H3Africa>



# PROFILE

## Fogarty Fellow Ivan Segawa investigates nurse-led PrEP delivery in Uganda

One in four new HIV infections in sub-Saharan Africa occurs among adolescent girls and young women (AGYW) aged 15 to 24. In Uganda, 270 new infections occur every week within this age group. Researcher Ivan Segawa observed the increased vulnerability to HIV for AGYM. “They have limited access to HIV services plus they are young, their partners are older, and so often it is their partners who decide whether to use HIV prevention methods or not.”

In Uganda, pre-exposure prophylaxis (PrEP) is generally delivered through HIV clinics, which many people find unappealing due to stigma surrounding the virus. Segawa’s pilot study evaluates a health delivery model that integrates oral PrEP into family planning clinics, where nurses can take the lead in offering effective HIV prevention to AGYW. Unlike HIV clinics, family planning clinics are frequent stops for women seeking birth control. Their staff of experienced sexual and reproductive health nurse providers are familiar faces to many AGYW patients and thus strategically positioned to identify those who may be at high risk for HIV.

“This study, which is co-funded by the National Institute of Nursing Research (NINR), can inform task-shifting initiatives that have already seen nurses successfully run HIV clinics in our settings,” said Segawa, whose education spans pharmaceutical science, clinical epidemiology, and biostatistics. “Yet other health professionals also have a role to play in increasing access to HIV services.” In the U.S., for example, pharmacies provide vaccinations and other services, he noted. Pharmacies in Uganda might conduct HIV testing or deliver PrEP helping to alleviate the burden on physicians who might then focus on severe cases. “But the challenges we faced were with privacy and we are still navigating this landscape,” explained Segawa. Research is also needed to evaluate the value of new delivery methods for HIV services outside traditional HIV clinics, he said.

Segawa and his team have completed enrolling patients for his fellowship project. The nurses, who trained for four weeks with Segawa’s team, are now delivering PrEP



### Ivan Segawa, BPharm, MScEnd

Fogarty Fellow:	2021-2022
US Institution:	University of Washington
Foreign Institutions:	Global Health Uganda; College of Health Sciences, Makerere University, Uganda
Research interest:	Nurse-Led PrEP Delivery for Adolescent Girls and Young Women in Uganda

while fulfilling their traditional responsibilities at the clinic. “Initially, of course, the nurses had no prior training in PrEP, so we explored many topics, including counseling. Sometimes we felt like this was too much for them. But we told them, ‘pick up what you can, and we will keep coming back,’” said Segawa. He hopes his research will provide enough evidence to make this model of HIV prevention care sustainable.

Throughout his fellowship, Segawa has acquired new skills, like manuscript writing and constructing quantitative methodologies. “I used to think manuscript writing is for the end. But now I know you can work on drafts, even while collecting data.” He also believed science was about clinics, labs, writing, and computers until he discovered project management. “If you are not up to speed on managing human resources and finances that’s something that can set you back,” said Segawa.

Another important aspect of his training has been the weekly competency meetings, where he learns about mentorship and K grants. “I hope to apply for a K43 grant within the next two years using the data I will have generated from my Fogarty study and master’s degree. In the meantime, I am seeking small grants to answer more research questions in the field of HIV prevention.” A Ph.D. and academic career feel “inevitable” to Segawa, steps along the road to becoming an independent researcher. To those hoping to apply for a Fogarty grant, he advises: “Read a lot of literature in your area to identify gaps that will increase the novelty of your idea. Anything is possible, just believe in yourself.”

### RESOURCES

<https://bit.ly/IvanSegawa>

## ROBERT SAMUELS, MBCHB, MSCI

*Dr. Robert Samuels is a physician scientist at the Kenema Government Hospital (KGH) in Sierra Leone. After completing his medical training, he studied the impact of hepatitis B on Ebola survivors and Lassa fever patients. He did a one-year fellowship with the Vanderbilt Vaccine Research Program, serving as a research assistant on the Moderna phase III COVID-19 vaccine trial. Currently he is completing an evaluation of the prevalence of influenza and respiratory syncytial virus (RSV) in children under 2 hospitalized at KGH.*



### Tell us about your current Fogarty project

Most patients with respiratory signs and symptoms are treated for bacterial pneumonia without laboratory confirmation. This can lead to problems. Patients blindly given antibiotics have a high probability of developing resistance. If we give antibiotics to patients who don't need them, we deprive patients who do need them. Also, an incorrect diagnosis sometimes leads to longer hospital stays with higher risk of nosocomial infections (infections originating in the hospital).

My study aims to understand the true burden and seasonal variation of RSV and influenza among the youngest children in our region. If the data shows high numbers of RSV and flu infections, that justifies the need for rapid diagnostic tests. These tests would help us make correct diagnoses — lowering both hospital admissions and antibiotic misuse — while also improving our district labs. We've collected samples from 503 participants and expect to find not only RSV and flu but other respiratory viruses: human rhinovirus, parainfluenza, metapneumovirus, adenovirus and coronaviruses. In the end, I hope this data informs diagnosis and treatment policies and provides a foundation for long-term viral surveillance.

### What skills did you acquire as a Fogarty trainee?

I acquired skills for mentoring, managing projects, and writing proposals and publications. The Vanderbilt Vaccine Research Center gave me hands-on experience during the Moderna vaccine trial. I was involved in pre- and post-vaccination assessments of participants, and I also took part in the decision-making processes, including organizing parts of the trial. Through collaborations and networking, I developed partnerships with researchers from the U.S. and other countries. I also helped Vanderbilt University medical students on research proposals and projects related to Sierra Leone. Fogarty has not only helped me but also my colleagues and Sierra Leone.

### How can Sierra Leone improve health care?

First, we need to develop our human resources.

Currently, we have epidemiologists, often specialized, but we need a broader base of clinical and public health scientists. We need to develop scientific teams — biostatisticians, clinical trial experts, bioethicists, lab technicians, and all the other occupations that make research possible. We also need people educated to practice clinical specialties at the Masters' level or higher instead of the level of certificates and short courses. Another priority is infrastructure: Building new research centers with electronic records while strengthening old ones. These centers need an established data management system that extends through hospitals so that the flow of data is uniform. Right now, most of our data is paper-based and most of our lab capacity and infrastructure is based in the city. We need to decentralize labs and equip them to a higher level so that district labs can do cultures and other specialized tests.

Finally, we need to create mentorship programs that start in the undergrad years and move into postgrad. I benefited greatly from my mentors. Aside from personal development, an established program can also help a community or region develop because it leads to publications that influence and inform local policies.

### What's ahead?

First on my list is to complete my research project — after we finish analyzing the samples, I will write and prepare a manuscript for publication. I've also been training nurses in data management at KGH. My intention is to roll out data training to the entire hospital. I have coordinated the renovation of a data office in the pediatric ward with plans of extending this to the entire hospital. Finally, I'm working on a study of preexisting COVID-19 immunity with plans for clinical trials this year. In 2023, I hope to secure scholarships for a Ph.D. in clinical immunology. Finally, developing a robust mentorship program for Sierra Leone is a goal I hope to accomplish in the next several years.

### RESOURCES

<https://bit.ly/RobertSamuelsRSV>

## Rethinking the scientific diaspora

The concept of “brain drain” from low- and middle-income countries (LMICs) has been getting a re-assessment in recent years. As the global conversation has shifted focus to health equity and decolonization, many in scientific diasporas are now leading the movement for more equitable partnerships in LMICs, benefiting both U.S. and LMIC institutions.

Fogarty’s 2009 publication, “The Globalization of Health Research: Harnessing the Scientific Diaspora,” outlined the challenges and opportunities many diaspora scientists face in their countries of origin. Some of the challenges that persist today include lack of access to baseline research infrastructure and limited administrative and local government support. Add in security issues, economic policies, and political instability. These issues can make pursuing research in some LMICs unattractive.

Many of Fogarty’s scholars, fellows, and grantees are part of diaspora communities in the West, often holding senior leadership positions in government or universities, seemingly proving the point that brain drain is real. However, many diaspora scientists return to their country of origin at some time or another. Such homecomings enable what some call “brain circulation.”

Dr. Olugbenga Ogedegbe, a professor at NYU Langone and Fogarty advisory board member, is originally from Nigeria and has led two separate capacity-building projects in West Africa. He says, “the tension between brain drain and giving back can be difficult, but it is reassuring that diaspora scientists often give back to their home country.”

Diaspora scientists’ unique perspective and connection to their country of origin allow them to reach the talent there

exponentially faster, build training and infrastructure, and pursue work that addresses the public health issues in that country.

Dr. Wondwossen Gebreyes, a professor of molecular epidemiology and executive director of Global Health and Global



Photo courtesy of NHGRI

As the global conversation has shifted focus to health equity and decolonization, many in scientific diasporas are now leading the movement for more equitable partnerships.

One Health Programs at Ohio State University, started his career in his native Ethiopia. Knowing the culture and having colleagues there has helped him immensely in working with other East African countries as he leads capacity-building projects there. “It is much easier when you know the culture, how people think, and what sort of mechanisms work best in that setting.”

According to a 2014 World Bank report, “A Decade of Development in Sub-Saharan African Science, Technology, Engineering & Mathematics Research,” diaspora scientists who return to their country of

origin in East and sub-Saharan Africa significantly increase the citation impact of the work done there.

While diaspora scientists make up less than 4% of the research base in that region, the impact of their research, which measures the number of times other researchers cite their work, is between 4% and 27% higher than that of the average researcher in East and sub-Saharan Africa.

In the 13 years since Fogarty’s publication on harnessing the scientific diaspora, research on diaspora scientists’ direct impact on their country of origin is still lacking. A recent study led by researchers at the University of Washington and the University of California, Los Angeles found that the literature on the topic of diaspora engagement is limited, leaving them unable to measure the true impact of this “brain circulation.” That said, diaspora scientists have proven to be an essential resource in the field of global health research and play a pivotal role in creating truly equitable partnerships between the U.S. and LMIC institutions in the future.



# Diaspora influence on research in sub-Saharan Africa

The migration of experienced scientists and medical professionals from sub-Saharan Africa since the 1980s has led to gaps in education and research capacity. In 2022, the pace of migration has slowed; in fact, researchers in sub-Saharan Africa have more than doubled their research production since 2002.

A contributing factor to this growth has been the influence of diaspora scientists. Dr. Olugbenga Ogedegbe is the Chief of the Division of Health & Behavior and Director of the Center for Healthful Behavior Change in the Department of Population Health at New York University's School of Medicine. He is also a member of Fogarty's advisory board. He says, "Looking at the data between 2002 to 2012, 79% of the research coming out Africa is led by the U.S. and the majority of those driving that work are diaspora scientists."

Diaspora scientists bring a unique perspective to the U.S. institutions they work in, connecting with colleagues and potential study participants in their country of origin more quickly and with more understanding than other scientists. Dr. Fred Ssewamala, a professor and associate dean at Washington University, says, "One of the biggest added benefits an African scientist brings is lived experience. Being from Uganda and doing most of my work there, I understand the environment, and I can pose relevant questions and apply methodologies that work for the communities we engage with."

This background gives diaspora scientists the ability to mentor up-and-coming researchers in their countries of origin. "Many researchers seek guidance from diaspora scientists on becoming a productive scientist despite being from a lower-income country," said Ssewamala. "Having diaspora scientists in leadership positions is important because it shows these scientists it is within their reach."

However, those who left a lower-income country to study and work in the U.S. or other high-income countries find the balance between "brain drain" and "brain circulation"—or the collaboration of diaspora scientists with those in their country of origin—challenging. They know that while their careers benefited from relocating, the research capacity in their home country may have suffered.



Researchers from the University of Rwanda at a research administration and grants management workshop in Kigali. The Fogarty-funded project focuses on enhancing HIV research training capacity.

With this in mind, many diaspora scientists in global health work on projects intended to give back and build research capacity within their country or region of origin. Dr. Adebola Adedimeji, division head and research associate professor at Albert Einstein College, is currently a principal investigator on a Fogarty-funded project in Rwanda focused on enhancing HIV research training capacity. "Being in the U.S. has allowed me to tap into the available expertise and resources to advance our research in sub-Saharan Africa."

Dr. Ogedegbe has been the principal investigator since 2018 on a Fogarty-funded project that aims to strengthen research ethics capacity in Ghana by offering a master's degree in bioethics from NYU to 24 fellows in Ghana and developing a sustainable bioethics program at the University of Ghana.

Dr. Ssewamala is a co-principal investigator on several NIH-funded training programs that focus on training early-career researchers committed to careers in child behavioral health. Among them is the Fogarty Global Fellows and Scholars program at Washington University, now called LAUNCH, which fosters the next generation of global health scientists by providing training early at established biomedical and behavioral research institutions and project sites across sub-Saharan Africa.

Projects like these are just the beginning of what many hope to see for the future in decolonizing global health. "We cannot rely on a one-size-fits-all strategy for capacity building," said Adedimeji. With life expectancy in sub-Saharan Africa still much lower than that of the rest of the world, mainly due to the burden of chronic disease, building this base of scientists and researchers is critical. "Fogarty's continued support for capacity building initiatives across sub-Saharan Africa has been extremely valuable, but we still have a lot of ground to cover."

# Using home-grown knowledge to advance health in Suriname

Suriname is one of the most ethnically and culturally diverse countries in the Western Hemisphere, making for a unique population to study. At just 23 years old, Dr. Maureen Lichtveld began her career working with communities living in the Amazon rainforest in her home country, a small Caribbean nation on the northern coast of South America. While in the Amazon doing clinical work, Lichtveld realized many of the health issues plaguing its small communities could be linked back to the toxins in the environment. This realization was the beginning of what would be a life-long career in environmental health research. Today, she is a renowned epidemiologist and Dean of the University of Pittsburgh's School of Medicine.

Lichtveld's Surinamese background brings a unique perspective to the field of environmental and global health. As a part of the UJMT Fogarty Global Health Fellowship, Lichtveld developed the first project of its kind in the Caribbean. "With Fogarty funding, we put together an environmental epidemiology cohort study that brought together 1,200 pregnant moms and ultimately babies who are now three to four years old," said Lichtveld. "For the first time, we were conducting this research in a country where things like cultural and geographic differences had never been considered."

The study focused on studying the effect of neurotoxins on the health of babies in Suriname, looking for any indications of the impact of the exposure on their brain development. As a result, they collected more than 15,000 biospecimen samples, making it the largest biospecimen bank in Suriname, an invaluable resource for future research in that area. "The return on investment from this Fogarty funding has been phenomenal, and it is important work that I hope we can continue." Lichtveld hopes to build off this project, looking at the opposite end of the spectrum, studying the effect of neurotoxins on generations of women, from grandmothers to their grandchildren.

An accomplishment Lichtveld is most proud of came out of Fogarty's GEOhealth program. She and her colleagues developed a fully hybrid master of science/public health degree program at the University of Suriname, specifically designed to address important local health problems while keeping scientists in country. Since its inception, four cohorts have graduated from the program, and seven



*Dr. Maureen Lichtveld (right) mentored Fogarty Scholars while developing an environmental epidemiology cohort study in Suriname.*

Photo courtesy of Maureen Lichtveld

students have moved on to their Ph.D.'s, focusing their research on environmental epidemiology.

Lichtveld's role as a diaspora scientist and a woman in science has influenced her from the beginning of her career. "When my mother passed away, one of the things that I promised her I would do is grow women leaders in the field," said Lichtveld. "Women in leadership, especially in low- and middle-income countries, have tremendous benefits often using a multi-disciplinary and holistic approach in their work."

Dr. Cecilia Alcala, a mentee of Dr. Lichtveld, is currently a post-doctoral fellow at the Department of Environmental Medicine and Public Health at the Icahn School of Medicine at Mount Sinai. She credits her time working with Dr. Lichtveld for helping her establish a career in global environmental health research. "Seeing Suriname from the perspective of a diaspora scientist like Dr. Lichtveld and understanding the perspective of the researchers who worked alongside us in Suriname gave us a well-rounded experience and allowed us to connect on a deeper level with the cohort," said Alcala. "The research we did during my global health fellowship was something the community and the government needed in order to pursue different interventions and policies. Understanding that impact was a stepping-stone for me to see that this is what I want to do for the rest of my life."

Another mentee of Dr. Lichtveld's, Anisma Gokoel, a researcher at the Academic Hospital Paramaribo in Suriname, began working with her on the Caribbean Consortium for Research in Environmental and Occupational Health (CCREOH)-MeKiTamara project in Suriname in 2016. She says, "Dr. Lichtveld has been an inspiration for me, not only to advance my career but also to give back to my country of origin."



# Building research capacity in East Africa

Dr. Wondwossen Gebreyes began his research career as a veterinarian in Ethiopia in the early 1990s, where he says, “I was raising chickens to support my education.” He migrated to the U.S. in 1995. His first job there? Working as a parking attendant at NIH, an agency that would ultimately play a significant role in his future career.

“I remember working at different parts of the NIH campus in the late 1990s, mainly across from building 31, the main office space for institute directors and their staff,” said Gebreyes.

**“Making progress in a short period is much easier when you know the culture and how people think and work there. Establishing partnerships and being taken seriously on a political level happens so much faster.”**

Dr. Gebreyes, who was born in Ethiopia, received his degree in veterinary medicine from Addis Ababa University in 1990. At the time, the country was still in the midst of a civil war that began in 1974. By the official end of the war, experts estimate that at least 1 million people had died due to famine and combat violence. As a veterinarian, he practiced in the rural areas of Ethiopia, “I saw firsthand the devastating effects that infectious diseases, parasites and antimicrobial resistance can have on these communities.”

Shortly after moving to the U.S., he was accepted into a Ph.D. program at North Carolina State University eventually joining the faculty. Now at Ohio State, he is a Hazel C. Youngberg Distinguished Professor in molecular epidemiology and the executive director of the Global One Health Initiative. This initiative works to improve the health of communities, build capacity among public health professionals, and provide learning opportunities for students, faculty, and staff around the world.

Since 2010, Dr. Gebreyes has led a Fogarty-funded project establishing sustainable research and training capacity for foodborne pathogen research in East African academic institutions. The ultimate goal of this program is to build a critical mass of capable scientists that can

effectively conduct research on zoonotic diseases and implement prevention and control systems.

To date, this program has established four laboratories in East African universities, trained 28 Ph.D. fellows, more than 40 laboratory technologists, and established a culture of high quality, ethical research in areas such as molecular epidemiology. “This Fogarty project has allowed us to bring something unique to the region. Most students in this area are taught through a didactic curriculum, and it is not often that you are able to integrate a research project and training program,” said Gebreyes. “If we had to do this training program in the U.S., we would have only been able to train a fraction of students compared to what we have been able to do here in the region with the Fogarty system.”

Being a part of the Ethiopian diaspora here in the U.S. has opened many doors for Gebreyes’ work in East Africa over the last 12 years. “Making progress in a short period is much easier when you know the culture and how people think and work there. Establishing partnerships and being taken seriously on a political level happens so much faster, which is a huge added value to a project like this.”

The project’s next phase offers more opportunities for those pursuing a master’s degree via a predoctoral fellowship in rotavirus, salmonellosis, tuberculosis, and leishmaniasis research. Gebreyes also hopes to strengthen collaborations between veterinarians, physicians, and environmental health scientists in East Africa to address zoonotic diseases. Gebreyes says, “Fogarty’s research training and capacity building programs have been instrumental in this region, and the impact is so clear. We are all so grateful for their support.”

*Gebreyes, right, visit fellows at Sokoine University in Tanzania. He received the NIH Gold medallion in 2019 and was elected to the National Academy of Medicine in 2021.*



Photo courtesy of Wondwossen Gebreyes

## Health disparities research offers lessons for US, LMICs



There is a regrettable truth about health care and medical advances: They do not benefit all people equally. The results are health disparities (HD)— preventable differences in wellness and medical outcomes that adversely affect certain populations but not others. The health inequities we see in low- and middle- income

countries as well as in some of our own impoverished populations have been strongly linked to social determinants. Evidence of HD is not only visible in access to care but also in health statistics, such as life expectancy at birth, under-5 mortality in children, and maternal deaths.

Naturally, Fogarty aims to reverse this by funding research that examines the influence of environments, social determinants, and other underlying mechanisms that lead to differences in medical and health outcomes. And what we learn from research in LMICs may open our eyes to the same problems at home.

Across our portfolio of grants, Fogarty supports programs to train researchers that study HD and social determinants. Our program based at Moi University in Kenya aims to develop data science leaders who are equipped to capture and analyze data on social determinants of health and design more effective interventions for communicable and noncommunicable diseases. In Cameroon and South Africa, researchers at the African Institute for Mathematical Sciences in Cameroon and the University of Cape Town are examining health disparities with risk factors associated with surgical disease linked to social disparities, such as cost of care and access to transportation, to discover and address these compounding issues.

A South American program trains Quechua-speaking indigenous researchers from Argentina, Bolivia, Peru, and Paraguay at the Universidad de Buenos Aires and the Universidad Peruana Cayetano Heredia, where they learn epidemiology, genetics, and neuroimaging so that they can develop a greater understanding of the major psychiatric disorders in their own populations.

Finally, in our Malaysian program, researchers are developing an artificial intelligence-based mobile health (mHealth) intervention to increase HIV testing among men who have sex with men who have worse health outcomes due to the discrimination and stigma they face. All Fogarty investments attempt to support equity issues in global health, but we want and need to do more.

We've seen that, among U.S. researchers, those who are minorities show a special interest in research of HD, so we believe that if we increase the diversity of our grantees, we can improve health throughout the world. In essence, if we include previously disadvantaged individuals not only as research partners but also as research leaders, the benefits of our work will extend to neglected populations everywhere. This plan requires a greater understanding of how we can put these strategies into practice. To this end, Fogarty and the NIH will soon issue a Request for Information (RFI) on approaches NIH might take to promote greater equity in global health research within low- and middle- income countries.

The RFI is an open invitation... to you. Please take the time to express your ideas about ways we could encourage the expansion and ensure the quality of global research collaborations including and among scientists and institutions in low resource settings. We welcome comments on current NIH practices that might be revised as well as new practices that could be implemented. Beyond this, we are interested in hearing your thoughts on: inclusive community research-engagement strategies; mutually beneficial data and material sharing approaches; publication access; training and career development; joint leadership strategies; and research priority setting.

We anticipate receiving many practical and beneficial ideas from global health researchers at all levels of their career. I thank you in advance for helping us improve Fogarty and the NIH by responding to this forthcoming RFI with your best ideas. It's time all humanity benefitted from the hard work and science we do together.

### RESOURCES

<https://bit.ly/HealthDisparitiesResearch>



## NCI Director Steps Down

Dr. Norman “Ned” Sharpless stepped down from his role as Director of the National Cancer Institute, a position he has held since 2017. During his tenure, Sharpless oversaw the development of NCI’s Childhood Cancer Data Initiative and the Experimental Therapeutics Program and briefly served as the FDA’s Acting Director. NCI’s Deputy Director, Dr. Douglas Lowy, will serve as acting NCI director effective April 30.



## Gerberding Named Chief Executive Officer of FNHI

The foundation for the National Institutes of Health has named Dr. Julie Gerberding as their Chief Executive Officer, a role she will assume on May 16th. Previously, Gerberding served as the 15th director of the CDC and currently serves as Chief patient officer and executive vice president, Population Health & Sustainability at Merck.



## Panjabi joins National Security Council

In March, Dr. Raj Panjabi assumed his role as National Security Council senior director for global health security and biodefense. Prior to this, Panjabi served as the global health malaria coordinator at USAID and co-founder and CEO of Last Mile Health, a nonprofit that aims to develop community health care systems globally.



## NIBIB Director named to National Academy

National Institute of Biomedical Imaging and Bioengineering (NIBIB) Director Dr. Bruce Tromberg will be inducted as a fellow to the National Academy of Inventors (NAI) in June. The NAI fellows program highlights those who have created or facilitated inventions that have made a tangible impact on quality of life, economic development, and societal welfare.



## Mayanja-Kizza honored at CUGH 2022

Dr. Harriet Mayanja-Kizza, HIV researcher, former Dean of Makerere Medical School in Uganda, and former Fogarty Fellow, was one of two recipients of the 2022 CUGH Distinguished Leader Award honoring individuals who have made exceptional contributions to the advancement of global health worldwide.



## McKee confirmed for top USAID Position

The Senate confirmed Erin McKee as the Assistant Administrator for Europe and Eurasia on March 24th. McKee previously served as the Ambassador to Papua New Guinea, Solomon Islands, and Vanuatu at the Department of State since 2019. Before her state department appointment, McKee served for over 24 years at USAID in various roles.

## CGHS launches case study collection

Fogarty’s Center for Global Health Studies (CGHS), in collaboration with the Cincinnati Children’s Hospital Medical Center and the National Cancer Institute (NCI), has developed a collection of case studies documenting examples of rigorous implementation research in low- and middle-income countries (LMICs).

Full collection: <https://bit.ly/ImplSciCaseStudies>

## 2021 G-Finder report released

The 2021 G-Finder Report on global investment in neglected disease R&D breaks down funding by disease, platform, and funder type (government, private sector, philanthropic). While neglected disease R&D dipped just 4% from 2019’s near-record, the pandemic adversely impacted clinical trials funding which saw a 10% decrease.

Full report: <https://www.policycuresresearch.org/analysis/>

## African CDC releases vaccine framework

The African CDC published the Partnerships for African Vaccine Manufacturing (PAVM) Framework for Action in March. The framework documents the current vaccine manufacturing environment in Africa and recommends eight programs to grow and scale vaccine development and manufacturing over the next two decades.

Framework download: <https://bit.ly/AfricanVaccines>

## WHO announces health facilities database

WHO announced its new Global Health Facilities Database (GHFD) initiative meant to locate and provide access to healthcare services for populations worldwide. The initiative aims to consolidate the master lists of local and regional health facilities into one standardized database.

Website: <https://www.who.int/data/GIS/GHFD>

## USAID tracks COVID-19’s impact on LMICs

USAID released its second landscape analysis of first- and second-order impacts of COVID-19 on low- and middle-income countries. While not exhaustive, the analysis intends to provide a high-level synthesis of some of the major storylines of 2021, leveraging the best available data to understand the pandemic’s most significant global impacts.

Full report: [https://bit.ly/USAID\\_COVID\\_Impact](https://bit.ly/USAID_COVID_Impact)



Funding Opportunity Announcement	Deadline	Details
International Bioethics Research Training Program D43 Clinical Trials Optional R25 Clinical Trials Not Allowed	Jun 7, 2022	<a href="http://bit.ly/BioethicsTraining">http://bit.ly/BioethicsTraining</a>
Chronic, Noncommunicable Diseases and Disorders Research Training D43 Clinical Trials Optional	Jul 13, 2022	<a href="https://bit.ly/NCD_ResearchTraining">https://bit.ly/NCD_ResearchTraining</a>
Global Infectious Diseases (GID) Research Training Program D43 Clinical Trials Optional	Aug 3, 2022	<a href="https://bit.ly/InfectiousDiseasesResearch">https://bit.ly/InfectiousDiseasesResearch</a>
Emerging Global Leader K43 Independent Clinical Trials Required K43 Independent Clinical Trials Not Allowed	Nov 3, 2022	<a href="http://bit.ly/E_Lead">http://bit.ly/E_Lead</a>

For more information, visit [www.fic.nih.gov/funding](http://www.fic.nih.gov/funding)

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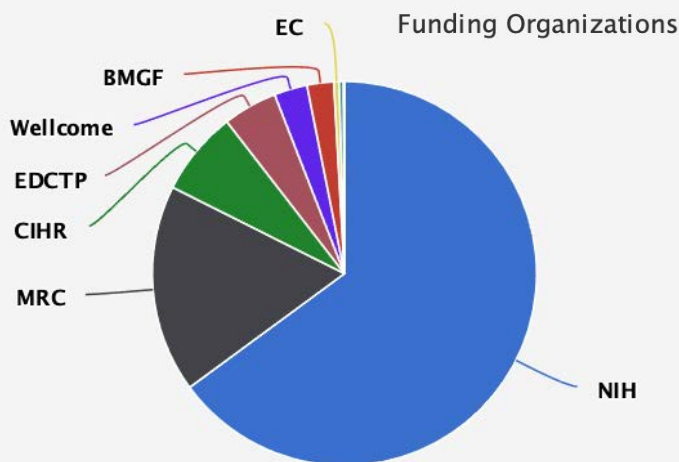
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## World Report data aids entrepreneurship in Africa



World Report allows quick access to data about global research investments.

Image courtesy of the NIH World Report

When helping startups in healthcare and life sciences technology in Africa, Dr. Robert Karanja often turns to World Report (WR) for insight. “Our work in global health innovation is integrated in a global value chain of ideas and finance. Thus, the ability to see the flow of funding and the areas of research receiving funding is great intel that informs our strategy and operations,” Dr. Karanja explained. Dr. Karanja is co-founder of Villgro Africa, an early-stage business incubator and investor that seeks to support startups with a global social impact focus in the African region.

Public tools such as WR help entrepreneurs like Dr. Karanja see where research funding is going. It also helps him identify experts in medical and scientific areas, such as screening infants for pneumonia. A search on WR reveals over 1,000 pneumonia research projects underway at 720 organizations in 61 countries. Dr. Karanja added, “A tool that could link [patents to PubMed] would be very useful. Understanding a patent’s nuances informs a startup’s freedom to operate.” NIH’s Office of Portfolio Analysis will consider this feedback as it develops the next version of World Report, part of a portfolio analysis tool suite to be released this summer.

### RESOURCE

Explore World Report here: <https://worldreport.nih.gov>