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

## Paying it forward: Fogarty Fellows & Scholars at 20

By Judy Coan-Stevens

To mark the 20th Anniversary of its flagship Global Health Fellows and Scholars program, now known as LAUNCH, Fogarty hosted a commemorative event on the NIH campus and a retrospective panel at the 2023 CUGH conference in April. At both events, the former fellows and scholars emphasized the importance of mentorship to the LAUNCH program and how the connections they made in their “Fogarty year” have sustained them through their career journeys.

The commemoration kicked off with a half-day event on the main NIH campus featuring a keynote by former Fogarty Director Roger Glass, two panels of alumni co-moderated by NIH leaders, and concluding thoughts and remarks by Sten Vermund of the Yale School of Public Health and Acting Fogarty Director Peter Kilmarx.

Eight more program alumni were featured on a panel at CUGH 2023 moderated by Roger Glass. The panel also included the presentation of a recent program review led by Fogarty’s Celia Wolfman Katz. From the survey she and her team conducted it was clear “mentorship is the backbone of this program.” Nearly 90% of respondents stated that their mentors played a significant role in their career trajectory. Alumni panelists at both events noted the impact mentors had during their time with the program and beyond.

Dr. Anubha Agarwal, a 2017 fellow and assistant professor and co-director of the Program in Global Cardiovascular Health at Washington University, noted that because of the support from her Fogarty mentorship team, “The leap from the Fogarty fellowship to a career development award was very contiguous.”

Dr. Roxanna Garcia, a 2019 neurology fellow, who is currently an assistant professor at Northwestern University, reiterated the need to sustain those relationships to continue



Alumni present at the closing panel of the Fogarty Global Health Fellows & Scholars/ LAUNCH 20th Anniversary event in April.

receiving support. It’s what 2021 nursing fellow Ivan Segawa called “lifelong mentorship”—mentorship beyond the “transactional” mentorship that’s often limited to one project or fellowship.

Dr. Nauszley Abedini, a 2012 scholar, said, “I think one of the key factors in the evolution of my career was having mentors from the very beginning who have been dedicated to my professional growth.” But sometimes you need to differentiate between a “project manager” and a “mentor,” per Dr. Richard van Zyl-Smit, a South African pulmonologist and 2009 fellow: “the project manager is there to get the project done, and the mentor is there to look after you.”

Many alumni are now mentors themselves, including moderator Dr. Satish Gopal, a 2012 fellow who went on to mentor many subsequent cohorts of Fogarty fellows. 2015 fellow Dr. Christine Sekaggya-Wiltshire of Uganda has mentored dozens of Fogarty fellows since her training, building a network in part through her mentees. “The research skills that you get from a program like Fogarty enables you to mentor anyone in any field.”

### FOCUS



### CUGH returns, in real life

- Reimagining global health in the 21st century
- At the intersection of climate, nutrition & health
- Reducing eye surgery’s environmental impact

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# Delivering hope and health care in Haiti

By Mariah Felipe

When he first volunteered in Haiti during the 2010 cholera outbreak, Dr. Eric Nelson noted that his team was seeing more and more patients with avoidable dehydration whose symptoms had worsened during the overnight hours when access to medical care was unavailable. Haunted by this, Nelson, a former Fogarty Fellow who studied cholera transmission in Bangladesh, shifted his studies after completing his residency at Stanford. He moved away from the research bench towards new disciplines that allowed him to learn new approaches to addressing the logistical challenges of expanding health care access.

In 2014, an NIH Early Independence award enabled him to delve deeper into this implementation science research, ultimately leading to the creation of MotoMeds—a pediatric telemedicine and medication delivery service designed to prevent emergent illnesses from transitioning into emergencies.

Supported by Nelson's lab at the University of Florida, MotoMeds serves children 10 and under in Haiti. From 6 p.m. every evening to 5 a.m. the following day, a call center is staffed by nurses and nurse practitioners who answer the calls of concerned parents and caretakers, with pools of motorcycle drivers on standby to transport medications or nurses. On-call physicians provide oversight for complicated cases or cases outside of the guidelines.

All of this is possible due to partnerships with the local communities and NGOs in the region that assist with needs like communication services and hiring qualified health professionals and drivers from within the country. By doing this, MotoMeds has created a mechanism to help the communities they serve while providing employment opportunities. "These opportunities enable the staff to provide for their family's needs and grow professionally," said Nelson, highlighting that many of the nurses were able to pursue nurse practitioner training through their engagement with MotoMeds.

The drivers are another critical resource according to Molly Klarman, Project Director for MotoMeds Haiti. "Their granular sense of the existing road networks allows them to navigate without maps or GPS, or a formal address system, using landmarks to get to patients." Furthermore, the drivers often assist in treating mild cases by sharing video



A MotoMeds driver outside of the call center in Gressier, Haiti. Drivers are a critical resource: "They can navigate without maps or GPS to get to patients."

tutorials on a tablet, illustrating how to correctly prepare and take the medication—an additional step MotoMeds hopes will improve treatment adherence for patients.

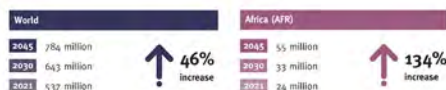
While MotoMeds has specific metrics and benchmarks they use to measure progress, like getting to a household in under two hours or looking at the rates of guideline adherence, Nelson says, "There is a more human aspect to the program which comes through in our qualitative research."

MotoMeds surveys families, drivers, nurses, and doctors to get their feedback and help characterize the impact from a more human perspective. So far, they have found that one of the most important things MotoMeds has provided the community is hope.

"These are populations where no one has ever answered their call for help and MotoMeds is doing that," said Nelson. "Often, the families cry when we pick up the phone and talk with them. Hope is really the single most important thing that we deliver."

MotoMeds hopes to establish an NGO to oversee its future operations and partner with other countries confronted by health care access challenges. The idea is that the program would be adaptable to the needs and preferences of partner countries while maintaining a research infrastructure, similar to the current setup in Haiti. Nelson stressed, "We want the operations to be fully managed by the partner country, with our support, and position the research in an equitable way."

Number of adults (20-79) with diabetes worldwide



# Facing undiagnosed diabetes in Africa

By Susan Scutti

Sub-Saharan Africa has the highest percentage of people living with undiagnosed type 2 diabetes in the world, according to the International Diabetes Federation (IDF). An estimated 54% of Africans who are living with diabetes do not know they have the illness, which is characterized by poor regulation of blood glucose (sugar) that is used by the body's cells for energy. Too much circulating glucose leads to diabetes and its possible complications, including heart disease, renal failure, blindness, neuropathy, and lower extremity amputations.

Diagnosing diabetes in Africa is problematic due to costs and lack of access to resources. Additionally, Africans may have a different phenotype of the disease—type 2 diabetes is common in non-obese Africans—which leads to atypical biomarkers and diverging diagnostic standards. Dr. Jean de Dieu Gatete described a new strategy for diagnosing the disease, which could be of specific value to Africa, in his recent graduation speech.

Gatete is the seventh fellow in the NIMHD-NIDDK-Rwandan Health Program, led by Dr. Anne E. Sumner of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). It is anticipated that Gatete, who is scheduled to return to Rwanda in July 2023, could conduct similar research there, ultimately changing the trajectory, severity, and prevalence of undiagnosed diabetes in that nation.

## Accessible, inexpensive solution

The best, most reliable test for diabetes, the oral glucose tolerance test (OGTT), measures how the body reacts to a solution with high glucose content called “glucola,” explained Gatete. It begins with a blood draw from a patient who's fasted for eight hours, followed by measurement of blood glucose levels; after the patient drinks glucola, another blood draw takes place two hours later to check glucose levels. When high levels of blood sugar are seen, the patient has diabetes (or, if levels are not so high, pre-diabetes). Glucola costs \$8 a bottle, prohibitively expensive in many places in sub-Saharan Africa according to Gatete.

Seeking a glucola alternative, the NIMHD-NIDDK-Rwandan Health team first tried substituting Ceres Juice, a South African brand, but found it did not identically affect blood glucose levels so could not be used for diagnosis. Next, the team mixed water and



While the International Diabetes Federation projects a 46% increase in diabetes worldwide over the next two decades, it expects prevalence in Africa to increase by 134%.

pastry sugar (also known as confectioner's or powdered sugar) and found a solid match to the performance of glucola. And the cost of the sugar needed for the test is less than a dollar.

To validate this work, a pastry sugar tolerance test (PSTT), which enrolls African immigrants in the U.S., is underway, said Gatete. The plan is for Gatete and others to conduct the same research in Africa. For Rwanda, a nation similar in size to the state of Maryland with a population of 14 million, the use of PSTT as a diabetes diagnostic should be within economic reach.

## Achievement through partnership

Following Gatete's presentation, which was part of the National Institute on Minority Health and Health Disparities (NIMHD) Seminar Series, Dr. Eliseo J. Pérez-Stable, director of NIMHD, noted that the research is “very practical. It could impact literally hundreds of thousands of people in Africa.” Yet he raised a key question: Once diagnosed, what do you do?

Dr. Tomlin Paul, a dean at University of Global Health Equity (UGHE) in Rwanda, echoed the concerns of Pérez-Stable. He stated, “diabetes is most devastating for LMICs as approximately 80% of the 463 million adults worldwide with diabetes live in low- and middle-income countries.” Yet only one in 10 people living with diabetes receives treatment recommended by WHO guidelines, he said. “Dr. Gatete's research initiative is of great service to the cause.”

# PROFILE

## Improving heart failure care in Southern India

Dr. Anubha Agarwal emigrated from India to the United States with her family when she was about 5 years old. As many immigrant families do, she spent much of her childhood going back and forth, visiting her family in India. During those trips, Agarwal realized the stark differences between the two countries. “Witnessing the inequities between the countries and within each country, I wanted to solve them. Later, I realized that I wanted to do that as a physician,” she said.

During medical school, Agarwal was quickly drawn to cardiology as a specialty but felt unsure how to integrate that into her goal of solving health inequities in India. This changed once she began working with Dr. Gerald Bloomfield, one of Fogarty’s first-ever cardiology fellows, as part of AMPATH, a partnership between Moi University, Moi Teaching and Referral Hospital, Indiana University, and the Kenyan government. With Bloomfield’s mentorship and guidance, she decided to apply for a Fogarty fellowship.

The overarching goal of Agarwal’s Fogarty year was to answer the question: How can we improve heart failure care in South India? She worked in the state of Kerala, where her first step was to conduct a systematic review of existing heart failure intervention programs. While many improvement programs existed, all had been studied and refined in high-income countries, making it a challenge to understand how they might work in low-income settings. Agarwal and her colleagues then took that data and conducted qualitative interviews with physicians, nurses, patients, and pharmacists, asking them what they think needed to be done to improve heart failure care. From there, they designed their quality improvement intervention and tested it amongst 1,400 heart patients in Kerala over six months.

This marked the end of her Fogarty project, but the work on a heart program tailored for Kerala continues.

Using her Fogarty data, Agarwal applied for and was awarded a Pathway to Independence grant from the National Heart, Blood, and Lung Institute. With this grant, she and her team will work again in Kerala evaluating a polypill that combines four different classes of medications into one pill for patients with heart failure. Her mentors on



Anubha Agarwal , PhD

Fogarty Fellow:	2017-2018
U.S. institution:	Northwestern University
Foreign institution:	Indian National Centre for Disease Control
Research topic:	Global burden of cardiovascular disease

this related project are a direct extension of her Fogarty experience. Dr. Mark Huffman, a professor of medicine and co-director of Washington University's Global Health Center, is her primary mentor—and, like Bloomfield, is another of Fogarty’s first cardiology fellows. Dr. Dorairaj Prabhakaran, vice president and director of the Centre for Control of Chronic Conditions at the Public Health Foundation of India, will also serve as her mentor as he did previously during her fellowship.

“My Fogarty fellowship was foundational to what I will spend the next five years of my life working on,” said Agarwal. “My Fogarty year was the most impactful year of my life, both personally and professionally.”

Today, Agarwal is working at Washington University in St. Louis as an assistant professor and co-director of their global cardiovascular health program. She spends about a quarter of her time working with patients; the rest is spent on research related to her project in Kerala. “I have progressed significantly since my Fogarty year due to phenomenal mentorship,” said Agarwal. “Now, when I think about my leadership priorities, mentorship is at the forefront.”

Agarwal is committed to her new project, global health, and her growing family, which have all come together at once. During her first stint in Kerala, Agarwal met her husband, who already lived in India. The new couple, along with their recently born child, plan to split their time between Kerala and the U.S. in the coming years.

Agarwal’s advice to those considering a Fogarty fellowship: Take the risk. “It can be difficult to take a year off for your study when you are on the physician track in the U.S., but you never know where it can take you.”

## PORNPIMOL KONGTIP, PHD

*Dr. Pornpimol Kongtip has served as a faculty member at Mahidol University, Thailand, for over 20 years where she chairs the Ph.D. program in occupational health and safety. Kongtip earned a Ph.D. in occupational health from McGill University, Canada, and an MS in biochemistry from Chulalongkorn University, Thailand. Her research focuses on occupational and environmental exposure assessment and biological monitoring in the general population and in workers in Thailand, with special emphasis on agriculture.*



### Tell us about the GEO Health Hub project.

The project, which ends in July 2023, is a collaboration between Mahidol University in Thailand and University of Massachusetts Lowell in the U.S.

The focus has been to examine if pesticides alter the endocrine system, including thyroid hormone levels and cortisol levels, as well as their impact on metabolic biomarkers associated with metabolic syndrome and chronic disorders such as cardiovascular disease, diabetes, and stroke. Our research has shown that conventional (pesticide-using) farmers have significantly higher BMI, waist circumference, percentage of body fat, and total cholesterol compared to organic farmers, even after accounting for potential confounders, such as tobacco and alcohol use. Number of pesticide spray days was associated with an increasing disruption of the hypothalamic-pituitary-adrenal (HPA) axis and depression of the cortisol rhythm in Thai farmers. Pesticide-using farmers have higher thyroid hormone levels than organic farmers, and an increase in cumulative days of spraying is associated with higher levels of certain thyroid hormones.

Overall, the Hub has produced 20 peer-reviewed papers. We've expanded the research capacity at Mahidol to include pesticide biomarker analysis and trained our university staff, the staff of other universities, and some employees from the Ministry of Public Health. We'd planned to bring in biomarker research trainees from Vietnam, Laos, and Indonesia but with the pandemic we were limited to providing online-only training. All of these outreach efforts have increased research capabilities in Southeast Asia.

### What challenges have you faced as a scientist?

Getting permission from different companies to do research on workers' exposures to different types of chemicals inside their facilities can be difficult. Many companies don't want you to know about major exposures or to identify health risks associated with work done in their facilities. I started looking at pesticide exposure

among rice farmers in 2007 and found that farmers were happy to work with us. I eventually began to study organophosphate (a group of chemical pesticides) exposures in pregnant women, and now I've conducted research in all areas of agricultural health.

One of the most rewarding aspects of our work is that, after four years of discussions, Thailand finally banned the use of the herbicide paraquat and the insecticide chlorpyrifos starting in June 2020, while limiting use of another herbicide, glyphosate. It's difficult to get involved in politics and talk to the media, but we realized that it was important to educate politicians and the community about the risks of pesticides.

### What should future research agendas include?

Industrial accident rates in Thailand are high compared to other countries, so that is an area of concern. We are also facing increasing air pollution especially during the winter. In the past we used to think that India had a serious air pollution problem, but these days Thailand is approaching that same level—above the safe limit. The Thailand agricultural sector employs over 30% of the workforce, so widespread and poorly managed use of pesticides presents a potential risk to farmers and their families but also to the general public. If farmers do not apply pesticides at the recommended rates, food residue levels (the amount of pesticide remaining in or on foods) can be quite high. All of these problems are dynamic and need to be studied.

My current research focuses on durian. People want to eat durian all year round so farmers, who want higher incomes, are making that happen. Unfortunately, pesticides must be used so durian can be grown off-season and exported.

Thailand is in a better position than other countries in our region because of our universal health coverage, which started about 10 years ago. Over time our health system has improved and now the government gives more support than initially. Still, we need to improve these systems for informal and low-income workers.

## Reimagining global health in the 21st century

By Judy Coan-Stevens

Over a decade ago, the Consortium of Universities for Global Health (CUGH) executive board set out to find a consensus definition of global health. Their 2009 *Lancet* paper, “Towards a common definition of global health,” set some parameters around what it meant. Fourteen years later, at the 2023 CUGH conference, Dr. Judith Wasserheit, Fogarty advisory board member and one of the *Lancet* paper authors, noted “tectonic shifts” since then, not least of which is the COVID-19 pandemic. In her introduction to the plenary session, “Reimagining global health in the 21st century,” Wasserheit noted, “While there have been advances and improvements, many communities have been left behind, and discussions about equity and decolonization have gained much more traction in recent years.”

The session was co-moderated by Wasserheit, fellow Fogarty board member Dr. Maureen Lichtveld, and Acting Fogarty Director Dr. Peter Kilmarx. The panelists were Dr. Ala Alwan, former director of WHO Eastern Mediterranean Region and former Iraqi Minister of Health; Dr. Tahmeed Ahmed, executive director of icddr,b, Bangladesh; Dr. Patricia García, former dean of Universidad Peruana Cayetano Heredia and former Minister of Health, Peru; and Dr. Melissa Salm, postdoctoral fellow at the Center for International Security & Cooperation, Stanford University.

The panelists offered their thoughts on how the definition has changed over the last two decades. Salm commented that, “Health is so much more than the absence of disease.” She asked the audience to consider a One Health approach that, “decenters the human in global health as animal, environmental, and human health are all factors to be

considered.” The panelists had diverging definitions when asked what makes something a global health issue. Ahmed and Alwan agreed that the burden should be substantial and transcend boundaries, while García believes global health means sharing cooperative ways of solving problems across countries. Salm added, “Global health is a model that interconnects global entities to respond to emergencies.” The panelists also discussed the potential of artificial intelligence and machine learning to solve global health problems, but emphasized the need for these technologies to be designed by and for local communities.

Regarding what changes are needed in the field, Ahmed offered that institutions should move from theoretical to practical, field-based work, and Alwan stressed “I would like to see more implementation science research taking place within ministries of health.” García suggested standing up more regional health agencies, like Africa CDC, to shift global health practice out of high-income countries.

Lichtveld closed the discussion by saying, “We must engage, collaborate, and invest, address asymmetries of power, and ask ourselves if global health is just an organizational model and if emergency preparedness, implementation science, and One Health are essential to global health. We must remember that global health is linked to government and governance, and finally, we must address who will be responsible for global health in the future.”

The discussion is continuing, and panel members plan to write a paper or series of papers on the topic in the coming months.

Moderators and panelists at a CUGH 2023 plenary session (pictured) aimed to define global health in today's context.



# At the intersection of climate, nutrition & health

By Mariah Felipe

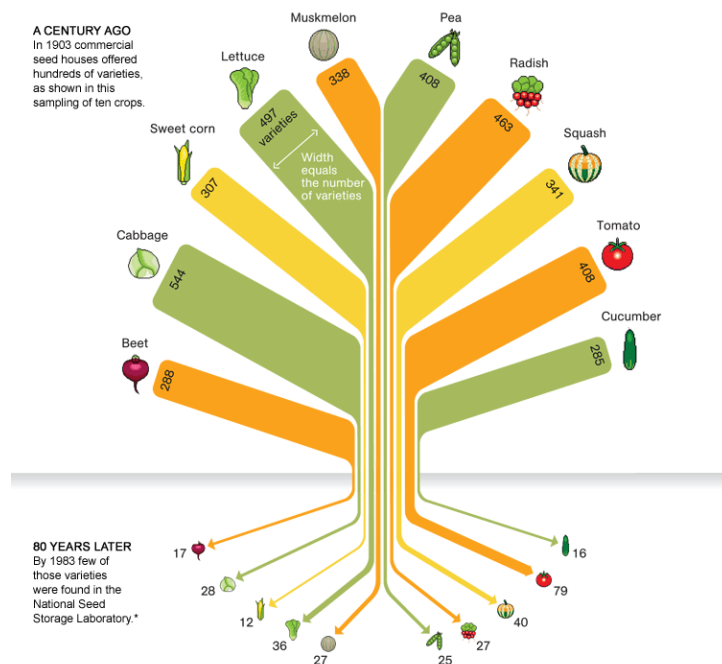
Keeping with CUGH's theme of "Global Health at a Crossroads: Equity, Climate Change, and Microbial Threats," Fogarty and the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) organized a session focused on the impact of climate change on nutrition and health. Featuring experts from academia and government, the session aimed to investigate the intersection of global warming, diet, and wellness and their effects on equitable, sustainable, and resilient responses to emerging public health issues.

Dr. William Dietz, director of the Sumner M. Redstone Global Center for Prevention and Wellness at George Washington University's Milken Institute School of Public Health, opened the discussion by highlighting the "syndemic" of obesity, malnutrition, and climate change, which he defines as three pandemics interacting at biological and biosocial levels having adverse impacts on each other. He noted, "While the U.S. is currently number two in the emission of greenhouse gases globally, the effects are mostly felt in low- and middle-income countries (LMICs). That fact gives the U.S. a special responsibility for reversing this syndemic."

But the impact can be felt here too. NIH Climate Scholar Dr. Lauren Clay, an associate professor and department chair at the University of Maryland Baltimore County, discussed the effect natural disasters, as a result of climate change, have had on crop yields, health, and nutrition in the U.S. She reasoned, "the U.S. must engage in a global conversation about these issues."

Diet also plays a crucial role in preventing climate change, and maintaining human and planetary health, according to data from the Global Burden of Disease project highlighted by Dr. Jessica Fanzo. "We are at a crisis moment concerning the food system and climate change," said the Bloomberg Distinguished Professor of Global Food and Agricultural Policy and Ethics at Johns Hopkins University. Diet is one of the most significant contributors to mortality and morbidity around the world, and our current food systems contribute significantly to greenhouse gases.

Planetary warming and changes to crop yields lead to heat stress and malnutrition, creating a double burden on maternal and child health, per Dr. Kartik Shankar,



Crop diversity has greatly decreased in the last century. Preserving agrobiodiversity helps meet the challenges of climate change and nutrition insecurity.

professor of pediatrics and nutrition at the University of Colorado School of Medicine. He showcased how increasing global temperatures not only affect access to nutritious foods but can also impact development in the womb, referring to studies in which women who carried their pregnancies through the summer months or in overall higher temperatures tended to have children with lower birth weights. He noted, "Improving nutrition may prevent the effects of heat stress for expectant mothers."

Interventions—like farm diversification and conservation efforts such as community seed banks—are helpful, but there is still a need for scalability in adopting these practices globally, according to Dr. Beatrice Ekesa. In her talk, Ekesa, a nutrition scientist at Alliance Bioversity International & CIAT in Uganda, focused on the importance of preserving agrobiodiversity to optimize food production, enhance soil health, and reduce the use of fertilizers or pesticides in crop production. She also highlighted the decrease in the diversity of crops over the years. For example, sweet corn had more than 307 varieties at commercial seed houses in 1903; 80 years later the number of varieties had shrunk to just 12.

Dr. Meera Shekar, the global lead for health, nutrition, and population at the World Bank, discussed how her organization addresses these challenges, including supply- and demand-side interventions, analytics, policy dialogues, and investments in various sectors. She suggested that "taxation policies like those we have seen around the world on sugar-sweetened beverages might be a viable option for reducing beef consumption and ultra-processed foods which contribute the most to overall food emissions."

# Reducing the environmental impact of eye surgery

The climate crisis may increase the risks for many eye diseases, such as cataract and infections, due to increased UV radiation, drought, weather extremes, and infectious diseases, according to the International Agency for the Prevention of Blindness. If global warming intensifies, it is likely that the number of people living with blindness—currently about 43 million—and the number of those with moderate to severe visual impairment—about 295 million—will rise. Much of this increasing disability will occur in low- and middle-income countries, where populations generally have less access to ophthalmic care to prevent or reverse eye disease.

At a recent CUGH session, Dr. David F. Chang, ophthalmologist from the University of California, San Francisco, warned the WHO has declared climate change the single greatest threat to human health. He also pointed out the concerning irony that the health care sector is responsible for 4.4% of all global greenhouse gas emissions, of which 71% arise from the manufacture, use, and disposal of medical supplies. Operating rooms account for a major share of health care's carbon footprint through the generation and disposal of enormous amounts of surgical waste.

## Follow the LMICs

As a specialty, ophthalmology has the highest volume of surgeries in medicine. This prompted Chang to co-found EyeSustain, a global consortium of 40 ophthalmology societies. “We believe there is a pressing need to reduce the environmental impact of cataract and other eye surgeries, which are increasing in volume as our population ages,” Chang said. “Because we have the highest surgical volumes, ophthalmology has a unique opportunity—and an obligation—to make our highest volume procedures more sustainable.”

*Operating room regulations, meant to protect patients, dictate the use of non-reusable supplies, resulting in a large amount of waste.*

For both guidance and inspiration, Chang turns to southern India's Aravind Eye Care System. Founded in 1976, Aravind encompasses 14 eye hospitals in Southern India. Collectively, they perform the highest volume of cataract surgery in the world and half of their patients receive care either free of charge or at a heavily subsidized rate.

Aravind pursues its mission of eliminating needless blindness by providing large-volume, high-quality and affordable care. “If you want to learn how to be more efficient and sustainable, you can look to low- and middle-income countries, because they already are most efficient—they don't have the luxury of wasting money or resources,” said Chang.

## Evidence-based procedures

To maximize cost effectiveness of care, every Aravind hospital routinely reuses surgical gowns, gloves, irrigation bottles, tubing, metal blades, and both topical and intraocular drugs, Chang noted in a recent editorial published in the *Journal of Cataract & Refractive Surgery*. Aravind hospitals also simultaneously prepare and operate on multiple patients (none required to wear hospital gowns) within the same operating room.

One study found that carbon emissions generated by one phacoemulsification (a procedure used to remove the natural lens of the eye during cataract surgery) at an Aravind center are approximately 1/20 of those generated by the same procedure in the United Kingdom. Each of Aravind's practices (other than topical drug reuse) is a forbidden infection control violation in the U.S., noted Chang. Aravind's postoperative endophthalmitis (POE) rate, then, should be much higher than in the U.S. where most supplies are discarded after single use to prevent infection.

“In fact, it is not,” noted Chang. The POE rate for 2 million consecutive Aravind cataract surgeries between 2011 and 2018 was 0.04%. Comparatively, the American Academy of Ophthalmology's Intelligent Research in Sight (IRIS) registry reported an identical 0.04% POE rate for 8.5 million consecutive cataract surgeries performed in the U.S. during an overlapping period.

Chang explained that cataract surgery is a relatively clean procedure with a low risk for microbial aerosolization and cross-contamination. “The Aravind data suggest that mandating single use of so many supplies and drugs is not necessary but generates a huge amount of needless waste and carbon emissions.”





# Mental health, climate change, equitable collaboration

By Susan Scutti

The many traditions of the annual Consortium of Universities for Global Health (CUGH) conference include presenting a rich array of virtual satellite sessions to the public. This year's agenda encompassed examinations of machine intelligence, road traffic crashes, rising mistrust of public health, cancer research, crisis preparedness, and blindness. Two sessions of note focused on mental health as a noncommunicable disease (NCD) in the context of Caribbean and the way universities can support equity in global health collaborations.

## Post-colonial mental health

Though similar in many ways, the 26 islands of the Caribbean diverge in terms of resources; the World Bank classifies Antigua's economy as high-income, Jamaica's as upper middle-income, and Haiti's as lower middle-income. Recent changes, including the COVID-19 pandemic, decriminalization of marijuana, and climate change-related weather events, have fueled a rise in mental health issues across the region. This wellness deficit, which encompasses neurological and substance use disorders, often worsens the outcomes of other NCDs, such as diabetes and cardiovascular disease, warranting urgent attention.

Caribbean researchers addressed these interlinked issues in a session, "Mental Health: A solution for reducing NCDs in the Caribbean," organized by the American University of Antigua College of Medicine.

Their central theme was the rising burden of NCDs (including mental health disorders) faced by the region. Presenters emphasized the necessity of recognizing trauma as a driver of NCDs along with understanding how alcohol, tobacco, and cannabis contribute to preventable chronic disease and disability.

## Capacity exchange

Seeking to identify administrative and policy changes that would support equity in global health research collaborations, Harvard Medical School organized the satellite session, "Transforming Universities for Equity and Impact in Global Health." Moderated by Dr. Kathryn Chu of Stellenbosch University, a rousing panel discussion spilled over into the chat and led to a collective reckoning around the concept of equitable collaboration.

Dr. Dana Thomson of Harvard Medical School questioned the term "capacity building," noting that it is often assumed to mean a transfer of knowledge from high-resource to lower-resource nations. "This reinforces an inequitable narrative," she said and suggested "capacity exchange" as a more accurate descriptor of global health partnerships. Dr. Rashi Jhunjhunwala, also at Harvard Medical School,



Ad campaign from the Healthy Caribbean Coalition.

described how the medical students and surgeons in Rwanda taught her "realities on the ground" and innovations unknown in the U.S. "If I worked in a rural area in the U.S., I could use these methods," she said.

## Equality of funding

Vanderbilt University's Dr. Quentin Eichbaum would like to see the cake divided more equitably. He identified an issue that frequently troubles global health partnerships: many high-income country collaborators choose to work at only the big name LMIC institutions rather than at lesser-known institutions that might benefit more from partnerships. "There are about 130 new medical schools in Africa at various stages of development... but NIH/CDC/Fogarty have consistently been risk-averse and preferred to develop partnerships at and fund well-established institutions."

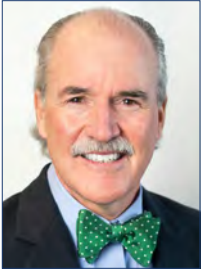
Stanford's Dr. Michele Barry suggested advocating for increased allocation of grant funds for indirect costs to the Global South while also twinning, or pairing, well-funded partner institutions with less well-known institutions whenever a research grant is awarded. Eichbaum agreed that twinning could help, but added that sharing funds among the institutions (and not just offering "advice") would be crucial for these strategies to work.

Summarizing the session, University of Pittsburgh's Dr. Maureen Lichtveld, a Fogarty board member, shared that, as a member of promotions committees and a peer reviewer, she, herself, has valued or devalued other researchers along hierarchical lines—downgrading the comments of academics based in LMICs (or in lesser-known universities in high income countries) and failing to give proper due to authorship that is neither first nor last. "I've been on those committees, so I know that we are the ones who don't value certain experiences," she said.

# DIRECTOR'S COLUMN

By Dr. Peter Kilmarx, Acting Director, Fogarty International Center

## Promoting diversity, equity, and inclusion beyond borders



The Fogarty International Center is deeply committed to improving health outcomes and reducing health disparities around the world. One way we can achieve this goal is by training individuals from populations who are underrepresented as health researchers.

I'm pleased to share Fogarty's recent Notice of Special Interest (NOSI) for Administrative Supplements to Fogarty Training Grants to Promote Diversity, Equity, and Inclusion (DEI) which aims to do just that. With these supplements, we intend to support existing research training programs in their efforts to provide a foundation in research design, methods, and analytic techniques to a diverse set of trainees.

For example, members of certain ethnolinguistic and indigenous populations in low- and middle-income countries (LMICs) are often among the most vulnerable, facing significant barriers to accessing high-quality health care and suffering from a disproportionate burden of disease. Members of these and other such marginalized communities are also often underrepresented in the health research workforce, which can limit our understanding of their unique health needs and prevent us from developing interventions to address their specific health challenges. Health research training can play a critical role in addressing these disparities by empowering individuals from underserved populations with the skills and knowledge they need to conduct high-quality research. By training and supporting these researchers, we can help elevate their perspectives so that their experiences are valued, and the health needs of all populations are addressed.

As a Peace Corps volunteer, I learned many proverbs in Tshiluba, one of the regional languages in the Democratic Republic of the Congo. One of my favorites is "*Bidi bikengela kulala mu nzubu wa muntu mukuabo bua kumanya mvula udi ulota muaba kayi*," which is to say, "You have to sleep in another person's house to know where the roof lets the rain in." It is the members of these marginalized populations who know what the most important health problems are in their communities, and with the right training, are uniquely equipped to find the most effective, locally appropriate, and sustainable solutions.

With the skills and knowledge needed to conduct research provided by these supplements, these individuals will be well placed to help their communities identify and address their own health challenges and not rely solely on outside experts, who often lack contextual knowledge. This can also help build trust, promote understanding between researchers and communities, and address the power imbalances that often exist between researchers from high-income countries and the communities they study.

It is of course up to our grantees and their partners to apply for such funding, as well as to define underrepresented populations in the countries in which they work. It may be members of specific ethnolinguistic groups, socioeconomically disadvantaged populations, underserved rural populations, groups with disabilities, immigrants and displaced populations, or sexual and gender minorities, among others.

We hope that this initiative will lead to tangible improvements in health equity and further build sustainable local capacity for conducting research where it is needed most. Imagine the impact over a generation of helping establish new and diverse research leaders around the world! We also hope to learn from them new approaches and techniques that may be shared widely to decrease health disparities, including here in the United States.

This initiative is made possible by increased funding for health disparities research in Fogarty's congressional appropriation for fiscal year 2023. I thank Dr. Flora Katz, Director of our Division of International Training and Research, for her commitment to this issue, and our extramural program officers and grants management staff who will support and administer this initiative in addition to their current workloads.

Health research training is a powerful tool for promoting research and health equity, social justice, and improving health outcomes in LMICs, particularly for individuals from populations who are underrepresented as health researchers. We can only benefit from harnessing the talent, experiences, and perspectives from a more inclusive and diverse global health research workforce in our collective efforts to achieve greater health equity for all. We at Fogarty remain committed to supporting health research training programs around the world, and we look forward to continuing to work with our NIH and global partners.



## WHO gives lifetime achievement awards

WHO awarded two lifetime achievement awards during the Seventy-sixth World Health Assembly. Professor Jean-Jacques Muyembe-Tamfum of the Democratic Republic of the Congo was recognized for his innovation, leadership and ground-breaking contributions to the management and treatment of diseases such as Ebola virus disease.



Professor Peter Piot of Belgium was recognized for his extraordinary leadership in the response to the HIV/AIDS epidemic including his vital role in launching major global health initiatives such as UNAIDS, the Global Fund, and others that have improved health outcomes around the world.



## Gairdner honors Belizan

Dr. Jose Belizan was awarded the 2023 Canada Gairdner Global Health Award for the development of innovative, evidence-based and low-cost interventions in maternal and child health. Belizan was co-director of the Fogarty International Clinical Research Fellows site in Argentina.



## McIff named deputy of HHS Global Affairs

Colin McIff was appointed as Deputy Assistant Secretary of the Office of Global Affairs (OGA), HHS. He previously served as OGA deputy director, director of the Europe office of the FDA, HHS representative to the European Union, and health attaché at the U.S. Mission to the United Nations in Geneva.



## Belkaid to lead Pasteur Institute

Dr. Yasmine Belkaid has been appointed president of the Institut Pasteur where she received her Ph.D. Scientific director of the NIH Center for Human Immunology, Inflammation, and Autoimmunity, Belkaid is widely recognized for her expertise in the study of immune responses at mucosal surfaces. Her role as president will begin in January 2024.

## NHGRI releases human "pangenome"

Researchers from the NHGRI-funded Human Pangenome Reference Consortium released a new collection of reference human genome sequences that captures substantially more diversity from different human populations than what was previously available. The new "pangenome" reference aims to include the genome sequences of 350 people by mid-2024.

## USAID to support climate resilience

USAID announced \$1M in assistance to cities across Latin America and the Caribbean to help build resilience to the impacts of climate change during the inaugural Cities Summit of the Americas. Funding will support the development of city-level plans that foster integration of migrants, reduce disaster risk, and strengthen climate resilience across the region.

## WHO launches health inequality data repository

Hailing it as the "largest global collection of disaggregated data about health and determinants of health," the WHO released its Health Inequality Data Repository in April. The repository aims to make datasets from a variety of publicly available data sources more readily available for analysis.

## G-FINDER reviews devices to treat postpartum hemorrhage

The report provides a snapshot of the R&D landscape for devices in use or investigated for treatment of postpartum hemorrhage (PPH). PPH is the leading cause of maternal mortality worldwide according to WHO. The report aims to shed light on possible low-tech approaches to reducing deaths due to PPH.

## Academies publish proceedings on implementation science

The National Academies Global Forum on Innovation in Health Professional Education published the proceedings of their 2022 workshop series on the use and application of implementation science in health professions education. Workshops centered on the potential use of implementation science in the classroom and clinical practice.

Funding Opportunity Announcement	Deadline	Details
Chronic, Noncommunicable Diseases and Disorders Research Training	Jul 13, 2023	<a href="http://bit.ly/NCDtrain">http://bit.ly/NCDtrain</a>
Global Infectious Diseases (GID)	Aug 3, 2023	<a href="http://bit.ly/GID-FIC">http://bit.ly/GID-FIC</a>
Fogarty HIV Research Training G11 Clinical Trials Not Allowed D71 Clinical Trials Not Allowed	Aug 22, 2023	<a href="http://bit.ly/NIHGlobalHIV">http://bit.ly/NIHGlobalHIV</a>

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

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## Journal highlights mental health of children & teens in sub-Saharan Africa

Photo courtesy of Allison Divincenzo, USAID



*A teen stays in a women's shelter in Zimbabwe.*

High rates of poverty, violence, and inadequate health systems escalate rates of mental illness in sub-Saharan Africa (SSA). A special supplement in the *Journal of Adolescent Health* addresses the special behavioral health needs of children and teens in this region.

The publication presents research spanning the disciplines of social work, medicine, public health, community health, and family development.

“Serious consideration needs to be given to context-specific influences within SSA, such as mental health-related stigma, skepticism of professional responses, the large number of children and adolescents affected by HIV/AIDS, and the lack of family economic opportunities,” said Dr. Fred Ssewamala of the Brown School, Washington University in St. Louis.

He is a founding director of the International Center for Child Health and Development (ICHAD) and co-director of SMART Africa Centers. The two organizations hosted the 5th Annual Conference on Child Behavioral Health in Sub-Saharan Africa and issued a call for abstracts focusing on advances in SSA behavioral health. Manuscripts developed from some of these abstracts appear in the supplement.

“South to South Collaboration to Strengthen Child and Adolescent Mental Health in Sub-Saharan Africa” was edited by Manasi Jumar of Aga Khan University. The National Institute of Mental Health supported its publication.