



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

WHO Director-General consults with NIH during US tour

Fogarty has a friend at the helm of the WHO in Geneva, now that Dr. Tedros Adhanom Ghebreyesus has taken up his position as Director-General. Known as "Dr. Tedros," he previously served as health and foreign minister of Ethiopia, where he got to know Fogarty while collaborating on a Medical Education Partnership Initiative (MEPI) award.

Prior to assuming office on July 1, Tedros spent five days in the U.S., visiting the leadership of the Bill & Melinda Gates Foundation, World Bank, UN, State Department, HHS, CDC and the NIH. While in Bethesda, he met with NIH Director Dr. Francis S. Collins and Fogarty Director Dr. Roger I. Glass, among others.

In his initial address to WHO staff, Tedros pledged to promote global health equity, saying without health, people have nothing. "This is our collective vision: a world where everyone can achieve healthy and productive lives, no matter who they are or where they live."

Tedros listed four priorities: universal health coverage; health emergencies; women's, children's and adolescents' health; and health impacts of climate and environmental change. He also emphasized the importance of continuing efforts to turn WHO into

Photo courtesy of the NIH



NIH Director Dr. Francis S. Collins (left) and Fogarty Director Dr. Roger I. Glass (right) met with incoming WHO Director-General Dr. Tedros during his recent visit to the U.S.

a more effective, transparent and accountable agency, serving as "the best possible" partner for global health.

"WHO's work is about serving people, about serving humanity," he said. "Most importantly, it's about fighting to ensure the health of people as a basic human right."

House proposal preserves Fogarty, boosts NIH by \$1 B

The House appropriations committee with oversight of HHS funding has approved a bill that would continue support for Fogarty, which would have been eliminated under the President's budget plan. If enacted, the measure would allocate \$73.4 million to the Center, a 1.5 percent increase over the current funding level. The NIH would also see a boost, with \$35.2 billion

proposed for Fiscal Year 2018, which begins Oct. 1. In addition, the bill would mandate that NIH continue to support grantees' indirect costs, which pay for the administrative and facilities resources required for research.

The Senate is expected to take action on HHS appropriations in September.

FOCUS



Fogarty program launches global health careers

- Cardiologist gains "life-changing" scientific experiences in Africa, India
- Microbiologist establishes collaborations, research site that kick-start career
- Chemist learns scientific and mentoring skills that enable promotion

Read more on pages 6 – 9

First fellow graduates from NIH-Rwanda program

Photo by Andrew Popp/NIH



Dr. Jean Utumatwishima delivers a presentation as the inaugural graduate of the NIH's new training partnership program with Rwanda.

A Rwandan physician who had a yearlong fellowship at the NIH is returning home with a new purpose—to help prevent diabetes—and the research skills to make it happen.

Dr. Jean Nepo Utumatwishima is the inaugural graduate of a training program supported by Rwanda's

Ministry of Health and NIH's National Institute on Minority Health and Health Disparities (NIMHD) and National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).

NIDDK's Dr. Anne E. Sumner, who created the program, says she was inspired to help build research expertise in Rwanda after attending the 2015 Barmes Global Health Lecture, delivered by then Minister of Health Dr. Agnes Binagwaho, who described the country's recovery from the 1994 genocide. After the event, Fogarty Director Dr. Roger I. Glass facilitated communication between the parties and planning for the fellowship began.

Rwanda's Ministry of Health selects candidates to be considered for the program, which currently has one slot per year; pays for the travel to and from the U.S.;

and guarantees a university position upon return to Rwanda. NIMHD provides the fellowship salary. NIDDK offers mentoring led by Sumner, who heads its Section on Ethnicity and Health and focuses on diabetes and heart disease prevention in people of African descent worldwide.

During his year at NIH, Utumatwishima, a surgeon and director of a 300-bed government hospital, attended weekly rounds at the NIH Clinical Center and took courses in clinical research, biostatistics, writing and publishing scientific articles, and grant writing. In addition, he mastered software, including REDCap (Research Electronic Data Capture), a free, secure method for data collection, which is available globally.

Utumatwishima intends to apply what he learned at NIH to prevent and manage diabetes in Rwanda, starting by collecting much-needed data on disease prevalence.

The program's long-term goal is to develop the intellectual power and infrastructure needed in Rwanda to form a viable entity to improve public health, establish a diabetes registry and successfully compete for international funding.

Utumatwishima returned home in July enthusiastic to begin work. "I think this year will be a turning point in my career," he says. "This experience is eye-opening for a scientist. I am committed to making sure it has an impact on people far from the U.S., as this is the true definition of global health."

Collins leaves NIH to head global mental health at UW

Photo courtesy of CUGH



Dr. Pamela Y. Collins will direct global mental health activities at the University of Washington.

A champion of global mental research who helped raise its profile internationally, Dr. Pamela Y. Collins has left the NIH to join the University of Washington (UW) as director of global mental health.

Collins spent nearly eight years at the National Institute of

Mental Health (NIMH), serving as director of the Office for Research on Disparities & Global Mental Health and the Office of Rural Mental Health Research. "During her impressive tenure, she developed NIMH's strategic vision and priorities for research on global mental health and mental health disparities in the U.S., building a robust research portfolio and creating a pathway to independence

for young investigators," NIMH Director Dr. Joshua A. Gordon said. Together with her team, she developed 11 new initiatives for research or training opportunities in mental health in low- and middle-income countries, and led the Grand Challenges in Global Mental Health study, engaging more than 400 participants from 60 countries, Gordon said.

In collaboration with Fogarty's Center for Global Health Studies, Collins helped lead a writers' workshop that resulted in five manuscripts published by *PLOS Medicine* that address the evidence and need for integration of mental health care into existing service delivery systems.

Fogarty Director Dr. Roger I. Glass hailed Collins for her visionary leadership. "We are grateful to Pamela for elevating mental health as a global issue, and for helping us cultivate a new generation of neuroscientists with experience collaborating internationally."

CTSA Programs may benefit from global health research collaborations

As scientists at Indiana University (IU) are discovering, the rewards of engaging in global health research are bidirectional. Not only do Kenyan scientists benefit from completing a rigorous 20-course curriculum modeled on the one offered by IU's Clinical and Translational Science Awards (CTSA) Program, but Indiana researchers also gain insights into local health problems by studying lessons learned by working alongside their African counterparts. Whether seeking to reduce high infant mortality rates in rural Indiana or confronting an HIV outbreak in the southern part of the state, IU scientists have found many of the issues they face are the same as in Kenya—a lack of health care workers, populations with similar risk factors, and stigma faced by those seeking diagnosis or treatment.

The CTSA Program network—funded at about \$500 million annually through the National Center for Advancing Translational Sciences (NCATS)—supports U.S. medical research institutions that work together to improve the translational process to get treatments to patients more quickly.

“The activities supported by the CTSA Program have been transformative to the science and culture of those academic centers across the country,” said NCATS Director Dr. Christopher P. Austin.

Expanding CTSA Programs to include global health, as Indiana has, may provide valuable perspectives and help spur innovation, Austin said. Although CTSA funds currently cannot be spent overseas—the sharing of curricula, training tools and best practices could benefit all. Another possibility under consideration is to encourage CTSA trainees to seek externships in low-resource settings overseas, where they may find novel, cost-effective solutions they can bring back to the U.S.

In 2008, Indiana received funding to establish its CTSA, which has become the flagship catalyst for the state's biomedical initiatives, according to Principal Investigator Dr. Anantha Shekhar. Having grown up in India, he sees value in leveraging IU's 20-year relationship with Kenya's Moi University and expanding the curriculum to include more aspects of global health research. A future goal is to establish a platform for reciprocal global health innovation that could provide a model for other CTSA's.

Global health research training was added as a pillar of Indiana's career development program a few years ago, combined with standard courses in translational,



U.S. researchers involved in Indiana University's Clinical and Translational Science Awards (CTSA) Program have gained insights into health challenges from colleagues working overseas, such as Dr. Debra Litzelman (right), who manages a Fogarty grant in Kenya.

Photo courtesy of Dr. Debra Litzelman

clinical, implementation and community-based research. The curriculum also includes modules to promote interdisciplinary team science and commercialization of discoveries.

With a separate Fogarty research capacity building award, IU brought Kenyan research fellows to the U.S. and embedded them in the standard training program, said grantee Dr. Debra Litzelman. The curriculum was later adapted to suit Kenyans' specific health research needs and transferred to Moi University in Eldoret, where it has not only slowed brain drain but also propelled local scientists into leadership roles.

In Kenya—and across Africa generally—chronic, noncommunicable diseases (NCDs) will soon be the leading cause of death and disability. The new program at Moi reflects that, by including training on how to design, implement and improve integrated systems of care for Kenyans with hypertension, diabetes, cancer and other NCDs.

The explosion of genomics research provides the opportunity to shed light on the complex interplay between genetic and environmental factors, which determine disease susceptibility and drug response. NIH's Human Heredity and Health in Africa (H3Africa) program is developing African expertise and resources in genomics. This will provide fertile ground for research collaborations on inherited genetic factors, including those related to rare diseases, which are difficult to study in the U.S.

“African-ancestry patients in the U.S. can be misdiagnosed because of genetic differences,” observed Austin. “Rare diseases have traditionally been largely ignored in low- and middle-income countries because there are higher priorities, though that is beginning to change via the work of the International Rare Diseases Research Consortium and H3Africa,” he said. “By working with populations and researchers globally, we are seeing benefits for patients in both the U.S. and foreign countries, and breakthroughs on some of these tough challenges.”

RESOURCES

<http://bit.ly/CTSAs>

PROFILE

Fogarty Fellow boosts breast cancer screening in Malawi

By Karin Zeitvogel

When Dr. Lily Gutnik applied for a Fulbright-Fogarty Fellowship in public health, she hoped to be able to rectify what she calls “a horrible injustice”—that a woman’s chances of surviving breast cancer depend in large part on where she lives.

“In developed countries, up to 90 percent of women diagnosed with breast cancer survive, whereas in developing countries, up to 90 percent of women with the disease die,” Gutnik explains.

Fulbright-Fogarty Fellows and participants in Fogarty’s Global Health Program for Fellows and Scholars receive support for a year of mentored research in a low-resource setting. Gutnik spent her fellowship in the southern African nation of Malawi, studying how to change perceptions of breast cancer and increase the number of women who are screened for the disease. She knew she would have to take a cost-effective approach to the problem because Malawi is one of the poorest countries in the world and doesn’t have the means to provide nationwide breast cancer screening, which has improved early detection in developed nations and lowered the mortality rate. She also knew she would have to tackle the misconceptions about cancer that abound in the country, and that she would have to do both in a way that sits well with Malawians’ culture and their limited resources.

Working with former Fogarty Fellow, Dr. Satish Gopal, who is head of the University of North Carolina’s Project-Malawi cancer group, Gutnik trained four Malawian women with no health care background—including one breast cancer survivor—to do breast exams and give educational talks on breast cancer in clinic waiting rooms. “More than 4,000 people heard the talks,” Gutnik said. “Many were surprised to hear that breast cancer isn’t caused by putting money or a cell phone in a bra, and that it cannot be passed to a baby through breastfeeding.”

Over the course of a year, the trained laywomen examined more than 1,000 patients, referring 67 whose results were abnormal to Gutnik and a colleague. Most—but not all—of the referred patients attended follow-up visits, and of them, 13 underwent pathologic sampling of a breast lesion. Two women who tested positive for cytologic dysplasia stand



Lily Gutnik, M.D., M.P.H.

Fulbright-Fogarty Fellow: 2014 - 2015

Fellowship at: UNC Project Malawi/Kamuzu Central Hospital

U.S. partner: University of North Carolina

Research Topic: Cancer screening in low-resource settings

out in Gutnik’s memory because they refused to undergo further tests, highlighting the social and psychological pressures that prevent many Malawians from seeking care.

Spending a year in Malawi helped Gutnik better understand some of the myriad global health issues that need to be addressed in low-income countries. “Screening and awareness are hugely important, but we also need to educate the providers. Few even recognize cancer, and they send women who come to them seeking treatment home with antibiotics and painkillers. It’s no good raising awareness and having women come in for screening, only to get mismanaged,” she said.

The Fogarty fellowship also helped cement Gutnik’s philosophy on global health. “My year in Malawi allowed me to spend a long time on the ground, dealing with day-to-day challenges, being entrenched in the local culture. The fellowship made me realize that I want to devote a large part of my career to research and capacity building in developing countries.”

Gutnik has published several papers and made numerous presentations about her study. Although she admits there’s a long way to go before Malawi has nationwide screening and people stop thinking of cancer as a death sentence, Gutnik believes her Fogarty-supported work helped get the country on the right track in the fight against breast cancer.

“People were asking us if they could bring a friend to be screened, and men who heard the waiting room talks were asking to bring in their wives,” she said. “Using a simple, affordable model, we changed people’s minds and started making a dent in the taboos about cancer.”

PETER SINGER, O.C., M.D., M.P.H., F.R.S.C.

Dr. Peter Singer is a professor of medicine at the University of Toronto, director at the Sandra Rotman Centre for Global Health, Foreign Secretary of the Canadian Academy of Health Sciences, and, since 2010, CEO of Grand Challenges Canada—a government-supported organization that funds innovators to find health solutions that save and improve lives in low- and middle-income countries (LMICs). In 2011, Dr. Singer was appointed an Officer of the Order of Canada for his contributions to health research and bioethics, and for his dedication to improving health in developing countries. In 2001, he received a multi-year Fogarty grant that supported international bioethics training for scores of candidates from LMICs.



What are the parallels between your work with Grand Challenges Canada and Fogarty?

Grand Challenges Canada supports bold ideas with a big impact on global health. Over the last seven years or so, we've supported 700 innovations in 80 countries, in areas like women's and children's health or mental health. Those innovations are expected to save about a million lives and improve millions more lives by 2030.

Grand Challenges is like Fogarty in that it promotes innovation in LMICs. Where they differ is in their primary focus. Fogarty focuses first on people and secondarily on ideas, while Grand Challenges Canada's main focus is on the ideas first and secondarily on the people. At the end of the day, however, those are the same thing, because the best way to develop people is to let them explore their ideas, and the best way to get the best ideas is to support the best people. So it really is just picking up the problem from two different ends.

How has the field of bioethics progressed?

We used to have global bioethics by policy document or treaty, such as the 1964 Helsinki Agreement, which spelled out the ethical principles for medical research involving human subjects. But bioethics by treaty is much less potent than bioethics by in-country leaders.

Fogarty has been instrumental in globalizing and shifting the focus of international bioethics from treaties to people. This resulted in growth and change in the field. When we started our master's program in international bioethics at the University of Toronto with support from Fogarty in 2001, there was no systematic bioethics network, little awareness of the field, and, most importantly, no cadre of in-country leaders who wanted to move bioethics forward. Since Fogarty launched its international bioethics program in 2000, the field has grown to where we now have a vibrant cadre of in-country leaders around the world, trained in, and focused on, bioethics.

What brought about this shift in focus?

Credit has to go to Fogarty and its leadership for choosing to go down the route of people-focused bioethics, and particularly on people inside a country. When the University of Toronto teamed up with Fogarty, we started looking at bioethics through Fogarty's lens, and we ended up training dozens of leaders from LMICs in bioethics at the university. These leaders and social entrepreneurs who were trained by Fogarty-supported programs like ours, went back to their countries and made broad-based changes. What our trainees have done and continue to do shows bioethics in its true colors—as a form of social innovation and a tool for social change.

How is bioethics a force for social change?

Bioethics is a way of innovating and improving practices, and bioethics leaders are, in effect, social entrepreneurs. Our bioethics training program focused on research ethics—which is important for ensuring ethical practices for research around the world. The leaders who came from India, Pakistan, South Africa, to name a few countries, to do the program had broad interests, from organ transplantation to issues of consent and end-of-life care in a particular cultural setting. They had seen bioethics issues in their fields of interest, and with Fogarty support underwent training in Toronto that increased their understanding of bioethics and gave them the communication, advocacy and policymaking tools needed to improve the situation. Pretty universally, they went back to their own countries after the training and set out to ameliorate the social and ethical aspects of care through their institutions.

Fogarty understands that global change starts within individual countries, and during its 50 years of existence, its unique, sustained focus on supporting people in their own countries to solve their own problems has been a critical piece of the architecture and development of global health.

RESOURCES

<http://bit.ly/BioethicsLinks>

Fogarty investment in early-career scientists pays off

A cardiologist who identifies cost-effective strategies to address heart disease, a microbiologist who supports vaccine development and a chemist who studies marine life to find new drugs are making very different contributions to global health, but have something in common. They've each held a Fogarty grant designed to help U.S. researchers launch their careers, and they are representative of the grant program's success.

The International Research Scientist Development Award (IRSDA) program has supported more than 75 investigators since it began in 1999. A recently published evaluation of the program, conducted by Fogarty analysts, concludes the IRSDA “has successfully developed a cadre of productive, independent global health researchers,” as measured by the findings they've published, the careers and collaborations they've established, and the subsequent funding they've secured.

The awards support three to five years of mentored clinical or non-clinical research in low- and middle-income countries (LMICs). Grantees are required to spend significant time conducting research in the LMIC and have mentors from both a U.S. and LMIC institution. The stipulation is intended to foster collaborations and increase the likelihood that research findings can inform policy or practice at the local level in the host country.

The more than 75 recipients of grants from a Fogarty program to nurture early-career scientists—such as Dr. Marcy Balunas (left) of the University of Connecticut—now form a cadre of productive, independent global health researchers, according to a recent program evaluation.

Living and working in a developing country gives you a better understanding of the country and helps build relationships which are essential to a career in global health research,” explains Fogarty Director Dr. Roger I. Glass. “Finding the time for field research isn't always easy for junior investigators who are balancing new administrative duties, grant applications and teaching responsibilities. The IRSDA addresses that problem by providing salary and support so they can have protected time to conduct global health research.”

U.S. investigators with doctoral degrees can apply with a research proposal in any discipline, providing the topic is relevant to the LMIC. The evaluation, which covered 1999-2016, found that most of the research projects (64 percent) have focused on infectious diseases, but there has been an increase in applicants pursuing noncommunicable disease and implementation science research. Grantees have worked in 33 countries across six world regions. Roughly half of the funded projects were in sub-Saharan Africa and a quarter were in Latin America.

Awards have been fairly evenly distributed between women (56 percent) and men (44 percent) and between M.D.s (47 percent) and Ph.D.s (41 percent), signaling the IRSDA is successfully attracting both basic science and clinical research applicants.

Program alumni have a high publication rate. They've been authors on more than 1,560 articles in peer-reviewed publications. More than 85 percent of alumni currently have a career in global health research. About 43 percent of grantees have received subsequent NIH funding—of those, 80 percent secured R01, U01 or P01 grants, which are viewed as a sign of scientific independence.

To further develop a robust global health workforce, Fogarty developed a program for early-career LMIC researchers in partnership with several NIH institutes. Modeled on the success of the IRSDA, the Emerging Global Leader Program launched last year.

“These awards are some of the best investments we make,” said Glass. “By nurturing these early-career scientists, we are helping seed the next generation of global health leaders whose discoveries will benefit health for years to come.”

Photo by Sean Flynn/UCConn.





As an IRSDA grantee studying marine life in Panama, Dr. Marcy Balunas developed scientific and mentoring skills that helped prepare her for an academic research career.

Photo courtesy of Dr. Balunas

IRSDA alumna explores marine life to find new cancer drugs

In a quest for new drugs to fight cancer and other diseases, Dr. Marcy Balunas explores the marine environment. A medicinal and natural products chemist, Balunas collects bacteria and other marine organisms, isolates compounds from them, and investigates their potential to be transformed into treatments.

The research she conducts today as a newly tenured associate professor at the University of Connecticut links back to her Fogarty grant for early-career scientists. Balunas held an International Research Scientist Development Award (IRSDA) from 2009 to 2012, which supported her work in Panama.

As part of her Fogarty-funded research, Balunas studied marine cyanobacteria for use against three tropical diseases—malaria, Chagas disease and leishmaniasis—as well as cancer. Cyanobacteria are similar to plants in that they get their energy through photosynthesis. They are highly nutritious and their visible presence on a reef indicates they likely have some property to ward off predators, which could be explored to fight disease.

“The marine and terrestrial diversity in Panama is outstanding,” Balunas says of the small country that’s bordered by the Pacific Ocean and Caribbean Sea—two very different environments. “Panama is an ideal place for this type of work.”

Indeed, for more than 15 years Panama was among the sites in a Fogarty-run research and training program to mine nature for new drugs and preserve natural resources. The International Cooperative Biodiversity Groups (ICBG) program in Panama was headed by Dr. William Gerwick of the University of California, San Diego. Balunas was a postdoc working with Gerwick and the Panamanian ICBG on cancer and other drug discovery when she got her own Fogarty award. The ICBG program in Panama was established by Drs. Phyllis Coley and Tom Kursar, both of the University of Utah.

Balunas isolated and identified several novel compounds from specimens collected in Panama, but those weren’t the only outcomes. She also enhanced her skills in synthetic chemistry and chemical

instrumentation including those related to nuclear magnetic resonance and mass spectrometry. “I had used the instruments as a Ph.D. student. But as an IRSDA grantee I had to learn how to take care of them and how to better understand them. That most assuredly continued to help me in my independent career.”

In addition to learning Spanish, mentoring was another skill she built. With support from the Panamanian government, Balunas trained local scientists in natural product drug discovery. “I trained students in Panama to take on science at a new level,” she says. “Some of them have gone on to work towards their Ph.D.s, so that’s exciting.” She also mentored U.S. students through an NIH program that exposes minority students to research in international settings. “I learned much more about mentoring than I ever would as a traditional postdoc,” and that experience, she says, helped her avoid some of the growing pains of a beginning professor when she started at the University of Connecticut.

In her UConn lab, Balunas uses techniques similar to her work in Panama, but focuses on different organisms. Her team studies bacteria that live with tunicates—also known as sea squirts—from Panama, Alaska and the Long Island Sound, and looks for immune enhancers and immune suppressors for cancer and other diseases.

Her interest in drug discovery is personal—both her grandmother and mother died from breast cancer. Balunas took time off from working on a master’s degree related to biology to care for her mom. “When she died, it was a real impetus to refocus and think about drug discovery, most specifically breast cancer drug discovery.”

“This very clearly is what I am supposed to be doing.”



With his Fogarty grant for early-career scientists, Dr. Jeffrey Bethony established research projects in Brazil and began scientific partnerships that continue today.

Fogarty support launches career in infectious diseases

Diseases of poverty—such as hookworm and schistosomiasis—get little attention but affect as many as 900 million people living in developing countries. These afflictions are most prevalent where there is inadequate sanitation and safe drinking water. The chronic illnesses caused by these parasites weaken their victims, making it impossible for them to work enough to improve their living conditions.

Former Fogarty grantee Dr. Jeffrey Bethony has devoted his career to seeking solutions to break this cycle of sickness and grinding poverty. Early on, he got a boost from a Fogarty career development award that enabled him to study parasitic diseases in Brazil. Twenty years later, he still collaborates with his mentors from that project and continues to contribute to the research enterprise he helped develop in Brazil.

His Fogarty-supported foreign experience helped him build interdisciplinary research skills and develop a scientific track record. He and his mentors have gone on to attract additional funding for their work—from NIH, the Dutch government and a \$22 million grant from the Bill & Melinda Gates Foundation to develop a hookworm vaccine. The research sites he helped establish in Brazil are now being used for NIH-funded clinical trials for a variety of vaccines, including for hookworms, schistosomiasis and, most recently, Zika virus.

“I owe my whole career to the IRSDA,” says Bethony who was supported by a Fogarty International Research Scientist Development Award (IRSDA) from 2000-2006. When he was starting out, he explains, there were more opportunities in HIV and influenza research than for the diseases he was studying. “The Fogarty grant enabled me to set up a research site, which has served me my entire career. The IRSDA really made me who I am,” Bethony says. “For me, it was a real lifesaver and life-changer.”

Bethony is now a tenured professor of microbiology, immunology and tropical medicine and vice-chair of translational research at the George Washington University (GW) School of Medicine and Health Sciences in Washington, D.C.

He has a lab on the campus, as well as a lab and clinic in Brazil that he developed in partnership with the Oswaldo Cruz Foundation (FIOCRUZ), a scientific research institution that falls under the country’s health ministry.

Bethony’s IRSDA research looked for an association between human genetics and parasitic infections to determine if certain individuals are more susceptible to the diseases. Working in Minas Gerais state in Brazil, Bethony gained experience that included basic fieldwork, enumerating populations and obtaining consent for clinical trials; laboratory research; and statistical analysis related to quantitative genetics.

“My IRSDA equipped me with this interdisciplinary approach to these diseases,” Bethony notes. “I learned how to do immunology in those endemic settings, which really at the end of the day, was geared more toward vaccines, and specifically vaccines for parasitic infections.” And, that’s the direction his career took.

Vaccine research—pre-clinical testing and clinical trials—has become a large part of Bethony’s portfolio. He collaborates with GW colleagues, and his mentors, Dr. Rodrigo Correa-Oliveira of FIOCRUZ and Dr. Peter Hotez, formerly of GW and now with Baylor College of Medicine.

The Brazilian lab and clinic that were built up around his research now have a staff of more than 30 people, including scientists, clinicians, nurses and lab technicians. It’s these relationships, fostered with Fogarty support, that are so critical to improving global health and security, Bethony says. “I don’t know where the next Ebola outbreak will be or where Zika will strike next. You can’t just send anybody out there. You have to send someone who knows the lay of the land and how to organize,” he observes. “Fostering these personal relationships is what Fogarty does and is the key to global health.”

Cardiologist examines cost-effective strategies

As a cardiologist and researcher, Dr. Thomas Gaziano identifies cost-effective ways to prevent, diagnose and treat cardiovascular disease (CVD), the leading cause of death in the U.S. and worldwide. Much of the research he conducts today, he says, stems from his Fogarty grant for early-career scientists.

From 2004-2012, Gaziano held an International Research Scientist Development Award (IRSDA), which enabled him to work in South Africa and India. He says the experience introduced him to collaborators, allowed him to generate an ongoing line of research, and led to more funding aimed at reducing the burden of CVD in developing and developed countries.

“The grant’s requirement to conduct your research and spend time in other countries outside the U.S. is absolutely critical. And, for me it was life changing,” says Gaziano, who has degrees in medicine and health policy. In addition to his position as an assistant professor at Harvard’s Medical School and School of Public Health, he is a physician at the Harvard-affiliated Brigham and Women’s Hospital in Boston, Massachusetts.

During his IRSDA years, Gaziano devised and demonstrated the effectiveness of a low-cost screening tool for CVD that could be used in areas with limited resources, working under the mentorship of Professors Lionel Opie in South Africa and Srinath Reddy in India. The risk assessment is based solely on information easily obtained in a



Photo courtesy of Dr. Gaziano

Dr. Thomas Gaziano used his Fogarty IRSDA grant for early-career scientists to develop a simple screening tool for cardiovascular disease in South Africa.

clinic or home visit—such as body-mass index, blood pressure, and health history—and was shown to be as sensitive as a laboratory-based assessment that requires blood tests for cholesterol.

After developing and validating the risk score, Gaziano began to address other related questions. Because he volunteered regularly in clinics in India and Africa, Gaziano knew the facilities were often short-staffed and overcrowded with patients, some of whom could spend up to a day walking to a provider. So, he and colleagues investigated whether community health workers could be trained to use the simple CVD screening tool to identify people at high risk and then refer them to a health center. His research showed it was a cost-effective approach in the three countries where it was evaluated—South Africa, Mexico and Guatemala.

That prompted another question: if people are identified as high risk and referred to a health center, will they go? More recently, he and his team developed a mobile phone app that is both a CVD risk calculator and electronic appointment scheduling system and are now testing it Argentina.

He conducts this and other research with colleagues he met during his IRSDA and with grants that followed from NIH’s National Heart, Lung and Blood Institute (NHLBI),

Fogarty and other funders. He and colleagues at the University of Cape Town were awarded an NHLBI Center of Excellence award to address prevention and treatment of chronic diseases in South Africa, and he was the principal investigator working with his U.S. mentor on an NIH R01 grant to examine the cost-effectiveness of CVD screening strategies in the U.S. and South Africa. Along with a colleague in India, Dr. Prabhakaran Dorairaj, Gaziano edits the cardiovascular volume of the Disease Control Priorities Project, which aims to reduce the global burden of disease.

The IRSDA stipulation that grantees live and work outside the U.S. provides exposure to problems another country faces that may be different from the U.S., even for the same disease, and creates the opportunity for lasting relationships, Gaziano notes. “It’s one thing to call, write, or email someone in another country and ask them to collaborate with you,” he explains. “It’s a very different experience once you’ve developed trust and a relationship. They believe you are interested in their country’s problems, and understand them, because you’ve spent time there.”

Gaziano says his IRSDA experience cemented his interest in global health. “As a result of that Fogarty grant, rather than just being a hobby, it’s a major part of my research portfolio.”

How can we encourage female global health leaders?



The burgeoning interest in global health over the last decade has attracted many enthusiastic women to the field. Indeed, at many universities they now make up the majority of students pursuing undergraduate courses in global health. Why, then, are there still so few women heading global health centers at medical schools or filling other leadership roles?

Although the numbers of female students are strong at the start, they decrease as cohorts advance in their careers. For instance, at Weill Cornell Medical College, 84 percent of undergraduates minoring in global health are women, according to a paper published by a Cornell team. But only 70 percent of medical students pursuing global health concentrations are female. The study also examined staffing at the global health centers of 50 top medical schools and found fewer than 40 percent of faculty, and only 24 percent of directors, are female. For women in the global south, there may be more overt gender discrimination and even fewer role models to provide mentorship and support. For example, only about a quarter of Africa's health ministers are women.

Why do so many women step off the global health career path? Are there factors we can change to close this gender gap?

Women can certainly face barriers in climbing institutional career ladders, such as building a family while pursuing a travel-intensive career, and confronting the health and safety issues that exist in many low-resource settings. These issues and others were explored by the Cornell group, as well as in a discussion held at the Consortium of Universities for Global Health (CUGH) meeting last spring, where participants considered some possible solutions. More

training courses should be made available via short-term intensives offered in the summer or through distance learning options. Institutions must examine their hiring and promotion practices to ensure they are conducting outreach to qualified female candidates, and providing navigable career tracks with flexible pacing. Consideration ought to be given to troubleshooting possible barriers for well-qualified prospective hires, including helping identify positions for spouses, or locating care for children or elderly parents. Women should also do their part, some suggested, by not pulling the ladder up behind them but instead reaching down to help their sisters advance. By advising others on some of the cultural, scientific or even practical issues faced by women working overseas, mentors—both women and men—can do much to encourage more females to continue on a global health path.

In my own life, I have watched my wife and daughter navigate these issues, which has given me a unique perspective. Although, early on, my wife followed me

to Bangladesh for my research, she balanced raising three children with career advancement, and has reached the pinnacle of success as a medical school dean. Now, my daughter is plotting her own course, as a surgeon and mother of a toddler.

I know I'm not alone in valuing the contributions and insights of female global health scientists, who, after all, are intimately aware of the maternal and child health issues that are so critical in our field. They bring valuable insights and

diverse opinions that help us collectively grapple with the toughest challenges we face.

It's to everyone's benefit that women remain engaged and take on more leadership roles in global health. I hope you will join me in working to support that goal.



Courtesy of CUGH
During the CUGH annual meeting, Fogarty grantee Dr. Michele Barry of Stanford University (right) discussed how women can be supported as they pursue global health careers.

RESOURCES

<http://bit.ly/womenGH>



Georgia health commissioner named CDC Director

Dr. Brenda Fitzgerald has been appointed to lead the CDC. An obstetrician-gynecologist, she has been commissioner of the Georgia Public Health Department for the past six years. As a major in the U.S. Air Force, she served at bases in Michigan and Washington, D.C. She earned a bachelor's in microbiology from Georgia State and an M.D. from Emory University.



Grigsby to lead HHS Office of Global Affairs

Garrett Grigsby is the new director of the HHS Office of Global Affairs. Grigsby was executive director of the non-profit Christian Connections for International Health. He previously held senior positions with USAID, including director of faith-based and community initiatives. Grigsby also served as a staff member on the U.S. Senate Foreign Relations Committee.



Sharpless will oversee NIH's Cancer Institute

Dr. Norman E. "Ned" Sharpless has been chosen to head the NIH's National Cancer Institute. Sharpless comes from the University of North Carolina where he directs the Lineberger Comprehensive Cancer Center and is the Wellcome Distinguished Professor in Cancer Research. An oncologist treating leukemia patients, Sharpless also conducts research on cancer and aging.



Hatchett to helm epidemic preparedness alliance

Dr. Richard Hatchett has taken the role as CEO of the Coalition for Epidemic Preparedness Innovations (CEPI), an alliance between governments, industry, academia, philanthropy and others that exists to finance and coordinate the development of new vaccines. Hatchett previously led countermeasure development programs at HHS and NIH.



Gray tapped as chairman of GACD

Dr. Glenda Gray is the new chair of the Global Alliance for Chronic Diseases, a partnership of the world's largest public health research funding agencies, including NIH. Gray, president of the South African Medical Research Council, has expertise in mother-to-child transmission of HIV, HIV vaccines and microbicides. Early in her career, she received Fogarty training.



Former USAID chief joins Rockefeller Foundation

Dr. Rajiv Shah has assumed the presidency of the Rockefeller Foundation, which has a mission to promote the well-being of humanity throughout the world. Previously, Shah was USAID administrator, where he led the U.S. responses to the Haiti earthquake in 2010 and Ebola outbreak in 2014. He has also held positions at the Bill & Melinda Gates Foundation.



Global Health Technologies Coalition gets new head

The Global Health Technologies Coalition, an advocacy organization for global health R&D, tapped Jamie Bay Nishi as its new director. Nishi previously was with Devex, a media platform for the global development community. She holds a bachelor's degree from the College of William & Mary and a master's in conflict analysis and resolution from George Mason University.

WHO advises on ethics of surveillance

WHO has launched the first-ever international guidelines on navigating the ethical issues presented by public health surveillance. The document outlines 17 recommendations that address topics such as privacy, autonomy, equity and the common good, which it suggests must be weighed by those conducting surveillance.

Full report: <http://bit.ly/WHOsurveill>

Young women are next HIV frontier

Adolescent girls and young women are the next frontier to address in stopping new HIV infections, says a study published by the Center for Strategic and International Studies. The U.S. should strengthen efforts targeting these populations to reduce the spread of HIV/AIDS in Africa.

Full report: <http://bit.ly/GirlsWomen>

Pregnant women should participate in trials

An international ethics panel is recommending pregnant women be included in Zika vaccine trials. Following extensive consultations, the working group issued ethics advice on priorities, inclusion and evidence generation. The effort was sponsored by the Wellcome Trust.

Full report: <http://bit.ly/ZikaEthics>

Malaria drug protects mice from Zika virus

Hydroxychloroquine, a drug approved by the FDA to treat malaria and certain autoimmune diseases in pregnant women, appears to reduce transmission of Zika virus from pregnant mice to their fetuses, according to an NIH-funded study.

Journal article: <http://bit.ly/ZikaDrug>

NIH study tracks physical activity globally

Using the largest-ever dataset of human movement, NIH-funded researchers at Stanford University have tracked physical activity by population for more than 100 countries. Daily step data from anonymous smartphone users shows how geography, gender and community type impact physical activity level and how results might inform intervention efforts.

Journal article: <http://bit.ly/ActivityData>

Report examines global security risk of TB

The U.S. should consider investing in domestic and global TB programs, as well as research to end the epidemic, according to a report issued by the Center for Strategic and International Studies. Innovations in service delivery and discovery of new treatments are needed to protect the U.S. from the risk of drug-resistant TB.

Full report: <http://bit.ly/CSIStb>

Funding Opportunity Announcement	Details	Deadline
Global Infectious Disease Research Training Program (GID) (D71) (D43)	http://bit.ly/GIDplan http://bit.ly/GIDtrain	July 27, 2017 July 27, 2017
Infrastructure Development Training Programs for Critical HIV Research at LMIC Institutions (G11)	http://bit.ly/FOGg11	Aug 23, 2017
Planning Grant for Fogarty HIV Research Training Program for LMIC Institutions (D71)	http://bit.ly/FOGD71	Aug 23, 2017
Fogarty HIV Research Training Program for LMIC Institutions (D43)	http://bit.ly/FOGHIV	Aug 23, 2017
Mobile Health: Technology and Outcomes in Low- and Middle-Income Countries (R21)	http://bit.ly/MhealthR21	Aug 31, 2017
Global Brain and Nervous System Disorders Research across the Lifespan (R21) (R01)	http://bit.ly/GlobalBrainR21 http://bit.ly/GlobalBrainR01	Nov 7, 2017 Nov 7, 2017
Emerging Global Leader Award - Career Development (K43)	http://bit.ly/GlobalLeaderOp	Dec 14, 2017
Global Noncommunicable Diseases and Injury Research (R21)	http://bit.ly/NCD-injury	Dec 14, 2017
International Research Scientist Development Award (IRSDA) (K01)	http://bit.ly/IRSDA2018	Mar 7, 2018
Planning for Noncommunicable Diseases and Disorders Research Training Programs in LMICs (D71)	http://bit.ly/NCDlifespanspan	Mar 14, 2018

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

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CDC exhibit explores Ebola outbreak, aftermath

Photo by David Snyder, courtesy of the CDC Foundation



Visitors to the CDC museum in Atlanta, Georgia can explore various aspects of the historic 2014-2016 Ebola epidemic in a new exhibit. Titled “Ebola: People + Public Health + Political Will,” the display describes the early days of the outbreak, the heroic work of West African and international healthcare workers and the U.S. response. In addition, it examines issues Ebola survivors continue to face, including stigma.

The exhibition features artifacts, first-person audio testimonials, innovative health communication materials, documentaries, stunning photographs by leading photojournalists and images taken by CDC staff deployed to West Africa. It concludes with an introspective look at “lessons learned” by CDC and its partners, and the efforts to create a public health and societal infrastructure that can conquer diseases such as Ebola before they become international public health emergencies.

Continuing through May 25, 2018, the exhibition was organized and sponsored by the David J. Sencer CDC Museum, the Office of the Associate Director for Communication, the National Center for Emerging and Zoonotic Diseases, the Center for Global Health and the CDC Foundation.

RESOURCE

Website: <http://bit.ly/CDCmuseum>