



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

Scientists gather to celebrate Fogarty's GID program

From India to Uganda, Fogarty's Global Infectious Disease (GID) research training program has launched successful research careers around the globe, grown capacity, paved the way for groundbreaking discoveries that save lives everywhere, including in the U.S., and even reversed brain drain from low- and middle-income countries (LMICs), researchers said at a recent meeting to mark five decades of Fogarty's existence.

"Programs like the GID have had an incredible track record in training leaders in Fogarty's first 50 years," said Dr. Richard L. Guerrant, the lead of a long-running GID program at the University of Virginia, which has trained more than 80 scientists in Brazil, South Africa and Tanzania. "All of our GID trainees have returned home after their training, all have taken on leadership roles at their research institutions or started companies, and all have published numerous papers, another benchmark of leadership."

But the most laudable outcome of GID collaborations, said many of the attendees, is how it brings people together and imbues scientists with a global outlook. "The GID program allows researchers from Africa or Asia to collaborate with people from the U.S., and has scientists from different disciplines working together

Photo by Beatonica Infante, Coyetano Hereida University



Fogarty's Global Infectious Disease (GID) program develops international research partnerships aimed at building expertise so developing country scientists can conduct independent infectious disease research in their home countries.

to solve problems—immunologists with microbiologists, pediatricians with psychiatrists," said Dr. Paul Bangirana of Makerere University in Uganda. "Like all Fogarty programs, the GID teaches us that the issues we study

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Some Fogarty applicants tripped up by appendix policy

A number of recent applications to Fogarty grant programs have been disqualified for being in violation of the new NIH appendix policy. The guidelines, which took effect in January 2017, provide detailed instructions for when an appendix is allowed and what it may contain. Unless specified, all publications, manuscripts, abstracts and other

materials must be summarized in the research strategy portion of the application and not submitted in the appendix.

Reviewers are not required to consider appendix materials as part of their review unless those appendix materials are stated as required in the Funding Opportunity Announcement (FOA), according to Dr. Cathleen Cooper,

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FOCUS



Building research capacity to fight noncommunicable diseases

- Customizing stroke prevention research in Pakistan
- Energizing psychiatric research in Egypt and India
- Examining diet's role in NCDs in Nigeria
- Studying food industry's impact on obesity in Latin America

Read more on pages 6 – 9

NIH urges grantees to publish only in credible journals

Noting a growing number of its grantees are publishing research results in journals with questionable practices, the NIH recently issued a Guide Notice encouraging authors to carefully select credible publications for their submissions.

Maintaining public trust in research is important, stressed Dr. Michael Lauer, NIH Deputy Director for Extramural Research. “NIH has taken—and continues to take—many steps to ensure the credibility of the research it supports. From enhancing rigor and reproducibility, to encouraging sharing of data and protocols, to promoting pre-prints, and to requiring timely registration and reporting of clinical trial results, NIH establishes policies to make our funded research as credible, transparent, rigorous and full of impact as possible,” Lauer wrote in a blog post.

Suspect journals and publishers typically can be identified by several attributes, the NIH Guide Notice suggested, including:

- misleading pricing (e.g., lack of transparency about article processing charges)
- failure to disclose information to authors
- aggressive tactics to solicit article submissions
- inaccurate statements about editorial board membership
- misleading or suspicious peer-review processes

Publications using such practices may call into question the credibility of the research they report.

Some Fogarty applicants tripped up by appendix policy

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Director of the NIH Center for Scientific Review’s Division of Receipt and Referral.

“It does create a problem because some reviewers will review the appendix anyway, particularly when an applicant refers to the appendix material repeatedly, and oftentimes they’re referring them out for data or other information that really needed to be in the research strategy itself,” Cooper said in a podcast on the topic. “Because appendices can be significantly abused, we’re watching them very closely.”

There is also confusion about hyperlinks, which are only allowed in very limited parts of the application and only when they’re specified either in the FOA or the form field instructions, Cooper noted. “So basically, hyperlinks are allowed in the biosketch and the references section and no place else; certainly not in the research strategy or the appendix.”

To help protect the credibility of papers resulting from federal funding, the NIH Guide suggests grantees:

- adhere to principles of research integrity and publication ethics
- submit to journals that follow best practices promoted by professional scholarly publishing organizations
- avoid publishing in journals that do not have a clearly stated and rigorous peer review process

Existing resources provided by NIH and the scientific publishing community can assist in the decision making process, Lauer said.



“To help convey the credibility of your work, be careful where you publish,” Lauer warned. “We hope that our community publishes only in journals that do what they say they will do. If the rigor of your work is clearly conveyed in writing, and published in journals that maintain high quality

standards, then your work will be viewed with respect. By taking these approaches, we can continue ensuring the credibility and trustworthiness of the biomedical and behavioral research findings resulting from public support.”

RESOURCES

<http://bit.ly/NIHjournals>

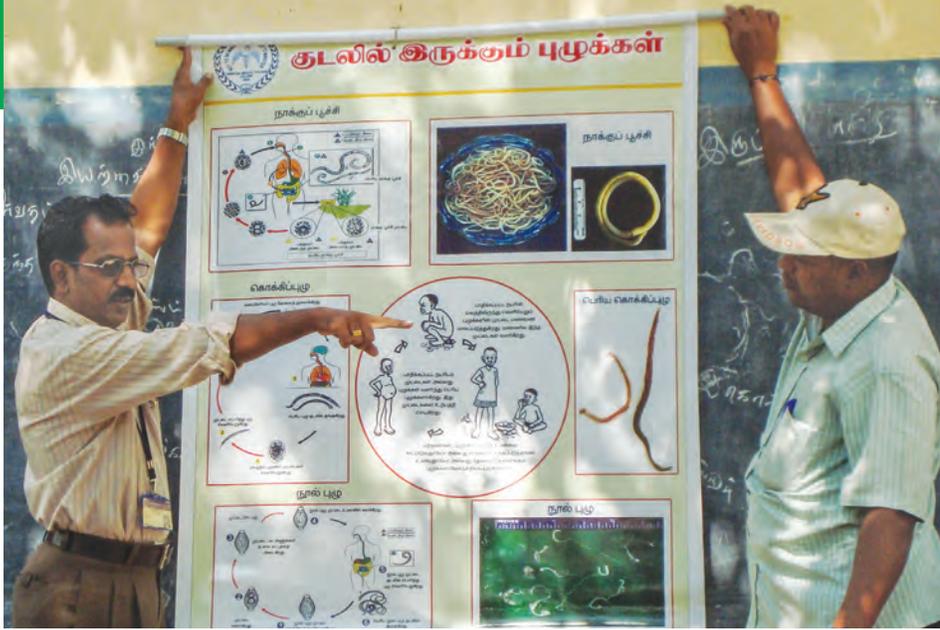
Unless otherwise specified in the FOA, the only allowable appendix materials are clinical trials protocols, brochures from the FDA’s Investigational New Drug program, blank informed consent forms, and blank surveys or other data collection tools.

“It’s really very unfortunate, but we’re not able to modify the applications in any way that are submitted to us,” said Cooper. “So, it’s not a simple matter of saying Appendix A is not compliant; let’s just get rid of it and send the application forward to review. Our choice is to send it to review as non-compliant, which we can’t do based on our policy, or withdraw that application, in which case the applicant misses a council round and has to start over again.”

In the case of some Fogarty programs that would mean a five-year delay.

RESOURCES

<http://bit.ly/NIHappendix>



Fogarty's Global Infectious Disease program has trained generations of developing country scientists, including in India.

Scientists gather to laud Fogarty's GID program

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are global problems, not just local African or Asian problems. They affect everyone, everywhere and to beat them, we need to keep research programs like the GID going.”

The GID program pairs U.S. and LMIC institutions to provide research training to scientists who work with non-HIV infectious diseases that, although rare in the developed world, continue to have a harsh impact in developing countries. The program aims to build the expertise required so LMIC scientists can conduct independent infectious disease research in their home institutions.

More than 1,200 researchers have been trained under the GID program since it was launched in 2003. Between them, they have contributed to or been the lead authors on thousands of publications, some announcing groundbreaking global health advances. Dr. Reinaldo Oria, who trained at UVA, was part of the team that made the “incredible discovery,” in Guerrant’s words, that a major risk-factor for Alzheimer’s disease, the APOE4 allele, appears to play a protective role in the cognitive and physical development of children living in Brazil’s *favelas* who have heavy burdens of diarrhea. A finding by GID trainees in Peru that fever along with pulmonary hemorrhage was associated with leptospirosis—not,

as long believed, with tuberculosis—helped change clinical practice, said Dr. Joe Vinetz, the co-lead of the GID-supported program run by the University of California, San Diego, and Cayetano Heredia University in Peru. “People who present with these symptoms are now treated immediately for leptospirosis,” he said. “This change has saved countless lives.”

Like many Fogarty programs, the GID is multigenerational, with former trainees becoming mentors to other scientists embarking on research careers. Since receiving a GID training fellowship in 2007, Dr. Rajiv Sarkar has progressed from a trainee investigating childhood enteric infections in communities in India to a co-investigator on a multi-country project seeking to interrupt the spread of soil-transmitted helminths—some of the most common parasites in the world—in endemic communities. More than 830 million children live in areas with active transmission of parasites, and urgently need treatment and preventive interventions.

“Without the support and guidance from my mentors on the GID program, I would not have been able to advance my research career to the extent that I have,” said Sarkar, of the Christian Medical College in Vellore, India.

At the University of Malawi, GID and other Fogarty support has helped grow

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the medical school from a tiny program staffed predominantly by foreigners that graduated around a dozen master’s students a year in the 1990s, to one where 90 percent of the faculty are Malawians. About 250 students graduated in 2015, including 11 from two Ph.D. programs.

By providing small re-entry grants to researchers who return to Malawi after obtaining advanced degrees abroad, Fogarty has also helped to reverse brain drain, said Dr. Victor Mwapasa, who is co-lead on a Fogarty-supported project that is training faculty and junior investigators in implementation science skills. Had Fogarty not provided seed funding after Mwapasa completed his studies in the U.S., he said he would not have returned to Malawi.

Fogarty support helps “build a critical mass of people that allows us to continue to develop research capacity at Cayetano Heredia University,” said Dr. Dionicia Gamboa, the co-director with Vinetz of the Peruvian university’s GID program. “The GID and other Fogarty programs have a multiplier effect, allowing us to continually develop the next generation of researchers. The global aspect of the programs allows us to share our results widely, which helps us get more funding and more partners, which, in turn, lets us learn even more and share experiences in the lab and the field.”

RESOURCES

<http://bit.ly/GIDresources>

PROFILE

Fogarty Fellow battles antimicrobial resistance

By Karin Zeitvogel

When Dr. Mohammad Aminul Islam applied to be a Fogarty Fellow in 2012, the New Delhi metallo-beta-lactamase-1 (NDM-1) gene was causing a stir in the medical world. NDM-1 makes the bacteria that cause everything from diarrhea to blood infections, meningitis, and infected surgical wounds resistant to antibiotics, including carbapenems, seen as a last-resort treatment for *E. coli* infections. The NDM-1 gene was widespread on the Indian subcontinent, and was moving rapidly to other countries.

Islam was awarded the fellowship and spent a year looking into how NDM-1 established a presence in the Bangladeshi capital, Dhaka. “If we can identify the source of antimicrobial resistance and control it locally, I think it can be controlled in other parts of the world and there will be less frequent dissemination of so-called superbugs,” he said. The CDC has called antibiotic-resistant superbugs “a major global threat,” and former U.N. Secretary General Ban Ki-moon told the U.N. General Assembly that antimicrobial resistance poses a “fundamental threat to human and animal health and sustainable development, to sound economies and social cohesion.”

Islam hypothesized that there would be a high frequency of NDM-1-producing bacteria in the environment in Dhaka, particularly near hospitals, which discharge liquid waste directly into the sewage system. After analyzing waste water and tap water samples that he collected around Dhaka, Islam found that NDM-1 or the bacteria that produce it, were present in half the effluent samples. That finding, he said, is alarming in a city like Dhaka, where up to 100,000 people are packed into a square mile in the city’s slums, clean drinking water is scarce, sanitary infrastructure is lacking, and antibiotics, which can be obtained without a prescription, are often misused.

His fellowship has not only produced actionable results but also given Islam the opportunity to spend time at Stanford University and the University of California, Berkeley, working with experts in antimicrobial resistance research. There, Islam says he was able to benchmark his research activities against findings



Mohammad Aminul Islam, Ph.D.

Fogarty Fellow: 2013-2014

Fellowship at: International Centre for Diarrhoeal Disease Research, Bangladesh

U.S. partners: Stanford University and University of California, Berkeley

Research focus: Spread of multidrug-resistant bacteria in Dhaka

of renowned international scientists, and set goals for his future and that of research in Bangladesh. He also mastered a modeling technique that he subsequently applied in his lab at the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B).

A key benefit of his Fogarty fellowship is that it has led to several other grants. For instance, Islam was named principal investigator on an NIH grant that is studying multidrug-resistant urinary tract infections (UTI) caused by *E. coli* in Bangladesh, and whether *E. coli* is transmitted from poultry to humans. “Because we use antibiotics massively in Bangladesh to treat infection and as a growth promoter in poultry, we have a high burden of antimicrobial-resistant *E. coli* in poultry,” Islam explained. “We also have a high burden of UTI caused by multidrug-resistant *E. coli* in humans.”

In addition to his NIH grant, Islam has received funding from two British government agencies and Oxford University, which he says will allow him to continue his research for at least five years. He’s also been named to the WHO advisory group on antimicrobial resistance, which seeks to reduce the health impacts of the use of antibiotics in food animals.

Islam ascribes his many successes to the Fogarty fellowship, which he says was the impetus behind the other awards. “As a fellow, I received a lot of exposure—I contributed to a paper as second author with work that I conducted during my three-week stay at Stanford—and, at the same time, was exposed to U.S. institutions and researchers,” he said “The Fogarty fellowship has also helped raise the international profile of the ICDDR,B, which has given research in Bangladesh a boost.”

JOHN NKENGASONG, PH.D.

A veteran of more than 20 years at the U.S. Centers for Disease Control and Prevention (CDC), Cameroon-born Dr. John Nkengasong was appointed director of the newly created Africa CDC in early 2017. Previously, Nkengasong served as acting deputy principal director for the CDC's Center for Global Health in Atlanta. He began his career at the U.S. CDC in 1995 as head of the virology lab in Abidjan, Ivory Coast. Nkengasong earned master's degrees in tropical biomedical science and in medical and pharmaceutical sciences from institutions in Belgium, and has a doctorate in Medical Sciences (Virology) from the University of Brussels.



What is your connection to Fogarty?

When I joined the U.S. CDC in 1995, they arranged for me to go to California and train at Berkeley under long-time Fogarty grantee, Dr. Art Reingold. Although brief, my stay at Berkeley and San Francisco had a big impact on my career. I'd spent my entire professional life until then in Europe—at the Institute of Tropical Medicine in Antwerp and the faculty of medicine at the University of Brussels—and my Fogarty traineeship allowed me, for the first time, to work with American scientists. I did research with Dr. Mike Hendry, who was running the California state laboratory and doing work on HIV diagnoses, and at the blood transfusion center in San Francisco alongside Dr. Michael P. Busch. The network I built as a Fogarty trainee has endured over the years, and I was able to use some of the techniques I was introduced to as a trainee in California, in the field in Ivory Coast, which is where I began with the U.S. CDC.

What's the impetus behind the Africa CDC?

In 2013 at a special summit on HIV, TB and malaria in Nigeria, African heads of state recognized that the current public health architecture on the continent, which was put in place in 1947, was out of step with the shifting patterns and burden of disease in Africa, and with the size of the population. There were close to 300 million inhabitants in Africa in the mid-1940s, and HIV wasn't recognized as a disease. Today, there are around 1.2 billion people in Africa and HIV is the number one killer on the continent, but until recently, the public health system was not keeping up with that reality.

In 2014, when Ebola hit West Africa, the heads of state met again and asked the African Union commission to accelerate the establishment of the Africa CDC. For all the human and economic destruction wrought by Ebola, it ended up being the catalyst that pushed African leaders to rapidly advance the concept that they nurtured in 2013 to bolster the continent's public health response, and Africa's continent-wide public health agency was launched in January 2017.

What are the goals of the Africa CDC?

We're systems-focused, not disease-focused. Our mission is to support African nations as they create strong health systems and institutions, and then ensure they are sustainable, fully functional operations that can be called on to fight multiple diseases. Our operations model is simple: we want member states to establish their own national public health institutes, which will network with regional centers that we have set up in Nigeria, Kenya, Zambia, Gabon and Egypt. These regional centers will then collaborate with the Africa CDC headquarters in Addis Ababa. Around 20 countries in Africa have already moved on the concept of establishing a national public health institute.

How will the international community benefit?

There are clear benefits to the international community, including the U.S., in supporting the Africa CDC as we build the public health capacity of African nations. To go back to the West Africa Ebola outbreak, if it had happened in Uganda or Kenya, I believe the outcome would have been much different because both countries have robust and enduring relationships with Fogarty, the NIH and other international organizations. At the Africa CDC, we believe that there's a direct correlation between the responsiveness of a country's health system and the number of international partnerships it has. None of the three West African countries that were hardest hit by the outbreak—Guinea, Liberia and Sierra Leone—had much in the way of international health partnerships, and their response was limited by their lack of human capacity and poor infrastructure. More than 11,000 people died of Ebola in 2014 and 2015, including one person in the U.S., and several billion dollars were spent to bring the outbreak under control. It's crucial that countries like the U.S. continue to support organizations like Fogarty to help train scientists and build capacity in developing countries—important not only for the countries in which disease outbreaks might begin but also for the national security and economic wellbeing of Americans.

Fogarty is building research capacity to fight NCDs

Long seen as a burden of the developed world, non-communicable diseases (NCDs) now disproportionately affect the very resource-poor countries that are least prepared to tackle them. Nearly three-quarters of the 38 million deaths caused by NCDs each year occur in low- and middle-income countries (LMICs), where the prevalence of chronic diseases is predicted to rise sharply.

To help address this imbalance, Fogarty supports efforts to build the ranks of researchers overseas and expand knowledge of chronic diseases. One way it offers support is through its Chronic, Noncommunicable Diseases and Disorders Across the Lifespan (NCD-Lifespan) research training grants, which address not only diabetes, cancer, stroke and cardiovascular disease but also mental illness, neurological and developmental disorders, and substance abuse.

Most often under the program, grants are provided to U.S. universities to team up with their foreign counter-

parts. Together, they set up programs that train new researchers to conduct research to alter unhealthy lifestyle-related behaviors that cause most NCDs, including physical inactivity, unhealthy diet, tobacco use and excessive consumption of alcohol. Participants also study other aspects of chronic diseases including early-life determinants, co-morbid conditions and common interventions.

Many behaviors that cause NCDs are the product of an ongoing global epidemiologic transition, which has seen centers of population shift from rural areas to cities, where people adopt more sedentary lifestyles and diets shift from grains, fruits and vegetables to primarily processed, low-fiber foods.

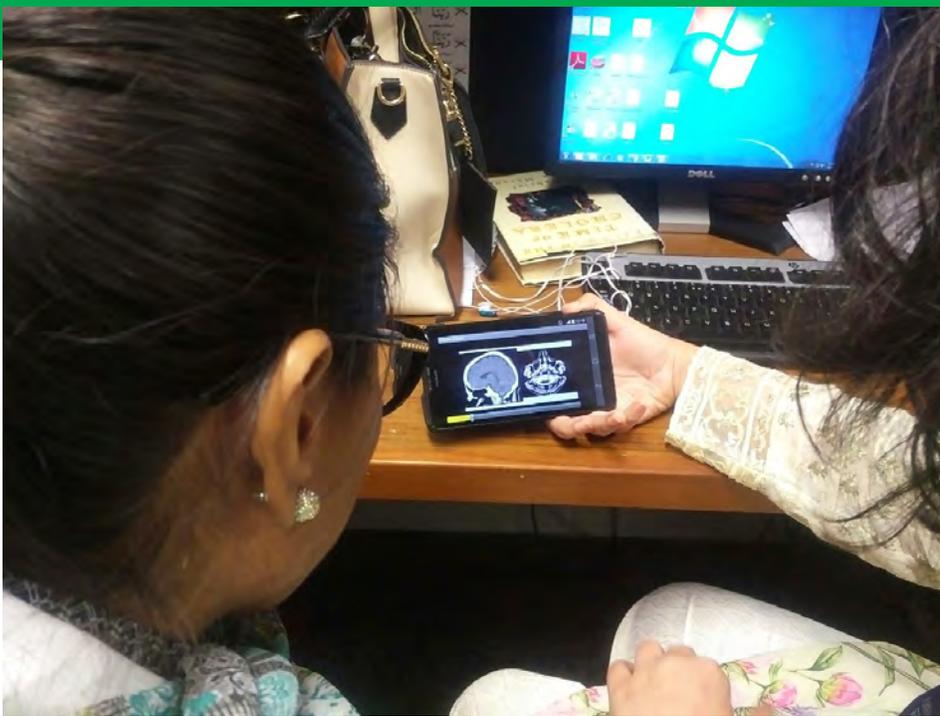
NCD-Lifespan has sought to scale up already available interventions in LMICs by developing in-country research capacity and building local knowledge of everything from disease patterns to cultural norms.

Pedestrian traffic on the busiest street in Chennai, India.



More than 50 NCD-Lifespan training grants, backed in full or in part by Fogarty, have been awarded since 2009 to institutions from Argentina to Vietnam, Egypt to South Africa. The aim of each program has been to train local researchers to better understand the growing threat from NCDs, determine the unique cultural circumstances and available resources, and map out the steps needed to reduce the dangers to health from chronic diseases.

“We share many common problems with LMICs, including a growing epidemic of chronic illness that we face in the U.S. and other high-income countries,” said Fogarty Director Dr. Roger I. Glass. “As we’ve seen in other global research collaborations, the solutions we find together for taking on NCDs may be applicable to improving the health of people everywhere.”



Fogarty funding has allowed Pakistani scientists to study targeted approaches to prevent and treat stroke using text messages and videos.

Customizing stroke prevention research in Pakistani population

When Dr. Ayesha Kamal returned to Pakistan in 2006 after completing stroke training in the U.S., she found that health care research in her country was still focusing on infectious illnesses—even though noncommunicable diseases were causing about half of all deaths.

So, in 2010, Kamal applied for a Fogarty NCD-Lifespan grant and set up a three-year training fellowship at Aga Khan University. The program—the first of its kind in the country—provided comprehensive training in the management of cerebrovascular diseases in a Pakistani context. Participants acquired the clinical skills needed to evaluate and manage stroke patients, and the cognitive skills to critically analyze evidence on stroke and its relevance to LMICs. A strong NCD research program “allows Pakistan to be proactive about stroke prevention, instead of reacting to one disaster after another,” said Kamal.

One trainee devised a questionnaire to find out what puts Pakistanis under stress, a risk factor for hypertension, which is the leading

cause of stroke. “We learned that something that triggers stress in the developed world—where many of these questionnaires are drafted—might not be relevant to Pakistanis,” said Kamal. “For instance, going to the dentist is a stressor in the developed world but in Pakistan, it’s a status symbol. Thanks to the questionnaire devised by our trainee, we can now ask questions that actually matter here.”

Fogarty-supported trainees also developed mobile phone videos that explain how to care for stroke victims, and a text message application aimed at improving patients’ adherence to medication. Graduates of the program have set up stroke centers in Pakistan, and taken positions as researchers at local and international universities.

“Too often, researchers get carried away with the high-tech stuff that might benefit 5 percent of the global population, usually in the developed world,” said Kamal. “The work that Fogarty funds has meaning for 95 percent of the world.”

Energizing psychiatric research in Egypt, India

Psychiatric research in Egypt and India has been “energized” by a five-year NCD-Lifespan award from Fogarty, said grantee Dr. Vishwajit Nimgaonkar of the University of Pittsburgh. Topics of study range from mental functions and hepatitis C to mapping out ways to reduce the stigma of mental illness.

The program’s main focus is to train individuals from India and Egypt to conduct research to find novel, effective interventions for schizophrenia, a noncommunicable disorder that ranks in the top 25 causes of disability worldwide. Up to 85 percent of people in LMICs who have a mental disorder, like schizophrenia, receive no treatment for it at all, and on the rare occasions that treatment is available, it often provides only symptomatic relief. “The absence of effective remedies and the slowed pace of new drug development compel the need for additional research strategies for schizophrenia,” said Nimgaonkar, who launched the Fogarty-supported program in 2014. Some of the researchers’ work crosses over with other NIH-supported projects, including one investigating the heritability of schizophrenia—of special interest in Egypt, where marriage among relatives is common.

A key offshoot of the program was a “grant-a-thon” held in New Delhi in 2016. Around 25 trainees from India worked with faculty advisors from U.S., Indian and Egyptian universities to turn ideas for grants into applications. “We encouraged applicants to work together, to do multi-site studies. Twelve applications were written during the five-day workshop, and submitted to the Indian Council for Medical Research for funding,” said Nimgaonkar. In addition, several trainees have secured NIH funding, including Dr. Triptish Bhatia, whose research found yoga improved focus in people with schizophrenia.

Training African scientists to fight NCDs in Africa

When the University of the Witwatersrand (Wits) in Johannesburg set up its Fogarty-supported NCD Research Leadership program, it encouraged trainees from around Africa to focus their research on the overlap of noncommunicable and infectious diseases. The trainees' projects covered multiple disciplines—public health, epidemiology, the economic evaluation of what is cost-effective and genetics—and they studied everything from stroke to chronic kidney disease, obesity and the reasons people seek medical care.

Dr. Soter Ameh of Nigeria focused on the latter. As part of his Ph.D. research at Wits, Ameh wanted to find out what causes older South Africans living in a rural community to go to the doctor. A questionnaire compiled by Ameh and put to nearly 6,000 people over age 50 showed that while both infectious and noncommunicable chronic diseases were highly prevalent in the community, people with long-term communicable diseases were more likely to seek treatment than those with NCDs. This could be because they were already getting HIV care through the system, and also because awareness of hypertension, the most

prevalent NCD in the rural community, is low, Ameh said.

“The public needs to be educated about noncommunicable diseases, and the health care system adapted to prioritize care for all chronic illnesses among the older population,” Ameh concluded. “My Fogarty-supported training at Wits has put me in a position to conduct research to address this challenge.”

The Wits program has also allowed a dozen master's and Ph.D. candidates to complete post-graduate degrees without leaving Africa. Most graduates of the program remain in Africa after completing their studies and build local capacity, said Dr. Michèle Ramsay, one of four NCD-Lifespan program leaders at Wits.

“Fogarty, with its mission to uplift science internationally, has a true impact on researchers in low- to middle-income countries, who often struggle to get funding to move forward in their careers,” Ramsay said. “Our program helps trainees find positions in their line of specialization, in their country of origin. And that, to me, is a measure of success.”

Examining diet's role in NCDs in Nigeria

Trainees in Nigeria have developed tools that will help researchers to scientifically determine if dietary changes are contributing to the rise of noncommunicable diseases in the West African country.

Supported by a Fogarty NCD-Lifespan grant awarded to the University of Maryland, Baltimore (UMB), a team of researchers in Nigeria developed a food frequency survey that allowed them to quantify the portion sizes of foods and beverages consumed in Africa—a tough task on a continent where there are no standard serving sizes. Working with U.S. and Nigerian mentors, the trainees then converted the portion size reports into macro- and micro-nutrients, and discovered the diet of city-dwelling Nigerians has undergone a major change. They found that the most common source of carbohydrate consumed by urban Nigerians was no longer the traditional staple of high-fiber mashes of root vegetables and tubers, but white rice—more expensive than the traditional foods but easier and quicker to prepare. The researchers also found that 63

percent of Nigerian city-dwellers are overweight or obese. In a publication, the scientists note the results are “a reflection of the sedentary lifestyle, which is now prevalent in most cities in Nigeria.”

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A woman carrying her baby walks in front of yam tubers in Nigerian market.

Launched in 2014, UMB's NCD-Lifespan program is also providing training in breast cancer epidemiology to determine why so many women in Nigeria present with late-stage cancer.

“We believe that hands-on training is the best way to develop research capacity in Nigeria,” program lead and UMB professor, Dr. Clement Adebamowo, said. “Our program allows our trainees to address some of the main questions relating to NCDs in a local, relevant context. The benefits hugely outweigh the costs, and are an excellent example of the soft-power value of organizations like Fogarty.”

Studying food industry's impact on obesity in Latin America

In Latin America, obesity is a major contributor to chronic illness. A Fogarty NCD-Lifespan grant focused on the issue in Guatemala, where fellow Violeta Chacon set up studies to determine if food marketing strategies might be contributing to the problem.

Chacon's data, which she analyzed during a six-month NCD-Lifespan fellowship at the University of Michigan, showed that the food industry did indeed use child-oriented marketing strategies to get kids to buy unhealthy snacks. Chacon also found that the closer a food shop was to a school, the more child-oriented ads there were promoting unhealthy snacks. Noting that around a third of school-age children in Guatemala are overweight or obese, Chacon and her co-authors called for a ban—similar to tobacco advertising restrictions—on snack food ads in shops near schools.

In another study, Chacon and colleagues examined fast-food restaurants' marketing strategies designed to increase consumption. They found that toy giveaways and price discounts were a factor and also discovered that nutritional information was not always available in the restaurants. They recommended public health advocates consider a comprehensive approach to encourage healthier choices, including policies requiring fruit or vegetable side dishes as options, accessible and easy-to-read nutritional information, and restrictions on toy giveaways.



A Fogarty-supported project in Guatemala is studying the impact of food industry advertisements on obesity among children.

“These studies are an illustration of how building local research capacity can have an impact beyond a country's borders,” said University of Michigan professor Dr. Eduardo Villamor, co-lead with Dr. Ana Diez-Roux of the NCD-Lifespan program that supported Chacon. “This research is clearly relevant to Guatemala but also to the U.S. and elsewhere, where companies deploy similar strategies to attract kids to unhealthy snack foods.”

Villamor started the Fogarty-supported training program in 2012 when he recognized that chronic diseases and their risk factors, such as obesity and overweight, were expanding quickly in Latin America, while the number of local researchers and training opportunities remained stubbornly small. His program included journal clubs, which involved individual study of papers presented and one-on-one discussions with a senior investigator.

Of the more than 300 people who have been trained through the

“This research is clearly relevant to Guatemala but also to the U.S. and elsewhere, where companies deploy similar strategies to attract kids to unhealthy snack foods.”

— DR. EDUARDO VILLAMOR,
UNIVERSITY OF MICHIGAN

program, four received graduate-level instruction, about 20 benefited from short fellowships, and the rest participated in webinars or week-long workshops. Many of the trainees now work in academic institutions or in a research capacity in Central or South America.

“I think that supporting training is one of the most cost-effective investments and activities that Fogarty can focus on,” Villamor said. “By integrating research components into training initiatives, that makes them stronger and produces long-term dividends.”

RESOURCES

<http://bit.ly/NCDcapacity>

OPINION

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

Grateful for progress toward a disease-free world



Terrifying news accounts of recent deaths from Ebola, flesh-eating bacteria, HIV/AIDS, Zika and even the plague can give the misleading impression we are at greater risk than ever. But we are fortunate to live in a time when—thanks to scientific advances that have produced lifesaving vaccines and treatments—we can

actually begin to imagine a disease-free world.

As we gather with our families to give thanks this season, it's appropriate to acknowledge the commitment of scientists around the globe who work tirelessly, often under difficult and dangerous circumstances, to solve the world's most pressing health problems. As we have all been reminded, diseases know no borders so it's important that we share our expertise and data, and form strong research collaborations—especially in locations with the fewest resources. After all, we are all only as strong as our weakest link.

At Fogarty, we support research and training programs to develop the next generation of global health leaders and increase scientific capacity in low- and middle-income countries (LMICs). We believe this work is critical to improving health around the world, in addition to bringing great dividends to Americans.

Fogarty trainees in many cases provide the bedrock that makes NIH research possible in low-resource settings. When HIV/AIDS emerged as a global crisis in the 1980s, Fogarty began programs to build scientific capacity in the LMICs where the suffering was greatest. Since then, research advances have informed care and treatment so that a diagnosis of HIV/AIDS has been transformed from a death sentence to a manageable chronic illness. Fogarty trainees played a significant role in research discoveries including development of rapid diagnostics for detecting and monitoring HIV infections, new drugs for treatment and new strategies for prevention, such as avoiding mother-to-child transmission, voluntary medical male circumcision and treatment as prevention.

From a security standpoint, nations with scientific expertise are better prepared to contain infectious disease outbreaks when they occur. As we saw with Ebola in 2014, the countries that had well-trained researchers who were networked with global experts were able to swiftly manage the Ebola cases that crossed their borders, unlike some nations in West Africa, which had few technical or human resources to deploy. That's why Fogarty has launched a program that is specifically directed at building partnerships and supporting training for scientists in Guinea, Liberia and Sierra Leone.

Training foreign researchers helps U.S. scientists take advantage of unique opportunities for discovery. When an unusual number of babies were born with microcephaly in rural Brazil, scientists trained by Fogarty to investigate Chagas disease redirected their research to examine the Zika virus, which was suspected of causing the spate of birth defects. Ongoing studies show adults can also be affected and that the virus can remain in the central nervous system for longer than originally expected.

We may learn the key to preventing the ravages of Alzheimer's disease—which is expected to strike one in three Americans and cost \$1 trillion annually by 2050—by studying an extended family with hereditary, early-onset Alzheimer's in rural Colombia. Fogarty has provided critical scientific training so that local researchers can perform brain scans, genetic analysis and other sophisticated approaches. That has already enabled a clinical trial of a U.S. manufactured drug that might help stop Alzheimer's at its earliest stage.

As we take stock during Fogarty's 50th year of existence, we measure much of our success in the people whose training we have supported. As they have advanced in their careers, they have in turn mentored the next generation, multiplying the value of our investment and increasing its impact. By partnering with researchers around the globe, we can hasten progress. Together, we can someday achieve a world without disease.

A version of this article was originally published as part of Research!America's Public Health Thank You Day campaign.

Website: www.researchamerica.org/phtyd



Former Fogarty trainee tapped for senior WHO post
Dr. Soumya Swaminathan, a former Fogarty trainee, joins the WHO senior leadership team as deputy director-general for programs. A pediatrician recognized globally for tuberculosis and HIV research, Swaminathan was secretary of the Department of Health Research in India and director general of the Indian Council of Medical Research.



Canada names new chief science advisor
Canada's prime minister has appointed Dr. Mona Nemer as the country's chief science advisor. Nemer, who was professor and vice chair of research at the University of Ottawa and director of its molecular genetics and cardiac regeneration lab, has contributed to the development of diagnostic tests for heart failure.



Grantees receive lifetime achievement award
For significant contributions to the global HIV/AIDS response, Fogarty grantees Drs. Quarraisha Abdool Karim and Salim S. Abdool Karim have received the Institute of Human Virology's Lifetime Achievement Award for Public Service. Epidemiologists with the Centre for the AIDS Programme of Research in South Africa, their interests include understanding the evolving HIV epidemic, factors influencing acquisition of HIV infection in adolescent girls, and sustainable strategies to introduce anti-retroviral therapy (ART) in resource-constrained settings. Their many achievements include research demonstrating proof-of-concept that ART can prevent sexual transmission of HIV. They have trained hundreds of African scientists with Fogarty support and are on faculty at both Columbia University in New York City and the University of KwaZulu-Natal in Durban, South Africa.



Birbeck recognized for neurology contributions
The American Neurological Association has honored Fogarty advisory board member Dr. Gretchen L. Birbeck for outstanding work in academic neurology. Birbeck, of the University of Rochester, received the 2017 Soriano Lectureship award and presented her talk on neuroprotective studies in cerebral malaria at the ANA annual meeting.



Fogarty's Glass honored as Carter Humanitarian
The National Foundation for Infectious Diseases has selected Fogarty Director Dr. Roger I. Glass as recipient of its 2018 Jimmy and Rosalynn Carter Humanitarian Award. The honor recognizes his outstanding leadership in research and vaccine policy, which has helped improve child health globally by preventing rotavirus through vaccines.



NIH foundation head Freire recognized
Dr. Maria Freire, president and executive director of the Foundation for the National Institutes of Health (FNIH), has received a *Washington Business Journal* Women Who Mean Business Award. The FNIH is a nonprofit that procures funding and manages alliances with public and private institutions in support of the NIH mission.

Roadmap for pandemic prevention posted

A new report from the nonprofit organization PATH examines the benefits of investments in pandemic preparedness—especially capacity building in low- and middle-income countries—and makes recommendations for U.S. action. The study notes contributions by NIH's National Institute of Allergy and Infectious Diseases and Fogarty.
Full report: <http://bit.ly/PATHpandemic>

HHS research standards listings revised

The 2018 edition of the International Compilation of Human Research Standards has been released online. The HHS resource features listings of over 1,000 laws, regulations and guidelines on human subject protections in 130 countries, as well as standards issued by a number of organizations.
Website: <http://bit.ly/IntlComp>

DCP3 issues report on global injuries

Injuries, occupational exposures and environmental risks account for more than 12 million deaths per year, with the majority occurring in low- and middle-income countries. Findings published in the third edition of the Disease Control Priorities project indicate over 7.5 million of these deaths could be prevented.
Full report: www.dcp-3.org

NIH DNA atlas completed, available online

Researchers funded by the NIH have completed a detailed atlas documenting the stretches of human DNA that influence gene expression. The atlas is the culmination of work from the Genotype-Tissue Expression Consortium, which collected data from more than 53 different tissue types in 960 donors.
Website: www.gtportal.org/home

Global health journal search tool launched

A new online tool has been developed so authors can easily search for the appropriate global health journal to target for their publications. Called GHJournal Search, the resource was developed by the USAID-supported Knowledge for Health Project, in collaboration with the Consortium of Universities for Global Health.
Website: www.ghjournalsearch.org

CDC produces milestone tracker app

A free app produced by the CDC tracks children's development from age 2 months to 5 years to help identify any delays and disabilities so families can seek support early. The CDC MilestoneTracker includes illustrated checklists and tips to encourage progress.
Website: <http://bit.ly/CDCmiles>

Funding Opportunity Announcement	Details	Deadline
Japan Society for the Promotion of Science U.S. Postdoctoral Fellowships in Japan	http://bit.ly/JSPSforUS	Jan 31, 2018
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/NCDlifespan	Mar 14, 2018
International Research Ethics Education and Curriculum Development Award (R25)	http://bit.ly/Ethicsop	May 17, 2018
International Bioethics Research Training Program (D43)	http://bit.ly/EthicsTrainingop	May 17, 2018
Global Infectious Disease (GID) Research Training Program (D71) (D43)	http://bit.ly/GIDplan http://bit.ly/GIDtrain	Jul 26, 2018 Jul 26, 2018

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

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Global Health Technology Coalition unveils fact sheets



A new electronic fact sheet kit detailing the importance of global health research and development has been produced by the Global Health Technology Coalition (GHTC), a group of more than 25 nonprofit organizations that advances policies to accelerate the creation of new health tools.

One set of downloadable fact sheets includes data and information about the importance of global health R&D, what it has achieved historically, and how it benefits health, security and the economy. Another series examines how different U.S. government agencies—including the NIH—contribute to global health R&D and provides examples of their successes.

RESOURCE

www.ghtcoalition.org/resources/fact-sheets