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

NIH, Fogarty receive funding hike for Fiscal Year 2019

The NIH budget was approved by Congress and signed into law by President Donald Trump in late September, providing funding for Fiscal Year 2019 just prior to its start Oct. 1.

NIH received a $2 billion increase over the previous year, for a total of $39.1 billion. Fogarty's allocation also saw a boost, bringing its total to $78.1 million.

It's the first time in more than two decades that funding for the Department of Health and Human Services—of which NIH is part—was finalized before the fiscal year began.

More information is available at www.fic.nih.gov/About/Budget.

Photo courtesy of the Architect of the Capitol

Fogarty awards $4.4 million to advance mobile health

Mobile phones, tablets and other wireless devices are increasingly being deployed to improve health in low-resource settings. To help the field advance, Fogarty has awarded $4.4 million in a dozen two-year awards to support mobile health (mHealth) research in low- and middle-income countries.

"By leapfrogging technologies and harnessing the power of mobile devices and applications, we hope to generate an evidence base to guide research, enhance clinical care and improve health outcomes," said Fogarty Director Dr. Roger I. Glass.

Begun in 2014, the initiative supports research related to hardware or software components for mobile devices. The program's priority is to support innovative, well-

designed multidisciplinary projects that aim to produce generalizable knowledge for the field.

The latest round of funding includes a variety of projects that target a broad range of populations and health problems. For example, one team will use its grant to study the effectiveness of using a telecolposcopy approach to improve cervical cancer diagnoses in Peru. In Uganda, grantees will evaluate a new method of discovering cervical pre-cancer using a low-cost smartphone confocal endoscope, and attempt to provide adequate treatment in a single visit.

Pediatric cancer is the focus of a program in Tanzania that will implement and evaluate an mHealth case management system. In Uganda, researchers will study

FOCUS

NIH-supported research targets global suicide burden
- Studies boost mental health task-shifting, innovation
- Research in India attempts to reduce suicide among women
- Fogarty capacity building, research have impact in China

New funding data available in World Report mapping tool

Information about research activities supported in 2017 by a number of international funding organizations is now available online in World Report, an open-access, interactive mapping database. In addition, two case studies have been posted that demonstrate how the data can be used. A report by the National Cancer Institute uses World Report to measure how much HPV-related research is being funded around the globe. In another, the website malaria. com examines the types and locations of malaria research being supported by the donors represented in World Report.

The database now includes about 300,000 records that depict funding data from 2012 through 2017. Users can search projects by using keywords and filter them by location, funding organization, research body, principal investigator or any combination. Data can also be exported.
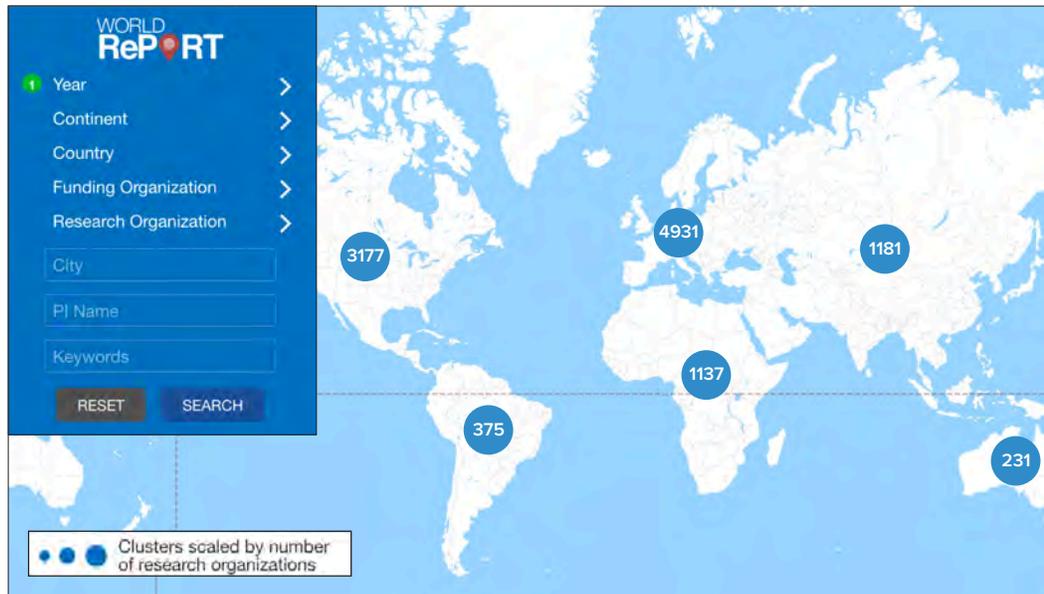
World Report allows users to easily visualize international research activities and partnered investments.

World Report provides a public means to track international research activities and partnered investments, increase awareness of funding opportunities, and share results with the broader research and funding community. Its goal is to improve understanding of the research landscape, identify gaps in funding and areas where there might be a duplication of effort, and enable funders to more effectively synergize investments.

World Report is hosted by the NIH and managed by a steering committee of participant organizations. It is supported by the Bill and Melinda Gates Foundation, the Canadian Institutes of Health Research, the European Commission, the NIH, the U.K.'s Medical Research Council and the Wellcome Trust.

> **RESOURCE**
>
> *https://worldreport.nih.gov*

Fogarty awards $4.4 million to advance mobile health

a digital toolkit to facilitate caregivers' ability to access basic preventive mental health services for children.

In Pakistan, scientists will target expectant fathers with a speech-based service to connect them with doctors, with the aim of reducing maternal mortality. Current public health outreach efforts are largely directed at women. In Rwanda, a grant will support research on the use of telemedicine to diagnose surgical site infections among rural women following cesarean deliveries. Meanwhile, a Cameroonian team will test the feasibility of using mobile phones as a follow-up tool for trauma

patients, to identify those who would benefit from further care, and to better understand the long-term disability and socioeconomic costs of trauma.

In Bangladesh, grantees will study how to scale-up a phone-based program that sends electronic reminders to improve hygiene practices with the goal of reducing pediatric diarrheal disease. Also in Bangladesh, a team will design, build, deploy and study a mobile phone-based application to monitor the progress of children with Autism Spectrum Disorder.

A project in Thailand will investigate how to use mobile solutions to improve

drug adherence for populations at risk of HIV. In Zambia, a grant will support research into a medical records application that uses ear morphology as the basis for patient identification.

Finally, in Costa Rica, scientists will work to reduce insect-borne diseases such and dengue, Chagas and Zika by creating a novel, community-driven, GPS-based smart device application. The app will map insect risks, identify and demonstrate community strategies for remediation of insect habitats, and evaluate engagement of local community and tourist populations to help identify risk.

> **RESOURCES**
>
> *http://bit.ly/mhealthawards*

Disease modelers mark Fogarty's 50th anniversary

Fogarty's team of infectious disease modelers used the occasion of the Center's 50th birthday to review its achievements, consider lessons learned, and explore possible future directions in an article published by the journal *Epidemics.*

"Enhancing global capacity to study and interpret infectious disease surveillance data and develop data-driven computational models to guide policy, represents one of the most cost-effective, and yet overlooked, ways to prepare for the next pandemic," the authors suggested in the open-access paper. Emerging infections and data from past pandemics provide new opportunities for validation of computational models, they said, while cutting-edge technologies and the "big data" revolution present innovative tools for studying outbreaks in real time.

For the past two decades, Fogarty's Division of International Epidemiology and Population Studies (DIEPS) has spearheaded two synergistic programs that identified and addressed critical gaps in infectious disease modeling research. To prepare for future influenza pandemics, the Multinational Influenza Seasonal Mortality Study (MISMS) has strengthened global capacity to study the epidemiology and evolutionary dynamics of influenza viruses in 80 countries by organizing international research activities and training workshops. Spurred by the bioterrorism events in 2001, the Research and Policy in Infectious Disease Dynamics (RAPIDD) program has established a network of global experts in infectious disease modeling operating at the research-policy interface, with collaborators in 78 countries.

These activities have provided evidence-based recommendations for disease control during bioterror events and natural outbreaks, and coordinated global collaborative networks to advance the study of emerging disease threats. A worldwide community of researchers and policymakers has used computational tools and trainings developed by these programs to interpret infectious disease patterns in their countries, understand modeling concepts and inform control policies.

Knowledge of the mode of spread of a pathogen and the subpopulations at highest risk of transmitting the pathogen and experiencing severe disease can inform key decisions about social distancing and prioritization

of therapeutics and vaccines, the authors said. Designing disease models rooted in empirical data, enhancing existing tools for data analysis, and teaching collaborators around the world how to apply these tools represent "highly cost-effective" ways to prepare for the next infectious disease outbreak, they said.

The increasing availability of large, electronic datasets, or "big data," presents new opportunities for scientists to understand drivers of disease. Full-genome pathogen sequences, electronic health records, social media, satellite imagery and cellphone records provide highly granular information on transmission patterns, disease burden, human behavior and the environment.

Key accomplishments of MISMS include analyses that led to new national and regional vaccination strategies, improved understanding of children's role in disease transmission, and insights into how viruses migrate long distances and evolve over time, according to the article. The program also has helped provide publicly available genome sequencing of flu virus collections, and worked to connect human and veterinary research communities studying virus transmission.

Meanwhile, RAPIDD's work has been at the "forefront" of responding to the greatest infectious disease crises of recent years, the authors said, particularly the 2013-16 Ebola epidemic in West Africa and the Zika epidemic in the Americas. Modeling work helped to identify key routes of Ebola transmission and characterize the effectiveness of intervention policies. Careful literature surveys of prior modeling work, in addition to primary research done by RAPIDD, form a substantial body of "case law" for infectious disease modeling, the authors said, which can be used as reference to understand and model future outbreaks.

Together, the MISMS and RAPIDD programs have strengthened infectious disease modeling on a global scale, the authors said. "Most critically, these programs have been catalysts for other larger U.S. agencies and governments worldwide to expand support for infectious disease modeling research and to incorporate models into policy decision-making."

MISMS was supported by the HHS Pandemic Threat Unit, Office of Global Affairs and Fogarty. RAPIDD received funding from the Department of Homeland Security and Fogarty.

Accomplishments of Fogarty's disease modeling programs		
Bibliometric Indicator	**RAPIDD**	**MISMS**
Number of articles	1,002	433
Number of citations	36,077	22,826
Median citation count per article	38	23

Fogarty's staff recently reviewed the productivity of the Research and Policy in Infectious Disease Dynamics (RAPIDD) and Multinational Influenza Seasonal Mortality Study (MISMS) programs.

RESOURCES

http://bit.ly/DiseaseModel50

PROFILE

Fogarty Fellow studies HIV referral patterns in Ghana

By Shana Potash

Surgical resident Dr. Cameron Gaskill began his Fogarty fellowship in Ghana at a time when research in Africa and elsewhere was showing a higher prevalence of HIV among trauma patients than the general population. Recognizing the potential to identify large numbers of new cases in an emergency department and direct those people to care, Gaskill examined the HIV referral pathway from initial diagnosis in his hospital's emergency room to treatment in a clinic.

With kits provided by the Ghana AIDS Commission, the research team tested patients as they came for emergency care at Komfo Anokye Teaching Hospital. People who were HIV positive were referred to the clinic for a confirmatory test and then to a provider for treatment.

Using a time-and-motion study design, investigators called participants every week to find out where they were in the process. Researchers noted, for example, the amount of time between hospital discharge and confirmatory testing, how long it took for the results to come back, and the wait time to be seen at a clinic—all with the aim of determining where there's room for improvement.

"There's a qualitative portion to this," Gaskill explained. "We call patients and can find out, 'Well, I went to the clinic and waited in line all day, but the clinic was too busy.' And then we talk to the clinic and learn about ways that we can improve visit capacity."

He said the project's findings could enhance the hospital's referral systems, more effectively identify people with HIV and get them into treatment, and help the government decide how to allocate resources.

"The question I get asked most often when I tell people about the project is 'Why is a surgeon involved in HIV care?'" Gaskill said. "The first goal of this project obviously is to improve the care of HIV patients and their referrals. But the larger implication is that studies of these referral processes should be able to be universally applied to other referral processes," such as from trauma wards to physical therapy and rehab, primary care or a specialized clinic.

Cameron Gaskill, M.D., M.P.H.

Fogarty Fellow:	2016-2017
Fellowship at:	Kwame Nkrumah Univ. of Science and Technology, Ghana
U.S. partner:	University of Washington
Research areas:	Surgery, emergency medicine, trauma

Gaskill, who's interested in surgical capacity building, trained with mentors from the University of Washington and the Kwame Nkrumah University of Science and Technology (KNUST) and participated in other projects intended to improve surgical care for trauma and cancer patients.

"It's a great opportunity to be working alongside local surgeons who conduct research that informs their clinical care," Gaskill said. "We'd operate overnight on a patient with typhoid perforation (an intestinal perforation due to a complication of typhoid fever) and then the next day we'd design a study to assess the surgical repair performed in those patients."

On the weekends away from the hospital, Gaskill traveled to other parts of the country and worked in clinics to keep his skills relevant. He also met with surgeons at hospitals and tertiary care centers to learn about their research and explore opportunities for collaboration.

Gaskill said his experience with Fogarty's Global Health Fellows and Scholars Program allowed him to apply the research skills he's built over the years. He learned to become a better teacher and leader, guiding a team and working across departments. Additionally, he benefitted from the exposure to new situations. "I think it's hard sitting at home to understand the problems in Ghana," he explained. "I think I'll have a much better idea of how to create projects in these environments and how I need to plan my life and my career development, so I can best position myself in global health."

RESOURCE
http://bit.ly/GaskillGhana

Q&A

Dr. Glenda Gray became a pediatrician in the 1990s as HIV/AIDS was gathering steam and her native South Africa was emerging from apartheid. A co-founder of the Perinatal HIV Research Unit in Soweto, which focused on ending mother-to-child transmission, she was awarded a Fogarty fellowship in 1999, which allowed her to train and conduct research at Columbia and Cornell Universities in New York. Among her many professional achievements are serving as co-principal investigator on the HIV Vaccine Trials Network (HVTN), and being appointed the first woman president of the South African Medical Research Council and board chair of the Global Alliance for Chronic Diseases.

How did you become an HIV/AIDS researcher?

Doing research didn't enter my mind as a young doctor, but I was working on a ward in Soweto that was hemorrhaging HIV-infected children and I wanted to stop them getting the virus. If HIV had happened a decade earlier, we wouldn't have had the same opportunities as we did. There was an academic boycott during apartheid, which meant we were never substantially exposed to the outside world in terms of academia. With apartheid ending and HIV happening at around the same time, we had opportunities to engage at an international level.

How did Fogarty advance your research career?

By taking me out of South Africa in 1999 and putting me in Cornell and Columbia Universities in New York, where I worked as a postdoc in clinical epidemiology and epidemiology, Fogarty allowed me to formalize my education and training. Before that, I had learned on the job. Leaving South Africa at this critical juncture in my life helped me create the basis from which I've moved forward.

What lessons did you learn as a Fogarty trainee?

A key lesson I took home was how to write NIH grants. Without NIH support, the Perinatal HIV Research Unit in Soweto, which I co-founded in 1996, would never have become a recognized clinical research site. Because I learned how to write NIH grants as a Fogarty trainee, we got substantial funding, which allowed us to establish ourselves as clinical scientists and conduct research that has had a global impact in areas like mother-to-child transmission, and HIV prevention and treatment.

Over the years, Fogarty has taught me that it's critical to translate evidence into practice and policy, and scale it up to get impact. Fogarty has also been a pioneer in getting low- and middle-income countries ready for the looming epidemic of noncommunicable diseases. Fogarty sees what's coming down the pike and makes sure we're addressing the relevant issues so we're not caught off-guard when we're faced with a new health challenge.

What is a key project you've worked on?

One example is the AZT antiretroviral. We knew it prevented mother-to-child transmission during childbirth, but it was clear that women in Africa couldn't afford a 14-week course of treatment. So my research unit set out to find the shortest antiretroviral regimen for the prevention of mother-to-child transmission, or PMTCT, that would be effective.

We were investigators on a study that examined varying lengths of treatment versus placebo. This left us open for scathing criticism in a *New England Journal of Medicine* editorial. The writers said using a placebo was unethical and would lead to hundreds of preventable HIV infections in infants. But the voices of pregnant HIV-infected women were absent from the debate, until we asked the women on the trial what they wanted to do. They indicated that we should proceed with the placebo trial—on condition that HIV-infected women would benefit from the results of the study.

Through these trials, we were able to establish that a shorter, less expensive course of antiretrovirals was effective at preventing mother-to-child transmission. We made sure that our findings were translated into interventions being made available in Soweto.

What's your proudest career achievement?

When I was a medical student, there was no HIV. As I became a young doctor, HIV was exploding in our faces. As a 35-year-old, I started to put in place and evaluate interventions. And as a 55-year-old, I sit here and see that children aren't dying of HIV in our hospitals anymore. I'm immensely proud that my colleagues and I looked HIV in the face and did things that have cut the mother-to-child transmission rate in South Africa to under 2 percent. I'm proud that what we started in mother-to-child transmission has helped bring pediatric HIV under control.

NIH-supported research targets global suicide burden

S omeone somewhere takes their own life every 40 seconds, amounting to around 800,000 people who die by suicide every year. Most suicides occur in low- and middle-income countries (LMICs) and all age groups are affected. Adults over the age of 70 have the highest rate of suicide, but it is also the second leading cause of death among 15- to 29-year-olds. While suicide is more common in men than women, suicide rates are high among women in some countries, notably India and China.

People who kill themselves by suicide often use a method that's easily accessible in their environment. In countries where a large proportion of the population depends on farming for a living, for instance, ingesting pesticide is a common way of taking one's life. Between 1990 and 2007, around 30 percent of global suicides were by pesticide self-poisoning, according to the WHO. In urban areas, jumping from tall buildings is a common means of suicide, and people in LMICs use readily available barbecue charcoal to produce deadly carbon monoxide to end their lives by asphyxiation. Hanging is the second-most used method of suicide, and in places where it's easy to obtain a gun, suicide by firearm is common.

Suicide by jumping is a particular problem in China.

Once considered a problem of high-income countries, data show that more than three-quarters of all suicides occur in LMICs, and nearly half of them in China and India. But suicide death rates—the percentage of the population that commits suicide—are higher in developed countries, according to available data. Confirming those data is difficult, though. Few LMICs have systems in place to accurately register mortality causes, and even when data are available, the stigma surrounding suicide—and the fact that it's illegal in some countries—mean it's often not cited as the cause of death.

"Families in countries like Mozambique are unlikely to report that someone died by suicide because of the stigma involved," said Dr. Bradley Wagenaar of the University of Washington, the principal investigator on several projects on suicide in Mozambique, supported by the National Institute of Mental Health (NIMH). "Instead, when a relative mysteriously dies, they'll often blame malaria or an infectious disease."

Although suicide is often an impulsive event that no one sees coming, many suicide deaths are preventable. Key risk factors include depression or other mental illness, feelings of isolation, experiencing a conflict or disaster, drug or alcohol abuse, and previous suicide attempts.

NIMH Director Dr. Joshua Gordon has made suicide prevention a research priority, and the WHO has included it in its Mental Health Action Plan. With support from Fogarty, NIMH and other NIH institutes, researchers are studying ways to reduce global suicides by:

- Improving mental health care, including by integrating it into primary care services.
- Task-shifting the screening for mental illnesses to community health workers and nurses.
- Improving patient access to treatment for mental and substance use disorders.
- Reducing stigma surrounding suicide.
- Strengthening countries' vital registration systems.
- Helping authorities restrict access to the most common means of suicide, such as pesticides or firearms.

Articles in this section by Karin Zeitvogel
Resources: http://bit.ly/GlobalSuicide

Scientists in Fiji, which has one of the highest suicide rates in the world, are studying task-shifting approaches to make up for a shortage of psychiatrists.

Research boosts mental health task-shifting, innovative approaches

Scant resources force low- and middle-income countries to use cost-conscious innovations to improve access to and standards of mental health care, with mobile technology and task-shifting often the tools of choice to achieve this.

A project supported by Fogarty and the National Institute of Mental Health (NIMH) in Bolivia is studying the use of mobile text messages to deliver cognitive behavioral therapy (CBT) messages to people with mental illness. CBT, which focuses on changing behavior that reinforces depression, has been shown to be more effective than antidepressants, explained Dr. John Piette of the University of Michigan, who's leading the project. But accessing CBT usually requires several months of attendance at therapy sessions—not easy for people living on low incomes. "Putting CBT on people's phones and using community health workers, who cost less than a psychiatrist, to monitor people's health status makes care more accessible and less costly," said Piette.

Similar approaches are also being studied in Fiji, said to have one of the highest suicide rates in the world. Researchers supported by Fogarty and NIMH are investigating how community health nurses, who have been trained to fill the gap created by a chronic shortage of psychiatrists, work with different diagnostic tools—a mobile phone questionnaire, a paper-based one, or the currently used system based on WHO guidelines. Initial results show the mobile phone app to be the most efficient at quickly providing caregivers with the critical information needed to flag people who are considering self-harm.

Someone takes their own life every 40 seconds.

"Mobile technology appears to help nurses to rapidly and accurately identify people at risk for suicide," said Dr. Vimla Patel, of the New York Academy of Medicine, and one of the principal investigators on the project. "We need to find at-risk people as early as possible to bring down Fiji's high suicide rate."

Mozambique began mental health task-shifting in the 1990s when it started training psychiatric technicians to compensate for a severe shortage of psychiatrists. Today, there are over 270 technicians countrywide, with at least one in every district. Although task-shifting has improved mental health care in Mozambique, access remains difficult in the country of 30 million, which is estimated to have the highest suicide rate in Africa.

With NIMH support, Dr. Bradley Wagenaar of the University of Washington (UW) is exploring ways to extend the reach of Mozambique's overstretched mental health care providers. One project he's working on allows patients to see—in a single visit to a clinic—a professional who can provide care for both physical and mental health problems. Part of the logic behind collaborative care is that mental illness, such as depression, is often linked to a patient's chronic disease, said Wagenaar.

In another NIMH-supported project, Wagenaar is using something called the systems analysis and improvement approach (SAIA), which borrows elements from industrial engineering to chart the steps involved in the mental health care cascade, identify how patients and the health system are affected by them, and work with health workers to correct problems. Developed by UW researchers with NIH funding, this approach has already been used to improve outcomes in prevention of mother-to-child transmission of HIV.

SAIA was developed in Mozambique and is being tested and adapted for use in the U.S., said Wagenaar. The outcomes of the Fiji project are expected to guide the design of affordable, efficient systems that enhance health workers' capacity to identify and treat depression and suicide risk, while protecting patient privacy.

"These are all examples of south-north flow of innovation," said Wagenaar. "They illustrate how a two-way exchange of ideas helps to improve mental health care in underserved areas in low- and high-income countries." And providing CBT by phone could help to improve access to non-pharmaceutical therapies both in LMICs and the U.S., where the suicide rate is high and growing.

Frugal innovation fights India's high suicide burden

S uicide in India is as complex as it is tragic and preventable. One in three suicides in the world happens in India, where the suicide death rate in women was more than double the global average in 2016 and suicide was the leading cause of death for 15– to 39-year-olds. Stigma and the fact that attempting suicide was a criminal offense in India until 2017 have made it difficult to obtain reliable data about the extent of the problem.

Indian government statistics put the country's suicide rate at 11 per 100,000, but the WHO estimates the burden is nearly double that.

Improving data-gathering was the necessary first task for Indian researchers after they were awarded a large grant for suicide prevention research and capacity building by the NIH's National Institute of Mental Health (NIMH) in 2017. An extrapolation of initial data gathered by the scientists at the Indian Law Society's Center for Mental Health Law and Policy indicates that the annual rate of suicide in India could be up to 40 per 100,000, much higher than the government figures of 11 per 100,000, said Dr. Soumitra Pathare, the lead investigator on the project.

Alongside improving data on suicide, the NIMH-supported project led by Pathare will train implementation researchers, roll out culturally appropriate suicide prevention interventions, and make policy recommendations. In Gujarat state, where nearly three-quarters of the population of 2 million live in rural areas, the researchers are studying ways to restrict access to pesticides, which are involved in around a third of suicides in India. Village officials are being asked to install storage boxes for pesticides in local council offices, where trained on-site managers will "identify people who look distressed when they come to take the pesticide," explained Pathare. Local farmers would only be able to access the storage lockers during specific hours in the morning and evening, reducing the likelihood of someone "impulsively swallowing pesticide stored in their home after an argument in the middle of the night," he added. Almost half of suicides in India are unplanned.

A billboard in India warns of the dangers of poisoning.

© 2012 Srikrishna Sulgodu Ramachandra, Courtesy of Photoshare

A small-scale study, funded by the WHO, was conducted in four villages in southern India in 2013 and found that attempted and completed suicides fell sharply in two villages where pesticide lockboxes were installed. In villages with no storage facility for pesticides, the number of completed suicides went up during the study.

Another intervention on the NIMH-supported project will teach 14- to 16-year-olds to recognize the warning signs of suicide in their peers. In trials in 14 European countries, the Youth Aware of Mental Health (YAM) program reduced suicide ideation in young people. YAM is being adapted for an Indian context and will be rolled out in schools in Gujarat. Together, YAM and the pesticide locker trials are expected to impact around 200,000 people.

Capacity building is the third prong of the ambitious project. Community health workers are being trained to identify people at high risk for suicide and get those patients on the right care pathway. Pathare and his team will follow up with the health workers to see if the training they were given improved identification and referral rates. Separately, a fellowship is being created to train implementation scientists—essential, says Pathare, to ensuring that evidence-based interventions are scalable.

"This project takes a holistic approach to suicide prevention, looking outside the healthcare system and using 'frugal innovation' to reduce India's high suicide burden," said Pathare. "The health sector may bear the burden of suicide and suicide attempts, but prevention can happen very cost-effectively in schools and communities, on the internet and through the media. India is a hub for frugal innovation and if what we're doing in Gujarat works, Indian innovation could be easily translated and applied in American communities, especially rural areas with poor access to mental health care and low-resource innercities."

Global research helps bring down China's suicide rate

After a rash of suicides in 2010 at a cellphone factory in Shenzhen, concerns were raised in the media about the mental health of the Chinese workers who leave their rural homes and head to distant cities for work. While many reports told tales of low pay, loneliness, long hours and mismanagement, a Fogarty-supported study conducted by Dr. Eric Caine of the University of Rochester and several of his Chinese trainees found that migrating for work appears to have a protective effect against depression, a risk factor for suicide. They hypothesized that this may be because mobile phones and the internet allow migrant workers to stay connected to their families, and improved transportation enables them to return home regularly.

In all, about 200,000 Chinese take their lives each year, accounting for nearly a quarter of global suicides, according to the WHO. Since the Chinese government recognized the issue as a health crisis in the 1990s, the overall rate has dropped by half, but is rising among some populations, such as the elderly.

To help address the problem, NIH has supported numerous research projects on suicide in China, including two decades of Fogarty-funded studies led by Caine, which have kickstarted self-harm research in the country. Starting in 2001, funding from Fogarty's International Clinical, Operational and Health Services Research Training Award (ICOHRTA) allowed the University of Rochester (UR) to collaborate with academic institutions in China and set up that country's first suicide research center.

Over the years, with funding from ICOHRTA and other Fogarty programs including NCD-Lifespan and the Global Health eCapacity Initiative, some 70 Chinese scientists have been trained and helped to develop China's suicide research infrastructure. The trainees and their mentors have collaborated on scores of publications covering everything from suicide risk factors in China to suicide ideation among online users. Many of UR's former trainees now hold senior faculty positions at major universities and research institutions in China. Eight out of 10 long-term trainees went on to hold high-level government posts. "And importantly," said Caine, "these trainees are the foundation for training future

A Chinese man attempts to prevent his girlfriend from jumping off a bridge. Fogarty-funded researchers in China are studying how to reduce the incidence of self-harm in the country, where nearly a quarter of the world's suicides take place.

Photo by Barcroft Media

generations of investigators devoted to preventing suicide in China."

Studies led by UR faculty and the Chinese trainees have identified where research should be focused, and made policy recommendations with proven potential to reduce the suicide burden in China and elsewhere. For instance, when a woman in Hong Kong became the first person documented to have killed herself by asphyxiation, by burning charcoal in a small, sealed room, Fogarty-supported research led to calls for policymakers to restrict access to charcoal and other easily obtainable suicide means.

Other research by the team found that women in rural China, where most of the country's suicides occur, have higher rates of suicide ideation and attempts than men, and were nearly twice as likely as men to die by suicide. The study's authors said this was likely attributable to the means of suicide—ingestion of highly toxic pesticides, which are ubiquitous in rural farming communities—and a relative lack of immediate access to emergency services. Another study is investigating ways to increase that access through social media and mobile health technology.

Locally focused research has allowed scientists to help reduce China's suicide rate, said Caine. "Suicide is not a problem that you can fix at a national level," he said. "Yes, you can set national standards of practice and implement policies in the health care system, but most suicides occur outside the health system, so you have to go back to the community. Research that allows us to understand what's going on locally leads to the most effective solutions—such as lockboxes to store pesticides or restrictions on charcoal sales—in reducing China's suicide burden."

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

NIH weighs new opportunities in global health research

"A good hockey player plays where the puck is. A great hockey player plays where the puck is going to be." That sentiment attributed to sports legend Wayne Gretzky has been on my mind lately.

Here at Fogarty, we've spent the past year considering what the Center has accomplished since its founding 50 years ago and how we should be positioning ourselves to take advantage of the new frontiers of global health science, emerging technologies and other opportunities to ensure we and our community are prepared to speed discoveries that improve health.

In the last few months I've led several consultations with my NIH peers and collaborators to brainstorm together how we can have the greatest impact in the coming decade. I'm fortunate that Dr. Francis S. Collins remains as NIH Director, and is encouraging these efforts, with global health research as one of his top priorities. With his guidance, we're considering a number of possible activities.

One significant strand that has emerged in our discussions is to consider how we can better leverage technologies to improve diagnoses and treatment of disease in low- and middle-income countries, where there's a shortage of health care workers with advanced training. New tools could be developed or adapted to put simple diagnostics, treatments, telemedicine consultations and other mobile interventions and novel devices in the hands of clinical officers, nurses and community health workers. That could lead to earlier detection of disease, simpler treatments, improved adherence to care, and better health outcomes—all while decreasing the cost of care. An added bonus is that concepts developed in these low-resource settings could have relevance back in the U.S., as we work to improve care while cutting costs.

Building data science capacity was another priority area that received strong endorsement. It will benefit the global research community at large if LMIC scientists are well-prepared to participate in the "Big Data" revolution.

NIH Director Dr. Francis S. Collins is guiding development of a new trans-NIH research agenda for global health.

As more developing countries establish disease registries, biobanks and electronic medical records systems, it will become increasingly important to ensure data quality and interoperability with the broader scientific community.

It was also suggested that an international meeting be convened to consider how best to leverage the existing LMIC research infrastructure established with funding for HIV/AIDS and other infectious disease studies, as well as through the Medical Education Partnership Initiative and the Human Heredity and Health in Africa program. In addition, we might consider the demographic trends in the U.S. as we plan strategic research investments globally, for instance expanding research in Central and South America.

These and other ideas mean it's an exciting time at NIH, as we contemplate future directions. As research becomes more complex, it will be important for us to continue to expand multidisciplinary research partnerships, to nurture collaborations among engineers, physician-scientists, business experts and more. We must cultivate an ecosystem for innovation in LMICs and find new ways to harness affordable technologies to improve health. By working together on all these fronts, we can score many goals for global health.

PEOPLE

Bridbord retires, becomes senior scientist emeritus

After 46 years of government service, Dr. Ken Bridbord has retired, but remains with Fogarty as senior scientist emeritus. His contributions include conceiving Fogarty's AIDS International Training and Research Program, which has trained more than 2,000 scientists in developing countries, and working on efforts to remove lead from gasoline in the 1970s.

Breman chosen for ASTMH leadership

Fogarty senior scientist emeritus Dr. Joel Breman has been selected as president-elect of the American Society of Tropical Medicine and Hygiene (ASTMH). Breman, who was among the first class of ASTMH Fellows, is internationally known for his work on Ebola, smallpox, malaria and other diseases.

Fogarty advisor El-Sadr honored

Dr. Wafaa El-Sadr, a Fogarty advisory board member, has been recognized by the New York Academy of Medicine for leadership in addressing HIV and other global health threats, and strengthening health systems worldwide. El-Sadr, of Columbia University, received the Stephen Smith Award for Distinguished Contributions in Public Health.

Daszak elected into National Academy of Medicine

Former Fogarty grantee Dr. Peter Daszak has been elected into the National Academy of Medicine. President of the nonprofit EcoHealth Alliance, Daszak was recognized for identifying the origin and drivers of emerging diseases, and producing the first map of disease hotspots.

Schiff receives NIH award for innovative research

As part of NIH's High-Risk, High-Reward Research Program, Dr. Steven Schiff received an NIH Director's Transformative Research Award to explore a novel paradigm to treat infectious disease—the use of predictive modeling to forecast point-of-care treatment. Fogarty helped support Schiff's earlier work studying sepsis and hydrocephalus in Africa.

New Head for NIH Complementary, Integrative Health

Dr. Helene M. Langevin was tapped to lead NIH's National Center for Complementary and Integrative Health. Langevin has been director of the Osher Center for Integrative Medicine, which is jointly based at Brigham and Women's Hospital and Harvard Medical School. Her research focuses on the role of non-pharmacological pain treatment.

New post for global health executive Benn

Dr. Christoph Benn has assumed a new role as Director for Global Health Diplomacy with the Joep Lange Institute, where he will focus on developing sustainable health financing models. Benn currently is combining the position with his work as senior advisor at the Global Fund to Fight AIDS, Tuberculosis and Malaria.

NIH programs advance global genomics

NIH efforts to advance understanding of gene variants and their connections to health are detailed in a report published by *Human Mutation*. The Clinical Genome Resource (ClinGen) and Clinical Variants (ClinVar) programs have brought together more than 730 global experts to standardize methods and enrolled participants from 32 countries.
Full report: http://bit.ly/NIHgenom

NIH Disease Prevention Office unveils plan

The NIH Office of Disease Prevention (ODP) has released its new strategic plan focusing on three cross-cutting themes: leading causes and risk factors for premature mortality and morbidity, health disparities, and dissemination and implementation research.
Full plan: http://bit.ly/ODPStratPlan

WHO focuses on childhood cancer

WHO has set the goal of doubling the worldwide cure rate for children with cancer by 2030, through a new global initiative. Cancer is a leading cause of death for children, with 300,000 new cases diagnosed each year.
Full report: http://bit.ly/WHOkidsCancer

Study ranks human capital investment

Investments in human capital—defined as a population's aggregate levels of education, training, skills and health—vary widely between countries, according to a new report by the Institute for Health Metrics and Evaluation. The analysis in *The Lancet* examines data from 195 countries.
Full report: http://bit.ly/HumanCapReport

Researchers consider economics of AMR

A new publication examines the interaction of infectious disease threats with economic activity and suggests potential areas for study. The report was produced by the National Academies of Sciences, Engineering and Medicine, based on discussions the organization hosted recently.
Full report: http://bit.ly/EconAMR

Traditional medicine recognized by WHO

For the first time, the WHO is recognizing traditional Chinese medicine by including it in the latest version of its global compendium, known as the International Statistical Classification of Diseases (ICD). The World Health Assembly is expected to endorse ICD-11 in 2019.
Website: www.who.int/classifications/icd/en/

Funding Opportunity Announcement	Details	Deadline
Health-professional Education Partnership Initiative (HEPI) - Malawi and Zambia (R25)	http://bit.ly/hepi2018	Dec 13, 2018
International Research Scientist Development Award (IRSDA) (K01) Independent Clinical Trial Required Independent Clinical Trial Not Allowed	http://bit.ly/IRSDAct http://bit.ly/IRSDAnoct	Mar 7, 2019 Mar 7, 2019
Planning for Noncommunicable Diseases and Disorders Research Training Programs in LMICs (D71)	http://bit.ly/NCDlifespan	Mar 14, 2019
Global Infectious Disease (GID) Research Training Program (D71) (D43)	http://bit.ly/GIDplan http://bit.ly/GIDtraining	July 25, 2019 July 25, 2019

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

Global Health Matters

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First Lady supports USAID programs in Africa

Official White House Photo by Andrea Hanks

U.S. First Lady Melania Trump visited four African countries in October.

U.S. First Lady Melania Trump made her first significant solo overseas trip in October, spending time in four African countries: Ghana, Malawi, Kenya and Egypt. Closely coordinating with USAID, her trip was intended to highlight U.S.-funded programs that improve child health and education. In addition to visiting hospitals and schools, she devoted time to cultural activities and tours of historic sites.

She also promoted her "Be Best" campaign—designed to promote children's well-being—and presented host organizations with baby blankets, weighing sacks, diaper bags and teddy bears.

RESOURCES

http://bit.ly/FLinAfrica