



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

Partnerships, capacity building needed for progress

Global health partnerships that consider local needs and context are vital to speeding research discoveries to people who need them most, according to speakers at the fourth annual meeting of the Consortium of Universities for Global Health (CUGH), held recently in Washington, D.C.

The era when experts from high-resource countries dropped briefly into developing countries to conduct a study or teach a skill should be relegated to the past, according to Rwandan Health Minister Dr. Agnes Binagwaho.

Such so-called parachute visits by U.S. scientists are no longer the norm in her country. "You used to come for two weeks and after that go back. Now you stay long-term to transfer capacity in a direct way," she noted.

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Photo by Drinithy Cheverukhin for CUGH



Research expertise must be built in developing countries to take advantage of the "unprecedented" opportunities, NIH Director Dr. Francis S. Collins (center) told attendees of the 2013 Consortium of Universities for Global Health meeting.

GETHealth summit mulls widening technology use

Wider use of information communication technology (ICT) could greatly improve health care provider education and research capacity in developing countries, but there are many challenges to making this happen. To discuss how to overcome the barriers and accelerate change, leaders in health, research, education and ICT gathered recently in New York for the Global Education & Technology Health (GETHealth) summit.

"There was a lot of enthusiasm for identifying ways to better harness ICT to train and strengthen the health and research workforce in low-resource countries," said Fogarty's Nalini Anand, who moderated a conference session. "The challenges are many, for instance, how to keep nimble enough to adapt to new technologies over time and how to get more senior faculty on board and innovating. It's daunting, but that doesn't mean it's not worth exploring."

The meeting brought together experts from many different disciplines, ranging from global health researchers to curricula developers to software manufacturers. Attendees shared their models for how to implement distance learning, integrate ICT in health care delivery and encourage global health education and research training in-country. Other themes included gender empowerment, public-private partnerships and the use of social networks in health care delivery.

Attendees shared examples of successes. In a telemedicine initiative in Zambia, local health workers were trained to apply vinegar to a woman's cervix, which turns cancerous cells white, then take a digital photo and transmit it to an expert for diagnosis. Another example involved Tufts University's TUSK learning management information system, a software platform

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- Science advances should translate more quickly into practice
- Fogarty-funded research leads to public smoking ban in Hungary

US and India advance diabetes research plans

Researchers in the U.S. and India are joining forces against a growing health problem in their countries, diabetes and related diseases. An NIH delegation of 15 academic and government scientists recently attended a three-day meeting with counterparts in India to discuss scientific collaborations. The activity is the result of an agreement signed by the top Indian and U.S. health officials in June 2012 that aims to accelerate joint research in this field.

Under the new initiative, the NIH's National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and India's two main research agencies—the Indian Council of Medical Research and the Department of Biotechnology—will support a parallel funding program to fund a joint diabetes research agenda.

“Both the United States and India have a vested interest in improving our understanding of and treatment for

diabetes, and in finding economic ways to do both,” said NIDDK Director Dr. Griffin P. Rodgers, welcoming this first partnership between his agency and India.

“This research relationship will enable both countries to share expertise and engage each other in research to lessen the burden of diabetes around the world,” Rodgers said.

Over the years, India and the NIH, with guidance from Fogarty, have nurtured many research partnerships, for instance in eye diseases, addictive disorders, mental health, muscular diseases and stroke. “Our two countries have a long tradition of advancing research together and we welcome this new initiative that focuses on a health area of high importance in both our populations,” said Fogarty Director Dr. Roger I. Glass, who also attended the recent meeting in New Delhi and has partnered with Indian colleagues for many years in studying rotavirus.

As with the U.S., India faces alarming increases in Type 2 diabetes and related conditions, such as cardiovascular disease, kidney failure and adult-onset blindness. About 24 million Americans and 61 million Indians have diabetes, according to the International Diabetes Federation.

Researchers aim to illuminate, for instance, why individuals of South Asian origin develop diabetes at a lower body mass index and waist circumference than do people from elsewhere. The findings will be relevant for many Americans, given the population's diverse make-up.

RESOURCE

NIDDK news story: <http://1.usa.gov/WeVRcN>

Photo by the Indian Council of Medical Research



Delegates from the U.S. and India flesh out plans to jointly research diabetes, a rising problem in both countries.

India research agency transitions to new director

Photo by the Indian Council of Medical Research



India's new biotechnology chief, Dr. K. VijayRaghavan (left), is taking over from Dr. Maharaj K. Bhan.

Biotechnology. He encouraged much fruitful collaboration with the NIH, including Fogarty, producing discoveries in neuroscience, low-cost medical technologies and other

A changing of the guard is under way at one of India's leading scientific research agencies, with the departure of Dr. Maharaj K. Bhan after seven years leading the government's Department of

biomedical research topics of high priority.

“Dr. Bhan has been a driving force nurturing productive relationships among researchers in our countries,” said Fogarty Director Dr. Roger I. Glass, who collaborated with Bhan for more than 20 years on rotavirus studies. “Such relationships are invaluable as we strive toward the common goal of understanding and combating disease. We would not have achieved as much as we have without his leadership.”

Taking over the top job is Dr. K. VijayRaghavan, previously director of a leading Indian basic research organization, the National Center for Biological Sciences, where he encouraged the study of developmental biology, genetics and neurogenetics, among other fields.

eCapacity program to spur technology use

Information and communication technology (ICT) tools are an increasingly important part of biomedical research, but many developing country institutions have not yet built up enough expertise to access, adapt and integrate these resources into their education programs and research activities.

To help change this, Fogarty is launching an innovative program, Global Health Research and Research Training eCapacity Initiative. It is offered by limited competition to principal investigators or collaborators with former or current Fogarty grants for activities at institutions in low- and middle-income countries.

eCapacity offers support of up to \$100,000 per year for as many as three years. Projects are intended to leverage research and education efforts already established by other Fogarty grants.

“Our goal is to develop education programs that teach researchers how to incorporate the many ICT resources out there into their research and research training activities,” said Fogarty’s Dr. Laura Povlich, who leads the new initiative. “For example, online courses are becoming increasingly more accessible throughout the world. Students and faculty should learn how to best take advantage of these resources, while also discovering how

Photo by David Snyder for Fogarty/NIH



Fogarty’s new program will build technology expertise in developing countries.

to adapt and develop their own courses or learning platforms to best fulfill their training and research needs.”

Through the initiative, participants will develop the skills and expertise necessary to integrate ICT into their activities and keep pace with rapidly evolving technologies. Educational opportunities can be linked to any global health research area and may support activities in the use and development of electronic training resources—such as distance learning platforms, open education collaborations or library collections—or the use of ICT research tools including mobile health platforms, modeling, bioinformatics, geospatial information systems or other topics.

Applications are due on May 15th.

RESOURCE

eCapacity initiative: <http://bit.ly/eCapnew>

GETHealth summit mulls widening technology use

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Attendees at the GETHealth summit shared ideas about how to accelerate use of mobile technologies in developing countries.

that facilitates teacher and student online communication and access to multimedia materials, correspondence,

Photo courtesy of Johns Hopkins University

lecture notes, conferences and other e-learning tools. A Fogarty Framework grant helped support an initiative to extend the use of TUSK to developing countries.

Fogarty was a partner in the summit, convened by the Johns Hopkins Center for Clinical Global Health Education and the U.N. Global Partnerships Forum, and co-hosted by Ethiopia, Norway, Rwanda and Uganda.

In follow-up to the meeting, organizers will publish proceedings and set up social networking to further encourage discussion on the topic. “The summit helped to gain more awareness of different initiatives and actions that are already going on,” Anand said. “That will help us think strategically about what value we can add and where.”

RESOURCE

GETHealth website: www.gethealthsummit.org

Partnerships, capacity building needed for progress . . . continued from p. 1

CUGH, whose meeting attracted more than 1,300 participants from 56 nations, encourages equal partnerships between universities in developing nations and their wealthier counterparts, with the goal of reducing health disparities everywhere.

“We already have the knowledge to address most of the global health problems before us,” said Dr. Keith Martin, who heads the CUGH Secretariat. “Our great challenge is to overcome the knowledge-implementation gap and breathe life into the solutions we already know will save millions of lives and billions of dollars.”

Photo by Cathy Kristiansen



Partnerships are needed to build research capacity in a sustainable way, Rwandan Health Minister Dr. Agnes Binagwaho told attendees of the recent Consortium of Universities for Global Health conference.

One barrier to dissemination is developing country scientists' lack of access to current research findings. Binagwaho encouraged open-source publications noting that, otherwise, people in partner countries pay half their salaries just to read the latest journal articles.

Solid evidence is needed to inform policymakers and demonstrate the effectiveness of program implementation, noted USAID Administrator Dr. Rajiv Shah. For instance, studies can determine whether vaccination programs are reaching enough children or if HIV-positive patients are adhering to treatment. “These are all massive data gaps and are undermining results,” he said, adding that collaboration is helping address this. “More countries and more leaders around the world are now working together to solve these challenges.”

It's also important to recognize the benefits of science as a diplomatic tool, suggested Dr. Harvey Fineberg, president of the U.S. Institute of Medicine. “Among America's most successful interventions abroad, there is nothing to compare with what we have done in global health.”

It's vital the U.S. continue to expand global health activities as world populations face emerging infectious disease

threats, according to CDC Director Dr. Thomas Frieden. The risks are multiplied by the speed with which pathogens spread around today's interconnected world, growing drug-resistance in bacteria and an increased risk of someone engineering pathogens for nefarious purposes, Frieden noted. “It's quite accurate to say that in some ways we face a perfect storm in vulnerability.”

America's leadership in the battle against HIV/AIDS through the President's Emergency Plan for AIDS Relief (PEPFAR) has been a “game-changer,” according to Frieden. In addition to saving countless lives, PEPFAR is also working to build sustainable local capacity through the Medical Education Partnership Initiative (MEPI). Managed by Fogarty and the Health Resources and Services Administration, MEPI is intended to transform Africa's medical schools and dramatically expand the continent's medical and research workforce.

Under MEPI, African participant organizations are encouraged to build ties with health, finance and education ministries to ensure program goals align with national priorities and efforts will be sustainable. U.S. Global AIDS Coordinator and PEPFAR head, Ambassador Eric Goosby, said this approach has spurred the desire of in-country political leadership to make global health capacity building a priority and a political deliverable. “That change in self-perception of our colleagues in-country, both political and professional, has created an opportunity for the realization of true capacity expansion and putting a medical delivery system in place,” Goosby said.

Successful global health programs like MEPI are built on equal partnerships and respect, according to Binagwaho. She cautioned students from seeking global health postings just to glorify their resumes. “Global health is a tool for justice, to bring care in a more equitable manner across countries,” she said. “It's not an exotic fashion.”

Binagwaho said ideal global health collaborations involve learning by both partners. While many visiting scientists are experts in their fields, she maintained, they have lessons to learn in countries such as hers, about cultural context and other influences on health. Through reverse innovation, they may discover low-cost interventions that could be useful at home. “We have to recognize that global health is a two-way learning. Don't come and forget that I am an expert. Don't come to my country and forget that I can challenge you,” Binagwaho cautioned. “Come and ask me where you can give me a hand to advance social justice.”

RESOURCES

CUGH website: www.cugh.org

MEPI website: <http://bit.ly/wpkeUU>

NIH is pursuing unprecedented research opportunities

Photo by Dmitry Chetverukhin for CUGH



Top NIH officials spoke about their organizations' many successes and opportunities in global health research at the recent Consortium of Universities for Global Health meeting.

There are “phenomenal, unprecedented opportunities” for advances in global health research, the NIH director recently told attendees at the Consortium of Universities for Global Health annual meeting in Washington, D.C.

“Science is moving forward rapidly, new doors are opening all the time,” said NIH Director Dr. Francis S. Collins. “NIH involvement in the global, as well as domestic, health arena is more essential now than ever.”

With its expertise, the NIH is well-placed to help other countries develop institutional research and training capacity so they can participate in tackling persistent and emerging global health problems. “We really need to come up with ways to build those institutions, build that capacity, get the training in place, so there is a critical mass of expertise, so that going down the road, the research that needs to be done in these low- and middle-income countries can be done by researchers who are in the middle of those communities,” Collins said.

Even as the NIH pursues new drugs and treatments, low-resource populations are seeking access to proven interventions, noted Fogarty Director Dr. Roger I. Glass. “We’ve seen at NIH the development of many innovative therapies, like the HPV vaccine, yet we’ve done less well at implementing these in the developing world,” he said. “There’s clearly a research agenda about how we can do this.”

Today’s increasingly complex biomedical enterprise requires expertise in a broad range of disciplines. “Global health today is not just relegated to a medical school or a school of public health; it needs to include bioengineering, business, law and economics—and even undergraduates are involved,” Glass noted. “It’s a completely different picture of who we need to train to help us in the 21st century.”

Strategic, multidisciplinary partnerships are vital as researchers map the genomes of microbes, gain insight into pathogenesis and identify new targets for diagnostics, drugs and vaccines, said Dr. Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases.

The success of science to combat HIV, he said, shows “when you concentrate attention, resources, political will

and good fundamental basic science on the problem and ultimately translate that into effective interventions, you can do what some people think is impossible.”

The NIH and others in global health research must aggressively form partnerships to tackle fields that private industry eschews, said Dr. Susan B. Shurin, National Heart, Lung and Blood Institute director.

As life expectancy rises due to better preventions and treatments for infectious diseases, the “fruits of victory” are emerging in the form of noncommunicable diseases such as diabetes, heart ailments and cancer. “If people live longer,” she said, “they’re going to have a whole different set of problems than they used to.”

The burden of cancer in developing countries is a growing concern, according to National Cancer Institute (NCI) Deputy Director Dr. Douglas R. Lowy. “We have an obligation” to act, he said. “The research opportunities really are enormous.” He cited the success of NCI research in helping produce a vaccine against the human papilloma virus (HPV) that causes cervical cancer. Clinical trials conducted in Costa Rica, where there is a high prevalence of HPV, showed the vaccine reduced deaths by 50 percent. Research in tobacco cessation is also essential to lowering the global cancer burden, he said.

Substance abuse contributes to ill health in many ways, from cardiovascular disease to HIV/AIDS. National Institute on Drug Abuse Director Dr. Nora Volkow said her Institute plays a key role in sharing information globally. “One of our no-brainer investments is training scientists in other countries,” she said. “Knowledge should have no boundaries.”

It’s critical that NIH remain at the forefront of research and training, Collins maintained. “We are now a global community. Let’s not make any mistake about it. Diseases can travel across country lines. Noncommunicable disorders we used to think about as Western are now becoming a major cause of morbidity and mortality in the developing world,” Collins observed. “We’re all talking about the same things. Let’s figure out how best to get research done that will help the most people.”

PROFILE

Fogarty Fellow studies bone loss in China

As life expectancy rises around the globe, so do chronic diseases, fueling the need for research into low-cost diagnoses and treatments. Fogarty's Fellows program, which encourages scientists to research noncommunicable diseases as well as infectious diseases, is supporting Dr. Evelyn Hsieh as she examines the link between breast cancer and osteoporosis.

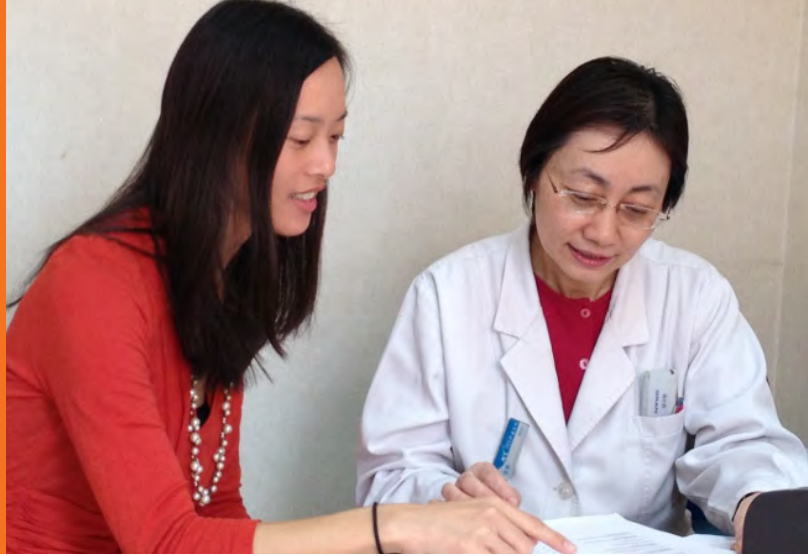
"Therapies for breast cancer put women at risk for osteoporosis and fracture," Hsieh said, noting that there are large global variations in breast cancer risk factors, age when it hits and treatment protocols. Her research project is in China, where breast cancer diagnoses occur at 49 years on average, 12 years younger than in the U.S. She will be able to access a large study population and use her Chinese language skills to facilitate collaboration.

Hsieh, a rheumatology fellow and doctoral candidate at Yale University, is supported by Fogarty's Global Health Program for Fellows and Scholars, which offers doctoral and postdoctoral students mentored time at an established research site in a developing country. The yearlong program, intended to encourage early-career scientists to pursue global health research, provides a training resource to the host institutions and nurtures international research partnerships.

Hsieh's focus on bone health grew from her specialization in rheumatology and interest in women's health. Her project is part of a retrospective study evaluating more than 4,000 women with breast cancer across China, and seeks to identify those at highest risk for fracture. She also designed a pilot study to measure vertebral fracture rates, vitamin D levels and bone turnover markers in 200 breast cancer survivors in Beijing and to evaluate the women's knowledge and health beliefs regarding osteoporosis.

To support the latter study, China's Cancer Institute was able to procure a bone density scanner. "This is rewarding because, beyond the implications for research, we have added something tangible to the hospital and improved the standard of care for patients," Hsieh said.

Photo courtesy: Dr. Hsieh



Fogarty Fellow Dr. Evelyn Hsieh (on left), a rheumatologist, is studying the link between breast cancer and osteoporosis in China, here with oncologist Dr. Zhang Pin.

Evelyn Hsieh, M.D., M.P.H.

Fogarty Fellow:	2012-2013
Local organization:	Cancer Institute and Hospital, Chinese Academy of Medical Sciences
Research focus:	osteoporosis and breast cancer
Funder:	National Cancer Institute, NIH
Program website:	http://1.usa.gov/STgSpz

Hsieh's fellowship is her second from Fogarty. As a medical student seven years ago, she received support to research sexually transmitted diseases among Ecuadoran sex workers in Peru. The study informed clinics on how to better reach out to the migrant sex worker populations and address their specific vulnerabilities.

Reflecting on the two fellowships, Hsieh said the hands-on experience in her first project, including developing a study and writing a grant, "enabled me to be much more focused during my second fellowship, which comes at a point in my career where I have identified a field that I am passionate about and feel I can best contribute to," she said. "In this new project, I feel much more prepared for the natural ebbs and flows that come with the process of research."

Trainees can get lost or be inefficient when new to research and working in an unfamiliar country, which is why the mentorship component is invaluable, she said. "The Fogarty program is a phenomenal mechanism to jumpstart that path, because the mentorship is really key. Having someone in the host country, such as Dr. Youlin Qiao, who is committed to making it a productive experience is worth its weight in gold."

When she returns to the U.S., Hsieh plans to complete the data analysis, prepare her findings for publication and present her doctoral thesis. Then she'll be ready to launch into a career in global health and clinical research, aimed at improving the health of women around the world.

DR. CHRISTOPHER P. AUSTIN, M.D.

Christopher P. Austin, M.D., became director of the National Center for Advancing Translational Sciences (NCATS), NIH's newest component, in September 2012. Launched in December 2011, NCATS aims to transform the process by which human health interventions are developed and delivered, making it more efficient, productive and scientifically robust. Austin applies his experiences in academia, industry and government—including work in rural hospitals in Africa and Alaska—to lead NCATS.



What is your vision for NCATS?

NCATS will work with collaborators and stakeholders to transform translation from a largely empirical, trial-and-error process to a more science-based, predictive enterprise. We will focus on solving problems that are common to the translational process for all diseases, and so tend not to be a focus for others. Examples include developing models to help more accurately predict efficacy and toxicology, repurposing drugs, providing starting points for novel targets and untreatable diseases, improving clinical trial recruitment and endpoint criteria, and Institutional Review Board harmonization. Since translation is a team sport, NCATS will serve as a catalyst, connector and adaptor to complement—not compete with—the work of the other NIH Institutes and Centers, industry and the nonprofit sector.

How do collaborations advance NCATS' global health research?

In NCATS' preclinical programs, each project is a collaboration with an academic, industry or nonprofit researcher. The deliverable may be a novel target, a probe to test a therapeutic hypothesis, or an early-stage drug. For example, NCATS' NIH Chemical Genomics Center (NCGC) has collaborated on the identification and development of early-stage compounds to treat many tropical diseases, including Chagas disease, schistosomiasis, giardia, malaria, HIV and hepatitis C. These diseases affect millions globally. NCGC enables researchers who are experts in global health problems but not necessarily equipped or experienced in translation to access the industrial-scale assay development, small molecule and RNAi screening, informatics and medicinal chemistry necessary to identify chemical probes and drug leads.

Collaborative projects in our Therapeutics for Rare and Neglected Diseases (TRND) and Bridging Interventional Development Gaps (BrIDGs) programs address the next stages of translation, aiming to deliver new interventions for testing in first-in-human trials. Current TRND projects include new, more potent treatments for cryptococcal meningitis, an infectious disease leading to hundreds of thousands of HIV-related deaths in sub-Saharan Africa each year, as well as the first drug candidate to target directly the molecular cause of sickle cell disease, a genetic

disorder affecting millions worldwide. Through TRND, we also took on two projects targeting different biological pathways to treat schistosomiasis.

How else does NCATS support global research?

NCATS' Clinical and Translational Science Awards (CTSA) program, which supports a consortium of more than 60 academic institutions nationwide, is focused principally on the clinical and implementation stages of translational research, including areas critical to global health. For example, a team at the University of California, San Francisco, is working to track and treat tuberculosis in developing countries by applying implementation science techniques from a CTSA-supported clinical research training program. Focused on translating findings from the clinic into real-world tuberculosis interventions, the team is testing several approaches in Ugandan health centers to improve the quality of treatment and using a cell phone-based LED microscope in Vietnam to decentralize diagnosis. The lead investigator learned broad translational skills through a CTSA-supported career development award and mentoring.

In addition, the NIH Office of Rare Diseases Research (ORDR), now housed at NCATS, was instrumental in starting the International Rare Diseases Research Consortium, which began as a joint effort between the European Commission and NIH to link global rare disease communities. By 2020, this consortium aims to develop 200 new therapies and diagnostic tests for most rare diseases. And, through ORDR's Rare Diseases Clinical Research Network, scientific collaborations continue with international sites in Australia, Canada, Europe, Iceland and India. ORDR also is connected with European and Asian countries to develop components of the Global Rare Diseases Registry and Data Repository, and ORDR staff from the Genetic and Rare Diseases Information Center respond to inquiries from patients, families and providers around the globe.

NCATS will continue to evolve over the next several years to address the enormous needs and opportunities in translational science. We look forward to partnering with Fogarty to make that vision a reality for global health. For more information, visit www.ncats.nih.gov



Photo by James Pusey/USAID

To ensure scientific findings are quickly implemented to improve health, researchers must include policymakers from the start of their projects.

Scientists must transfer findings to practice

Too often, global health scientists overlook the opportunity to leverage their research by ensuring it informs health policymakers or program implementers in order to spur actions that benefit health.

“Moving science advances quickly into treatments on the ground is critical and especially challenging in low-resource settings,” said Fogarty Director Dr. Roger I. Glass. “From the start of any project, we need to encourage strong links between researchers, implementers and policymakers and regard the implementation of science into policy as a key measure of success. After all, the primary reason for global health research is to improve human health.”

The nexus between science and implementation was the focus of a recent Fogarty advisory board discussion intended to inform development of the Center’s new strategic plan. Implementation science is a key priority for Fogarty and is woven into many of its research and training programs.

The time is ripe for researchers to engage with implementers, according to Dr. Stephen Morrison of the Center for Strategic and International Studies, who cited the Obama administration’s elevation of global health. “Science

has become more sexy to policymakers,” he noted. “We are seeing a real appetite for understanding what this translation looks like.”

In order to influence policymakers, scientists must change the academic model of simply conducting research and publishing papers, observed Dr. Laura Guay, of the Elizabeth Glaser Pediatric AIDS Foundation. “We need a bi-directional model, where researchers work with, and learn from, people on the ground rather than coming to dictate what will be done.”

This means involving people from the government, public health, nonprofits and other stakeholders from the start and as the project progresses, essentially making them researchers, she said. They should be part of deliberations about the country’s health needs and its research priorities, she added.

At the same time, the research team should see themselves as policymakers and program implementers, targeting their project to affect change in the country at hand. For this, they need to understand local culture, politics and customs and continually disseminate the research results. “The current challenge to the field is not in the science, but in the implementation of what we know,” she said.

Nowhere is this lack of implementation more disheartening than in HIV/AIDS, specifically in an infected mother’s transmission of the virus to her baby, according to Dr. Michael Johnson, Fogarty deputy director, who spoke in his capacity as the President’s Emergency Plan for AIDS Relief (PEPFAR) liaison to the Global Fund. Even though effective treatments are available for HIV, tuberculosis and malaria, many are still dying. “We continue to have ridiculous infection rates, ridiculous missed opportunities,” he said.

PEPFAR and the Global Fund, by establishing a broad network of HIV care centers and capacity, are in essence also creating a central system for health treatments and primary care services, Johnson noted. But for this to function effectively, scientists must understand how to use their data for program refinement and improvement, Johnson said. “We really need to up our game.”

Dr. King Holmes, Fogarty board member and grantee at the University of Washington, cited another example of how implementation has lagged behind discoveries. Although the human papilloma virus vaccine protects women against cervical cancer, many women—especially in developing countries—are not vaccinated. “Nobody’s doing that,” he said. “It’s shocking.”

Smoking research influenced policy in Hungary

Hungary, with about a third of its population smoking daily, has one of the highest rates of lung and oral cancer deaths in the European Union. But without detailed information on the health risks and financial costs caused by the habit, Hungary's government was reluctant to introduce and uphold strong policies to discourage tobacco use.

Into this void, Fogarty-funded researchers launched a multifaceted study generating evidence that helped bring about several tobacco tax increases and then comprehensive anti-smoking legislation in 2011.

"The result was unbelievable and in many ways unanticipated," said Dr. Kristie L. Foley, Fogarty grantee at Davidson College in North Carolina. "It was a remarkably productive study and emphasized the links between research and action."

In 2007, Foley received a five-year Fogarty grant for tobacco research and capacity building in Hungary. Fogarty's tobacco program encourages transdisciplinary research to tackle the international tobacco epidemic and reduce the global burden of morbidity and mortality caused by tobacco use in developing countries.

When the project began, Hungary's government lacked the will to enact comprehensive tobacco control legislation, the few scientists studying tobacco control were working in isolation and minority populations such as the Roma were ignored, Foley said. But she and her U.S. team forged a collaboration with Dr. Péter Balázs at Semmelweis University in Budapest, as well as with a diverse group of scientists, health care practitioners and others interested in the issue. "Our project had a three-pronged intention: to influence science, practice and policy," Foley said. "We wanted our results to lead to health system changes, educational reforms and policies to reduce smoking."

The multidisciplinary team conducted 11 research projects, on topics that ranged from studying price increases as a tool to curb smoking; determining the benefits of including tobacco information in dental school curricula; and quantifying the threat caused by mothers who smoke during pregnancy. The researchers also examined smoking-related health care costs and how the smuggling of inexpensive tobacco products from neighboring countries cut government revenue and caused a glut of cheap cigarettes.

From the start, Foley and her team placed a priority on understanding local culture, politics and customs.

Communication with the health ministry began early and was bi-directional, and the researchers focused on science that would produce actionable results. The final outcome was an increase in scientific capacity and a sustainable effort to reduce tobacco consumption in Hungary. "The relationship between we American scientists and our Hungarian colleagues changed over time from funder/funded to one more horizontal and collaborative, an attitude of 'we are in this together,'" Foley said. "It was a very intentional breakdown."

The scientists documented the population's attitudes toward smoking. For instance, most public health workers favored steps such as higher tobacco taxation and smoking bans for indoor public spaces. In another study, members of the public indicated they favored fining retailers who sell tobacco products to minors, banning smoking in health care institutions and restricting tobacco advertisements.

To ensure their findings were available to inform government tobacco policies, Foley's U.S.-Hungarian team maintained communication with the health ministry and shared their research results directly with the minister. "He asked, 'What would you do with policy that would have the greatest health impact?'" The team picked higher taxes and steps to promote clean indoor air, better infrastructure to support pregnant women and resources to promote smoking prevention in schools, Foley said.

The government's new legislation, which took effect in 2012, bans smoking in all confined public places and many outdoor places. The Hungarian team has also leveraged the Fogarty support to secure funding from other sources, such as the European Union. Foley and her colleagues, including Hungarians, are using an additional grant from Fogarty and the National Cancer Institute to bring this research model to Romania, where smoking also poses a significant health problem.

Fogarty-supported research has influenced anti-smoking policies in several Eastern European countries.

Photo by Yosef Hadar/World Bank



Realizing ICT's promise for global research, training



Information is the most prized currency of our fast-paced, wired world. We all struggle to stay up-to-date on scientific developments by consuming the constant waves of articles, reports and datasets that wash up in our email boxes every day. We routinely hold videoconferences with colleagues across the ocean, to share findings and plan collaborations. Here in

Bethesda, we can instantly review surveillance data from remote villages, beamed up from hand-held devices by scientists studying disease outbreaks on the other side of the world.

But how do we make the most of this flood of information? How do we leverage the glut of big data to speed discoveries that can save lives? How do we ensure the latest findings are broadly shared, especially with developing country students and scientists who lack expensive subscriptions to online journals? What training tools can be implemented in low-resource settings to foster the next generation of tech-savvy, multidisciplinary scientists that we so desperately need?

Here at Fogarty, we have been grappling with these thorny questions for some time. While we're encouraged by the results of our previous efforts to stimulate activity in information communications technology (ICT), we feel we must do more.

Through our new eCapacity program, we intend to provide a catalyst for our current and former grantees to explore how ICT can be employed to drive innovation and incorporated into novel research education tools. It's critical that institutions gain ICT expertise so they can review the vast resources available, assess what works best for their particular needs and keep up-to-date with technologies as they evolve. We intend to leverage the program's accomplishments by encouraging the broad sharing of outcomes—in terms of best practices, sample curricula, scientific presentations and online lectures.

As bandwidth is expanding across Africa and other developing countries, it's vital we take advantage of the myriad opportunities for online research collaborations, distance learning, mobile apps for data collection and

analysis, telemedicine and other approaches that have the potential to revolutionize how we conduct research and training in low-resource settings. This dovetails nicely with ongoing NIH efforts in the region.

Through the Medical Education Partnership Initiative, we are transforming medical education in sub-Saharan Africa, in part by supporting efforts to integrate ICT into all activities, including development of medical curricula, shared teaching tools and approaches to increase networking among institutions.

In addition, through H3Africa—the Human Heredity and Health in Africa Consortium—NIH is bringing genomics to the continent where human life began and where research holds much promise. With its goal of building genomics-related research expertise and infrastructure across Africa, the program includes provision for ICT training, vital for the design of research studies involving the collection and analysis of large datasets. The initiative will also develop skills needed to build and use a bioinformatics network to share the enormous collection of samples and findings the project will produce.

Cellphones and other hand-held devices also remain a topic of interest for us. We've been astounded by our grantees' early studies that demonstrated cellphones' essential role in low-resource settings in ensuring treatment adherence among HIV-positive people.

A trans-NIH interest group is following mHealth developments in these and other aspects of research and care. We are proceeding somewhat cautiously, as much more rigorous study is required. As NIH Director Dr. Francis S. Collins put it recently, "The plural of anecdotes is not data."

I look forward with excitement to the proposals our eCapacity program will generate and am glad to live in the information age, where ICT has the power to transform the way we work, and improve the health of all people, especially those living in the most remote outposts.

RESOURCES

eCapacity program: <http://1.usa.gov/VQxkFW>

Fogarty eLearning website: <http://bit.ly/AB4fOj>

African Health OER Network: <http://bit.ly/YINLE4>



UN promotes former Fogarty trainee Loures

The U.N. has appointed Dr. Luiz Loures to Deputy Executive Director of Program in its HIV/AIDS agency (UNAIDS) and also promoted him to U.N. Assistant Secretary-General. Loures, a former Fogarty AIDS International Training and Research Program participant, helped establish Brazil's national AIDS program.



Smith is to be US health attaché in South Africa

Steven Smith will be the next health attaché at the U.S. embassy in Pretoria, South Africa, where he will handle matters related to health cooperation and social policy. Smith, previously at the NIH's National Institute of Allergy and Infectious Diseases, currently is health attaché in New Delhi, India.



Pettigrew is honored for science achievements

Dr. Roderic Pettigrew, director of the National Institute of Biomedical Imaging and Bioengineering at NIH, has received the 2013 Pierre Galletti award for raising U.S. public awareness and interest in the field, and for his research in cardiovascular diagnostics and treatment strategies. This is the top award from the American Institute for Medical and Biological Engineering.



NIMH's Insel is awarded for government service

National Institute of Mental Health Director Dr. Thomas Insel has been recognized for his insight into the autism spectrum and obsessive compulsive disorders, receiving the American Medical Association's Dr. Nathan Davis Award for Outstanding Government Service.



Kutlesic heads NICHD global health office

Dr. Vesna Kutlesic has been named director of the global health office of the National Institute of Child Health and Human Development at NIH. Kutlesic, who had been acting chief, is a clinical psychologist and was previously on the faculty at Case Western Reserve University. She has also consulted for UNICEF on child health and behavioral services in Eastern Europe.



Fogarty committee's Gamboa receives award

Dr. Dionicia Gamboa, of Peru's Universidad Peruana Cayetano Heredia, was named as a recipient of the 2013 Elsevier Foundation Award for Early Career Women Scientists in the Developing World, for her research in leishmaniasis and malaria. Gamboa served on the executive committee of Fogarty's Global Infectious Diseases training grant program.

New journal examines implementation

Global Health: Science and Practice is a new open-source journal targeting program implementers. The peer-reviewed publication is produced by USAID, Johns Hopkins University and George Washington University.
Journal: www.ghspjournal.org

mHealth standards vital to scale-up

The current lack of standards and limited technological integration in mHealth are key barriers that must be addressed, according to a report from the mHealth Alliance. The study provides an overview of the current state of the field and offers recommendations for action.
Full report: <http://bit.ly/YhTAPg>

Vaccine patch holds promise

An innovative product may make it easier and cheaper to deliver lifesaving vaccines in low-resource settings. Studies of the vaccine patch, which offers easy application and safe storage at room temperature, are partly funded by the NIH's National Institute of Allergy and Infectious Diseases.
News article: <http://read.bi/11tnZuM>

USAID launches university network

USAID has formed a partnership with seven U.S. and foreign universities to develop novel solutions to global challenges. The \$26 million Higher Education Solutions Network will establish development labs at each institution.
News release: <http://1.usa.gov/YubnQJ>

PEPFAR evaluation released

The President's Emergency Plan for AIDS Relief (PEPFAR) has been "globally transformative," according to an extensive program evaluation conducted by the Institute of Medicine.
Full report: <http://bit.ly/XkLdzj>

US global health engagement studied

The Center for Strategic and International Studies has published a primer on the U.S. government engagement in global health, highlighting bipartisan support, conceptual and operational gains achieved and the need for sustained involvement.
Full report: <http://bit.ly/105VBtA>

Funding Opportunities

Funding Opportunity Announcement	Details	Deadline
Global Health Research and Research Training eCapacity Initiative (R25)	http://1.usa.gov/VQxkFW	May 15, 2013
Global Infectious Disease Research Training Program Training Award (D43) Planning Award (D71)	http://1.usa.gov/H0U3Gq http://1.usa.gov/GZ22uc	May 21, 2013
International Research Ethics Education and Curriculum Development Award (R25)	http://bit.ly/EXmay22	May 22, 2013
Fogarty HIV Research Training Program International Training Grant (D43) Extramural Associate Research Development Award (G11) Planning Grant (D71)	http://bit.ly/Combo724	July 24, 2013

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

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Fogarty Continues to Make a Difference

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Congressman John Edward Fogarty: A Good Life

Scientists, health advocates, family and friends of the late Rep. John Edward Fogarty gathered recently in Providence, R.I. to mark the centennial of his birth.

Fogarty Director Dr. Roger I. Glass provided an historical perspective of Rep. Fogarty's role as a champion for NIH and for the value of medical research. Under his leadership of the House subcommittee with responsibility for health funding, the NIH budget escalated from \$37 million in 1949 to \$1.24 billion in 1967, Glass noted. Shortly after Fogarty's sudden death in 1967, Congress acted to establish the John E. Fogarty International Center in his memory.

Since then, the Center has served as a bridge between NIH and the global health community, facilitating exchanges among investigators, providing training opportunities and supporting promising research initiatives in developing countries. It's provided significant research training to more than 5,000 scientists worldwide.

The celebration was hosted by the Fogarty Foundation, a charity established in 1964 by Rep. Fogarty to provide services to persons with intellectual and developmental disabilities.

Photo courtesy of Fogarty family



"I think that this matter of expanding research is one, perhaps the one, truly global effort in which all nations can and will join us as real partners."

*Congressman John Edward Fogarty
Congressional Record, 1959*

RESOURCE

Website: www.fogartyfoundation.org