



Leveraging biodiversity research to discover cures for disease . . . p. 12

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

NIH research essential to global AIDS relief efforts

NIH-supported advances in science are helping keep alive millions of people with HIV/AIDS and are dramatically lowering transmission rates in developing countries, said U.S. Global AIDS Coordinator, Ambassador Eric Goosby, in a recent address to NIH leadership and staff.

Photo by Bill Branson/NIH



Ambassador Eric Goosby, the U.S. Global AIDS Coordinator, told an NIH audience that research discoveries are preventing millions of deaths from HIV/AIDS and slowing disease transmission in the developing world.

Goosby, who leads the President's Emergency Plan for AIDS Relief (PEPFAR), cited the importance of three critical interventions based on NIH research: treatment of HIV infection with antiretroviral drugs, male circumcision to decrease the likelihood of disease transmission and interventions that prevent the virus passing from mother to child.

These discoveries make it possible for the Administration to consider for the first time the possibility that an AIDS-free generation may be within reach, he said, "a goal that would have been unthinkable, even several years ago."

NIH is a critical partner in the battle against AIDS, he said, with many of the early breakthroughs in understanding HIV and how to treat it flowing from NIH's scientific mandate. "These advances have been fundamental to the steps PEPFAR has made in rapidly expanding the HIV

response in low-income countries with high burdens of HIV disease," he declared. "This link, between knowledge generation and rapid deployment in the epicenter of the pandemic, makes for a powerful combination."

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NIH Director Collins tours India research sites

Photo by Dr. Roger I. Glass



NIH Director Dr. Francis S. Collins recently spent a week touring India's top research sites including Biocon in Bangalore, where he posed with a statue dedicated to leaders in genomics.

NIH Director Dr. Francis S. Collins made his first official visit to India recently, touring the country's top research sites, reviewing existing collaborations and discussing potential new areas for partnership. India is scaling up its investment in research and training, providing additional opportunities for collaboration. Collins met with leading scientists and students at NIH-funded institutions, gave several public lectures and participated in a summit on low-cost medical technologies. A joint U.S.-India effort is being explored to spur development of affordable diagnostics and interventions intended to drive down health care costs in both countries. Collins also signed agreements to collaborate on stem cell research and diabetes.



mHealth: an evolving global research agenda

- Strengthening diabetes management with text messages
- Preventing HIV transmission through breast milk
- Improving child health with electronic protocols

Read more on pages 6 - 9

USAID introduces strategic framework for global health

Continued investments in maternal and child health and striving for an AIDS-free generation present the best opportunities for USAID, according to Dr. Ariel Pablos-Méndez, the development agency’s Assistant Administrator for Global Health.

Pablos-Méndez recently introduced USAID’s strategic framework for success in global health, a draft of which is circulating for comment among U.S. officials. Speaking at a Washington event hosted by the Center for Strategic and International Studies, Pablos-Méndez said the framework is designed to align the dynamic and complex set of national policies, directives, initiatives and other factors that influence the agency’s operations into a more cohesive and strategic approach.

“This blueprint will ensure we are better able to adapt to changing realities and challenges, which are sure to present themselves in the years ahead,” said Pablos-Méndez, a former Fogarty advisory board member, who assumed the government post in August 2011.

Economic realities and advances in technology are dramatically reshaping the availability, efficiency and cost of health care in the developing world. The new strategy is designed to allow USAID to respond to the forces that will directly and indirectly influence its ability to fulfill its mission.



Dr. Ariel Pablos-Méndez

Pablos-Méndez said that USAID’s success over the next five years will be measured by contributions to saving lives among the poor and vulnerable, particularly mothers and children; strengthening health systems and technology innovation; and by providing inclusive leadership in global health and international development.

“A core belief of the Global Health Initiative, reflected in the strategic framework, is that improving the health of mothers and children, and realizing an AIDS-free generation, are areas that have a great potential for impact,” he declared. President Obama’s Global Health Initiative (GHI) “is now fostering greater interagency

Photo courtesy of USAID



USAID’s new strategic framework for success in global health emphasizes greater interagency collaboration, country ownership and smart service integration.

coordination, country ownership and smart service integration while aligning previous health initiatives for greater efficiency, namely the President’s Malaria Initiative and the President’s Emergency Plan for AIDS Relief,” he added.

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Pablos-Méndez described USAID’s mission in global health as focusing on several key elements, including providing technical leadership in responding to global health challenges, partnering strategically with a wide range of actors, accelerating the development and introduction of innovative technologies, scaling up evidence-based and locally adapted health solutions, strengthening local health system capacity, promoting gender equality and female empowerment and working efficiently as effective stewards of public trust.

To support USAID’s mission, Pablos-Méndez said the agency was “harnessing the technical excellence of its staff in implementation science; strengthening its country support, monitoring and evaluation and communications functions; and strengthening its work in health systems as well as in technology and innovation.”

RESOURCES

Videocast: <http://bit.ly/uxNzMD>

Research plays key role in HHS global health strategy

Protecting Americans' health and security while providing leadership and expertise to improve health worldwide are the overarching goals detailed in the Global Health Strategy unveiled recently by the U.S. Department of Health and Human Services.

"Health is an issue which aligns the interests of the countries around the world," noted HHS Secretary Kathleen Sebelius, speaking at a Washington event to launch the plan. "If we can limit the spread of pandemics, all people benefit. A new drug developed on one continent can just as easily cure sick people on another. A safe global food and drug supply chain will mean better health for every country."

The new strategy takes into account both the threats and opportunities across the globe, she added. The approach isn't a radical change of direction but seeks to better employ HHS's unique expertise, resources and relationships to have the biggest possible impact. HHS—made up of 11 agencies including the NIH, the Center for Disease Control and Prevention, the Food and Drug Administration and the Health Resources and Services Administration—has more than 300 officials stationed in 75 countries.

One of the plan's aims is to focus on global engagement that protects and promotes the health and well-being of Americans, said Sebelius. "Whether it's building networks that can spot and contain emerging infectious diseases, or creating research partnerships that help bring new treatments and cures to our pharmacy aisles, we will look for opportunities where our collaborations around the world can improve health here in the U.S."

With more than a million people crossing U.S. borders daily, disease surveillance is critical, she said. In addition, nearly half of the fruit and over three quarters of the seafood consumed in America is imported from abroad. Many medicines also come from overseas, she noted, often from countries lacking stringent safety controls. "In a world in which the flow of people and goods stretches across the globe, our only chance to keep Americans safe is if our systems for preventing, detecting and containing disease stretch across the globe too," Sebelius declared.

Another goal is to provide leadership in areas where HHS has special technical expertise but doesn't duplicate work already underway or better handled by another government or NGO partner. "We will focus on the areas where HHS has unique resources and knowledge," she said, "starting with the world's leading researchers at the NIH, its leading epidemiologists at the CDC, and its leading regulators at the FDA."

Photo courtesy of U.S. State Department



HHS Secretary Kathleen Sebelius said the agency's new strategic plan for global health emphasizes both threats and opportunities, including childhood vaccination programs.

Global health diplomacy is the plan's third area of concentration, to advance U.S. interests through partnerships with the State Department, USAID, and others. The strategy is designed to support the President's Global Health Initiative, an interagency effort, and takes into account the GHI focus on investing in the health of women and girls. "This is something I've seen firsthand in both the U.S. and in my travels around the globe," Sebelius observed. "When you give women better access to health information and services, there are huge benefits not just for the women themselves, but also for their children, families, and communities."

Other principles underlying the new global health plan include using evidence-based knowledge to inform decisions, emphasizing prevention to improve health, and leveraging strengths through partnership and coordination. In addition, HHS efforts should improve health equity, respond to local needs, build in-country capacity and ensure a lasting, measurable impact.

Sebelius said global health collaborations bolster America's stature around the world. "One of the striking aspects of my trips outside our country is how much eagerness there is to work together on health issues," she noted.

Improving health also benefits the global economy, Sebelius concluded. "A healthier world is one in which every nation will have more productive workers, longer lives, and larger markets for its goods and services. The U.S. can and should play an active role in shaping these efforts."

RESOURCES

Video and full HHS Strategy:
<http://1.usa.gov/z7nm88>

NIH research essential to global AIDS relief efforts

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It's estimated PEPFAR has prevented about 2 million deaths since it began operation in 2003, Goosby said. The initiative now supports treatment of 3.9 million people in 30 developing countries. By reducing commodities costs and shipping expenses—together with using evidence to decide the most effective interventions to adopt—he reported the cost of treatment per person has dropped from nearly \$1100 per year to \$335, allowing for greater numbers to be reached.



The lives saved have a tremendous effect on families, he noted. “For every 1,000 people we support on treatment for one year we avert the orphanhood of 449 children.” In addition, testing and treating pregnant women with HIV

has allowed more than 200,000 infants to be born without the virus. PEPFAR also took note of NIH-supported research that shows male circumcision reduces risk of heterosexual transmission by more than 60 percent. It's already funded about one million male circumcisions in its countries of operation and is scaling up the effort.

“Making smart investments is really investing in what works,” Goosby said. The current economic constraints make that more important than ever. “Programs must demonstrate value and impact in order to be prioritized within complex and resource-constrained environments,” he said. Better understanding of program outcomes “can be used to inform midcourse corrections in the scale-up of new interventions, or to reevaluate investments in programs for which the impact is less clear,” he added. “Implementation science has proven to be a valuable tool not only to improve program effectiveness, but also to explain what worked, why, and under what circumstances.”

At the same time, PEPFAR is working “to ensure that we don't win our battles against the epidemic but lose the larger war to develop the local capacity to lead national health and development responses,” Goosby said. This translates into training health care workers, addressing chronic as well as infectious diseases and using supply chains constructed for HIV commodities to deliver bed nets and other medical supplies.

“Improving public health requires creating a lasting, durable improvement in the capacity of our partner countries to address their needs. Part of our challenge is

Photos by Richard Lead for Fogarty/NIH



Ambassador Eric Goosby, the U.S. Global AIDS Coordinator, said improving medical education and increasing local capacity are critical to winning the battle against HIV in developing countries.

thus to ensure that as we move science into programs, we are also supporting the development of capable leadership, good governance, peace and stability, and sensible economic and social policies,” he stated. “But if we want our impact to last, there really are no shortcuts.” To foster country ownership, PEPFAR has formed 21 agreements with its partner countries. “We are working to put them in the driver's seat of their national HIV responses,” Goosby said. “For HIV as for other development issues, countries must lead their own responses, and we must model our commitment to be supportive partners as they assume increasing responsibility.”

Goosby highlighted the Medical Education Partnership Initiative (MEPI), co-administered by Fogarty, designed to develop medical education in sub-Saharan Africa, invest in innovative technologies and improve educational resources. MEPI, funded by PEPFAR and NIH, “is fostering indigenous capacity to strengthen health systems in a sustainable manner,” said Goosby. “If we are to make a truly lasting difference in our health and development programs, we must support this kind of work.”

Goosby urged the NIH scientists to carry on the long but winnable fight against HIV. “You are part of that continuum of creating and applying scientific knowledge for the good of the world,” he said. “And in doing so, you are answering the call to create capacity so that the contributions we make are lasting ones.”

The address was the 11th annual David E. Barmes Lecture in Global Health, sponsored by Fogarty and the National Institute for Dental and Craniofacial Research in honor of the late Dr. Barmes, a public health dentist committed to improving health in low-income countries.

RESOURCES

- Videocast: <http://bit.ly/uBFNqV>
- Blog and transcript: <http://bit.ly/xT5VVD>
- MEPI program: <http://bit.ly/wpkeUU>

DR. TED TRIMBLE

Dr. Ted Trimble was recently named director of the National Cancer Institute's new Center for Global Health. Trimble has been recognized internationally as an expert in prevention, screening, treatment and symptom management for women with cervical, ovarian, uterine and other gynecologic cancers. Since joining NCI in 1991, he has led a national scientific program of treatment trials for gynecologic cancers and worked with colleagues worldwide to develop global research strategies for these diseases.



What's your vision for NCI's new Center?

Today we have an unparalleled opportunity to decrease the global burden of cancer. There's a strong and growing awareness of the importance of global health and the need for us to work together to improve it. There's clear evidence of progress in controlling infectious diseases worldwide, thanks to coordinated approaches in basic research, translational research, clinical trials, implementation science and capacity building. This suggests that similar approaches will be useful for non-communicable diseases, including cancer. In addition, as much as 18 percent of cancers are caused by chronic infection. Progress in control of infectious disease has already had an impact on the incidence of some cancers linked to infection, such as liver cancer (hepatitis viruses), cervical cancer (human papillomaviruses), and stomach cancer (helicobacter pylori). As countries work to strengthen and streamline their health care systems, they recognize the value of integrating cancer prevention, screening, early diagnosis and treatment programs into routine clinical care. Enabling the open exchange of scientific knowledge is a critical goal in the fight against cancer.

What are your priorities?

Our primary goal is to develop and implement plans to improve cancer prevention, screening and treatment globally. We're considering new areas of scientific focus and are working with our sister institutes and centers to expand our research networks, particularly in Latin America, Asia and Africa. We'd like to increase the range of our research globally in epidemiology and cancer genetics. NCI is also participating in an effort with our European colleagues to build the clinical trials infrastructure and reduce the amount of red tape involved. Finally, we'll maintain and strengthen research collaborations with our NIH partners, other U.S. government agencies, foreign governments, NGOs and the private sector to decrease the global burden of cancer.

What is the global burden of cancer?

In 2008, nearly 7.6 million people died from cancer worldwide. By 2030, the number of cancer deaths may

be as high as 13.2 million due to population growth and aging. Of these deaths, more than 35 percent may be preventable by controlling tobacco use, diet, alcohol use and infection. In addition, screening for breast, cervical, and colorectal cancer combined with effective treatment can also prevent deaths from those diseases. Access to standard surgery, chemotherapy, radiotherapy and palliative care is problematic in many countries.

What role will partnerships play?

Partnerships are key to our plans for the Center. We intend to strengthen our dialogue with other NIH institutes and centers, particularly the Fogarty International Center. We want to help develop a global cancer research strategy with the CDC, nongovernmental organizations, and universities and cancer centers that have strong global health programs. We also plan to consult with the WHO and International Agency for Research on Cancer to coordinate global health programs for cancer control. In addition, the Center will work with pharmaceutical and biotechnology companies to help develop new, inexpensive diagnostic tools and figure out how to make novel cancer therapeutics available in a cost-effective manner to people in low- and middle-income countries.

How might Americans living with cancer benefit from your international collaborations?

There are many ways in which global cancer research can benefit cancer Americans living with cancer in the United States. For example, we can learn much faster about the impact of environmental and genetic factors upon the development of certain types of cancer when we study those cancers in regions with a very high incidence of the disease. The information we gain helps us develop strategies to prevent, screen for, and treat those same cancers in the United States. We can also learn from global collaborations how to improve prevention, screening, and treatment for many cancers which are common in the United States. By coordinating our research with international partners, we can also make progress in cancer research much faster, building on the investments in cancer research made around the world.

RESOURCES

www.cancer.gov/aboutnci/globalhealth/

Mobile health research agenda continues to evolve

Novel uses of mobile communications devices and applications continue to spur rapid advances in global health research but also raise a number of concerns. Gender balance, interoperability, sustainability and the role of evidence in program designs were some of the issues discussed at the 2011 mHealth Summit. The third annual meeting in Washington drew more than 3,000 policymakers, scientists, clinicians, mobile communications experts and business executives from 48 countries. The Foundation for NIH organized the event, which brought attendees together to discuss findings, share insights and debate the future direction of the rapidly growing field.

Public-private partnerships play a key role, according to HHS Secretary Kathleen Sebelius, who emphasized the importance of federal science agencies as a catalyst for mobile health innovations. “Government couldn’t and shouldn’t replace private industry as the primary force for developing new products,” she said. “But government can play a critical role; we can play a role in providing the research, and driving the research that helps with the content of the new technology.”

Sebelius cited the proliferation of health applications designed for smartphones and recent initiatives supported by HHS such as Text4baby and SmokefreeTXT, a new intervention targeting teen smokers and shaped by a growing body of evidence regarding phone-based smoking cessation.

International health issues were at the forefront of the summit. Dr. Patricia Mechael, who recently became executive director of the mHealth Alliance, summarized some of the improvements that mobile health technology has brought to the world’s poorest and most vulnerable populations. “This is having an extraordinary global impact, with early evidence that mHealth is leading to improved case management of malaria in Kenya and increased access to information for pregnant women in countries like Ghana and Bangladesh,” she said.



Photo by David Snyder for Fogarty/NIH

Scientists are integrating mHealth applications into their global health studies but continue to grapple with issues such as interoperability, gender balance and the need for evidence to guide decision making.

Mechael also laid out the mHealth Alliance’s new strategy, emphasizing the organization’s priorities of building an evidence base, increasing technology integration, promoting sustainable sources of financing, developing policies supporting mobile health and cultivating a health community with the ability to design and deploy the technologies. She also made it clear that much work remains to be done. “The mHealth field is quite fragmented and siloed, which can make our goal challenging,” she said. “You have a lot of implementations, but there isn’t a real structure or strategic alignment of technology to what people are trying to address in terms of the major health challenges.”

Tackling gender issues in low- and middle-income countries was one of the dominant themes at the conference. Though cellphones are widely used in much of the developing world, in some countries they’re unavailable to women. One reason is that male heads of households often control the phones, according to Dr. Ananya Raihan, an information and communications technology expert who is currently implementing a cellphone-based service for new and expectant mothers.

Raihan shared insights gained from working in Bangladesh, a country with 100 percent mobile network coverage. “Most of the families have access to mobile phones. Unfortunately, only 38 percent of women have access to a personal mobile phone,” he said.

Several experts stressed the necessity of sustainable designs for low- and middle-income countries, along with the need for programs that feature interoperability between different types of information and communications technologies. “The mobile platforms that are used in developed countries are not necessarily the way to collect information in developing countries,” said Dr. Sanjoy Paul, Accenture’s country director for India. He used a personal example of buying a powerful Samsung tablet in New York, only to realize the device was useless when he moved

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outside of the United States. “Why?” he said. “Because there’s no connectivity, and if there’s no connectivity, I can’t do anything at all.”

Paul recommended that health experts working in developing countries “push intelligence to the mobile” and maximize the processing power and storage capacity of the phones instead of relying on a server connection.

Another popular topic was the need for evidence-based designs. “A clinical decision support system is as good as the data on which the system is built,” Paul said. “The richer the data, the more effective the clinical decision support system is.”

Similarly, Dr. Wendy Nilsen, a behavioral science expert at NIH, emphasized the importance of carrying out evaluation measures such as randomized clinical trials once a mobile health platform is developed. “They help you figure out am I doing the thing that works? Am I doing the thing that is safe? Is it better than what is out there?” she said. “This is what evaluation does. It really is how we make sure things are working well.” Nilsen also discussed the difference in time scales between technology developers and health researchers, a “cultural divide” that can affect the integration of study findings into an application.



While many women in developing countries are responsible for their family's health, they do not always have access to cellphones.

In spite of these concerns, many attendees were enthusiastic about the future, particularly regarding potential collaborations. The mHealth Alliance’s Mechael echoed this optimism in her closing remarks. “mHealth can have a positive impact on each and every one of us,” she said. “It is in all of our interests to come together to learn and support each other’s work, so that we and our constituents can all harness the power of mobile for better health.”

Managing diabetes

Mobile health tools are proving to be useful in managing diabetes, even in developing countries. Dr. Ernesto Gozzer, a researcher at the Universidad Peruana Cayetano Heredia in Peru, said a recent study showed a text messaging program increased the likelihood participants would take their medication as prescribed.



Photo courtesy of Dr. Ernesto Gozzer

Peru has some two million diabetics, though half of them are unaware of their diagnosis. In the study, 34 patients at a public hospital in Lima were randomly assigned to an intervention or control group by ballot. The 17 diabetic patients in the intervention group—in addition

to conventional treatment—were enrolled to use C@reNet, which sent them text messages related to their risk factors, drug intake reminders, lab tests and medical appointments. A typical risk factor message would encourage a patient to “walk briskly 30 minutes a day, five times a week.”

This was the first mHealth tool to address the comprehensive care of diabetics, or any chronic patients, in Peru and one of the first of its type in Latin America. Two outcome measures were recorded: adherence to the prescribed medication regimen and the glycated hemoglobin (HbA1c) levels. Nearly twice as many patients who received the SMS intervention took their meds according to their prescription. But there was no statistically significant difference in the glycated hemoglobin levels between the two groups. Additionally, the better educated and those “not feeling depressed” were more compliant with treatment.

Gozzer concluded that C@reNet “seems to be an easy to use and effective tool to improve treatment adherence.” Due to the relatively small sample size, Gozzer is recommending another, larger study that may also be used to measure cost-effectiveness. “mHealth tools should be designed with a systemic approach and take into account that technology helps, but the human factor is key for success,” Gozzer said.

The C@reNet project was funded by the Peruvian government and was implemented by Universidad Peruana Cayetano Heredia in partnership with the technology company Voxiva.

Photo courtesy of Dr. Marc Mitchell

Mobile phones help to prevent HIV transmission

One public health challenge faced by developing countries is providing safe breast milk to infants born to HIV-positive mothers. The problem is more severe in Sub-Saharan Africa, where studies have shown that around 40 percent of babies have become infected with the virus as a result of mother-to-child transmission during breastfeeding.

Rohit Chaudhri, a computer science expert from the University of Washington, has designed a mobile health intervention that may help mothers, caretakers and health

workers in South Africa produce greater quantities of safe milk. news is that pasteurization is known to deactivate HIV and other contaminants in breast milk.” Flash-heat pasteurization—which is very similar to the commercial technique—involves heating a jar of expressed breast milk in a pan of water over a flame or burner. Though it’s ideal for home use by HIV-positive mothers, said Chaudhri, the process must be monitored to ensure the milk isn’t overheated, destroying essential nutrients.

Collaborating with the international health organization PATH and two South African institutions, Chaudhri developed a monitoring system that pairs a food-grade temperature probe with an Android mobile phone. Just before hitting the high temperature point, the phone beeps twice to alert the user that the milk is almost heated and to prepare to remove it from the water bath. When the threshold is reached, the message on the screen changes and the phone beeps continuously until the jar is removed. Once the user does so, the message onscreen then indicates that the milk is cooling. A final message indicates the procedure has been completed successfully.

In addition to tracking the temperature and guiding the user through the process, the phone also sends the resulting data to a server. The information gathered will be accessible for review and audits, facilitating the eventual adoption of the system on a larger scale.

Chaudhri and his colleagues will carry out a field trial in early 2012 at the neonatal ward at King Edward VIII Hospital in Durban.

In addition to tracking the temperature and guiding the user through the process, the phone also sends the resulting data to a server.

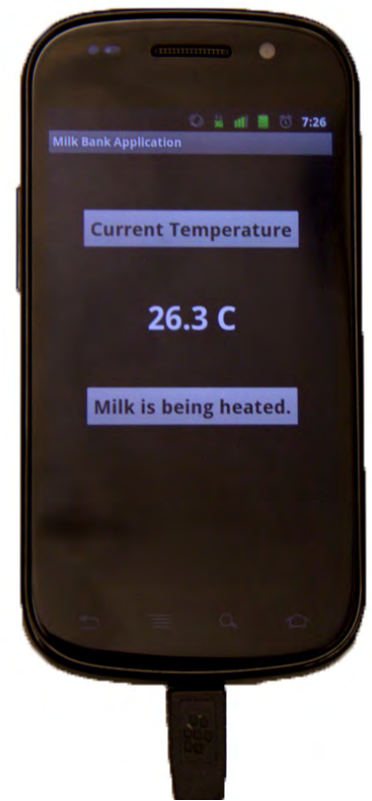


Photos courtesy of Rohit Chaudhri

A mobile phone with temperature probe allows women to pasteurize their breast milk correctly, preserving nutrients but deactivating HIV.

workers in South Africa produce greater quantities of safe milk.

“Mothers’ breast milk is absolutely essential to the healthy development of newborns,” he said. “The good



Electronic protocols improve child health in Tanzania

In low-income countries like Tanzania, the survival of a sick child can sometimes hinge on something as simple as a health worker going through the pages of a manual. Fogarty grantee Dr. Marc Mitchell is working to replace paper-based medical protocols with a more effective format based on mobile health technology. A pediatrician and management specialist, Mitchell is president of D-tree International, a nongovernmental organization that provides decision trees, algorithms and evidence-based medicine to health workers.

D-tree's work in Tanzania, supported by grants from NIH, WHO and the Rockefeller Foundation, has been focused on improving standards of care known as Integrated Management of Childhood Illness protocols, or IMCI. Providing detailed and methodical instructions, they enable health workers to appropriately diagnose, treat and refer their patients. According to Mitchell, paper versions of IMCI are often followed inaccurately or are not consulted at all. "I don't know of any health worker who goes through a book in front of a patient to figure out what's wrong. It makes the patient uncomfortable," he said. "The problem is that these protocols that have been made very thoroughly available—and when used correctly work well—mostly aren't used correctly."

To address these issues, Mitchell and his team developed a mobile health version of IMCI that functions on cellphones. Like their paper cousins, the electronic protocols offer clinicians step-by-step instructions for a wide range of childhood medical conditions. It's less expensive to make

Health care workers are not as likely to consult printed materials in front of patients but mobile versions can help ensure they follow established step-by-step instructions.



Photo courtesy of Dr. Marc Mitchell



A study in Tanzania has shown when health care workers use electronic versus printed protocols they are more likely to appropriately diagnose, treat and refer their patients.

changes to the new system, however, and less time-consuming to train health workers to use it. "On average, it took approximately an hour to train health workers who were already familiar with the protocols to use them on the phone," Mitchell said.

To validate the effectiveness of their design and provide an evidence base for their program, the researchers conducted a randomized control trial at 18 rural health centers in one region of Tanzania. Observers were assigned to check how well each health worker followed both paper and electronic protocols when treating children, while also measuring the frequency of correct diagnosis. To track the diagnoses, each child examined in the study was re-examined by an IMCI expert to evaluate the decision reached by the health worker.

The study showed that the health workers' adherence to IMCI was improved using the cellphone-based program, with increases of more than 30 percent in some cases. "We understand that in both cases they probably did better because of the observer effect, but still we saw this difference," said Mitchell. Similarly, correct diagnoses were reached more frequently when the electronic protocols were used instead of the paper versions. "It was especially true with those children who were most severely ill," he said. "These are the kids that it's particularly important that you get the right diagnosis, and if it's severe, that sets them up for more rigorous treatment and more rapid referral to a hospital where someone can treat their severe illness."

Mitchell's Fogarty-funded project is also being carried out in Tanzania and aims to enhance the electronic version of IMCI by adding a module for patient and caretaker adherence to the protocols.

Photo courtesy of Dr. Marc Mitchell

RESOURCES

Fogarty mHealth info: <http://bit.ly/vtVwWK>

C@reNet website: <http://carenet.alerta.net>

Tanzania project abstract: <http://bit.ly/xvddbi>

OPINION

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

Emerging economies provide new opportunities

The world's emerging economies provide exciting opportunities for us to develop new models of research collaborations that could rapidly advance scientific discoveries.

I recently toured research sites in India with HHS Secretary Kathleen Sebelius and NIH Director Dr. Francis Collins and was delighted to see the stunning resources there, both in terms of cutting-edge technology and highly qualified personnel. We have a long and rich history of research partnerships with India and are pleased to be expanding into new areas such as diabetes, neuroscience and low-cost technologies. In each of these new endeavors, both countries are paying their own way but sharing knowledge and leveraging resources as we work to achieve our common goals.

NIH has a similarly successful record of fruitful research collaborations with China. We recently launched a new partnership, the U.S.-China Program for Biomedical Research Cooperation. Each country is supporting its own scientific teams to conduct more than 30 joint research projects such as comparative population studies to help us better understand how to prevent disease and investigations of traditional medicines that may cure cancer.

In Russia, we're pursuing a public-private partnership model to jointly study health issues of mutual interest

NIH Director Dr. Francis Collins discussed possible research partnerships with young scientists on a recent trip to India.



Photo by Dr. Roger I. Glass



Photo courtesy of FNIIH

The first annual U.S.-Russia Scientific Forum was held in Moscow to explore research collaborations in areas of common interest.

including human development, healthy lifestyle, cancer, infectious diseases and rare diseases. Last November, I was pleased to participate in the first annual U.S.-Russia Scientific Forum in Moscow, a three-day scientific meeting with several hundred participants, organized by the Foundation for NIH. More than a dozen U.S. and multinational companies are supporting this activity, with some expressing an interest in funding training and capacity building programs in United States for Russian scientists. The Russian government has also pledged to fund research grants to advance our understanding of these critical health issues that affect both our populations.

The world's emerging economies provide exciting opportunities for us to develop new models of research collaborations that could rapidly advance scientific discoveries.

Research training has been deemed a national priority in Brazil, where the government has announced it will support training for 75,000 Brazilian students in all areas of science and technology by 2016. Under that initiative, about 80 postdocs will come to the NIH campus for research training and collaboration. We're also exploring how we might partner with Brazil on joint research projects on topics of mutual interest through a funding program that would be jointly solicited and reviewed, with each side supporting its respective researchers.

These are just a few examples of how we're bringing the world's best minds—and the best ideas—to bear on the toughest health problems we all face. Through these partnerships, we not only increase our chances of finding solutions but also ensure the U.S. will remain a global leader in biomedical research.



Glass to receive pediatric research honor

Fogarty director Dr. Roger I. Glass has been named 2012 recipient of the Programme for Global Paediatric Research Award for Outstanding Contributions to Global Child Health. Glass was cited for his outstanding body of work, commitment to child health and dedication to mentorship.



Katz recognized by Japan

Dr. Stephen Katz, Director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases at NIH, has been awarded the Order of the Rising Sun by the Japanese government, one of the country's highest awards given to foreigners. Katz is recognized for his contributions to the development of dermatological research in Japan.



China honors Detels for HIV/AIDS work

Dr. Roger Detels, professor and chair of epidemiology at the University of California, Los Angeles, was honored by the Chinese government with the Award for Outstanding Achievement in International Cooperation Programs on HIV/AIDS in China. Detels is principal investigator on a Fogarty AIDS research and training grant.



Vermund cited for global health education efforts

Dr. Sten Vermund, director of the Vanderbilt University Medical Center's Institute for Global Health, was recognized by the Global Health Education Consortium for his contributions in training and education. Vermund, a Fogarty advisory board member and longtime grantee, received the Anvar and Pari Velji Faculty Award for Teaching Excellence in Global Health.



Fogarty collaborator named to lead TDR

Dr. John Reeder, currently co-director of the Centre for Population Health at the Burnet Institute in Melbourne, has been tapped to lead the Special Programme for Research and Training in Tropical Diseases (TDR), based in Geneva at the WHO. Reeder has collaborated on a Fogarty Global Infectious Disease research training program in Papua New Guinea.



ASTMH awards medals to Fogarty grantees

The American Society of Tropical Medicine and Hygiene has awarded its Bailey K. Ashford medal to two Fogarty grantees for distinguished research by mid-career professionals. Dr. Chandy John, of the University of Minnesota, (top left) and Dr. Joseph Vinetz, of the University of California San Diego, are both principal investigators on Global Infectious Disease grants. John is conducting translational research in malaria transmission and immunity in Kenya, while Vinetz is investigating endemic infectious diseases of the Peruvian Amazon. The medal is named for Col. Bailey K. Ashford, who lived from 1873 to 1934, and was a pioneering physician whose work on North American hookworm and resulting anemia saved many lives in the early 20th Century.



HIV study named breakthrough of the year

The HIV/AIDS study showing disease transmission is virtually stopped by treatment with antiretroviral drugs, known as HPTN 052, was named "Breakthrough of the Year" by *Science* magazine. NIH grantee Dr. Myron Cohen of the University of North Carolina has been leading the study, with assistance from at least 25 scientists who received research training with Fogarty support.

Articles: <http://bit.ly/xWtx8w>

Video: <http://bit.ly/yrUwCw>

Call to protect vulnerable children

The U.S. recently convened a summit to develop and promote evidence-based strategies to protect vulnerable children living outside of family care in developing countries. The interagency effort coincided with a call to action published in *The Lancet*.

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

Article: <http://bit.ly/ydtg74>

NIH launches online genetics course

A new online course will provide social and behavioral scientists with sufficient training to allow them to engage effectively in interdisciplinary research with genetics researchers. The NIH Office of Behavioral and Social Sciences Research partnered with the National Coalition for Health Professional Education in Genetics on the free resource.

Website: <http://www.nchpeg.org/bssr/>

Free HINARI training available

Duke University has developed free HINARI training tools to increase access to medical journals and develop literature research skills among developing country scientists. The tutorial, which can be used in low-bandwidth settings or ordered on CD-ROM, was developed with support from a Fogarty Frameworks grant.

Website: <http://hinaritraining.org/>

Report details global pollution impact

The 2011 edition of "The World's Worst Toxic Pollution Problems" details the top pollution problems and estimates that people impacted by the sites could lose an average of 12.7 years to death or disability. The annual report is issued jointly by Blacksmith Institute of New York and Green Cross Switzerland.

Full report: <http://bit.ly/Adj6ab>

Cookstoves alliance recognized

The Global Alliance for Clean Cookstoves has been awarded the United Nations Development Programme's annual South-South Cooperation Award for Partnership. The NIH participates in the public-private project led by the U.N. Foundation.

Website: <http://bit.ly/uir6WI>

Funding Opportunities

Program	Contact	Receipt Date	Eligibility
Independent Scientist in Global Health Award (ISGHA)	(Former FICRS-F) Myat Htoo Razak, Ph.D. MyatHtoo.Razak@nih.gov (All others) Christine Jessup, Ph.D. Christine.Jessup@nih.gov	March 1, 2012	Faculty with substantial independent research awards and less than 10 years from last doctoral degree or fellowship.
International Research Scientist Development Award (IRSDA)	(Former FICRS-F) Myat Htoo Razak, Ph.D. MyatHtoo.Razak@nih.gov (All others) Christine Jessup, Ph.D. Christine.Jessup@nih.gov	March 1, 2012	Faculty without independent research awards who are less than 5 years from last doctoral degree or fellowship.
Planning Grant for Global Environmental and Occupational Health Hubs (GEOHealth)	Joshua Rosenthal, Ph.D. Joshua.rosenthal@nih.gov	March 7, 2012	One LMIC institution and one U.S. institution must submit as a paired consortium.
Global Research Initiative Program for New Foreign Investigators (GRIP)	Xingzhu Liu, M.D., Ph.D. Xingzhu.liu@nih.gov	March 9, 2012	Consult FAQ or contact Xingzhu Liu with questions.
Fogarty HIV Research Training Program for Low-and Middle-Income Country Institutions	Jeanne McDermott, Ph.D Jeanne.mcdermott@nih.gov	July 24, 2012	U.S. institutions may apply. LMIC institutions must have Phase II ICOHRTA-AIDS TB awards or with AITRP planning grants.
Planning Grant for Fogarty HIV Research Training Program for Low- and Middle-Income Country Institutions (D71) (PAR-12-070)			Only LMIC institutions may apply.
Training Programs for Critical HIV Research Infrastructure for Low-and Middle-Income Country Institutions (G11) (PAR-12-069)			Only U.S. institutions with LMIC partners may apply.

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

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Biodiversity project first to receive Nagoya funding

Photo by Kim Dwyer



An NIH-supported biodiversity project in Panama will receive \$1 million as the first award under the Nagoya Protocol Implementation Fund. The Protocol is an international agreement that established the ground rules for how nations should cooperate to access and share natural resources with potential applications including development of medicines. The Global Environment Facility, which funds environmental

projects worldwide, announced it will make the award to a joint venture involving the Panamanian government, academic and research institutions, and private sector companies. The project will support increasing capacity of government and research institutions as well as promoting the conservation of genetic resources in marine protected areas. Matching funds were required for the award. The Panama project is supported by the International Cooperative Biodiversity Groups program, managed by Fogarty on behalf of funding partners at NIH, the National Science Foundation, U.S. Department of Agriculture, Department of Energy and National Oceanographic and Atmospheric Administration. The Nagoya Fund is supported by Japan, Switzerland and Norway.