

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

HHS partners with PEPFAR to transform African medical education with \$130 million investment

The U.S. Department of Health and Human Services is partnering with the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) to invest as much as \$130 million over five years to transform African medical education and dramatically increase the number of health care workers.

Through the Medical Education Partnership Initiative (MEPI), grants have been awarded directly to African institutions in a dozen countries, working in partnership with U.S. medical schools and universities. The initiative will form a network including about 30 regional partners, country health and education ministries, and more than 20 U.S. collaborators. (please see directory on page 13.)

Several components of the National Institutes of Health joined PEPFAR in funding the initiative, which is being administered by Fogarty International Center of the NIH and the HIV/AIDS Bureau of the Health Resources and Services Administration (HRSA).



Photo courtesy of Dr. James Karie

The Medical Education Partnership Initiative will provide \$130 million to expand and enhance health worker training in sub-Saharan Africa.

The program is designed to support PEPFAR's goals to train and retain 140,000 new health care workers and improve the capacity of partner countries to deliver primary health care.

"We must dramatically transform African medical education to increase the number of qualified care providers available and develop the scientific expertise needed for research and innovation," said Ambassador Eric Goosby, U.S. Global AIDS Coordinator at the Department of State. "By engaging country health and education ministries, MEPI will strengthen national plans to improve medical instruction and bolster the overall health care delivery systems. As we transition PEPFAR-supported HIV efforts from an emergency response to a more sustainable effort, we need to develop the expertise necessary for evidence-

continued on p. 12

Photo by Dr. James Karie



One grant will support expansion of medical education activities in Kenya, such as skills lab instruction shown here at the University of Nairobi.



Recovery Act

- Fogarty awarded a total of \$30 million to 100 projects
- Some efforts already having an impact
- New awards support innovative team science, human subjects research

Music and science strengthen US – China relations



NIH Director Dr. Francis S. Collins entertained China's scientific community during his recent visit to Beijing, in addition to leading discussions on ways to strengthen the already robust research collaborations between the two countries. Collins had talks with China's health minister Chen Zhu

about how to foster substantive cooperation to promote innovation and strategic medical research. Collins also signed an agreement with China's National Natural Science Foundation to strengthen research collaborations. After the official meetings, Collins serenaded a group of scientists with a guitar loaned to him for the occasion.

Fogarty director, Dr. Roger I. Glass, also participated in the



NIH Director Dr. Francis Collins exchanged gifts with Chinese Minister of Health Chen Zhu during his visit to Beijing.

events and had the opportunity to meet with a number of Chinese alumni and current participants in the Center's clinical research fellowship program.

Women's health research office marks 20 years



Women's health research was celebrated recently at the 20th anniversary of the creation of the NIH Office of Research on Women's Health.

"One of the major challenges we faced

when this office was first established was to prove it was not just an office to be politically correct and that it would deal in science-driven initiatives," said Dr. Vivian Pinn, ORWH director. "That is what we've adhered to since the founding of the office."

A daylong scientific symposium included the unveiling of ORWH's new strategic plan, which stresses the importance of increased studies on sex and gender differences in basic biomedical and behavioral research and the need to create partnerships to maximize the global and domestic impact of women's health research.

The office was created in 1990 to work in partnership with NIH institutes and centers to ensure that women's health research is part of the framework at NIH and throughout the scientific community.

Eli Lilly funds US-Russia science forum

A forum to advance scientific collaborations between U.S. and Russian scientists has been kicked off with a donation from Eli Lilly and Company.

The U.S.-Russia Forum is being established through the Foundation for NIH, with a \$1.27 million gift from Eli Lilly as the founding private partner, and Fogarty and the NIH Clinical Center as the lead U.S. participants. The public-private partnership is intended to facilitate collaboration that will improve public health by strengthening activities related to disease control, treatment and prevention; clinical and translational research; manufacturing practices and regulatory science; and emerging technologies in the field of health care.

The partnership will sponsor a clinical and translational research training program in Russia. There will also be additional resources for Russian scientists who are accepted into the NIH Visiting Fellows Program.

Forum activities will include an annual symposium and will enhance scientific collaborations through joint research proposal development, scientific exchanges and research conferences.

The U.S.-Russia Forum in Health Sciences is intended to include participants from both public and private sector organizations engaged in biomedical and behavioral research and development.

NIH partners on clean cookstoves initiative

The NIH is participating in a new partnership to address indoor air pollution caused by cookstoves, one of the top five health risks in developing countries. The Global Alliance for Clean Cookstoves, led by the United Nations Foundation, is intended to create a thriving global market for clean and efficient household cooking solutions to save lives, empower women and combat climate change.

Toxic smoke from stoves and open fires used for cooking by over half the world's population prematurely kills nearly 2 million people each year, according to the World Health Organization.

"Today we can finally envision a future in which open fires and dirty stoves are replaced by clean, efficient and affordable stoves and fuels all over the world—stoves that still cost as little as \$25," said Secretary of State Hillary Rodham Clinton. "By upgrading these dirty stoves, millions of lives could be saved and improved. Clean stoves could be as transformative as bed nets or vaccines."

The Secretary announced the project at the Clinton Global Initiative meeting in New York. The initial U.S. financial commitment to the Alliance is \$50.82 million over the next five years. NIH is contributing about \$25 million to support related research and research training efforts.



Photo by Curt Carnemark/World Bank

NIH has joined the Global Alliance for Clean Cookstoves to address the significant health risks caused by poorly ventilated indoor cooking fires, such as this one in India.

"Indoor cookstoves are a serious health concern in developing countries. The toxic emissions from these cooking fires cause low birth weights, pneumonia in young children, and heart and lung problems in adults," said NIH Director Dr. Francis S. Collins. "Our research efforts will focus on reducing the impact of these cookstoves while evaluating new, cleaner technologies to improve human health."

For more information, visit www.cleancookstoves.org

Fogarty receives grant for studies in Pakistan



Photo courtesy: WHO/Syed Haider

Fogarty has received funding from the Pakistan-U.S. Science and Technology Cooperation Program for a water, sanitation, health and hygiene project as well as funds for grant-writing workshops in Pakistan.

A Fogarty team of scientists has received a three-year grant to study water, sanitation and health in Pakistan. The researchers will study the change in the incidence of diarrhea and pneumonia in young children, following up on

interventions put in place 20 years ago, and will examine water quality and the use of newer latrines.

It's just one of 27 new projects supported by the Pakistan-U.S. Science and Technology Cooperation Program, a partnership between the U.S. Department of State, USAID, Pakistan's Ministry of Science and Technology and the Higher Education Commission of Pakistan.

The initiative is intended to support Pakistan's development goals in health, water, agriculture and energy, and expand Pakistani universities' capacities for science and technology research and education.

Fogarty's Dr. Mark Miller and Dr. Zeba Rasmussen will conduct the research in partnership with the Aga Khan University in Karachi, Karakoram International University in Gilgit-Baltistan and the University of Punjab in Lahore.

In addition, the State Department is providing Fogarty with funds to conduct four NIH grant-writing workshops in Pakistan, to be implemented by the Aga Khan University.

UN to focus on non-communicable diseases

Non-communicable diseases were included in a recent U.N. declaration regarding the need to intensify efforts to achieve the Millennium Development Goals. A U.N. summit on NCDs is planned for Sept. 2011.

In preparation for the recent MDG meeting, the U.N. Secretary-General's special envoy, Sir George Alleyne, visited NIH to gather input on the issue. Alleyne, former director of the Pan American Health Organization, is an advocate for raising awareness of the global burden created by non-communicable diseases.

Fogarty is coordinating NIH input to the State Department as it develops U.S. positions for the groundbreaking meeting, the first ever of its kind on NCDs at the U.N. General Assembly.

Mortality from non-communicable diseases is increasing in developing nations, according to the WHO, with heart disease and stroke representing 29 percent of deaths annu-



Photo by Scott Wallace/World Bank

With the world's aging population, chronic non-communicable diseases are a growing problem and will be the focus of an upcoming U.N. summit.

ally. Add in diabetes and that number increases to approximately 60 percent of deaths worldwide, with the vast majority occurring in low- and middle-income countries

South Africa studies systems strengthening



Fogarty recently sponsored a health economics workshop in South Africa.

While South Africa is now firmly committed to improving its health indicators, its significant financial investments are linked to disturbingly poor health outcomes. The Priority Cost Effective Lessons

for Systems – South Africa, known as PRICELESS-SA, supports the development of country-specific evidence to show how scarce resources can be used to inform high impact interventions and enable health systems to work more effectively and efficiently. The initiative is based at the University of the Witwatersrand School of Public Health in Johannesburg.

A key PRICELESS-SA innovation is that the economic evaluation will measure not just the 'vertical' intervention in isolation, but will demonstrate how to gain efficiency for multiple interventions across a common health service delivery platform. Tools and training curricula are being

developed and field-tested. Work will provide much needed information at a critical moment for SA policymakers who have shown an unusually high level of buy-in. Staff will perform cost effective analyses of the district/primary health care platform and its articulation with integrated approaches to the care of mothers and children, and services for patients with chronic conditions.

The project is now gaining momentum, driven by Dr. Karen Hofman from Fogarty, working with Professor Stephen Tollman, Director of the MRC/Wits Rural Public Health and Health Transitions Research Unit. In addition to creating a governance structure of senior decision makers, they have formed a Secretariat and developed a targeted R and D agenda. To develop expertise in health economics, a successful short course was recently offered at the Wits Faculty of Health Sciences, sponsored by Fogarty. Faculty from the SA Medical Research Council and the University of Queensland trained 30 promising students from varied backgrounds including government departments of health and finance.

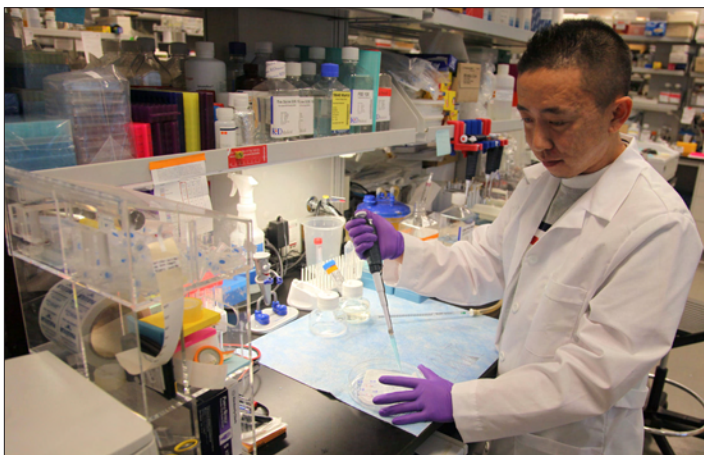
This work builds on the Disease Control Priorities project DCP-2 that was based at Fogarty until 2006. PRICELESS-SA and related work in India are part of the Disease Control Priorities Network. For more information, visit www.dcp2.org

US-Japanese collaborations yield results

US-Japanese research collaborations not only provide scientists of both nationalities the opportunity to train in new areas but also spur discoveries that might not otherwise occur.

Japanese researchers can be found in NIH labs across campus, working alongside their American peers. Over the past 15 years, the Japan Society for the Promotion of Science (JSPS) has supported 220 Japanese Ph.D.s at NIH and provides a parallel opportunity for American researchers to collaborate with their counterparts in Japan. Last year alone, about 375 postdoctoral fellows and senior researchers from the U.S. traveled to Japan through various JSPS programs.

Photo by Jeff Gray



Former Japanese fellow Dr. Atsushi Tanaka has remained at NIH and recently contributed to a significant discovery related to Parkinson's disease.

“Scientific research generates knowledge best when curiosity-driven researchers can challenge themselves,” says Professor Motoyuki Ono, JSPS president. “One way to encourage excellence is through the international exchanges we support. Together, Japanese and American scientists can advance cutting-edge research.”

Fogarty reviews both Japanese and U.S. applications and handles day-to-day issues at NIH. Dr. Keiko Ozato, deputy chief of the National Institute of Child Health and Human Development, chairs the selection panel. “These formal and informal arrangements with host NIH laboratories have a clear benefit to both parties,” she says. “The collaborations promote broader dissemination of scientific information, strengthen the international workforce and increase productivity.”

New fellow Dr. Junko Murai is at the National Cancer Institute, working in collaboration with Kyoto University to find chemical compounds that increase the effect of anti-

cancer drugs. Hundreds of thousands of compounds must be tested to find the one that works best.

“The NIH Chemical Genetics Center has developed a great chemical screening system that can test the effects of hundreds of thousands of chemical compounds within a few weeks,” says Murai. “This system is unrivaled.”

Dr. Atsushi Tanaka, a fellow in 2008-2009, has remained at the National Institute of Neurological Disorders and Stroke. His work contributed to a significant discovery that's causing a shift in understanding the molecular mechanism of Parkinson's disease. Understanding the role of mitochondria, a cell's energy source, is his focus.

Tanaka and his colleagues revealed the function of the Parkin protein, a key factor in the disease. Parkin detects dysfunctional mitochondria and helps eliminate them from cells. Scientists believe this activity is impaired in people with Parkinson's disease.

“My research has two goals,” says Tanaka, who's contributed to six journal articles on the subject and was lead author on three. “One is clinical applications, such as gene therapy, for people with Parkinson's and related diseases. Second is advancing mitochondrial biology.”

Tanaka and other fellows appreciate being at NIH, where they have the opportunity to meet and work with accomplished researchers from all over the world.

Fifteen Japanese researchers are chosen annually for two-year fellowships at NIH, with all expenses paid by JSPS.

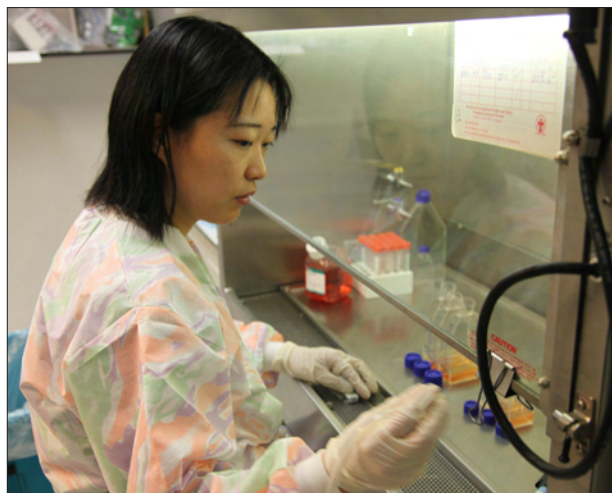


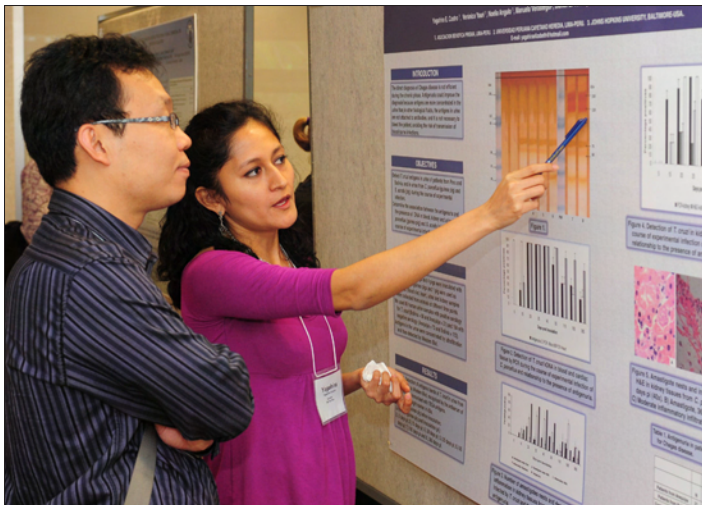
Photo by Jeff Gray

Japanese fellow Dr. Junko Murai is working to increase the effectiveness of cancer drugs during her stint at NIH.

Scholars, Fellows gather to share research findings

Several hundred alumni of the Fogarty International Clinical Research Scholars and Fellows program gathered near the NIH campus recently for their first-ever reunion and scientific symposium. The young scientists are engaged in a broad range of research from more traditional infectious disease projects to cardiology and cancer studies. Many are also investigating novel ways to apply emerging technologies to speed up discoveries.

The global health research community needs their ideas and enthusiasm, said NIH Director Dr. Francis S. Collins, who spoke at the event. He stressed the growing prominence of global health and expressed appreciation for “courageous people working against considerable odds.”



Fogarty Director Dr. Roger I. Glass emphasized the youth and energy of the scholars and fellows, likening them to the NASA engineers who worked on the Apollo 11 mission in the 1960s. “The average age of people working on the first moon landing was 28 years old,” he said.

Launched in 2003, the program provides a year of mentored clinical research training to pre-doctoral students at a foreign training site, pairing a U.S. trainee with a foreign researcher native to the site country. It has since funded the training of hundreds of U.S. and international researchers.

The initiative was expanded in 2007 to support Fellows, post-doctoral scientists and clinical investigators who are already conducting research in low-and middle-income countries. The Scholars and Fellows program is administered through a grant to Vanderbilt University.

Throughout the gathering, the alums shared their stories from the field and discussed their research challenges

and accomplishments. “The purpose of research is not to keep it secret, but to share it for the betterment of mankind,” said Dr. Sten Vermund, director of Vanderbilt University’s Institute for Global Health, who oversees the program’s support center. He lauded the participants for having published more than 340 articles in peer-reviewed journals.

The Fogarty International Clinical Research Scholars and Fellows Program, launched in 2003, provides a year of mentored clinical research training to pre-doctoral students at a foreign training site, pairing a U.S. trainee with a foreign researcher native to the site country. It has since funded the training of hundreds of U.S. and international researchers.

Mental health studied

One project presented at the conference examined attitudes and barriers among clinicians regarding depression in HIV/AIDS patients. Depression can be a disabling disorder in HIV/AIDS patients and, if untreated, can even influence progression of the disease.

Psychiatrist Dr. Samuel Likindikoki, a 2007 Scholar from Tanzania, discovered depression is often undetected in HIV/AIDS patients or poorly managed because of clinicians and the systems in which they work. His findings showed that more than 65 percent of the clinicians in the study felt that typical depressed patients exaggerate symptoms, while 30 percent viewed the diagnosis of depression as stigmatizing.



Participants develop new skills

Some participants use the program to develop new skills. Dr. Richard van Zyl-Smit, a 2009 Fellow and pulmonologist from South Africa, described how he used the time to develop the basic research skills required to pursue an academic career.



“The skills learned at the bench are very different from those learned during clinical training,” he said. “I’m fortunate that I have had the opportunity to do this full time as it is usually not possible with financial and time demands.”

The Fogarty Fellowship allowed him to cultivate these skills while conducting an innovative study examining the effect of cigarette smoke on immune responses to tuberculosis infections.

Using an apparatus he constructed from a pump and tubing, van Zyl-Smit extracted nicotine from cigarettes and exposed TB-infected macrophages to the extract to test their immune responses and aid him in confirming a causal relationship. He found that exposure to the nicotine extract greatly reduced the production of key cytokines used in the defense against TB during infection. The study is ongoing, but early findings suggest a potential mechanism explaining the link between smoking and risk of TB infection.



Employing new technologies for cancer screening

Mobile technology is being used to aid cervical cancer screening in Zambia, with assistance from former Fogarty Scholar Dr. Krista Pfaendler. In 2006-2007, Pfaendler worked in Zambia, where she implemented a program, which has now screened more than 50,000 women and treated about 6,000.

Pfaendler’s approach was novel as it included the use of affordable consumer-grade digital cameras for cervical photography and visual inspection using acetic acid, or household vinegar. Nurses working under the program now employ a distance consultation system, taking digital photographs of cervixes and sending them via mobile devices to gynecologists for immediate consultation. The next step, says Pfaendler, is a system that will function offline during outages and send images once connectivity returns.



Fogarty Scholar dies in Uganda traffic accident

Fogarty Scholar Sujal Parikh has died of injuries sustained in a traffic accident in Kampala, Uganda. The University of Michigan medical student was in the country on a yearlong clinical research fellowship to study HIV/AIDS. The Dallas native had previously volunteered with a public health and development organization in rural Uganda. He had also been involved in advocacy efforts focused on health and human rights, access to medicines, medical education and infectious disease issues. He served on student advisory boards for Physicians for Human Rights, the Committee for Global Health Education Consortium, the American Medical Student Association and on the board of the Uganda Village Project.

Tributes and photos are being posted at <http://1000memories.com/sujal-parikh>



Photos: (Far left) Several hundred alumni of the Fogarty Clinical Research Scholars and Fellows program gathered to share research findings and experiences. (Near left) Fogarty program director Dr. Myat Htoo Razak (second from left) caught up with participants. (Above top) Scientific presentations covered a broad range of topics. (Above) Dr. Sten Vermund, who oversees the program through a grant to the Vanderbilt Institute for Global Health, welcomed attendees. (Above right) Fogarty Director Dr. Roger I. Glass and NIH Director Dr. Francis S. Collins learn about one participant’s experience in the program. All photos courtesy of the Vanderbilt Institute for Global Health.

FOCUS

Fogarty awards final Recovery Act funds

Fogarty's final \$4.6 million in Recovery Act funding will encourage innovative multidisciplinary research projects and enhance studies involving human subjects. An additional \$8 million is being awarded from the NIH pool of stimulus funding to be administered by Fogarty for a project that will focus on implementing novel drugs, diagnostics, and devices in low-resource settings. *(see related articles on pages 10-11)*

In all, Fogarty has issued about 100 awards under the two-year stimulus program, totaling roughly \$30 million. Fogarty's share of Recovery Act funding was \$17.4 million but its grantees successfully competed for an additional \$13 million in funds from the central NIH pot. Five such applications were supported under the "Challenge" program, with \$3 million of the funding coming

from the central pool. Another \$8 million came from the NIH Director's fund for the new implementation science consortium and about \$2 million to support "Signature Framework" awards.

Fogarty-funded awards were almost equally divided between new projects in existing Fogarty programs and supplements to enhance ongoing projects. The remainder financed research and development contracts and salaries for support personnel necessary to meet government reporting and evaluation requirements. Consistent with Fogarty's mission, about 29 percent of the funding was awarded to research projects.

The American Recovery and Reinvestment Act was created in 2009 to create and preserve jobs, spur economic activity and foster transparency in government spending.

Recovery Act projects produce results

In the first year of Recovery Act funding, Fogarty awarded \$13 million to 65 different programs and projects. Many of them have already produced results. Here are a few highlights:

Encouraging young scientists

Dr. Regina LaRocque, whose cholera research findings were recently published in the *Journal of Bacteriology* received a Fogarty International Research Scientist Development Award made possible by Recovery Act funding. LaRocque and her colleagues examined the behavior of laboratory-grown *Vibrio cholera*, the bacterial agent that causes cholera. Their findings advance knowledge of the general behavior of biological systems and may lead to an effective vaccine and the reduction of bacterial resistance.

Recovery Act funding provided \$3 million to expand the Fogarty International Clinical Research Scholars and Fellows Program, which encourages careers in global health by supporting Americans' international clinical research work. In 2009, the program accepted 21 additional

participants and held its first-ever alumni gathering as a forum to share scientific discoveries and experiences.

Information technology gets a boost

A distance learning certificate course was supported to provide instruction in clinical research operations and management, in addition to the ethical and cultural issues involved. Dr. Lynda Wilson, of the University of Alabama

at Birmingham, and her team developed a certificate course for 150 study coordinators working outside the United States.

Course materials will be modified and translated into Spanish, and offered through the Cayetano University School of Nursing in Peru. Additional funding will provide training in Zambia.

Photo by Dr. Morse



A Recovery Act grant supported New York State University at Buffalo's efforts to train foreign scientists on the bioanalytical techniques used with health information technology applications.

Health information technology is now a part of each trainee's work in the AIDS International Training and Research Program in Zimbabwe thanks to Recovery Act support. Dr. Gene Morse and his team, from the New York State University at Buffalo, have developed and implemented an HIV medication management research system that addresses drug interactions, herbal medicines, drug monitoring and pharmacogenomics, a priority as new medications are being introduced.

Recovery Act funds are also supporting IT and training for a collaboration between the University of Washington and the Department of Health in Da Nang, Vietnam. Dr. Annette Fitzpatrick and her team established one of first stroke registries in Vietnam as well as a community-based risk factor study. Both are vital to understanding stroke and identifying interventions in this low-income setting.

Natural product research may produce cures

Natural products have been a primary source for pharmaceutical agents but have fallen out of favor because of the inefficient discovery process. A Recovery Act supplement extended the employment of IT professionals for this type of research under Dr. Margo Haygood, of the Oregon Health and Science University, who says that specific information and communication technology applications speed her research on the bacteria isolated from Philippine mollusks that researchers hope to use in drugs to treat central nervous disorders and cancer.

Photo courtesy of Dr. Haygood



Recovery Act funding supported distance learning activities led by Oregon Health and Science University to support its natural products research efforts in the Philippines.

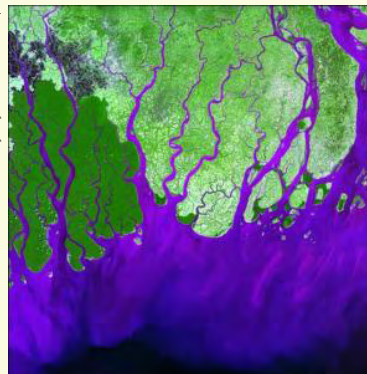
Dr. Mark Hay, of the Georgia Institute of Technology, and his collaborators at the Scripps Institution of Oceanography are also improving the process of natural product discovery by capitalizing on advances in DNA sequencing technologies. They analyze marine microorganisms cultured from samples collected around the islands of Fiji. Recovery Act funds contributed to generating a beta version of a database to facilitate this work.

Modeling infectious diseases

Onchocerciasis, or River Blindness, represents the second most significant cause of infectious blindness worldwide. Recovery Act funding helped Dr. Thomas Unnasch, of the University of South Florida, and his colleagues

create ecological models using satellite information, epidemiological data and new diagnostic tools to predict where the disease-carrying flies will breed and emerge.

Photo courtesy of Tufts University



An interdisciplinary group of scientists from Tufts University is helping Bangladeshi authorities forecast cholera outbreaks, with support from the Recovery Act.

Meanwhile, an interdisciplinary research group led by Dr. Shafiqul Islam of Tufts University is working to give public health officials in Bangladesh the ability to forecast cholera outbreaks two to three months in advance so that people can be treated before they get sick. The work, supported by Recovery Act funds, suggests that drought followed by monsoon rainfall propagates cholera transmission.

Addressing the chronic disease epidemic

Finally, Dr. Dan Rader, of the University of Pennsylvania, is using Recovery Act funds to survey the population and analyze metabolic markers for type 2 diabetes, a major contributor to coronary heart disease. The type 2 diabetes global epidemic is especially pronounced in South Asia where there had never before been a study of clinical epidemiological, biochemical and genetic factors linking the two diseases.

Photo courtesy of Dr. Rader



A Recovery Act grant is supporting University of Pennsylvania researchers to coordinate one of the first surveys of diabetes and heart disease risk factors in Pakistan.

NIH Director awards \$8 million for innovation

An \$8 million NIH Director’s award will provide Recovery Act funds to establish a global health consortium at Stanford University to accelerate progress in rolling out affordable diagnostics, drugs and devices for global health. Fogarty will administer the grant, which will encourage integration of the university’s business, design, medicine and engineering programs to cultivate new collaborations and expand scientific progress in global health.

“Many scientific advances in global health are stalled in the developing world due to lack of affordability, design modeling or business implementation plans,” says Dr. Michele Barry, who will lead the effort. “Our economists and social scientists will ensure that new or redesigned diagnostics, drugs and devices are scalable, have high impact and can be implemented and commercialized.”

Barry also expects to stimulate new jobs in the U.S. by encouraging innovative business models for global health products. The research capacity of each program will be strengthened by cross-fertilizing disciplines, she says. Economic projections and cost-effectiveness analysis will be an early component in any design process.



Photo courtesy of Embrace

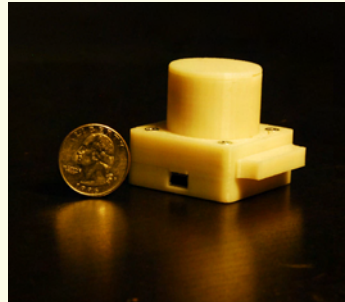
Stanford University will use Recovery Act funding to integrate existing multidisciplinary programs into a consortium to develop new diagnostics, drugs and devices that can be implemented in the developing world, such as this low-cost infant warmer that uses an innovative wax incorporated into a sleeping bag.

Fogarty grants \$4 M for multidisciplinary teams

Photos courtesy of Aydogan Ozcan



Lensfree Cellphone Microscope



Recovery Act funding will allow the University of California, Los Angeles to train post-docs to develop and test tools for use in resource-poor settings, such as this microscope attached to a hand-held device.

Twelve U.S. universities and their partner institutions are dividing about \$4 million for one year of support to form innovative, multidisciplinary global health research teams. Called Framework Signature Innovations awards, they are part of the final distribution of Fogarty’s Recovery Act funds.

Researchers from schools of business, architecture and social work will join with colleagues from the more expected sources of global health postdocs, including schools of medicine, nursing, public health and public policy as well

as pharmacy, dentistry and veterinary medicine, to address specific problems.

“Global health innovations are urgently needed,” says program officer Dr. Flora Katz. “This initiative challenged applicants to design programs that would feature problem solving, emerging technologies, new training models and new partnerships.”

Two U.S. teams working to reduce the burden of diarrheal diseases in South Africa. One group of investigators will develop a computer model of communities plagued with early childhood diarrhea using a new technology called agent-based modeling, which simulates actions and interactions of individuals to assess the effects on a system. They test hypotheses via computer simulation to identify the most promising interventions to fight infection, improve water quality and supply, and impact other environmental factors.

A second group plans to use multidisciplinary research to improve information systems, organizational behavior and decision-making processes so that policymakers will receive

Photo courtesy of Dr. Guerrant



University of Virginia engineering professor and Fogarty grantee Dr. Gerard Learmonth demonstrates the use of cell phone survey technology to colleagues in South Africa.

accurate and timely information about water and sanitation programs.

Technology is playing an increasingly greater role in global health research, so U.S. researchers will train a new generation of scientists in telemedicine for surveillance, diagnosis and treatment of diseases in Malawi, Brazil and Mozambique. The ultimate goal is innovative, point-of-care strategies.

To reduce the spread of tuberculosis, awardees will create a virtual, multidisciplinary, multi-institutional collaborative center in which computer-assisted design and modeling will optimize the application of safe and effective ultraviolet air disinfection. This work is expected to contribute to public health efforts to limit the impact of influenza and bird flu, as well as bioterrorism agents.

“This initiative challenged applicants to design programs that would feature problem solving, emerging technologies, new training models and new partnerships.”

Postdoctoral fellows and junior faculty from the fields of law, business, women’s studies, anthropology and sociology will come together to form new domestic and international partnerships to address the causes and consequences of gender and health disparities, as well as to empower women to advocate for and achieve a high standard of healthcare.

Framework Signature Innovations awards are supported by Recovery Act funds from Fogarty, the NIH Office of the Director and the National Institute of Nursing Research.

For a complete list of awards, visit www.fic.nih.gov/recovery/framework-awards.htm

Recovery Act enhances human subjects research

Research involving human subjects got a boost from the Recovery Act with \$650,000 in one-year grants awarded to 12 projects. The Program to Enhance NIH-Supported Global Health Research Involving Human Subjects is providing support for U.S. investigators who work with developing country counterparts on sustainable electronic systems, communications, scientific and ethical competencies and ethics training.

To strengthen protection for human research subjects in Papua New Guinea, researchers will study regulatory barriers, protocol reviews and compliance monitoring. In the Republic of Georgia, an online platform will be piloted to enhance joint reviews of research practices by institutional review boards (IRBs) in the U.S. and overseas. Their materials and tools will be adaptable for training needs in other cultures and settings.

The funding will enable the Kenya Medical Research Institute to enhance its ethics review capacity required to deal with an increase in the volume and complexity of its projects. It will establish an international IRB that joins Indiana University and Moi University School of Medicine in Kenya.

The Botswana Research Ethics Network intends to use its funding to find ways to open channels of communication about ethical, procedural and cultural challenges between review board representatives in Africa and the U.S.

Other human subjects research enhancements will be supported in Colombia, China, India, Nigeria, Pakistan, South Africa and Tanzania.



Photo by David Reckind

Training to enhance clinical research involving human subjects in the developing world is being supported with Recovery Act funding.

\$130 million investment

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based decision making on the local level. This expertise will empower countries to lead health programs and fulfill their responsibility for the health of their people.”

Eleven programmatic awards, largely funded by PEPFAR, will expand and enhance medical education and research training in the field of HIV/AIDS. Eight smaller non-HIV/AIDS awards, funded by the NIH Director’s Common Fund, with additional support from several NIH institutes, will encourage the development of expertise in topics such as maternal and child health, cardiovascular diseases, cancer, mental health, surgery and emergency medicine. Over a five-year period, MEPI intends to provide up to \$10 million for each programmatic award, up to \$2.5 million for each linked project and up to \$1.25 million for each pilot grant.

Photo courtesy of Dr. James Kariuki



The University of Nairobi will expand its lab training offerings with the new award.

“Non-communicable diseases, such as maternal-child health issues, cardiovascular disease, cancer, and mental illness, represent the fastest growing causes of morbidity and mortality in sub-Saharan Africa,” said NIH Director Dr. Francis S. Collins. “We at NIH are delighted to join hands with our colleagues in PEPFAR to help build research and clinical capacity in these important areas of human health.”

A coordinating center will link the African sites and their U.S. partners, leverage shared resources and provide technical expertise. A Web-based platform will allow all partners to share data and outcomes. The platform will facilitate evaluation and provide a gateway to maximize the initiative’s global impact. MEPI will enable participating institutions to strengthen their information technology infrastructure, support distance education and data sharing, and encourage the establishment of clinical registries to inform research and health care decision making on national levels. The coordinating center will also



Photo by Dominic Chavez, www.dominicchavez.com

The Medical Education Partnership project in Nigeria will support the development of an “in-service” training program, with an emphasis on pediatric HIV/AIDS care.

form an African leadership network to guide and advocate for the initiative.

“HRSA’s decades of experience working in HIV/AIDS through the Ryan White HIV/AIDS Program have highlighted the critical need for enhanced medical education and training to provide quality care to people affected by HIV/AIDS in rural and underserved communities. We are proud to collaborate with PEPFAR and NIH to advance medical education in Africa through this initiative, as well as continue supporting the on-going care and treatment and health system strengthening activities,” said Dr. Mary K. Wakefield, HRSA administrator.

NIH funding is being provided by the Common Fund, Office of AIDS Research, Office of Research on Women’s Health, National Heart, Lung and Blood Institute, National Human Genome Research Institute, National Institute of Mental Health, National Institute of Neurological Disorders and Stroke, and National Institute of Nursing Research.

For more information, please visit www.fic.nih.gov/programs/training/grants/mepi



Photo courtesy of UC, San Diego

One of the new awards will strengthen training activities at the Maputo Hospital in Mozambique.

Directory of Awards and Collaborating Partners for the Medical Education Partnership Initiative (MEPI)

The **Medical Education Partnership Initiative (MEPI)** has announced grants to African institutions in a dozen countries, forming a network including about 30 regional partners, country health and education ministries, and more than 20 U.S. collaborators.

BOTSWANA - **University of Botswana**, in partnership with Harvard School of Public Health and the University of Pennsylvania

PROGRAMMATIC AWARD: "Creating Sustainable Medical Education and Health Research Capacity in Botswana"

ETHIOPIA - **Addis Ababa University**, in partnership with a consortium of Ethiopian medical schools including Hawassa University, Haremaya Universities, and the Defense Forces Medical Colleges, as well as Emory University, Johns Hopkins University, University of California, San Diego, and University of Wisconsin

PROGRAMMATIC AWARD: "Ethiopia's Medical Education Consortium for Quality Medical Education & Retention"

KENYA - **University of Nairobi**, in partnership with the University of Maryland-Baltimore and the University of Washington

PROGRAMMATIC AWARD: "Strengthening Medical Education for Improved Health Outcomes in Kenya"

LINKED AWARD: "Strengthening Maternal, Newborn & Child Health Research Training in Kenya"

MOZAMBIQUE - **Universidade de Eduardo Mondlane, (UEM)** in partnership with University of California, San Diego (UCSD), Universidade Lurio, Universidade Zambeze, the World Health Organization, the Canadian Network for International Surgery and the American College of Surgeons

PROGRAMMATIC AWARD: "The Universidade Eduardo Mondlane/UCSD Medical Education Partnership"

LINKED AWARD: "UEM-UCSD Surgery Partnership"

NIGERIA - **University of Ibadan**, in partnership with University of Jos, University of Nigeria, University of Maiduguri, Ahmadu Bello University, University of Lagos, the AIDS Prevention Initiative Nigeria Ltd., Northwestern University and the Harvard School of Public Health

PROGRAMMATIC AWARD: "Medical Education Partnership Initiative in Nigeria (MEPIN)"

SOUTH AFRICA - **University of KwaZulu-Natal**, in partnership with Columbia University

PROGRAMMATIC AWARD: Enhancing Training, Research Capacity and Expertise in HIV Care (ENTRÉE)

SOUTH AFRICA - **Stellenbosch University**, in partnership with the University of Cape Town Lung Institute, Makerere University and Johns Hopkins University

PROGRAMMATIC AWARD: "Stellenbosch University Rural Medical Education Partnership"

TANZANIA - **Kilimanjaro Christian Medical Centre (KCMC)**, in partnership with Duke University School of Medicine

PROGRAMMATIC AWARD: "KCMC-Duke Medical Education Partnership Initiative"

UGANDA - **Makerere University**, in partnership with Johns Hopkins University, Mbarara University, Kampala International University, Case Western Reserve University, Yale University, Medical Research Council, Busitema University, and Gulu University

PROGRAMMATIC AWARD: "Medical Education for Services to All Ugandans"

LINKED AWARD: "Building Capacity for Cardiovascular Research and Training in Uganda"

ZAMBIA - **University of Zambia**, in partnership with Vanderbilt University and University of Alabama-Birmingham

PROGRAMMATIC AWARD: "Expanding Innovative Multidisciplinary Medical Education in Zambia"

LINKED AWARD: "Improving Maternal and Child Health Through Specialty Training in Zambia"

ZIMBABWE - **University of Zimbabwe**, in partnership with the University of Colorado-Denver and Stanford University, the University of Cape Town, University College London and King's College London, Institute of Psychiatry

PROGRAMMATIC AWARD: "Novel Education Clinical Trainees and Researchers (NECTAR) Program"

LINKED AWARD: "Improving Mental Health Education and Research Capacity in Zimbabwe Program"

LINKED AWARD: "Cerebrovascular, Heart Failure, Rheumatic Heart Disease Interventions Strategy Initiative"

Pilot Grants

GHANA - **Kwame Nkrumah University of Science and Technology**, in partnership with University of Michigan,

Ghana Ministry of Health, Komfo Anokye Teaching Hospital, Ghana College of Physicians and Surgeons, Ghana Ambulance Service, "Ghana Emergency Medicine Collaborative Training Program"

MALAWI - **University of Malawi College of Medicine**, in partnership with University of North Carolina, University of Cape Town and Johns Hopkins University Bloomberg School of Public Health, "HIV-associated Malignancies in Malawi"

Coordinating Center

George Washington University, in partnership with the African Center for Global Health and Social Transformation in Kampala, Uganda, "Fostering African Medical Education: Community of Excellence"

For more information, visit www.fic.nih.gov/programs/training_grants/mepi

Moving PEPFAR from emergency to sustainable effort

By Dr. Eric Goosby



Dr. Eric Goosby

A decade ago, those of us engaged in HIV work in sub-Saharan Africa were witnesses to daily tragedies on a huge scale. Hospitals were not just full of people dying of AIDS, they were overflowing with multiple patients to a bed, spilling out onto the floors and in the hallways – any place where they could rest while waiting for some care.

Today, with American leadership, the task few thought was possible is well under way. Through Fiscal Year 2009, we directly supported almost 2.5 million individuals on treatment, the vast majority in Africa. And millions more are benefiting from prevention and care programs. And yet, there is much more work to be done, and a large, continuing unmet need.

As we responded to the HIV emergency in the first phase of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), we tended to work through international implementing partners with existing capacity, in order to save as many lives as possible. While successful, this had the by-product of establishing or strengthening systems of care and delivery parallel to country public health systems, which are typically weak.

Reflecting President Obama's Global Health Initiative (GHI) principle of support for country ownership, a major priority of PEPFAR's second phase is to increase the capacity of countries at both the government and civil society level, so that countries are better able to manage, oversee, and operate their health systems—and increasingly to finance them, based on their available resources.

We are approaching countries in a spirit of true partnership to identify, prioritize and meet health needs. PEPFAR's support for country ownership is demonstrated through Partnership Frameworks, 15 of which have been signed to date. These are five-year, high-level agreements between the U.S. and partner governments that leverage our investments to obtain measurable financial, programmatic,

and policy commitments to HIV and health systems.

Through Partnership Frameworks, we are demonstrating by our actions that we see governments as partners, rather than recipients or obstacles. An important recent Partnership Framework is the one we have entered into with Nigeria, which includes the first public affirmation by that country's government that they expect to self-fund 50 percent of the response to HIV by the end of the five-year implementation period.

Another example of country ownership in action is the transition of treatment programs in 13 countries to the leadership of government structures and indigenous organizations. This transition is challenging but critical to ensure that these programs are deeply embedded in the national response and can be sustained for the long term.

During the initial, emergency phase of the program, we relied heavily on international NGOs, because they had the capacity to save lives quickly. In this second phase we have added to that activity a focus on sustainability and country ownership, which includes building the commitment and capacity of governments. As we move forward with that task, we will increasingly emphasize a third dimension of activity—community empowerment.

As we pursue the GHI principle of support for health systems for sustainability, it is local community and civil society organizations that can play the critical role of ensuring accountability for country structures in a way that outsiders never can. PEPFAR planners at the country level and at headquarters want to empower communities—including those directly affected by programs, such as people living with HIV—to have the ability to provide that feedback to government ministries, Global Fund Country Coordinating Mechanisms, and other country structures. That dialogue is essential for true sustainability.

Dr. Eric Goosby is Ambassador at Large and Global AIDS Coordinator, overseeing implementation of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). He delivered an expanded version of these remarks in recent testimony to Congress. A transcript is available at <http://bit.ly/9MlyBL>

PEOPLE

**Tabak appointed NIH principal deputy director**

Dr. Lawrence Tabak has been appointed principal deputy director of NIH. Since September 2000, he has served as director of the National Institute of Dental and Craniofacial Research. Tabak came to NIH from the School of Medicine and Dentistry at the University of Rochester, where he had been a senior associate dean for research and a professor of dentistry, biochemistry and biophysics.

**DeCock to lead CDC global health center**

Dr. Kevin M. DeCock has been chosen as head of the global health center at the U.S. Centers for Disease Control and Prevention. A longtime leader in international health, DeCock has been at the forefront of the battle against the HIV/AIDS epidemic. He will also serve on the Fogarty Advisory Board in an ex-officio capacity.

**Alonso and Breman win for smallpox poster**

Fogarty scientists Drs. Wladimir Alonso (left) and Joel Breman won the best poster award at the recent smallpox symposium in Brazil. The poster was titled "Direct Analysis of Death Certificates Challenges Previous Smallpox Burden Estimates for 1920-21 in Brazil" suggesting deaths from smallpox were markedly underestimated.

**Tierney named president of Regenstrief Institute**

Dr. William M. Tierney, an international leader in medical informatics and Fogarty grantee, has been named president and chief executive officer of the Regenstrief Institute, a 25-year-old research foundation at the Indiana University School of Medicine, where Tierney will also serve as associate dean for health care effectiveness research.

**Ribeiro receives Bunge award**

For his public health work in infectious diseases that have emerged due to rapid urbanization and urban poverty, recent Fogarty Scholar (2008-2009) Dr. Guilherme Ribeiro received a Bunge Foundation Award in the youth category, which honors professionals up to 35 years old.

**Yotebieng receives UNC research award**

Dr. Marcel Yotebieng's research on pediatric antiretroviral therapy in sub-Saharan Africa received the University of North Carolina's Bernard G. Greenberg Award for Excellence in Doctoral Research for 2010. With Fogarty support, Cameroon native Yotebieng earned his master's in public health at UNC in 2005.

Global
HEALTH Briefs**UN releases HIV/AIDS report**

"Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector," published by the U.N. and the WHO in collaboration with international partners, reviews the progress made in 2009 in HIV prevention, treatment and care in low- and middle-income countries.

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

Climate influences malaria transmission

Researchers discuss how daily temperature fluctuations affect parasite infection and malaria transmission in recently published research conducted partly with Fogarty support.

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

Malaria control investment effective

The Roll Back Malaria Partnership has published a report "Saving Lives with Malaria Control: Counting Down to the Millennium Development Goals," which confirms current global investments that include insecticide treated nets, indoor residual spraying and preventive treatment during pregnancy are saving lives.

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

Earth environment report released

The White House Office of Science and Technology Policy delivered a report to Congress called "Achieving and Sustaining Earth Observations." It outlines a strategic approach to strengthening government capacity to monitor our planet's atmospheric, geologic and environmental systems that can protect life, natural resources and ecosystems.

Full report: <http://bit.ly/crl4xe>

Smallpox eradication lessons examined

Thirty years after a worldwide campaign officially eradicated smallpox, global health leaders from 33 countries gathered at a summer symposium, co-sponsored by Fogarty, to discuss applying best practices and lessons learned to current and future global health problems.

Web site: <http://bit.ly/bgeCoN>

Global health agenda focuses on girls

"Start with a Girl: A New Agenda for Global Health," published by the Center for Global Development, identifies priorities that include completing secondary school, delaying marriage and HIV prevention for adolescent girls.

Full report: <http://bit.ly/aMiQ8D>

Funding Opportunities

Program	Contact	Receipt Date	Eligibility
Limited Competition for the Global Research Initiative Program, Basic/Biomedical Sciences (RO1) PAR-10-278	Xingzhu Liu Xingzhu.Liu.nih.gov	Non-AIDS: January 10, 2011	Eligible applicants, scientists from low- and middle-income countries, must meet three requirements: (1) they must have completed their research training by the start date of the proposed project, but must not have completed it more than four years prior to the receipt date of this announcement; (2) their research training must have been supported under the specified NIH-funded research or research training grants or awards (see FOA for list); and (3) they must have at least two years of research training experience or one year of training experience plus an additional year of well-documented mentored research.
Limited Competition for the Global Research Initiative Program, Behavioral/Social Sciences (RO1) PAR-10-280		AIDS: March 10, 2011	

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

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Fogarty welcomes new advisory board members

Photo by Jeff Gray



Dr. Glass, left, welcomed Drs. Freire and Yach to Fogarty.

Fogarty welcomed several new advisory board members during its September meeting. Lasker Foundation President Dr. Maria C. Freire and Pepsico global health advisor Dr. Derek Yach will provide guidance on Fogarty funding awards and other activities. In addition, Dr. Kevin DeCock, new global health director at CDC, has joined the board in an ex-officio capacity.

Dr. Maria C. Freire is the president of the Albert and Mary Lasker Foundation. Prior to that appointment, she was the CEO of the Global Alliance for TB Drug Development, which became the world leader in tuberculosis drug development under her leadership. Previously, Freire directed NIH's Office of Technology Transfer.

Dr. Derek Yach is senior vice president of global health policy at PepsiCo Inc., where he heads engagement efforts with major international policy and scientific groups. Previously he was responsible for global health initiatives at the Rockefeller Foundation and headed the division of global health at Yale University. As former executive director of the WHO, he worked to advance issues including tobacco control, nutrition and chronic diseases.

Dr. Kevin M. DeCock was recently named director of CDC's Center for Global Health. Throughout his career he has held a variety of positions and medical schools in the United Kingdom, the United States and sub-Saharan Africa. He most recently served as the Director of CDC Kenya. Previously, he was Director of the WHO Department of HIV/AIDS and led CDC's Division of HIV/AIDS Prevention, Surveillance, and Epidemiology.

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