

GLOBAL HEALTH MATTERS

Fogarty International Center

National Institutes of Health

Department of Health and Human Services

Stimulus to aid Fogarty grantees

Making good on the promise to elevate science and medical research, President Obama's economic stimulus package provides \$10 billion for the NIH. About 80 percent is designated for research, with a large portion of the rest to support facility construction.

"This recovery act represents the biggest increase in basic research funding in the long history of America's noble endeavor to better understand our world," Obama said when he signed the bill.

A trans-NIH effort will make new awards for projects that address research questions that might be solved in two years.

Called NIH Challenge Awards, the initiative includes a number of themes submitted by Fogarty.

In addition, the agency will fund grant applications that had been deemed meritorious by peer-review but had not been awarded due to lack of funds. Supplements also will be made to existing awards.



Photo by Pete Souza, the White House
President Obama signs the American Recovery and Reinvestment Act, which will increase Fogarty's grant-making.

The NIH and Fogarty are posting details of the funding plans, as they develop, on their Web sites at www.nih.gov and www.fic.nih.gov.
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NIH explores implementation science

Adopting new evidence-based clinical practices and adapting them to different countries requires careful planning and adjustment of existing models to local conditions, say experts in behavior change.

At the recent NIH conference on dissemination and implementation,

which drew researchers from around the globe, Fogarty sponsored a session on how to apply effective change models in clinical care.

Using as a case study the Fogarty co-sponsored landmark research of panelists **Dr. José Belizán** of
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Dr. Jim Yong Kim, a member of Fogarty's advisory board, stresses the need for implementation research in global health at a trans-NIH conference.

Fogarty, NCI team up in Latin America

The National Cancer Institute and Fogarty are teaming up to launch a three-year pilot program to focus on prevention and treatment of cancer in Mexico, Argentina, Chile, Brazil and Uruguay.

The new Office of Latin American Cancer Program Development within NCI will increase understanding about the burden of cancer in those countries, promote partnerships in both basic and clinical cancer research, and build relationships across all of Latin America to improve high-quality cancer research.

“This program will result in a better understanding of cancer incidence and mortality in the diverse populations that make up Latin America,” says program director **Dr. Jorge Gomez**.



Dr. Jorge Gomez

It is a leading cause of death worldwide, with over 7.6 million deaths attributed to the disease in 2005.

“Although cancer is generally considered to be a disease of high-income countries, migration and aging portend that cancer is increasingly becoming a major disease threat to developing nations,” Gomez says, noting that cancer trends in Latin America resemble those observed in U.S. Hispanics.

Gomez points out there is little evidence on how immigration may influence U.S. cancer trends. It is estimated that the U.S. Hispanic population will climb to 59.7 million and represent approximately 19 percent of the country’s population by 2020.

Cancer researchers are concerned that as developing



Photo by Sonia M. Mey, PAHO/WHO
A Latina teenager receives a vaccination against human papilloma virus, a known cause of cervical cancer. Fogarty is teaming with NCI to battle cancer in Latin America.

countries acquire the diets and bad habits of upper-income countries, new cases will increase significantly in the coming years.

In Latin America, the high incidence of cancers associated with infectious agents—cervical, stomach, liver—can be limited through vaccines, antibiotics and improved sanitation, while lung cancer can be prevented through education about smoking, Gomez says.

“It is clear that Hispanics who relocate to the U.S. benefit from the preventive strategies employed for infectious agent-associated cancers such as

gastric cancer; however, smoking-associated lung cancer remains the number-one killer in both populations,” according to the partnership’s strategic plan.

Overall, stomach cancer remains the major cancer causing mortality in most of these countries—a disease that can be nearly eradicated if appropriate diagnosis and treatment of the *Helicobacter pylori* bacterium can become part of clinical practice.

For more information, visit: <http://www.cancer.gov/olacpd/strategicplan>

HIV gel is promising

A long-time Fogarty grantee in AIDS research says he and his team have demonstrated for the first time the promise of a vaginal microbicide gel for preventing HIV infection in women.

A trial led by **Dr. Salim S. Abdool Karim** of the University of KwaZulu-Natal involved more than 3,000 women and found that the gel was 30 percent effective.



Microbicide Trial Network

“For the millions of women at risk for HIV, especially young women in Africa, there is now a glimmer of hope,” he said. “But these findings also indicate that more research is needed; we can’t yet say that we have an effective microbicide.”

Global health linked to U.S. security

Terrorists' ability to provide health care to people is a key factor in their exerting power on the international stage, the new director of national intelligence told Congress recently.

In an around-the-world survey of U.S. intelligence and national security concerns, DNI Dennis C. Blair said, "Terrorists and warlords have gained local and international stature and even power by providing health services governments could not."

In a written report accompanying his testimony to the Senate Intelligence Committee, Blair also said the U.S.-backed governments of Iraq and Afghanistan suffer "undermined ... credibility" because of their inability to provide health care or clean water.

"Venezuela and Cuba have been particularly adept at parlaying provision of charitable medical services to nationals of other countries into support in international forums such as the United Nations," Blair said, adding, "Hizballah's provision of health and social services in Lebanon over the past 20 years has helped to legitimize the organization as a political force in that country, while Hamas's delivery of similar services was a factor in its legislative electoral success in the Palestinian territories."

"...we can no longer afford indifference to suffering outside our borders."

*—Barack Obama,
Jan. 20, 2009*

Turning to industrial adversaries, Blair said poor health in both Russia and China threatens the future strength of their armed forces.

"Russia has the overall worst health indicators of any industrialized country. Poor health of Russian children and young people combined with falling birthrates threatens Russian military readiness with a projected halving of eligible military recruits between 2005 and 2018."

He said China's high incidence of chronic disease, brought about in large part by the high prevalence of smoking, "threatens to slow economic growth by incapacitating workers and incurring heavy health-care costs. The health effects of environmental degradation are an increasing source of discontent in China."

The report said the most direct health threats to the United States are HIV/AIDS, a potential flu pandemic and any

"mystery disease" like SARS.

But he noted, "Infectious diseases are not the only health indicators with strategic significance. Chronic, non-communicable diseases; neglected tropical diseases; maternal and child mortality; malnutrition; sanitation and access to clean water; and availability of basic health-care also affect the U.S. national interest through their impacts on the economies, governments and militaries of key countries and regions."



*Director of National Intelligence
Dennis Blair*

On the subject of climate change, Blair said, the main threat to the United States "will be indirect and result from climate-driven effects on many other countries and their potential to seriously affect U.S. national security interests."

He told senators that climate change itself is not likely to trigger "state failure" anywhere in the world until at least 2030, "but the impacts will worsen existing problems such as poverty, social tensions, environmental degradation, ineffectual leadership and weak political institutions" and could lead to civil or cross-border warfare over water resources.

Blair said the United States has a "potentially pivotal role" between Europe's commitment to cutting greenhouse gases and developing nations' wariness about harming their economies by stifling carbon emissions.

Blair's testimony appeared to be built on a December 2008 National Intelligence Council report "Strategic Implications of Global Health," which recommended:

- More and better-publicized developed world medical diplomacy efforts, such as the Navy's 2007 humanitarian tour of Latin America by the hospital ship Comfort.
- Working in Afghanistan on hepatitis B, drug addiction, high maternal and child mortality and access to basic health care as a means of bolstering support for the allied reconstruction effort.
- Cooperating with Iran to fight increased incidence of polio in Muslim countries or Iran's own rising drug addiction problem.

For the testimony, visit <http://tinyurl.com/d69bod>
For more information, visit <http://tinyurl.com/9t8gqv>

‘Best practice’ or ‘more appropriate practice’?

(continued from p. 1)

Argentina and **Dr. Marci K. Campbell** of the University of North Carolina that drastically improved maternal childbirth outcomes, participants in the breakout session identified barriers to effective “diffusion of innovation.”

They also agreed that the concept of “best practice” ought to be thought of, instead, in terms of “most appropriate practice,” especially when there is no standard of comparing different methods.

Dr. James Dearing of the Institute for Health Research at Kaiser Permanente Colorado said his experience indicates that in getting clinicians to change their practices, the key factors are cost and simplicity—not evidence.

Existing models of change need revision to take into account which technologies exist for preparing for and then communicating change, identifying and reaching medical opinion leaders and determining which path is more cost-effective, participants agreed.

In a passionate keynote address to the entire conference, Fogarty Advisory Board member and Harvard professor **Dr. Jim Yong Kim**, called for creation of a National Institute of Health Care Delivery and suggested borrowing principles from business and engineering schools.

“Not investing in quality research, in systems research, in delivery research and implementation research is crazy,” given a projected doubling of U.S. health care costs in the next eight years, Kim said.

“Why could you not invest \$30 billion if you can then attract the best and brightest ... to this fantastic new field of implementation research so we can figure out what works and what does not.”



Argentine researcher Dr. Jose Belizan tells a Fogarty-sponsored session at the NIH implementation conference about his landmark research on behavior change in clinical care.

NIH funding data now available by disease

The NIH has begun a new process for providing detailed funding information for 215 diseases, including major global health topics such as emerging infectious diseases, HIV/AIDS, malaria, tuberculosis and vector-borne diseases.

The new Research, Condition and Disease Categorization (RCDC) tool was requested by Congress to provide consistent and transparent NIH research funding information.

The data are in the table, “Estimates of Funding for Various Diseases, Conditions, and Research Areas,” at www.report.nih.gov/rcdc/categories. For the first time, project listings and dollar amounts are available.

Cholera, climate change linked

Explaining how weather and satellite imagery can predict outbreaks of cholera, former National Science Foundation director Dr. Rita Colwell told Fogarty staff recently that NIH “needs to become more holistic” in its scientific approach.

Cholera appears to spread rapidly across regions of the globe, but in reality, she said, the bacteria spring up naturally in multiple coastal areas based on unusual temperature and ocean conditions and migrate by way of currents, contaminated drinking water and human-to-human contact.

Studying infectious diseases from an environmental perspective has led to new insights into the role that climate and genetic change play in diseases that disproportionately affect tropical regions, she said.

“The notion that a single pandemic strain is sweeping across a nation is refuted by genomic data,” Colwell said.

“NIH should have a leading role in climate and health ... but it has been driven by reductionism. That is highly productive for many areas but NIH now needs to become holistic for these larger more complex problems,” she said. Fogarty has established a trans-NIH working group on climate change and health research. (*Global Health Matters*, Vol. 7, Issue 5, p. 3)

The challenge of research management

Scientists in sub-Saharan Africa are realizing that they need to acquire not just the know-how to tackle infectious and chronic diseases but expertise in administering a fountain of grants from NIH and prominent foundations.

With that in mind, research administrators working through the Fogarty-sponsored Duke University-Kilimanjaro Christian Medical Center Collaboration in Tanzania recently launched an association to develop an efficient and accountable flow of funding.

Three Fogarty administrators—Executive Officer **Timothy J. Tosten**, program officer **Dr. Jeanne McDermott** and grants management specialist **Elizabeth Cleveland**—traveled to Moshi, Tanzania, to hear what the regional needs are.

“This was their idea, and we jumped on it because it is right in line with the Fogarty strategic plan to facilitate research hubs that would encompass management skills as well as scientific ones,” Cleveland explained. “In lower-income countries, researchers are doing the administration

and it takes time away from their research.”

Participants came from Kilimanjaro Christian Medical Center, Muhimbili University of Health and Allied Sciences in Tanzania, Makerere University College of Health Sciences in Uganda, Kenya Medical Research Institute, University of Nairobi, Kenyatta National Hospital and Moi University in Kenya.



Photo courtesy of ARAA
 Grants management specialist Elizabeth Cleveland, program officer Dr. Jeanne McDermott and Fogarty’s Executive Office Tim Tosten attend opening meeting of the Association of Research Administrators in Africa in Moshi, Tanzania.

Once the Association of Research Administrators in Africa becomes established, planners say it will be open to other institutions in East Africa.

The idea is “to get Africans at all levels to understand the process and be part of the research agenda,” said Kenya-born **Charles Muiruri**, who works for Duke Global Health Institute and who sparked the organization.

He said individual members of the organization are being urged to gather support and expertise among counterparts at other institutions throughout the region “so that this becomes not a Western but actually an African idea. This would assist us to understand how to build a sustainable model in this region to be replicated elsewhere.”

An executive meeting is scheduled for early 2009 and another general meeting is scheduled for late summer or fall at Moi University in Eldoret, Kenya.

Aims for administrators in Africa

- Advance the understanding of the value and importance of research and the contributions of research administration to the research enterprise.
- Provide an environment for collaborative efforts to identify, evaluate and disseminate information related to best practices of research administrators.
- Establish individual contacts and also foster research site collaborations with the aim of achieving common goals.
- Improve communications among research administrators and investigators in the region.
- Increase the number of International Extramural Associates Research Development Award recipients in the region.
- Establish offices of research development in resource-limited settings.
- Develop a model to be used by other African regions in establishing their own association chapters.



Charles Muiruri, who works with Fogarty’s International AIDS Training and Research Program in Tanzania, helped establish an association for research administrators in East Africa, which hopes to help regional scientists get and more effectively use grants.

Viral traits may predict host-jumping

Early detection of the next SARS or Ebola-like threat may be aided by a molecular trait identified by a Fogarty researcher that can be used to help evaluate the risk that an animal virus will be able to infect humans.

Dr. Juliet Pulliam, working in the Research and Policy in Infectious Disease Dynamics team, and co-author Dr. Jonathan Dushoff of McMaster University, did the first quantitative analysis of the predictability of viral transmission between host species.

It is the first study to ask how specific molecular characteristics may pre-

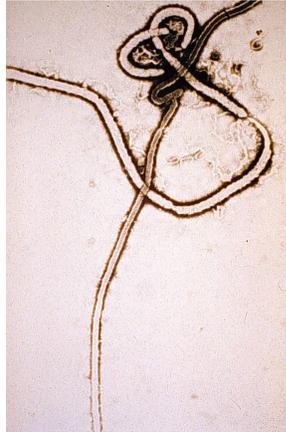


Photo courtesy of CDC
Electron micrograph of the ebola virus

adapt a virus for emergence by addressing the pool from which these pathogens are drawn.

“We ... find that the ability to complete replication within the cytoplasm (i.e., without nuclear entry) is a strong predictor of zoonotic transmission ability,” they said in the Feb. 15 issue of *The Journal of Infectious Diseases*.

Two other traits—having an RNA genome and having a segmented genome—were not significantly correlated with the ability of livestock viruses to infect humans, they said.

Pulliam, JRC and J Dushoff. (2009) Ability to replicate in the cytoplasm predicts zoonotic transmission of livestock viruses. The Journal of Infectious Diseases 2009;199:565–568

JAMA cites Fogarty’s achievements, strategic plan

The prestigious *Journal of the American Medical Association* recently took note of Fogarty’s 40th anniversary with a look at some of its past accomplishments and its vision for the future.

In the “Medical News & Perspectives” section, *JAMA*’s Rebecca Voelker details several examples of Fogarty programs that have had an impact on global health. For instance, a research collaboration in South Africa helped local scientists produce high-quality data that persuaded manufacturers to

reduce emissions that had been causing asthma and other ailments among the area’s school children.

Dr. Tom Robins of the University of Michigan—who collaborated with **Dr. Rajen Naidoo** of the Nelson R. Mandela School of Medicine—said the project was designed to enhance local research talent as well as to improve public health. “It’s to actually study things that are important from the point of view of key health issues and the possibility of intervening and bringing about changes in policy.”

limited medications and to services that help with smoking,” says Gaziano.

Future Fogarty projects will address the coming epidemic of chronic diseases in the developing world, a key focus of the Center’s new strategic vision. This provides the opportunity for Fogarty to engage with other NIH partners already working in the area, according to the Center’s director, **Dr. Roger I. Glass**. “Anything we find out about the prevention of stroke in China could come right back home to help us with stroke in the United States.”



Photo by David Snyder

Fogarty support helps train AIDS researchers at Sihanouk Hospital Center of Hope in Cambodia.

A second example describes research by **Dr. Thomas Gaziano** of Brigham and Women’s Hospital to develop an accurate but economical method of predicting cardiovascular disease risk that could be applied in low-resource settings. “My work with Fogarty focuses on identifying who is at high risk for cardiovascular disease so we can pinpoint those patients who will get access to

Another Fogarty priority is implementation science. Or, as **Dr. Jim Yong Kim** of Harvard put it, “How do you take the tools we’ve developed and implement them?”

To strengthen global health programs and ensure their sustainability, Kim says, “we have to look at the local culture and existing infrastructures.” By developing local scientific capacity, he says, “our outcomes will be much better.”

“Fogarty at 40: NIH Center Updates Its Strategies for Supporting Global Health.” Rebecca Voelker. *JAMA*. 2008;300(24):2841-2843.

NIH welcomes new Japanese scholars

Fogarty recently welcomed 15 new scientists selected by the Japan Society for the Promotion of Science as they begin two years of intramural research.

“NIH has benefited from the excellent Japanese scientists and the great relationship we have established with JSPS,” said Fogarty Deputy Director Dr. Michael Johnson. “We believe this leads to mutually beneficial, long-term collaborations for both American and Japanese scientists.”

The program is in its seventh year and this cohort brings to 124 the number of Ph.Ds selected by the JSPS, an independent administrative institution that plays a pivotal role in Japan's scientific and academic programs.

Dr. Keiko Ozata, of the National Institute of Child Health and Human Development and chair of the NIH selection panel, said the training NIH provides has been “an invaluable contribution to biomedical research in Japan” by supplying “a stream of excellent scientific workforce” returning to their home country.

“The JSPS fellowship has provided excellent scientists and fostered a great relationship between Japan and the NIH,” Johnson said. “NIH intramural laboratories have trained numerous Japanese scientists, many of whom have returned to Japan and have become leaders in Japan’s growing biomedical fields.”

Also speaking at the reception, following an orientation for the scholars, were **Dr. Ken Bridbord**, director of Fogarty’s international training and research division; Haruo



Fogarty Deputy Director **Dr. Michael Johnson** welcomes the Japan Society for the Promotion of Science. Fifteen fellows will work in intramural programs for two years.

JSPS fellows and their hosts

- Dr. Hiroko Fujii, *National Institute of Child Health and Human Development*
- Dr. Ken Fujii, *National Cancer Institute*
- Dr. Takato Hiranita, *National Institute on Drug Abuse*
- Dr. Seiichiro Motegi, *National Cancer Institute*
- Dr. Shingo Mutoh, *National Institute of Environmental Health Sciences*
- Dr. Kazuya Ogawa, *National Institute of Neurological Disorders and Stroke*
- Dr. Takayuki Okana, *National Institute on Deafness and Other Communication Disorders*
- Dr. Shuhei Sakakibara, *National Cancer Institute*
- Dr. Kaori Shinoda, *National Institute of Allergy and Infectious Diseases*
- Dr. Shinji Tsutsumi, *National Cancer Institute*
- Dr. Toru Uchiyama, *National Human Genome Research Institute*
- Dr. Yamanishi Tadashi, *National Institute of Neurological Disorders and Stroke*
- Dr. Ryusuke Yoshimi, *National Institute of Child Health and Human Development*
- Dr. Yasuo Yoshitomi, *National Institute of Dental and Craniofacial Research*



A reception for the 15 new Japanese scientists starting a 10-month fellowship at NIH was held at the ornate Stone House.

Minatoya, director of the administration department of JSPS in Tokyo; and Kotaro Kodera, deputy director of the JSPS Washington office.

Fogarty reviews applicants for both Japanese and U.S. science exchanges and manages the program, including the day-to-day issues faced by fellows.

The program benefits NIH not only for the science produced by fellows but also because the funding from Japan frees

more than \$600,000 a year for other research projects, Johnson said.

Cash grants improve birth outcomes

Cash grants of \$15 a month along with counseling improves birth outcomes among poor, rural, pregnant Mexican women, a Fogarty-sponsored study reveals. But other research says giving money under the same program to improve health behavior among adults may backfire.

Researchers Dr. Sarah L. Barber and Dr. Paul J. Gertler of the University of California, Berkeley, measured the effect of government stipends to 712 rural women in seven Mexican states—conditioned on their making at least five prenatal health care visits, taking nutritional supplements and going to counseling aimed at making them better health care consumers.

Compared to the 180 women who did not get the cash, they received 12.2 percent more physical procedures, the study reported.

Since 1997, Mexico has operated the “Oportunidades” program aimed at breaking generational cycles of poverty by concentrating on infant and child care and, later, to improve adult health.

Using cash grants, the authors found, is associated with better neonatal health, suggesting, “This result is probably a manifestation of the program’s empowerment goal, by encouraging beneficiaries to be informed and active health consumers.”

Their work appeared in the January issue of *Health Policy and Planning*. But in the *Journal of Nutrition* of last November, Gertler co-authored with Dr. Lia C. H. Fernald and Dr. Xiaohui Hou an article examining the effect of cash on improving the diet of adults.

Despite the requirement for adults to visit health clinics and attend nutrition and hygiene seminars, the link between cash and health was dubious: there were increases in body mass index, overweight and blood pressure.

The authors speculate that although the extra cash went for healthful foods, adults may have been consuming nutritional supplements intended for children or buying more high-fat foods, or both. The findings, they say, “could provide critical guidance in relation to (conditional cash

transfer) program design for countries such as Mexico, India, China, South Africa and Brazil.”

“Empowering women to obtain high quality care: evidence from an evaluation of Mexico’s conditional cash transfer programme.” Sarah L Barber and Paul J Gertler. *Health Policy and Planning* 2009;24:18–25



Dr. Veronica Romero teaches participants in the Oportunidades program in Huimilpan, Mexico.

Photo by Theresa Braine, WHO

“Cash component of conditional cash transfer is associated with higher body mass index and blood pressure in adults.” Lia C. H. Fernald, Paul J. Gertler and Xiaohui Hou. *J. Nutr.* 2008 Nov; Nutr. 2008 Nov;138 (11):2250-7.

“A Payoff Out of Poverty?” Tina Rosenberg. *New York Times Magazine*. December 21, 2008, p. MM46

Elderly in Ecuador at risk

Elderly Ecuadorians are at high risk for respiratory infections due to compromised immune systems linked to poor nutrition, a Fogarty co-sponsored study has found.

Testing among 352 study participants by Dr. Davidson H. Hamer and a team led by Fogarty grantee **Dr. Simin Nikbin Meydani** found substantial deficiencies of vitamins C, D, B-6 and B-12 as well as folic acid and zinc—indicators of poor immune response.

In addition to doing blood tests, body measurements and interviews over a 16-month period, the researchers collected fecal samples that suggested a majority of the Ecuadorians are living in a contaminated environment of poor hygiene, sanitation, water and nutrition. The study was published in the January issue of the *Journal of Nutrition*.

“In view of the rising proportion of the population that is aged in Ecuador and other countries in Latin America ... there is a need to develop and test low-cost, simple nutritional and behavior change interventions,” the article concluded.

“Micronutrient Deficiencies Are Associated with Impaired Immune Response and Higher Burden of Respiratory Infections in Elderly Ecuadorians.” Davidson H. Hamer, Fernando Sempértegui, Bertha Estrella et. al. *J. Nutr.* 2009 139: 113-119.

Fogarty Focus

Harvard global health entrepreneur works to improve Tanzanian health system

Dr. Jeffrey Blander, a postdoctoral research fellow at Harvard and a participant in Fogarty’s Clinical Scholars program, is trying to use his research and business skills to alter traditional funding practices that may impede treatment of chronic health conditions in low-income countries.

Working on developing a standardized approach to strengthen health systems for chronic diseases, such as diabetes and high blood pressure, in Tanzania, Blander says traditional “vertically” funded programs to fight specific diseases may “inadvertently affect the overall delivery of care within a developing country.”

The reason, he says, is that where there are very limited resources, money flowing to high profile diseases diminishes the incentive for local clinicians to treat other, possibly more pressing, medical needs.

As part of his Fogarty project, Blander and colleagues from the Dar es Salaam region have interviewed more than 100 health professionals about priority health systems strengthening areas that include essential medicine procurement, human resources in health, patient referral practices, public-private partnerships, information systems and financial sustainability within the community.

His interest in systemic health care reforms stems from his work as a volunteer country director with the Clinton Foundation. Blander says his “A-ha” moment came after meeting the president of a small Caribbean country when he was pulled aside by a senior ministry of health official, telling him, “While HIV is very important and we are grateful for your support, can you also see what we can do about diabetes?”

“This brief conversation motivated me to seek out future opportunities to conduct operations research that examines the impact of health systems strengthening to



Photo courtesy of World Bank

More than 70 percent of life years lost in Tanzania are due to preventable causes, notably malaria, diarrhea, pneumonia, HIV/AIDS, perinatal and maternal conditions.

integrate infectious and non-communicable disease care,” Blander recalls.

The Fogarty presence in more than 100 countries, including many in sub-Saharan Africa, pays dividends for the United States, as well, he says. “Currently, the U.S. has more uninsured persons than the entire population of Tanzania.

Given the recent economic crisis, it is critically important to examine our own health care system to determine ways to reduce costs and improve access to care as well as make sure young physicians are not limited in the type of clinical practice they wish to pursue because of overwhelming student loan debt after graduation.”

“It has been a great privilege to be part of Fogarty and nothing less than what I consider my professional life’s calling to work with colleagues in Tanzania and other resource-poor settings,” Blander says. “I strongly believe that global health is a driving force in shaping U.S. diplomacy and foreign policy.”

Blander is currently a co-leader for the Technology Innovation Work Group for the Harvard Initiative for Global Health. He has taught for 10 years at the Health Science and Technology Division of Harvard University and MIT.

In the spring of 2008, he launched his second course on designing technology innovation for global health practice. He also founded a charitable organization dedicated to private health sector loan development and incubating medical technologies in resource-poor settings.

Blander holds a doctorate and two master’s degrees from Harvard and an undergraduate degree in economics from the Wharton Business School at the University of Pennsylvania.



“I strongly believe that global health is a driving force in shaping U.S. diplomacy and foreign policy.” —Dr. Jeffrey Blander

Headaches tied to childhood adversity

Drastic events in childhood are associated with chronic headaches and depression later in life, a team of researchers partially funded by Fogarty has determined.



“This finding is the first of its kind to show in a large cross-national community sample that the association between childhood family adversities and adult onset of headache is independent of mental disorders,” concluded the team of 14 researchers led by Fogarty grantee **Dr. Ronald C. Kessler**.

“Although mental disorder was still independently associated with headache, distinct associations of both types of predictors with headache have not been demonstrated in previous studies,” said the study, published in the *British Journal of Psychiatry*.

In interviews with more than 18,000 people in 10 countries of Latin and North America, Europe and Asia, the researchers found 11.3 percent of people suffer from headaches and 9.1 percent had early-onset depression or anxiety disorder.

Overall, 43.2 percent of adults with headaches reported a “childhood family adversity”—as high as 64.5 percent in Colombia and 28.5 percent in Spain.

Not all “childhood family adversities” equally predicted risk, however.

“Sexual and physical abuse, parental mental and substance disorders and family antisocial behaviors showed the most robust associations with risk of adult-onset headache,” the study found.

“Parental death, divorce and economic adversity were not significantly related,” the article said.

“This is different from a previous case-control study, which found significant associations between migraine and parental divorce and chronic financial difficulties in the family after adjustment for education, self-reported general physical health and depression.”

Study subjects came from Belgium, Colombia, France, Germany, Italy, Japan, Mexico, The Netherlands, Spain and the United States.

“Association of headache with childhood adversity and mental disorder: cross-national study.” Sing Lee, Adley Tsang, Michael Von Korff et al. *Br J Psychiatry* 2009 194: 111-116.

Genetic link to alcoholism relapse found

Although much research has been done on genetic predisposition to alcohol dependence, very little has been done on how genes may affect the likelihood of falling off the wagon.

Now, a team of Fogarty-sponsored researchers has found a strong link.

In a study of 123 Polish alcoholics, the team, led by Dr. Marcin Wojnar of the University of Warsaw and the University of Michigan, discovered that a particular form of the gene known as BDNF was associated with a higher risk and earlier occurrence of relapse.

The authors, writing in the online version of April’s *Alcoholism: Clinical and Experimental Research*, cautioned however that



because of the large number of statistical tests and the paucity of research on the topic, “the results should be considered as hypothesis-generating” and requiring replication.

Although the small sample size limits the ability to generalize results to other ethnic groups, its homogeneity provided statistical power, the authors said.

Of six genes studied, “Only the BDNF Val/Val genotype predicted post-treatment relapse and time to relapse,” the authors said.

When the analysis was restricted to those patients who have a family history of alcoholism “the associations ... were even stronger.”

“Association Between Val66Met Brain-Derived Neurotrophic Factor (BDNF) Gene Polymorphism and Post-Treatment Relapse in Alcohol Dependence.” Marcin Wojnar, Kirk J. Brower, Stephen Strobbe, Mark Ilgen, Halina Matsumoto, Izabela Nowosad, Elbierta Sliwerska and Margit Burmeister. *Alcoholism: Clinical and Experimental Research*. (Published online Jan. 21, 2009) <http://www3.interscience.wiley.com/journal/121645340/abstract>

Administration elevates science agenda

(continued from p. 1)

The President said he hopes the stimulus package “will ignite our imagination once more, spurring new discoveries and breakthroughs in science, in medicine, in energy, to make our economy stronger and our nation more secure and our planet safer for our children.”

NIH Acting Director **Dr. Raynard Kington** said, “We are confident that we can spend the funds that Congress has allocated both responsibly and quickly.” He said most projects under the stimulus will receive funding for a two-year period.

“The president’s words and actions certainly speak to our mission and should make our trainees abroad feel even more welcome and prouder of what they do,” said Fogarty Director **Dr. Roger I. Glass**.

In a radio speech to the nation (see p. 15) and in his Inaugural address, Obama promised to “put science at the top of our agenda” and “restore science to its rightful place.”



Dr. John Holdren, chief presidential science adviser

“To the people of poor nations, we pledge to work alongside you to make your farms flourish and let clean waters flow; to nourish starved bodies and feed hungry minds,” he said after his swearing-in.

“And to those nations like ours that enjoy relative plenty, we say we can no longer afford indifference to suffering outside our borders; nor can we consume the world’s resources without regard to effect. For the world has changed, and we must change with it.”

Shortly after taking office, Obama rescinded the “gag rule” that prevented U.S. family planning assistance from going to international organizations that perform abortions or counsel about them.

“We’ve never had a president surrounded in close proximity with so many well-known, top scientific minds,” former NIMH director **Dr. Alan Leshner** told *The Economist*.

Leshner now is chief executive of the American Association for the Advancement of Science, whose former president, Dr. John Holdren, has been named the president’s chief scientific adviser.

Other health and science appointees in the new administration include:

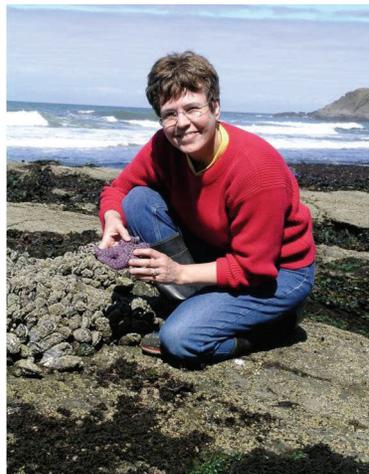


Photo by Bruce Menge

New NOAA Administrator Dr. Jane Lubchenco does field work at Fogarty Creek, Ore.

- Dr. Steven Chu, Nobel laureate in physics in 1997, to head the Department of Energy

- Dr. Jane Lubchenco, a marine biologist at Oregon State University, to head the National Oceanic and Atmospheric Administration

- **Dr. Harold Varmus**, former NIH director and current president of Memorial Sloan-Kettering Cancer Center, and Dr. Eric Lander, an MIT biologist instrumental in discovery of the human genome, to be co-chairs of the President’s Council

of Advisers on Science and Technology, headed by Holdren.

Among items on the administration’s stated agenda that could affect Fogarty programs are:

- Lead an international effort to diminish impact of major infectious disease epidemics.
- Accelerate the development of new medicines, vaccines and production capabilities.
- Support investments in biomedical research, as well as medical education and training fields. Fund biomedical research, and make it more efficient by improving coordination both within government and across government/private/non-profit partnerships.
- Support increased stem cell research. Allow greater federal government funding on a wider array of stem cell lines.
- Build capacity to mitigate the consequences of bioterror attacks by ensuring that decision-makers have the information and communication tools they need to manage disease outbreaks by linking health care providers, hospitals and public health agencies.
- Expand U.S. presence by opening consulates in difficult corners of the world—particularly in Africa.
- Embrace the Millennium Development Goal of cutting extreme poverty and hunger around the world in half by 2015 and double foreign assistance to achieve that goal.

Publishing in local journals may be best for sub-Saharan scientists, says study

Research institutions in sub-Saharan Africa should encourage their scientists to publish in national peer-reviewed journals, which often have greater impact on medical outcomes than the more prestigious European and North American publications, says Fogarty's **Dr. Karen Hofman**.

Writing in the *Journal of the Medical Library Association*, Hofman, director of international science policy, planning and evaluation, surveyed 10 years of publications from sub-Saharan African first authors and found that a majority publish in international journals.



Bonnie Gillespie, Courtesy of Photoshare

African researchers examine malaria-infected blood stains.

"The reasons for this are complex and vary from one country to another," said Hofman and her colleagues from the National Library of Medicine, Dr. Barbara Rapp and Sheldon Kotzin. Co-author Christine Kayengo is chief librarian at the Medical School of Zambia in Lusaka and was a visiting fellow at NLM at the time the study was done.

"Researchers may target international journals preferentially because they frequently assume that publication in international journals, rather than

national journals, is the single most important factor in the promotion policies at most in-country academic institutions," they said.

The presence of sub-Saharan African first authors in Medline-indexed journals grew by 41 percent over the decade ending in 2005. Of the SSA first authors indexed in MEDLINE, the NIH bibliographic database, 40 percent came from South Africa, followed by Nigeria (16 percent) and Kenya (7 percent).

"National journals in the developing world are important because they have been shown to influence practice more than information published in North American or European journals," Hofman said.

"Communicating health research data regionally in areas with shared diseases and local conditions is also likely to be effective with respect to improving health outcomes."

Use of country-specific journals costs less and may be more accessible to health care workers, and "In resource-poor settings, the gray literature (i.e., research results that appear in monographs and reports) also plays a critical role," the article contends.

The authors recommend that sub-Saharan research institutions consider changing their practice of relying only on high-profile international publications in promotion and tenure decisions, giving equal weight to national journals indexed in credible databases such as MEDLINE.

"Mapping the health research landscape in Sub-Saharan Africa: a study of trends in biomedical publications." KJ Hofman, CW Kanyengo, BA Rapp and S. Kotzin. *J Med Libr Assoc.* 2009 Jan;97(1):41-44.

Southern Africans sought as research partners

As a result of the recent Fogarty-sponsored summit on sub-Saharan Africa, the Center plans to further expand its support of research and training involving African institutions and scientists.

This notice was published recently in NIH Guide for Grants, and examples of potentially applicable programs include the Fogarty International Research Collaboration Awards for both basic biomedical work and research in behavioral and social sciences.

These provide opportunities for researchers to extend their NIH-supported projects to include colleagues and relevant work in low- and middle-income countries. African scientists have an opportunity to contribute as co-collaborators on FIRCA applications and awards.

For more details, visit: <http://tinyurl.com/c99hdo>.

Malaria prevention goes online



Photo by Julia Royall

Residents of the village of Mifune, Uganda, learn by computer and color pamphlet about how to prevent and recognize malaria. The National Library of Medicine's Julia Royall helped create multimedia informational presentations.

A National Library of Medicine project has created an online tutorial to help Ugandans easily understand the cause, scope and prevention of malaria.

Returning from a Fulbright fellowship in the country, NLM's malaria research network chief, Julia Royall, explained her project at a public lecture.

Malaria kills between 70,000 and 110,000 Ugandans each year, she said, and much of the problem is due to myths and folklore about mangoes, corn or witchcraft causing the disease.

Her implementation project, in conjunction with Makerere University, created an interactive tutorial on malaria in English, Luanda, Rukiga and Luo based on the work of students, faculty and Ugandan artists.

Villagers reviewed the tutorial, which was created online (www.nlm.nih.gov/medlineplus/africa) and in pamphlet and poster format. Computer discs were sent to the country's 20 districts.

Attaché makes case for closer ties with Italian science



Dr. Alberto Devoto, science attaché at the Italian embassy, gives an overview of U.S.-Italian collaboration in biomedical research at a roundtable discussion hosted by Fogarty.

The purpose of the meeting was to discuss the Italian presence and contribution at NIH and opportunities for Italian postdocs. In 2007, there were 191 Italian researchers working at NIH.

Guest Opinion

Listening to what scientists say

By Barack Obama

Whether it's the science to slow global warming; the technology to protect our troops and confront bioterror and weapons of mass destruction; the research to find life-saving cures; or the innovations to remake our industries and create 21st Century jobs—today, more than ever before, science holds the key to our survival as a planet and our security and prosperity as a nation.

It's time we once again put science at the top of our agenda and worked to restore America's place as the world leader in science and technology.

Right now, in labs, classrooms and companies across America, our leading minds are hard at work chasing the next big idea, on the cusp of breakthroughs that could revolutionize our lives.

But history tells us that they can't do it alone. From landing on the moon, to sequencing the human genome, to inventing the Internet, America has been the first to cross that new frontier because we had leaders who paved the way: leaders like President Kennedy, who inspired us to push the boundaries of the known world and achieve the impossible; leaders who not only invested in our scientists, but who respected the integrity of the scientific process.

Because the truth is that promoting science isn't just about providing resources—it's about protecting free and open inquiry. It's about ensuring that facts and evidence are never twisted or obscured by politics or ideology.

It's about listening to what our scientists have to say, even when it's inconvenient—especially when it's inconvenient. Because the highest purpose of science is the search for knowledge, truth and a greater understanding of the world around us.

That will be my goal as President of the United States. We will seek to draw on the power of science to both meet our challenges across the globe and revitalize our economy here at home.

I am confident that if we recommit ourselves to discovery; if we support science education to create the next generation of scientists and engineers right here in America; if we have the vision to believe and invest in things unseen, then we can lead the world into a new future of peace and prosperity.

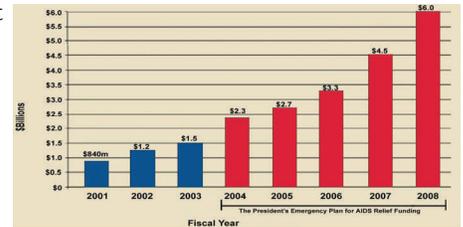
(Barack Obama is president of the United States. This column is condensed from his radio address to the nation Dec. 20, 2008. <http://tinyurl.com/8tgukp>)

Global Health Briefs

Fifth annual PEPFAR report released

The fifth annual report of the President's Emergency Plan for AIDS Relief says the program will continue to address implementation research in the future through its Public Health Evaluation

unit. "Because of its size and scope, PEPFAR offers unique opportunities to address and resolve issues related to the implementation of scientifically sound, cost-effective programs," the report said. <http://tinyurl.com/9xxqjs>



Federal PEPFAR spending

Unicef: Maternal death rates too high

The average lifetime risk of a woman dying from complications related to pregnancy or childbirth in a less-developed country is 300 times greater than in an industrialized country, says Unicef. "No other mortality rate is so unequal," it says, pegging the number of such deaths at about 1,500 a day. For the executive summary of "The State of the World's Children 2009: Maternal and Newborn Health," visit <http://tinyurl.com/6tbpyw>



Photo: Unicef

Kids are new face of Cambodian AIDS



Photo by World Bank

"Children are the new face of Cambodia's HIV/AIDS prevention efforts," reports the *Phnom Penh Post*, based on new statistics from 2008, showing "unchecked mother-to-child transmission." In the first nine months of 2008, more than 2,900 children received antiretroviral drugs, compared to 1,800 children in all of 2007, said Dr. Mean Chi Yun, director of the National Center for HIV/AIDS, Dermatology and STDs. <http://tinyurl.com/8776jy>

Progress made against two diseases

A worldwide effort to eradicate Guinea worm disease is 99.7 percent successful, according to data released by the CDC. Only Ethiopia, southern Sudan, northern Ghana and eastern Mali still are reporting cases.

The Bill & Melinda Gates Foundation, Rotary International, the United Kingdom and Germany have committed \$630 million to eradicate polio, which still persists in Afghanistan, India, Nigeria and Pakistan.



Photo: Unicef

Clean water pumped in Niger reduced Guinea worm disease.

PEOPLE

Zerhouni joins Gates, Lasker foundations



Former NIH Director **Dr. Elias A. Zerhouni** has joined the Bill and Melinda Gates Foundation as a senior fellow to help identify challenges in global health. "Doctor Zerhouni has an extraordinary record of championing breakthrough science that leads to tangible health benefits for people in need," said Dr. Tachi Yamada, president of the foundation's Global Health Program. Zerhouni also has been elected to the board of the Albert and Mary Lasker Foundation, which presents the prestigious Lasker Awards recognizing the world's leaders in basic and clinical medical research and individuals with outstanding public service.

First lady of Senegal tours Clinical Center

Viviane Wade, the first lady of Senegal, toured the NIH Clinical Center recently. Presentations, including one by Fogarty's **Dr. James Herrington**, focused on the burden of cancer in Africa, an overview of Fogarty and the National Cancer Institute, cancer control planning and affordable cervical cancer screening in Senegal.



Syrian tobacco research grantee cited



The Syrian Center for Tobacco Studies, created with a Fogarty grant in 2002, has won an award as the Best Medical College/Institute or Center in the Arab world. The award is sponsored by Sheikh Hamdan bin Rashid Al Maktoum, the deputy ruler of Dubai, to provide an incentive for the development of research and health education in the Arab world. The main grantee is **Dr. Wasim Maziak** of the University of Memphis, who heads the

Center, which collaborates with Virginia Commonwealth University, Aleppo University and the Syrian Society Against Cancer. Each of three winners is awarded about \$83,000.

Fogarty's Liu featured in WHO Bulletin

Fogarty program officer **Dr. Xingzhu Liu** was featured in a recent issue of the *Bulletin of the World Health Organization* for his work as a "barefoot doctor" in rural China during the Cultural Revolution. The term refers to the young rural doctors who provided primary care with few medical resources at hand. In the article, Liu said short-term training in specific areas of primary and preventive health can be a model for low-income regions. <http://tinyurl.com/7gtmdh>



Gardner a global health ambassador

Dr. Pierce Gardner, a medical professor at Stony Brook University and a long-time Fogarty adviser, is one of 25 leading experts named as advocacy "ambassadors" by the Paul G. Rogers Society for Global Health Research, an affiliate of Research!America.



Among other current or former Fogarty grantees or collaborators named as global health ambassadors include: **Dr. Barry Beaty**, Colorado State University; **Dr. David Bloom**, Harvard School of Public Health; **Dr. Daniel G. Colley**, University of Georgia; **Dr. Patricia Hibberd**, Tufts University; **Dr. Adnan A. Hyder**, Johns Hopkins University; **Dr. James W. Kazura**, Case Western Reserve University School of Medicine; **Dr. Richard R. Love**, The Ohio State University; and **Dr. Steven G. Reed**, Infectious Disease Research Institute.

Bioethicist calls for U.S. policy change

Fogarty bioethics grantee **Dr. Eric M. Meslin** co-authored an article in the Jan. 3 issue of *The Lancet* calling for the administration to suspend a ruling from last year scrapping U.S. participation in the 1964 Declaration of Helsinki that established global ethical standards for human research. Last August, the United States chose to adopt principles of the International Conference on Harmonization's Guideline for Good Clinical Practice, which Meslin and his co-authors said is "a less morally authoritative document."



Breman recounts role in Ebola outbreak

Fogarty Senior Scientific Advisor **Dr. Joel Breman** was quoted in the *New York Times* obituary of Dr. William T. Close, who with Breman and others, successfully fought the 1976 outbreak of Ebola hemorrhagic fever in Zaire (now Congo.) Close, 84, died in Wyoming in January a week after making his last house call.



According to the *Times*, Breman and a colleague from CDC were flying to the country when Close overheard their discussion and asked to join in. Breman's reminiscences also were published in the *Los Angeles Times*, *Washington Post* and *Denver Post*. He was also interviewed by the BBC's "The World." <http://tinyurl.com/cbmw52>

FUNDING OPPORTUNITIES

Program	Contact	Receipt date	Eligibility
Informatics Training for Global Health (ITGH) (D43)	Flora Katz, Ph.D. katzf@mail.nih.gov	April 3, 2009	Foreign institutions that train researchers in informatics to build capacity for global health research in low- and middle-income countries through collaborative or direct awards. The primary foreign institution must have two active NIH research or research training awards and an additional two NIH or equivalent research or research training awards. Any foreign institution may participate in only a single application.
Brain Disorders in the Developing World (BRAIN – Non AIDS) (R01) and (R21)	Kathleen Michels, Ph.D. michelsk@mail.nih.gov	May 15, 2009	Collaborative researchers in capacity-building projects on nervous system disorders relevant to low- and middle-income countries.
Fogarty International Research Collaboration – Basic Biomedical Research Award (FIRCA-BB) (R03)	Kathleen Michels, Ph.D. FIRCA@nih.gov	May 28, 2009	Scientists with an active NIH-funded research grant and who want to initiate/extend international research collaborations in biomedical research. NOTICE: Applications are encouraged for research collaboration with investigators in sub-Saharan African countries.

 Visit: www.fic.nih.gov/funding

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NIH recovery funding

The economic recovery act designates \$10.4 billion to the NIH, most of it for new research to be conducted in the next two years. (See p. 1). Details are available at www.nih.gov and www.fic.nih.gov.

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Global Health Matters is serving an ever more diverse readership within the expanding global health community—grantees, trainees, students, scientists in other disciplines, government agencies, sister Institutes/Centers, policy makers and the public.

To help us serve you better, please take a moment to let us know what we do well and what we could be doing to keep you better informed.

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