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Collins says global health a top priority

New NIH Director Dr. Francis Collins singled out global health as one of five areas he wants to focus on during his tenure, citing it as an example of “soft power” the United States cannot afford to pass up.

In his inaugural address to NIH staff Aug. 17, Collins, former director of the National Human Genome Research Institute, said global health research “should be a conversation” with other countries, but not one in which “the great United States tells the world what the answers are without listening to their experiences.”

He listed global health—along with technology, translation, outcomes research and funding—as “areas of opportunity” he is interested in pursuing.

Collins said, “The ability of NIH to play a major role in U.S. soft power seems like an opportunity we should not pass up,” a chance to be “more of a doctor to the world” than a “soldier to the world” by helping control both infectious and noncommunicable diseases. “And we should, in the process of doing so, make sure we’re focusing not just on doing research in those countries but



Dr. Francis Collins, the new director of the NIH, says global health will be one of his five priorities.

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Recovery Act funding supports 23 research fellows

Funding from the American Recovery and Reinvestment Act is helping Fogarty to create jobs for early career scientists and increase the ranks of researchers and clinicians working in global health.

The \$3 million in funding over the next 18 months is enabling the Center to support 23 additional participants in its Clinical Research Training Scholars and Fellows Program.

The ARRA funds were awarded to Vanderbilt University’s Institute for Global Health, which administers the scholars program managed by Fogarty. The initiative provides a year of mentored clinical research training at NIH-funded research sites in the developing world, designed to encourage the recipients to establish careers in global

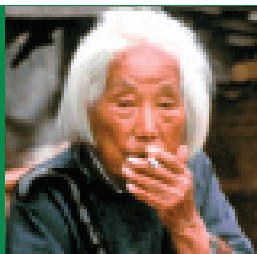
health-related clinical research. (See p. 4)

Among the new positions are 13 research fellows and 10 advanced research fellows who will be able to continue their projects for a second year. The fellows will be employees of Vanderbilt University, although they come from medical schools and universities across the country.

“Post-doctoral researchers are the scientific innovators of the future and are vulnerable during this economic downturn,” said Fogarty Director Dr. Roger I. Glass. “By creating these jobs, we can ensure that a generation of young students and new ideas can develop to help us address the health problems of the future, and it will keep the United States competitive in the biomedical research arena.”

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Focus:



Chronic diseases

Illnesses caused by aging, lifestyle and the environment amount to a global epidemic. The NIH has launched two research and training programs to combat them. **Special section, pp. 7-10**

Center scientists model path of rotavirus outbreaks

New vaccines have the potential to prevent or temper epidemics of the childhood diarrhea-causing disease rotavirus, protect the unvaccinated and raise the age at which the infection first appears in children, Fogarty and other federal researchers reported recently.

The findings were based on changing patterns of rotavirus

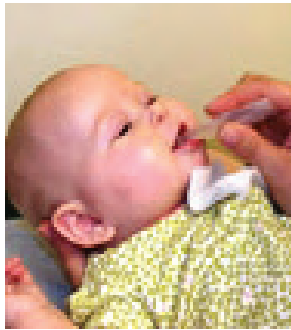


Photo courtesy CDC

transmission in the United States, where the disease is rarely fatal, and they have implications for combating epidemics in other countries where the death toll is much higher.

The research, published in the journal *Science*, is based on mathematical modeling that takes into account regional birth rates and predicted vaccination levels and effectiveness. The

Widespread use of rotavirus vaccine has dramatically reduced emergency room visits.

model suggests that when 80 percent or more of children in a given population are vaccinated, annual epidemics may occur on a less regular basis and more unvaccinated children will be protected.

Data from 2007 and 2008, when vaccination first reached appreciable coverage levels in the United States, validate the model's predictions.

The study showed for the first time that the timing of rotavirus epidemics is dependent on the birth rate in the population because they are driven by infants who have never been infected before. In the United States, winter outbreaks would typically occur sooner in the higher birth rate states of the Southwest and later in the Northeast, where birth rates tend to be lower.

But with the introduction of two vaccines, the first in 2006, rotavirus outbreaks may become less frequent and less pronounced. They also may make their first appearance in children when they are older than the previous norm of less
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NIH director calls global health a top priority

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helping them develop their own research capacity for the longer term.”

“He is a global thinker and global health research is clearly in his vision as a new and challenging frontier of biomedical science,” says Fogarty Director Dr. Roger I. Glass.

Before leaving NHGRI in 2008 after 15 years, Collins was manager of the International HapMap Project, a private-public research collaboration to discover, describe and publicly map common variations in the human genome.

He also was an originator of the global Cancer Genome Atlas, which applies gene sequencing technology to better understand the molecular basis of cancer.

Collins told NIH staff gathered at the Natcher auditorium on his first day in office about his experience volunteering at a hospital in Nigeria earlier in his career, calling it “one of the things that had the greatest influence” on his approach to health research.

“I certainly got exposed to the challenges of trying to practice medicine in a way that’s very different than what you’re used to here and certainly got familiar with diseases we don’t see here that are really quite devastating

in their impact.”

In answer to a question about international collaboration, Collins said, “It should be a conversation because otherwise it would be seen as the great United States telling the rest of the world what the answers are without having necessarily lived their experience.

“... The best thing we can do if we’re going to be serious about global health ... and the people at Fogarty and some of the institutes have done this quite beautifully ... we would not want to do this alone and we would do this with some of the philanthropies.”

Collins said, “There seems to be great deal of enthusiasm in ratcheting up” global health research and training. “The science is more compelling than it might have been a few years ago in terms of what we might do, and the needs are great. ... This is a great time to be promoting that.”

Collins also praised Fogarty’s passport and visa section, specifically naming Sandra Fuentes, Marcia Smith and Jeff Chen as “the reason that NIH is so special” and citing their great determination and dedication to get visas for scientists who are such an important part of our community.” (See p. 15).

His remarks can be viewed at <http://videocast.nih.gov>

Federal health officials vigilant against fall pandemic

Researchers at Fogarty's epidemiology division and at the National Institute of Allergy and Infectious Diseases are working to identify patterns and solutions to a potential H1N1 autumn flu pandemic centered on schools.

"We are doing everything possible to monitor this virus and protect the American people," Health and Human Services Secretary Kathleen Sebelius said at a flu summit for regional, state and local leaders held on the NIH campus in July.

Joined by Department of Homeland Security Secretary Janet Napolitano and Education Secretary Arne Duncan, Sebelius outlined federal efforts to meet the challenge.

The measures, including early clinical trials of a vaccine against A/H1N1 and federal aid to localities for preparedness, are based on a four-pronged strategy of surveillance, mitigation, vaccination and communication, she said.

Based on early post-outbreak work by Fogarty's Dr. Mark Miller and colleagues, Sebelius acknowledged that "young people have been disproportionately impacted by this virus."

In a *New England Journal of Medicine* article Miller and co-authors reported that in the new epidemic that first appeared this spring in Mexico "sharp increases were



Photo by James Gathoney, CDC

Young people, like this 13-year-old, are one of the high priority target groups for vaccination against the H1N1 virus.

noted in the infection and mortality rates of people age 5 to 59, who represented 87 percent of deaths, compared to 17 percent during the past three normal flu seasons in Mexico."

"Given the relatively rapid global spread of this newly described pathogen, early identification of risk groups for severe pneumonia can aid in prioritizing vaccines and

antivirals in the likely setting of limited supplies," they said.

The authors suggest that exposure to previous pandemics by people born before 1957 may confer some protection from the H1N1 virus, adding that "the age-stratification profile of risk outlined from this dataset provides a possible basis for control strategies based on the biological plausibility of partial protection from earlier exposure."



NIAID Director Dr. Anthony Fauci is optimistic that the H1N1 flu virus will not become more potent this fall.

An H1N1 strain, popularly called "swine flu," circulated in the United States in 1976. "However, unlike 1976, epidemiologic evidence from this outbreak indicates continuous chains of person-to-person transmission," the article said. "While humans have previously been exposed to the A/H1N1 sub-type, this novel virus has made a host-species jump with sustained human to human transmission."

By mid-summer H1N1 had spread to even the most remote places on Earth, including Afghanistan, the Himalayas, Sudan and numerous vacation destination islands.

NIAID Director Dr. Anthony Fauci announced in late July the creation of a network of medical research institutions in the United States to conduct quick clinical trials of potential vaccines based on a "seed virus" distributed to manufacturers soon after the 2009 H1N1 was isolated.

Initial studies will look at whether one or two 15 microgram doses of H1N1 vaccine are needed to induce a potentially protective immune response in healthy adult volunteers (age 18 to 64) and elderly people (65 and older). Researchers also will assess whether one or two 30 microgram doses are needed.

The doses will be given 21 days apart, testing two manufacturers' vaccines. If early information from those trials indicates that these vaccines are safe, similar trials in healthy children (age 6 months to 17 years) will begin.

A concurrent set of trials will look at the safety and immune response in healthy adult and elderly volunteers who are given the seasonal flu vaccine along with a 15-microgram dose of 2009 H1N1 vaccine.

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Eclectic company: scholars program broadens view

In its sixth year, the Fogarty International Clinical Scholars/Fellows program has expanded the horizon of global health research training to encompass the rising risks of chronic diseases.

“It’s changed in character,” says Fogarty Director Dr. Roger I. Glass. “In a short time, interest in global health has broadened beyond infectious diseases to the many



From left, Dr. Yan Li of China, Dr. Magaly Blas of Peru, Dr. Guillermin Melendi of Argentina and Dr. Peggy Martinez Esteban of Peru are prepared to present summaries of their projects to global health experts from other NIH institutes and centers.

noncommunicable diseases that have already become the leading causes of death and disability in many low- and middle-income countries.”

He notes that enrollment in the program expanded to include trainees in cardiology, cancer, trauma surgery, dentistry, veterinary medicine, pediatrics, ophthalmology and genetics. More than half the scholars and fellows are women.

From induced sputum for tuberculosis diagnosis (Dr. Jonny Peter of South Africa) to a fatal fungus (Dr. Thuy Le of Vietnam), from dietary salt reduction strategies (Dr. Yan Li of China) to prevention of traffic fatalities in Malawi (Dr. Jonathan Samuel of the United States), the fellows program has, indeed, taken on a more eclectic nature.

The program, supported by Fogarty, 14 other components of the National Institutes of Health and the American Recovery and Reinvestment Act, is administered by Vanderbilt University’s Institute for Global Health and the Association of American Medical Colleges.

It has paired 160 U.S. third-year medical students with an equal number of counterparts at 29 sites in 17 developing countries and, in the two years of postdoctoral awards, supported 26 U.S. and 30 international fellows in their

independent research in 14 countries.

“This is one of the signature programs at Fogarty,” Glass recently told a group of global health advocates from across the NIH.

“Our hope is that this is really a partnership with all of the other institutes because if (the trainees) are good researchers, they will come to you in the future as grantees.”

Fogarty’s Dr. Pierce Gardner, a consultant to the program, likens the idealism of this year’s crop of 88 trainees to that of civil rights workers in the 1960s.

Global health “is on the front pages like never before,” he says, drawing agreement from Fogarty fellow Dr. Gerald Bloomfield, who notes, “We’re no longer looking *just* in our own back yards. You can’t see real poverty with your own eyes and ever see things the same again.”

Gardner is proud of the recent crop of scholars and fellows for delaying loan repayments and possibly forgoing highly compensated careers, noting wryly, “Experience in global health ruins people for Park Avenue practices.”

Ten of the foreign research sites hosting scholars and fellows are also newly designated centers for the study of chronic diseases by the National Heart, Lung and Blood Institute, in conjunction with UnitedHealth Group’s Chronic Disease Initiative. (See p. 9)

For a list of the 88 Fogarty scholars and fellows, visit <http://tinyurl.com/mzewb8>



Fogarty Director Dr. Roger I. Glass chats with Dr. Rosario Viveka, who plans to study the role of food in transmission of enteric infections in his native India. Glass says the six-year-old scholars and fellows program has changed character as the burden of disease has broadened to include chronic illnesses.

Refugee returns to Vietnam in hope of saving lives

Her father was imprisoned by the communists, her older brother became one of the “boat people” fleeing Vietnam in the early 1980s, and Thuy Le spent the first 17 years of her life in Ho Chi Minh City (once known as Saigon) before the U.S. government helped her family emigrate to Arizona.

Now, after training at the University of Arizona, Tufts and Yale, Dr. Le feels “compelled to bring something back to my country.”



Dr. Thuy Le is going back to Vietnam to apply her U.S. training where she grew up.

As one of Fogarty’s International Clinical Research Fellows, Le will spend the next year in the former capital of South Vietnam conducting a randomized controlled trial comparing the efficacy of two drugs—one expensive and one not—in treating a Southeast Asian fungus that attacks patients with compromised immune systems, particularly those with HIV/AIDS.

Growing up in Vietnam, she says, “I witnessed poverty, poor sanitation, overcrowding and lack of resources, and that led me to the field of infectious diseases.”

She is working at the Oxford University Clinical Research Institute, a facility in Vietnam sponsored by the Wellcome Trust of Great Britain, under Fogarty sponsorship.

During a return visit in 2003, Le was shocked by the prevalence of HIV/AIDS, the stigma attached to it and the lack of treatment.

Such patients now are “doing fantastic,” she says, due to the President’s Emergency Plan for AIDS Relief.

But those not on treatment are subject to 100 percent fatality rates for the systemic fungus *Penicillium marneffei*, whose origin is either in the soil or among bamboo rats.

Her trial will compare low-cost oral administration of the drug itraconazole versus the standard and much more expensive intravenous use of amphotericin B, which has significant side effects.

“The work is intellectually interesting, but at the same time it gives me personal meaning to bring the knowledge that I have learned in America to contribute to the medical field in Vietnam,” she says.



Photo by Curt Camerick, courtesy World Bank

The poverty and disease that Dr. Thuy Le saw in post-war Vietnam motivated her to study infectious diseases. Now, she is back in her native country as a Fogarty fellow working on treatment for a regional fungus.

“I felt privileged when I had a chance to come to the United States, and I felt compelled to bring something back to my country.”

Although the fungus she is studying is endemic to Southeast Asia, “I think it is very important for the U.S. to fund this kind of research.”

It is such a great opportunity for us to see diseases we don’t see in the United States. And keep in mind that diseases are traveling. We should look at it as a global issue.”

Another reason for supporting research like this for young American investigators is “because if we don’t do this early in our careers, we’re not likely to do it later ... I wouldn’t be able to do this without Fogarty.”

Fellows at a glance

Dr. Thuy Le

Born: Ho Chi Minh City (Saigon)

Hometown: Tucson.

Age: 36

Degrees: B.S. in molecular and cellular biology, M.D., University of Arizona.

Residency: Tufts University

Current: Infectious diseases fellow, Yale University.

Training site: Oxford University Clinical Research Center, Ho Chi Minh City

New career trajectories—studying disease overseas

Among the post-doctoral fellows selected for this year's Fogarty international clinical research training program are two cardiology researchers whose interest in global health sprang in part from spiritual roots.

Neither Dr. Mark Huffman, who will be going to New Delhi, nor Dr. Gerald Bloomfield, who will be training in Kenya, knew each other before July's orientation on the NIH campus, but they have a common interest in figuring out the causes of cardiovascular disease in countries with emerging economies.

While they could progress comfortably in their fellowship programs (Huffman at Northwestern University and Bloomfield at Duke University) and become highly compensated cardiology subspecialists, their motivation exemplifies the mission of the Fogarty International Clinical Research Scholars and Fellows program, now in its sixth year.

Training in resource-poor countries also will pay off for resource-poor areas in the United States, Huffman predicts, observing that cardiac care in pockets of New Delhi may equal or surpass the quality of care in pockets of the United States.

His motivation is both academic and personal, says Huffman, who was inspired as a child by the missionary work of Dr. Tom Dooley in Southeast Asia, who also was from St. Louis and went to the University of Notre Dame.

Huffman praises the Fogarty program for offering "a chance to propel my career beyond its previous trajectory" and to network with other trainees and with mentors, some of whom are giants in their fields.

Bloomfield, too, had an inspiration for his current work; visiting Kenya as part of a Christian mission in 2006, where "I saw more chronic cardiovascular disease than I



Dr. Gerald Bloomfield, a cardiology fellow, will be taking his family, including 3-year-old Josiah, to Kenya for a year while he investigates the epidemiology of heart failure.

should see."

In both India and Kenya, rising incomes and adoption of Western lifestyles are combining to lengthen life expectancy and, at the same time, increase stress, smoking and obesity—suddenly making chronic diseases just as important in the developing world as infectious diseases.

"The problem in Africa is we don't know a lot," says Bloomfield. "We don't know if (chronic illness) is along class lines. It was believed in the 1970s that Africans were immune to chronic heart disease. Look at the dietary habits now. Back then, women walked from town to town to get news. Now everyone has phones."

In India, says Huffman, the burden of cardiovascular disease becomes apparent at a younger age than in the United States.

He will be collecting data for a new Web-based registry in order to determine the extent of heart failure, with the expectation the information will lead to guideline-based therapy based on factors unique to India.

Using new portable diagnostic tools, Bloomfield likewise hopes to collect pilot data on the burden of atherosclerosis among heart failure patients in order to establish a database to guide future larger studies.



Dr. Mark Huffman will conduct his fellowship research in cardiovascular disease in India.

Fellows at a glance

Dr. Gerald Bloomfield

Hometown: Brooklyn.

Age: 34

Degrees: A.B. in psychology, Princeton University, MPH, M.D., the Johns Hopkins University

Residency: The Johns Hopkins University (chief).

Current: Cardiology fellow, Duke University

Training site: Moi Univ. School of Medicine, Eldoret, Kenya

Dr. Mark Huffman

Hometown: St. Louis

Age: 32

Degrees: B.S., biology, Notre Dame, MPH, M.D., Tulane

Residency: University of Michigan Health System (chief)

Current: Cardiology fellow, Northwestern University.

Training site: All India Inst. of Medical Sciences, New Delhi

Chronic diseases: a 21st century epidemic

Noncommunicable diseases—primarily cardiovascular, lung, some cancers and type 2 diabetes—account for more than half of deaths worldwide, of which 80 percent occur in low- and middle-income countries. Each year, more than 35 million people worldwide die from chronic noncommunicable diseases.

Ironically, as scientific advances have begun to blunt the growth of infectious disease epidemics in developing countries and people live longer and become more productive, they run the risk of succumbing to chronic diseases often associated with the better off.

“Aging has changed the research portfolio for global health in the 21st century,” says Dr. Roger I. Glass, director of the Fogarty Center, which is partnering with other institutes at NIH to apply knowledge about cancer, cardiovascular disease, lung disease and diabetes in low- and middle-income countries.

“These diseases affect everyone, everywhere,” Glass explains. “To make real progress is going to take international collaboration—bringing evidence about prevention and treatment to developing countries while at the same time learning about how others are addressing diseases we have at home.”

In June, Fogarty became a founding member of the Global Alliance for Chronic Diseases, a collaboration among national health agencies in some of the biggest countries in the world. The Center also is making initial grants in its Millennium Promise Awards program to train researchers in chronic diseases. In addition, Recovery Act grants are helping support American Fogarty fellows researching cancer, heart disease and trauma abroad. (See p. 1)

The GACD comprises the six world agencies that supply about 80 percent of all public research funding in the world: the NIH represented by the National Heart, Lung and Blood Institute and Fogarty, Australia’s National Health Medical Research Council, Canadian Institutes of Health Research, China’s Ministry of Health in association with the Chinese Academy of Medical Sciences, the Indian Council of Medical Research and the United Kingdom’s Medical Research Council.

Its stated purpose is to coordinate research activities on



Cigarettes in Indonesia are among the cheapest in the world and are a prime cause of rising rates of chronic diseases in the developing world.

Photo by David Snyder

prevention and treatment of chronic diseases on a global scale, and “collectively seek to identify common approaches to develop the evidence base needed to guide policy, develop and share best practices for fighting chronic diseases and foster a sustainable and significant reduction of illness, disability and death around the world.”

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About chronic diseases

- Chronic diseases—mainly cardiovascular diseases, diabetes, cancer and chronic respiratory diseases—caused an estimated 35 million deaths in 2005.
- Chronic diseases account for 60 percent of all deaths around the world.
- Of these deaths, 80 percent occur in low- and middle-income countries.
- About 16 million people who die each year from chronic diseases are under 70 years old.
- Total deaths from chronic diseases are projected to increase 17 percent between 2005 and 2015.
- Every year, 4.9 million people die as a result of tobacco use, 2.6 million people die as a result of being overweight or obese, 4.4 million people die as a result of high cholesterol and 7.1 million people die as a result of high blood pressure.

World Health Organization

Fogarty program aids study of chronic illnesses

The first awards in Fogarty's new program to study chronic diseases in developing countries will train researchers in Asia, Africa, Latin America and the Middle East.

Seven awards totaling \$7.3 million over five years will create capacity for local scientists and institutions to develop long-term training programs. In addition, two planning grants will provide \$108,000 for two years.

Each project will be conducted in partnership between a U.S. university and foreign institutions.

- Vanderbilt University is establishing a program to build expertise in cancer, heart disease and diabetes research in China.
- Yale University is training scientists to handle the burgeoning rate of chronic diseases in China, emphasizing cancer epidemiology and biostatistics.
- The University of Texas Health Sciences Center at San Antonio is training researchers in Costa Rica to investigate the genetics of schizophrenia, bipolar disorder and progressive dementias.
- The University of Pittsburgh is working with counterparts in India and Egypt to train doctoral



A Sri Lankan woman has her blood pressure checked by a health education nurse. Heart disease is increasing in countries once thought of as burdened only by infectious diseases.

Photo by Dominic Sansoni, World Bank

students to use data from a combined population of more than 1 billion to map genes involved in schizophrenia and bipolar disorder.

- The Mount Sinai School of Medicine New York is training scientists in environmental health in Costa Rica, Mexico, Puerto Rico and Spain.
- The University of Michigan is training lung disease researchers in South Africa and Zimbabwe.
- Emory University is helping build a cadre of young health scientists in India by offering interdisciplinary training in epidemiology and biostatistics to benefit future research in cancer, heart disease, diabetes and obesity.

Fogarty also awarded two planning grants for training in cancer research in Morocco and stroke prevention in Uganda.

The National Institute of Environmental Health Sciences, the Eunice Kennedy Shriver National Institute of Child Health and Human Development and the National Institute of Mental Health are partners with Fogarty in the grants.

The deadline for applying for 2010 awards is Sept. 29. For more information, visit <http://tinyurl.com/nyv5sq>

Noncommunicable diseases called epidemic

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Other funders, including philanthropies, will be invited to join, and the GACD will consider the World Health Organization 2008-2013 action plan for setting priorities to combat chronic diseases.

"In reality, low- and middle-income countries are at the center of both old and new public health challenges," the WHO plan said.

"While they continue to deal with the problems of infectious diseases, they are in many cases experiencing a rapid upsurge in chronic disease risk factors and deaths, especially in urban settings."

The Global Alliance priorities are:

- Large-scale international clinical trials of the polypill for preventing heart disease
- Public health measures for the control of obesity
- Description of major risk factors and the development of control measures for chronic obstructive airways disease
- Implementation research of interventions to address the above three priorities in these countries.

NHLBI launches chronic diseases training network

A worldwide network of research and training centers will build institutional and community capacity in low- and middle-income countries to prevent and control chronic diseases under the aegis of the National Heart, Lung, and Blood Institute and UnitedHealth Group.

The NHLBI is awarding contracts worth more than \$34 million to set up the network, consisting of centers of excellence in nine countries, each led by a research institution and paired with an academic institution in a developed country.

The institute will fund centers in Bangladesh, China, Guatemala, India (Bangalore and New Delhi) and South Africa. These centers also are supported by United Health Group's Chronic Disease Initiative. The NHLBI is funding three additional centers in Argentina, Kenya and Peru and United Health CDI funds two centers at the U.S.-Mexico border and in Tunisia.

"Scientific discovery knows no boundaries—and neither do chronic diseases, which are increasingly affecting the

Chronic diseases take economic toll, too

It is far easier to quantify morbidity and mortality from chronic diseases than it is to hang a dollar sign around the economic effects of cancer, heart disease, stroke and diabetes.

But economists say the financial cost to a country makes prevention of noncommunicable diseases critical for the developing world.

"The cost of chronic diseases ... is significant and sizable, ranging from 0.02 percent to 6.77 percent of a country's gross domestic product," according to a recent Oxford Health Alliance report *Chronic disease: an economic perspective*, one of whose authors was Dr. Rachel Nugent, a former Fogarty program officer and now director of health and economics at the Population Reference Bureau.

"Overall, a fair amount of evidence exists to conclude that there are important economic consequences of chronic disease—important for the individual and his/her family but also potentially important for the economy at large," the report said.

"At the same time, there are severe gaps in the evidence

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young and the elderly, the rich and the poor, and every ethnic group in every nation," said NHLBI Director Dr. Elizabeth G. Nabel.

The network was announced in the journal *The Lancet* by Nabel; Simon Stevens, president, Global Health, at UnitedHealth Group; and Dr. Richard Smith, director of UnitedHealth CDI.

"Rigorous research undertaken in a collaborative fashion at globally diverse sites will also enrich our basic understanding of disease causation and, in particular, of the interplay between biological, environmental, and sociocultural contributors to public health," they wrote.

"By developing infrastructures for research and training, the centers will apply their considerable expertise to enhance local capacity to conduct population-based or clinical research to monitor, prevent, or control chronic cardiovascular and lung diseases," said Dr. Cristina Rabadán-Diehl, director of the NHLBI program.



Dr. Elizabeth G. Nabel

The centers will conduct research tailored to their local or regional needs to reduce the burden of chronic diseases, including heart disease, heart failure, stroke, diabetes, and chronic obstructive pulmonary disease.

Related risk factors such as high blood pressure, high blood cholesterol, obesity and environmental exposures that contribute to COPD also will be emphasized, as will the centers' collaboration with existing health care systems.

The NHLBI is awarding five-year contracts totaling almost \$26 million to the sites and the developed nation partner. In addition, the NHLBI is awarding a six-year \$8.8 million contract to Westat of Rockville, Md., to serve as the administrative coordinating hub.

Each site will foster the training and mentoring of scientists, physicians, other health professionals and community health workers in collaboration with their partner institutions.

Applicants were required to be a pre-approved Fogarty International Clinical Research Scholars or Fellows site.

For a list of the centers and more information, visit <http://www.nhlbi.nih.gov/about/globalhealth/>

Diseases of aging on rise

Treating chronic diseases around the world is a good news/bad news challenge. Modern medicine has increased longevity everywhere but as people are living longer they are increasingly burdened by diseases of aging.

A Census Bureau report commissioned by the National Institute of Aging finds that in the next 10 years, for the first time there will be more people older than 65 than there are children under 5.

The number of people worldwide 65 and older is estimated at 506 million as of mid-2008 and by 2040, that number will hit 1.3 billion, a doubling in the proportion of older people from 7 percent to 14 percent.

“While there are important differences between developed and developing countries, global aging is changing the social and economic nature of the planet and presenting difficult challenges,” says Dr. Richard Suzman, director of NIA’s Division of Behavioral and Social Research.

“Population aging represents, in one sense, a human success story of increased longevity. However, the steady, sustained growth of older populations also poses many challenges to policymakers,” the study says, citing “worldwide improvements in health services, educational status and economic development” as other reasons for the senior boom.

“Most developed nations are among the demographically oldest in the world today, and some may have more grandparents than young children before the middle of the 21st century,” says the report.

Highlights from An Aging World: 2008

- By 2040, developing countries are likely to be home to more than 1 billion people 65 and over, 76 percent of the projected world total.
- Globally, the number of people over 80 is projected to increase 233 percent by 2040, compared with 33 percent for the total population of all ages.
- One-third of those over 65 are in China and India.
- Twenty percent of women 40 to 44 in the United States in 2006 had no biologic children, raising questions about the provision of care.

For more information, visit <http://tinyurl.com/lbh68q>



Disease-conscious street vendors in Halong, Vietnam, wear face masks to block air pollution.

Photo by Curt Canemark, courtesy of World Bank

Chronic diseases add to nation's economic woes

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that call for more research into the economic consequences of chronic disease, in particular for developing countries.’

The long-held idea that it affects mainly the most prosperous countries, “may be partly responsible for the lack of research into the economic implications and public policy relevance of chronic disease,” the authors said, noting the “significant burden on both the poor—across countries and within countries—and those of working age.”

But it is not only low-income countries that need to factor in chronic diseases as an economic drag, the authors say. “To the extent that ... evidence points to future impacts in developing countries, it may function as a reminder to policymakers to act now to stem the growing burden of disease ... as a means to promote economic development.”

“Because there is little economic incentive for the private sector to conduct such research, it could be an excellent investment for the public sector as the burden of chronic diseases grows with aging populations and the factors contributing to many chronic chronic diseases spread around the world.”

The strongest link between chronic diseases and human behavior is in smoking, particularly in low- and middle-income countries where the poor smoke more and in female obesity, also associated with poverty. The report found that tobacco-cessation programs, taxes on tobacco, public information campaigns and pharmacological interventions can be cost effective.

To read the report, visit <http://tinyurl.com/n7lu8w>

U.S. partnering with other nations on global health

The G8 Summit of international leaders reaffirmed a commitment to address the health needs of the world's most vulnerable people and called for developing capacity in sub-Saharan Africa to do just that.

President Obama underscored that priority when the Summit in Aquila, Italy, ended and he traveled to Ghana to visit a clinic focused on maternal health.

Referring to the administration plan to spend \$63 billion over six years to fight global diseases, he told the Ghanaian parliament: "... The true sign of success is not whether we are a source of perpetual aid that helps people scrape by—it's whether we are partners in building the capacity for transformational change. ... We won't confront illnesses in isolation—we will invest in public health systems that promote wellness and focus on the health of mothers and children."

The G8 nations declared their intention to "address substantial gaps in knowledge about how to manage, organize and deliver health care in Sub-Saharan Africa through a variety of strategies, including by developing networks of researchers and by working with our African

partners to establish a consortium of interdisciplinary centers of health innovation."

The G8 meeting and Obama's trip highlighted a flurry of activity in recent months on global health issues, including Secretary of State Hillary Clinton's own visit to Africa,



Photo by Pete Souza, White House

President Obama visits a clinic in Ghana to emphasize U.S. support for maternal and child health care in sub-Saharan Africa.

Health diplomacy in action

The United States recently signed international health agreements with:

Angola—for increasing the PEPFAR contribution to fight HIV/AIDS from \$7 million a year to \$17 million.

- Chile—for setting up a cancer registry and collaborating with the NIH on combating breast and gall bladder cancer.
- China—for the two countries to work together on noncommunicable, as well as infectious, diseases.
- India—for creation of a \$30 million endowment to be used for joint research and development, innovation, entrepreneurial and commercialization activities in science and technology.
- Russia—for more cooperation among scientific institutions on issues including chronic and infectious diseases, promoting healthy lifestyles, maternal and child health and global public health.
- South Korea—for strengthening existing medical research collaborations and beginning new ones.

where she announced a more than doubling of PEPFAR aid to Angola.

Earlier, the president agreed with Russia to establish a framework for more cooperation among scientific institutions on issues including chronic and infectious diseases, promoting healthy lifestyles, maternal and child health and global public health.

Clinton signed agreements for health research cooperation with China and India. The United States and India will create a \$30 million endowment to be used for joint research and development, innovation, entrepreneurial and commercialization activities in science and technology.

A new alliance between five Latin American countries and the National Cancer Institute and Fogarty began officially with a letter of intent signed with Chile.

HHS Secretary Kathleen Sebelius signed a pact with South Korea to strengthen existing medical research collaborations and begin new ones,

Also, South Korea and the National Institute of Allergy and Infectious Diseases renewed a 2003 cooperation agreement.

In his first remarks as new NIH director, Dr. Francis Collins said global health would be a top priority. The ability of NIH to play a major role in U.S. soft power seems like an opportunity we should not pass up," he said, (*See p. 1*)

NIH donates journals to Baghdad medical school

The NIH has gone the extra mile in helping rebuild the University of Baghdad Medical School by donating more than 5,000 linear feet of medical journals.

About 50,000 journals, with a subscription value of \$27 million, were being cleared from the shelves at the NIH Library in Building 10. Fogarty International Center—working closely with the Iraqi embassy, the United States Agency for International Development and International Relief and Development, the nongovernmental organization that arranged for the shipment to Iraq—facilitated the transfer of the periodicals.



Doris Hood, who works in the NIH Library in Building 10, prepares medical journals for shipment to Baghdad.

“Restocking the major medical library in Iraq will provide students, teachers and researchers access to the most up-to-date advances in medical research,” said Fogarty director Dr. Roger I. Glass.

“It fulfills in a unique way Fogarty’s mission to advance training and research in global health while building bridges to health professionals in resource-poor countries.”

Judy Levin, Fogarty’s program officer for the Middle East and North Africa, and Dr. Abdul Hadi Al Khalili, cultural attaché at the Iraqi embassy, were instrumental in brokering the transfer.

The Iraqi medical community is not yet able to access journals online, so the paper versions could be an effective interim solution for the rebuilding nation.

“We hope this great donation will be the inspiring nucleus for creating an Iraqi National Library of Medicine serving not only the Iraqi medical community but the whole region,” Al Khalili said.

Shipping the publications in 1,740 boxes was a large-scale effort involving NIH Library staff, contractors and movers.

USAID, a major partner in the U.S. government’s reconstruction effort in Iraq, paid the cost of the shipping.

Fogarty leads way on rotavirus research

continued from p. 2

than 5 years of age, according to the research.

The modeling and analysis were done by a team from Fogarty (including lead author Dr. Virginia Pitzer), the CDC, the Agency for Healthcare Research and Quality, Penn State, Princeton and George Washington.

“When you can observe the immediate effects of vaccination and compare them to what the model predicted, you have a head start on stopping this preventable disease in countries where rotavirus unnecessarily kills hundreds of thousands of children,” said Fogarty Director Dr. Roger I. Glass, one of the study authors.

“Rotavirus vaccines have rapidly and dramatically reduced hospitalizations and emergency room visits for gastroenteritis in American children,” said CDC investigator Dr. Umesh D. Parashar.

Virginia E. Pitzer, Cécile Viboud, Lone Simonsen, Claudia Steiner, Catherine A. Panozzo, Wladimir J. Alonso, Mark A. Miller, Roger I. Glass, John W. Glasser, Umesh D. Parashar and Bryan T. Grenfell. “Demographic Variability, Vaccination, and the Spatiotemporal Dynamics of Rotavirus Epidemics.” *Science* 17 July 2009: 290-294.

Fall flu outbreak of concern to NIH experts

...continued from p. 3

The H1N1 vaccine would be given to different sets of volunteers before, after or at the same time as the seasonal flu vaccine.

If early information from those studies indicates that these vaccines are safe, similar trials in healthy children (age 6 months to 17 years) will start.

In an interview with *nature.com*, Fauci was optimistic. “If you look at the molecular and genetic make-up of the virus from the very first isolates in early April compared to what we are seeing now ... it’s virtually an identical virus everywhere. So it doesn’t look like it is under pressure to mutate to a significant degree. We hope it stays that way for the autumn and winter season.”

Results are expected to be available weeks after the trials begin.

For more information, visit www.flu.gov

Fogarty, NIH involved in Alaska mental health study

Alaska's two senators are calling on the federal government to do more to address mental health concerns unique to their constituents, and Fogarty, with other components of the NIH, will be involved with the effort.

Dr. James Herrington, director of the International Relations Division, along with staff members Dr. Marya Levintova and Ayesha Shaukat, co-organized an international conference this summer in Anchorage that focused on assessing mental and behavioral health conditions among Native and non-native populations in all countries of the Arctic region and opportunities to address these needs through new and long-term research programs.

Levintova, a member of the federal Interagency Arctic Research Policy Committee, is preparing a report for the group for release early this fall.

Sen. Mark Begich, a Democrat, introduced legislation recently to have the NIH prepare a national Arctic health science policy to examine why so many Alaskans and residents of other polar countries suffer greater disparities in overall health, and particularly in mental health.



Loss of hunting and fishing grounds may be among reasons for mental health disparities in the Arctic.

hunting and fishing grounds to climate change, isolation and lack of access to health care may contribute to a suicide rate twice the national average.

"Suicide affects our Native communities in epidemic proportions and we must do all that we can to support our clinicians, communities and leaders to address the issue of youth suicide," Sen. Lisa Murkowski, a Republican, said in a letter to HHS Kathleen Sebelius, requesting funds for an Institute of Medicine study of the subject.

Among the health disparities affecting Arctic people are higher rates of alcohol abuse, fetal alcohol spectrum disorder, diabetes, high blood pressure, injury and cancer, according to the Begich bill.

Murkowski asked for funding for a study that would focus on the social, environmental, biomedical and genetic determinants of health that contribute to depressive disorders and alcohol abuse, with the hope it would lead to targeted, personalized treatment.

Herrington said poverty in native communities, the loss of

Recovery Act funds aid post-docs, undergrads alike

...continued from p. 1

Dr. Emily Wong, a University of California, San Francisco, resident physician, will continue a study recently begun in South Africa on antiretroviral therapy for HIV.

By using needle biopsies of various organs, she and her colleagues will be able to access more data on the patients than was previously available.

Dr. Joseph Tucker of Massachusetts General Hospital, will examine the growing syphilis epidemic in China. Collaborating with China's National Sexually Transmitted Disease Center in Nanjing, he will link his study to an existing World Health Organization screening program.

Some of the research fellows will be carrying out studies focused on health problems that are also prevalent in the United States.

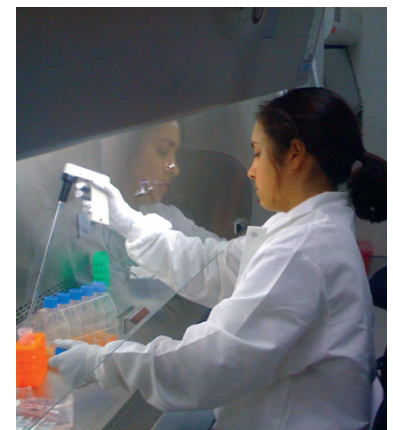
Funding from the Act also enabled Fogarty grantees to provide research-related summer jobs for several high school graduates and college undergraduates.

One of them, 18-year-old Sofia Gearty, spent her summer working on a Fogarty-supported study on reading disabilities in Zambian children.

Gearty, a freshman at Yale University this fall, says she's now interested in majoring in pre-med as a result of her experience.

Information about NIH's ARRA funding opportunities is at <http://grants.nih.gov/recovery>.

To track all federal funds provided through ARRA, visit www.recovery.gov



"I'm very excited for the next four years and think the lab experience will help me decide which direction to go in," says Yale student Sofia Gearty.

Cancer: the silent scourge of the developing world

Cancer kills more Africans than HIV/AIDS, tuberculosis and malaria combined, according to World Health Organization statistics. This little-known and very disturbing fact becomes bleaker still when the standard of cancer diagnosis and treatment in most African countries is considered.

For example, every 10 minutes an African woman dies of cervical cancer. The majority of children who develop cancer in Africa receive no curative therapy, and many receive no supportive or palliative care either. Ghana, a country of more than 23 million people, has only four oncologists to diagnose and treat cancer patients.

Cancer is the silent scourge of Africa, indeed of the whole developing world. WHO estimates that if we don't take action now, more than 11 million Africans may die of cancer in 2020. Can we prevent this from happening? Absolutely.

Recently at the World Economic Forum on Africa summit in Cape Town, I was one of the initiators of a session to discuss cancer and other noncommunicable diseases in Africa. Several of the speakers pointed out that raising awareness of cancer and taking preventive measures such as campaigns against tobacco smoking could save hundreds of thousands of lives in Africa.

To follow up on the Africa summit, a private-public coalition of international NGOs, cancer centers,

governments and biopharma companies, as well as WHO, is being set up and will be facilitated by the World Economic Forum in Geneva. This group will develop a broad partnership to improve cancer care in Africa and especially to work on tobacco control.



Guest Opinion

Bjarte Reve

Potential areas of collaboration for improving cancer care may include:

- Establishing a center for cancer research, diagnosis and treatment
- Health workforce training, including specialized training for local physicians, surgeons, pathologists, etc
- Awareness-raising and prevention strategies
- Thinking through appropriate financing mechanisms for cancers in resource-challenged environments
- The appropriate use of technology for research, diagnosis, treatment and training

African governments must be the driving force behind implementing cancer control in their countries with support at every level provided by the international alliance and funds provided by governments and private donors. Only in this way can achievable and sustainable cancer care in African countries be developed.

Bjarte Reve is CEO of Oslo Cancer Cluster, Norway. He was named a Young Global Leader 2009 by the World Economic Forum.

Global Health Briefs

Alcohol kills one in 25 worldwide

Raising the price of liquor could be an effective way of doing something about a worldwide alcohol death rate of 1 in 25 people attributed to drinking, says one of three studies on the subject recently published in the Lancet. Author Dr. Juergen Rehm also reported that the cost of alcohol abuse is more than 1 percent of gross national product in middle- and high-income countries. <http://tinyurl.com/mggo7p>

New consortia set up for African research

More than 50 institutions from 18 African countries will participate in new international consortia to strengthen research capacity on the continent under a \$50 million program sponsored by the Wellcome Trust. Research in seven fields will be led by African institutions and conducted at centers in Australia, Denmark, Great Britain, Norway, Switzerland and the United States. <http://tinyurl.com/le52x4>

Ugandan circumcision trial stopped early

A trial hypothesizing that female partners of circumcised HIV-infected men would be protected had to be stopped "because of futility" when it turned out that the women were getting the virus more frequently than partners of uncircumcised HIV carriers. The trial, supported in part by Fogarty and the National Institute on Allergy and Infectious Diseases, took place in the Rakai district of Uganda. The result may have been due to the circumcised men having sex before the wound was healed. <http://tinyurl.com/nk466>

Financing the focus of new *Health Affairs*

Eliminating polio everywhere will require global cooperation on several fronts, including lowering the cost for poor countries to use inactivated polio vaccine, according to an article in the July/August policy journal *Health Affairs*, which is devoted entirely to global health financing and delivery issues. <http://tinyurl.com/n9tqqx>

PEOPLE

Four receive NIH Director's Awards

Dr. Flora Katz, the program officer who coordinates the successful Framework program that supports universities broadening their global health curricula, and three members of Fogarty's visa and passport staff received the NIH Director's Award,



Dr. Flora Katz

which recognizes "superior performance ... significantly beyond the regular duty requirements." Sandra Fuentes, Marcia Smith and Jeff Chen were cited for their work in supporting international travel for all of NIH.



From left, Sandra Fuentes, Marcia Smith and Jeff Chen.

Advisory board member leads project

Fogarty advisory board member Dr. Ariel Pablos-Mendez is leading the Rockefeller Foundation's new \$100 million project that shifts emphasis from disease-fighting to bolstering health systems in developing countries. The first three countries targeted by the foundation's "Transforming Health Systems" program are Ghana, Rwanda and Vietnam.



Dr. Ariel Pablos-Mendez

Fogarty trainees cited for AIDS research

One former and one current Fogarty trainee were honored at the recent International AIDS Society meeting in Cape Town. Dr. Agnes Moses (left), whose medical training was partially supported by Fogarty, won the prestigious Elizabeth Glaser Pediatric AIDS Foundation International Leadership Award for her work in Malawi to prevent mother-to-child transmission of HIV.



Current trainee Dr. Linnet N. Masese (right), supported by the Center's AIDS International Training and Research Program, was awarded the IAS Young Investigator Prize: Women, Girls and HIV for an abstract on the effect of antiretroviral therapy on sexual risk behavior in a cohort of Kenyan women.



Grantee Alan Berkman dies

Dr. Alan Berkman, codirector of the Fogarty AIDS International Training and Research Program in South Africa, died June 5 of cancer at age 63. He was associate professor of epidemiology at Columbia University's Mailman School of Public Health and a founding member of the Centre for the AIDS Programme of Research in South Africa.



Dr. Alan Berkman

Reviewers favor stigma program, epidemiology unit

Independent review panels recently recommended that Fogarty should retain its Stigma and Global Health Research program and strengthen its Division of International Epidemiology and Population Studies.

Reviewers recommended the stigma program be continued with an increased focus on outcome-targeted research in the next solicitation.

In addition, they suggested Fogarty should convene a meeting to identify challenges and best practices. They also encouraged the Center to work through partnerships and outreach to better incorporate the stigma issue into global health research agendas.

The panel concluded that the publication output of 49 papers by the 19 grantees was reasonable, especially since many of the projects are just reaching completion. The program's initial awards were made in 2003, with many of

them extended past the original five-year period.

A second review panel evaluating Fogarty's epidemiology division recommended it be strengthened based on its performance since it was established in 2001.

The team of five staff scientists, with assistance from various collaborators, has produced more than 250 journal articles, with an average of about 22 citations per publication.

The division has also brought in significant funding from other public and private sources, greatly leveraging its impact, the panel reported. Its research has helped influence vaccine strategies and informs planning for government response to pandemics and bioterror attacks.

The reports are available at <http://www.fic.nih.gov/about/disppe.htm>

FUNDING OPPORTUNITIES

Program	Details	Deadline
Global Research Initiative Program, Behavioral/ Social Sciences (GRIP-BSS) (AIDS-R01)	www.fic.nih.gov/programs/ research_grants/grip/index.htm	Sept. 21, 2009
Global Research Initiative Program, Basic/ Biomedical Sciences (GRIP-BB) (R01)	www.fic.nih.gov/programs/ research_grants/grip/index.htm	Sept. 22, 2009
Fogarty International Research Collaboration - Behavioral and Social Sciences Research Award (FIRCA-BSS) (R03)	www.fic.nih.gov/programs/ research_grants/firca/index.htm	Sept. 29, 2009
Fogarty International Research Collaboration - Basic Biomedical Research Award (FIRCA-BB) (R03)	www.fic.nih.gov/programs/ research_grants/firca/index.htm	Sept. 29, 2009
Millennium Promise Awards: Noncommunicable Chronic Diseases Research Training Program (NCoD) (D43)	www.fic.nih.gov/programs/ training_grants/ncod/index.htm	Sept. 29, 2009

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

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Photo at bottom of p. 1 by Andrea Fisch, courtesy of Photoshare

Summit planned on mobile technology and public health

The Foundation for NIH is convening an "mHealth Summit" to bring public and private sector expertise together to explore partnerships between biomedical research and the use of mobile technologies to improve public health.

The conference will be held Oct. 29-30 at the Ronald Reagan Building and International Trade Center in Washington. The deadline for case study submission is Aug. 28, 2009.

The mission of the summit is to explore the use of mobile technologies to improve public health, particularly regarding underserved populations; health research, training, and education applications; and delivery systems in the United States and around the world. The meeting is cosponsored by Fogarty and several other NIH components.

<http://tinyurl.com/mHealthSummitDC>