

GLOBAL HEALTH

HEARING
BEFORE A
SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE
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CONTENTS

	Page
Opening statement of Senator Tom Harkin	1
Prepared statement	2
Opening statement of Senator Arlen Specter	3
Prepared statement of Senator Thad Cochran	4
Statement of Hon. Michael O. Leavitt, Secretary, Department of Health and Human Services	4
Prepared statement	6
Statement of Dr. Stephen Blount, Director, Office for Global Health, Centers for Disease Control and Prevention, Department of Health and Human Services	22
Prepared statement	24
Statement of Dr. Roger I. Glass, Director, Fogarty International Center, Na- tional Institutes of Health, Department of Health and Human Services	29
Prepared statement	31
Questions submitted by Senator Daniel K. Inouye	38

GLOBAL HEALTH

WEDNESDAY, MAY 2, 2007

U.S. SENATE,
SUBCOMMITTEE ON LABOR, HEALTH AND HUMAN
SERVICES, AND EDUCATION, AND RELATED AGENCIES,
COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:37 a.m., in room SD-124, Dirksen Senate Office Building, Hon. Tom Harkin (chairman) presiding.
Present: Senators Harkin and Specter.

OPENING STATEMENT OF SENATOR TOM HARKIN

Senator HARKIN. The Subcommittee on Labor, Health and Human Services, Education and Related Agencies will come to order.

The subcommittee this morning will hold a hearing on Global Health. We will have two panels. For the first panel, we have the Honorable Michael Leavitt, Secretary of the Department of Health and Human Services, and on Global Health, on the second panel, will be Dr. Stephen Blount for the Centers for Disease Control and Prevention and Dr. Glass from the Fogarty Center at NIH.

Senator Inouye once said that the Defense Appropriations Subcommittee is the subcommittee that defends America. He said this subcommittee is the subcommittee that defines America. In no case is that clearer than global health.

When this subcommittee funds programs to end child labor abroad, or fight diseases overseas or improve health conditions in developing countries, it shows the world the best side of America.

Now, for the past few years, this subcommittee has taken the lead on different sources of funding that addresses some global health problems.

For example, since 2005, we've appropriated over \$6 billion to upgrade our Nation's public health system, deploy epidemiologists around the world, and develop a credible vaccine supply to check a possible pandemic of influenza.

In the last 5 years, Senator Specter and I have worked to fund efforts to prevent SARS, bioterrorism and smallpox. This subcommittee also appropriates money every year to the Global Fund to Fight AIDS and TB and malaria. Of course, when we fight diseases abroad, we're protecting our own country, as well. After all, it only takes one person on a plane to bring a deadly disease from halfway across the world to within our own borders.

I hasten to add that global health is about much more than protecting Americans from deadly diseases—it's about providing basic

public health infrastructure for developing nations, training researchers, epidemiologists, to strengthen the health systems in those countries. It is about working collaboratively on studies that can benefit people all over the world.

With that, I welcome the Secretary here. We have an excellent panel of witnesses to discuss other global health efforts with us this morning, and before I turn it over to Senator Specter, I just add parenthetically, that it seems that in many cases, we look at things very broadly here—well, obviously, we have to, we've got a lot of things on our plate.

PREPARED STATEMENT

But, I'm wondering, if we shouldn't be a little bit more laser-like, and focused on certain things in certain countries that are near to us, and near to us in proximity, in terms of our neighbors to the South, where we could establish long-term types of health infrastructures, that not only help people have better lives, but also—as I said earlier—show them the better side of America.

With that, I would yield to Senator Specter for an opening statement.

[The statement follows:]

PREPARED STATEMENT OF SENATOR TOM HARKIN

The Subcommittee on Labor, Health and Human Services and Education will now come to order. I'd like to welcome everyone here this morning for a hearing on global health. We have a distinguished panel of witnesses from the Department of Health and Human Services, headed of course by Secretary Michael Leavitt. Secretary Leavitt, thank you for joining us.

Senator Inouye once said that the Defense Subcommittee is the one that defends America, but it is this subcommittee that defines America. I believe that's true not only within our own country, but throughout the world. When this subcommittee funds programs to end child labor abroad, or fight diseases overseas, or improve health conditions in developing countries, it shows the world the best side of America.

In no case is that clearer than global health. For the last few years, this subcommittee has taken the lead on funding to prevent and prepare for a possible pandemic influenza. Since 2005, we have appropriated over \$6 billion to upgrade our Nation's public health system, deploy epidemiologists around the world, and develop a credible vaccine supply.

But this subcommittee was engaged in global health long before H5N1 flu came onto the scene. In the last 5 years, Senator Specter and I have worked to fund efforts to prepare against SARS (severe acute respiratory syndrome), bioterrorism and smallpox. This subcommittee also appropriates money every year to the Global Fund to Fight AIDS, TB, and Malaria.

When we fight diseases abroad, we are, of course, protecting our own country as well. After all, it only takes one person on a plane to bring a deadly disease from halfway across the world to within our own borders.

But global health is about much more than protecting Americans from deadly diseases. It's also about providing basic public health infrastructure for developing nations, and training researchers and epidemiologists to strengthen the health systems in those countries. And it is about working collaboratively on studies that can benefit people all over the world.

I want to describe just one example of a great global partnership that this Subcommittee was very involved in: the U.S.-China Collaborative on folic acid.

The idea was hatched by a Chinese scientist, Dr. Li Zhu, who was visiting CDC headquarters in 1987. At the time, research suggested that folic acid could help prevent birth defects such as spina bifida, but no large-scale studies had been conducted. For a variety of reasons, Dr. Li Zhu thought China would be a good place to test the theory.

This subcommittee began funding the collaborative in 1992, and data collection ended in 1996. Thanks to this study, we now know that taking folic acid during pregnancy can reduce neural tube birth defects like spina bifida by up to 70 percent.

As a result, the FDA ruled in 1996 that breads, cereals, and other appropriate foods must be fortified with folic acid, and the incidence of spina bifida has dropped dramatically.

That study formed the foundation of the U.S.-China partnership in health. Chinese officials were so impressed with the work of our CDC that they named their own public health department "China CDC." That partnership is now expanding into avian flu surveillance, respiratory illness and occupational injury rates. It is a true success story.

We have an excellent panel of witnesses to discuss other global health efforts with us this morning. But before I turn to them, I would yield to my ranking member, Senator Specter.

OPENING STATEMENT OF SENATOR ARLEN SPECTER

Senator SPECTER. Well, thank you, Mr. Chairman.

Good morning, Secretary Leavitt. This subcommittee is a continuation of a partnership which Senator Harkin and I have had now for many years, we call it a seamless exchange of the gavel as party control has changed.

But, this subcommittee has been dedicated to funding for very important health initiatives, evidenced by the leadership that this subcommittee has shown on NIH funding, raising it from \$12 to \$29 billion, which we have done on—focusing on the problems of the stem cell, embryonic stem cell research. The subcommittee has been very active on global health issues.

We truly live in one world—one world politically, and one world as far as health issues are concerned.

We have had a number of hearings on the Avian Flu problem, which threatens our health in the United States, if it originates across the globe. The subcommittee, and Senator Harkin's leadership, put a range of \$7 billion to find ways to combat Avian Flu. While it is not on the front pages today, thankfully, we're still very much concerned about it.

This subcommittee has moved into areas which, earlier, were unnoticed, really. Global disease detection, had no funding at all, and has been moved into the \$34 million range by fiscal year 2007.

We have funded the Global Immunization Campaigns to eradicate polio and measles. This subcommittee provided the funding for HIV/AIDS, TB and malaria, since its inception in the year 2002. A total of more than \$1.2 billion has resulted from the initiatives taken by this subcommittee, which have been subscribed to by the full committee, the Senate, the Congress, and signed into law by the President. We're very mindful about the humanitarian aspect, as we help Third World countries in our efforts to eradicate disease around the world.

So, this is a very important hearing we're undertaking today. It is part of our continuing efforts to put a focus on health care, and we admire the work that you've done, Secretary Leavitt, and your personal attention.

I might note, parenthetically, that the Secretary paid me a visit recently on Part D Medicare, and nothing like having an activist Secretary of Health and Human Services, and we have a very good one.

Thank you, Mr. Chairman.

Senator HARKIN. Thank you, Senator Specter.

We will insert the prepared statement of Senator Cochran at this point in the record.

[The statement follows:]

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Mr. Chairman, I appreciate the efforts of this committee to ensure that the Senate and the public are educated on the important issues surrounding global health. Health issues that cause minimal problems in developed countries are continuing to spread in poorer regions. Millions of people, many of them children, die each year from diseases that are preventable or treatable.

Global health plays an important role in the protection of the United States. This role is increasingly significant as we are faced with the possible pandemics, such as avian flu. Malaria is also a great concern as it is estimated that 300 million cases are diagnosed each year worldwide and 100 million deaths occur from malaria annually. Promising research in malaria drug development is currently underway at the National Center for Natural Products Research at the University of Mississippi to address this growing concern. Research such as this, and the development of a global health care network, ensures that health issues are brought to the forefront, and strategies developed to deal with them.

I am pleased representatives from the leading global health departments are present on the panel today. I look forward to your testimony.

Senator HARKIN. Well, we welcome our Secretary of Health and Human Services. Secretary Mike Leavitt was appointed Secretary in 2004. Prior to that he was head of the U.S. Environmental Protection Agency from 2003 to 2005, and served three terms as Governor of Utah, from 1992 to 2003, so a long and distinguished public service.

Mr. Secretary, welcome. All statements will be made a part of the record in their entirety, please proceed.

STATEMENT OF HON. MICHAEL O. LEAVITT, SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Secretary LEAVITT. Thank you, Mr. Chairman, and Senator. I'll just summarize, and look forward to getting into a conversation with you.

As you point out, our Department's mandate is to take care of the health of the American people, but our mission does not stop at the shoreline. We have a responsibility, and our health is very much intertwined with the health of others. A healthy world is a good thing for America, and I would like, today, to say I think health diplomacy is an integral tool in our foreign policy, as well.

I must say that I was somewhat surprised, as the Secretary of Health and Human Services (HHS), by the degree to which HHS is involved, internationally. HHS plays a leadership role in a lot of multi-lateral organizations, almost every one of our Operating Divisions is currently involved in some way in an international role. I'll highlight, just briefly today, a couple of those, and then we can get into more detail on the ones that you have the most interest in talking about.

I'd like to focus on five diseases, to which we have paid particular attention—HIV/AIDS, of course, which we've mentioned here, tuberculosis, malaria, polio and then also avian influenza. HHS is a participant in the President's Emergency Plan on HIV/AIDS that is broken into many different parts. CDC, for example, provides expert field presence and support for surveillance and lab support in the delivery of care. NIH is helping to strengthen evaluations of outcomes. FDA has reviewed and approved over 40 generic anti-retroviral drug formulations. So, you can see that our HIV/AIDS efforts are spread all across the Department.

Malaria is an issue that the President has focused on. HHS has been partnering with USAID to implement his Malaria Initiative (PMI). This year, there will be an additional 30 million people that will benefit from life-saving treatment and prevention, thanks to PMI.

Through CDC, the Department works very closely with the WHO and a number of other organizations, including Rotary International on polio. We have never been closer to eradication of polio than we are right now.

You mentioned pandemic influenza—last year, the President and the Congress mobilized the country to prepare for a pandemic influenza, and our efforts continue.

In summary, let me just say that it is my view that health diplomacy ought to be a foundation theme in our American foreign policy. People understand health care, it is the universal language, it speaks to their heart. It endears our country to them in very important and profound ways.

CENTRAL AMERICA INITIATIVES

I would like to just deal specifically with one initiative that I've been working on, and that is in Central America. Mr. Chairman, you mentioned some of our neighbors that are close by—you can fly to Central America faster than you can get to San Francisco or Seattle from where we are right now.

There's a great deal of movement between Central America and the United States, and for many of those countries, as much as 20 to 25 percent of the entire country resides in the United States, and they're moving back and forth. For some of those nations, as much as 25 percent of the Gross Domestic Product of the Nation is in transfers back from workers in the United States—there's a very direct link. So, the disease link between these two regions is enormously important.

It's also an important region to have stable governments and stable societies. The healthcare needs there are significant. I've begun to identify this in my visits with health ministers from that region, and it's become clear to me that the United States can play a very important role in Central America.

For one initiative I'll speak of briefly, we have identified facilities in Panama, in the old Canal Zone working collaboratively, and as a convener with the Central American health ministers, we have developed a school, a training facility, for the short-term training of medical workers. I'm talking about basic medical work.

I was in Central America recently, and going through various hospitals, it became evident that they have a lot of medical equipment that's been donated to them, but when it breaks, nobody knows how to fix it. So this school, for example, will have a training class for 6, 8, 10, 12 weeks, to train people from the region to fix medical equipment.

I took people from our Commissioned Corps, who are involved in the Indian Health Service in Alaska. We have a unique method of training people from native villages how to do dental work, basic dental work.

When we took them to Central America and showed them the kind of work that was being done in those most remote areas in

Alaska, they could not get enough of it—they want to have people from their remote villages trained to do the same thing. Oral health is a profoundly important part of keeping healthy societies.

In addition to that, of course, the President has recently initiated an area—my time is up, so I'll stop—but you can, well, this is an important thing to the President. He has—we're taking the USNS *Comfort* to the region, we'll be going to 12 countries. Having the banner of the United States involved in the delivery of health care is not only an important humanitarian gesture, it's also a very important foreign policy statement. We'll maintain the friendship that we have with that very important region that's so close.

PREPARED STATEMENT

With that, Senator, I'll close, but as you can tell, this is a matter on which I have some passion, and I'm anxious to talk more about it.

[The statement follows:]

PREPARED STATEMENT OF THE HON. MICHAEL O. LEAVITT

INTRODUCTION

Good afternoon Mr. Chairman, Senator Specter, and members of the subcommittee.

I am honored to be here today to talk with you about important challenges and opportunities in global health.

For the past 6 years, this administration has worked hard to make our country—and our world—a healthier, safer and more compassionate place. We thank you,

Mr. Chairman, and your colleagues for your solid financial support for our global efforts.

I thank the Congress and the President for their vision and the American people for their generosity that always seeks to help others. I am proud to be part of our Nation's efforts to make for a healthier and more secure world.

HHS' MISSION AND MANDATE

The U.S. Department of Health and Human Services (HHS) recognizes that our job does not end at the shoreline. This is true for a number of reasons. First, pathogens and other threats to human health have become as mobile as we are, and have, in some cases, become increasingly deadly through mutations and resistance to drugs: as more people move and diseases change, our own health is intertwined with that of people in other nations.

Second, the health of other nations is important, and affects global productivity, stability, security, and good governance. It is clearly in our nation's interest to address global health concerns. This includes not only obvious threats, such as infectious diseases, but also health issues that do not pose such an immediate risk to the American people.

But there is a third crucial role: to demonstrate the generosity and heart of the American people, a fact made clear in my travels, including recently to Central America. Health holds a special place as a foreign-policy tool. It is a universal and fundamental desire of all people, and is a common concern among almost every electorate in the world.

We know that because health programs address these fundamental human interests, they also enjoy a level of acceptance and gratitude far beyond other types of assistance programs. Health programs are uniquely situated to be both an act of benevolence and a clear and powerful tool for advancing American diplomatic interests. Its importance as a diplomatic tool will only increase as we move forward to face the challenges and opportunities of the future.

In short, a healthy world is good for America.

HOW HHS MEETS ITS MANDATE

HHS works to fulfill its mandate to improve global health through direct assistance, technical and program support, training and capacity-building, and research. We partner with many other Departments, including the U.S. Departments of State,

Defense, Agriculture, Homeland Security, and Commerce. We also collaborate closely with the U.S. Agency for International Development (USAID) and with the Environmental Protection Agency. We enjoy excellent bilateral partnerships with other Governments, multilateral organizations, non-governmental and faith-based organizations, and with the private sector.

Within HHS, Centers for Disease Control and Prevention (CDC) work to detect, verify, and quickly respond to infectious disease outbreaks around the globe, to address major causes of global morbidity and mortality, to build sustainable public-health systems and to control other health threats at their origin to prevent international spread. To maintain the safety of the American people, the Food and Drug Administration (FDA) regulates millions of products grown and manufactured abroad. The National Institutes of Health (NIH) address global health challenges through innovative, collaborative biomedical and behavioral research and training programs, and through basic clinical research to discover new medical interventions and evaluate their effectiveness. The Health Resources and Services Administration (HRSA) brings critical expertise in community health, the training of health-care workers, and “twinning” relationships that link U.S. institutions to our international work. The Substance Abuse and Mental Health Services Administration (SAMHSA) is providing advice on mental health and drug and alcohol rehabilitation to several strategic global programs.

Over the last 6 years, we have doubled our international presence. We have almost 270 HHS staff—both civil servants and U.S. Public Health Service Commissioned Corps officers—in over 31 countries around the globe. These dedicated professionals work to improve the health of people throughout the world—through work on President Bush’s Malaria Initiative, the President’s Emergency Plan for AIDS Relief, the Global Polio Eradication Initiative, the Global Measles Partnership, and through work to encourage innovative, cooperative biomedical research. We also regularly send HHS staff to work as Health Attachés in U.S. Embassies and Missions abroad who represent the U.S. Government to host-country Ministries of Health and to international organizations, such as the World Health Organization.

LOOKING TO THE FUTURE: HEALTH DIPLOMACY

Last year, 15 U.S. Government Departments and Agencies, including HHS, cooperated on Project Horizon, an innovative, ground-breaking, long-term planning project that looked at the role of the U.S. Government in global affairs in the long-term future. The project was innovative because it examined, not just one possible or probable future, but at a range of possible futures. Through three workshops, U.S. Government senior executives, leaders from civil society, and private-sector executives considered how the world might look in 20 years, and what the U.S. Government should be doing today to be prepared to operate in those future scenarios.

Out of these high-level workshops came a set of ten capabilities that project participants recommended, across a wide range of possible futures, the U.S. Government develop to continue its global affairs leadership in the future. One of those was the capability to mobilize health resources across the Federal Government to advance U.S. global leadership. No matter what the future looks like, we will need hands-on, high-visibility methods for engaging the world—to help prevent disease, to mitigate global health risks and to strengthen perceptions of the U.S. abroad.

GLOBAL HEALTH CHALLENGES

Members of this committee know well the current landscape in international health.

I would like to highlight for you five challenges we are working to address at HHS: HIV/AIDS, tuberculosis, malaria, polio, and pandemic influenza.

HIV/AIDS

President Bush’s Emergency Plan for AIDS Relief is the largest commitment ever by any nation for an international health initiative dedicated to a single disease—a five-year, \$15 billion, comprehensive approach to combating the disease around the world. We are proud to work with USAID, the Peace Corps, and the Departments of State, Defense, Commerce, and Labor in this effort.

Thanks to the commitment of President Bush, Congress and the American people, the U.S. Government is indeed the global leader in this fight. Based on estimates by the United Nations Joint Programme on HIV/AIDS, in 2005 our Government contributed more than all other Governments combined to HIV/AIDS control in foreign countries. That contribution has risen substantially in 2006 and 2007.

With the overall U.S. contribution of approximately \$4.6 billion for the Emergency Plan in the current fiscal year, and the President’s unprecedented \$5.4 billion re-

quest for fiscal year 2008, there can be no doubt the United States will continue to lead the world in responding to the AIDS crisis. The Emergency Plan has financed care for almost four and a half million people, including two million orphans and vulnerable children. We have supported counseling and testing for 18.6 million—69 percent of whom are female.

To meet our treatment goals, the Emergency Plan has supported treatment for over 822,000 individuals in 15 countries—61 percent of whom are women, and 9 percent of whom are children. We have also supported anti-retroviral treatment for HIV-positive women during more than 530,000 pregnancies, and experts estimate these treatments have averted more than 100,000 infant HIV infections.

CDC provides expert field presence and support from headquarters for surveillance, laboratory support and the delivery of care to those infected or affected by AIDS. HRSA is also building on its management of the domestic HIV/AIDS efforts to provide training and quality-improvement interventions in the Emergency Plan focus countries, and runs a Twinning Center to match volunteers and health-care institutions in the United States with counterparts in the focus countries to share expertise and best practices. NIH is helping to further strengthen evaluations of Emergency Plan outcomes, and linking its network of clinical trial sites to Emergency Plan care and treatment programs. SAMHSA is providing expert direction for programs in Viet Nam and Southern Africa to address the important intersection of HIV/AIDS and substance abuse, including alcohol.

The FDA has reviewed and approved 44 generic anti-retroviral (ARV) drug formulations, including combination drug formulations and formulations appropriate for children. We estimate that when our host-country colleagues in Africa, the Caribbean and Asia take full advantage of these generic ARVs, the Emergency Plan will realize a cost savings of \$23 million. The safety and quality of these generic ARVs matches that of drugs marketed for HIV/AIDS in the United States. This process is also providing savings and greater choices for our HIV-positive patients here at home as well: seven of these generic ARVs approved through this process are already on the market here in the United States. We expect more to appear in U.S. pharmacies in the years to come as other patents or exclusivities on the underlying branded drugs expire.

In addition to our bilateral assistance to 15 focus countries and numerous additional countries for HIV/AIDS control and the integration of tuberculosis control activities into those HIV/AIDS interventions, we also contribute to the Global Fund to Fight AIDS, Tuberculosis and Malaria. Our contributions as a Government to the Global Fund constitute our principal multilateral contributions to the global efforts to control these diseases, and are a significant part of the President's Emergency Plan. The United States is a founding member of the Global Fund, was the Fund's first donor and remains its largest contributor, and continues to play a leadership role in ensuring the success of this important international effort. My predecessor, former Secretary Tommy Thompson served as the Chair of the Global Fund Board from 2003 to 2005. HHS is at the heart of our Government's relationship with the Global Fund: my Special Assistant for International Affairs, Dr. Bill Steiger, serves as the U.S. representative to the Global Fund Board. The U.S. Government's Global Fund activities extend to the country level. As U.S. Government personnel, many of them from HHS, they sit on 57 of the 97 Country Coordinating Mechanisms that submitted proposals to the Fund in 2006.

The United States has given the Global Fund close to \$1.9 billion, or 27 percent of total funding from all donors (\$7.1 billion). As of April 19, 2007, the Global Fund had committed to funding a total of \$7 billion in 136 countries, and disbursed nearly \$3.6 billion to grant recipients in 130 countries. Fifty-eight percent of proposals the Fund Board approved during the first six rounds of funding were dedicated to HIV/AIDS, 24 percent to malaria, and 17 percent to tuberculosis.

Tuberculosis

The overlapping epidemics of tuberculosis and HIV require expanded screening and treatment for Tuberculosis (TB) among HIV/AIDS patients, and better screening and treatment for HIV/AIDS in TB patients. These complementary responses are a key part of treatment and care programs under the Emergency Plan as well. This year, the U.S. Global AIDS Coordinator allocated an additional \$50 million for work on this dual threat, over and above the baseline work in this area already underway in the Emergency Plan. This plus-up will support enhanced case detection, laboratory capacity, infection-control activities, and clinical care.

Our strategy to control TB and drug-resistant TB includes the following: expanding and strengthening TB-control programs; better integrating TB screening and treatment into HIV/AIDS programs, and HIV screening and treatment into TB programs; systematically improving laboratory networks, disease surveillance, and

monitoring; developing reliable drug-supply mechanisms; enhancing the development and production of the next generation of anti-TB drugs; and, helping local partners in all countries in which we work to fully implement the World Health Organization's Stop TB Strategy.

We must be especially vigilant about the alarming increase in drug-resistant tuberculosis, including multi-drug-resistant (MDR-TB) and extensively drug-resistant TB (XDR-TB). XDR-TB is fatal in a significant percentage of those with this infection, including people whose immune systems HIV/AIDS has compromised. Experts are identifying XDR-TB in an increasing number of countries throughout Asia and Africa. In one documented outbreak of XDR-TB in South Africa among 53 individuals, most of whom were co-infected with HIV, 52 died within 25 days. CDC and NIH are working domestically and internationally to understand the extent of the XDR-TB situation, to build clinical and laboratory capacity to detect, control and treat this disease, and to address research needs to better understand the disease, its transmission, diagnosis, prevention and treatment. A Federal TB Task Force is examining activities across Federal agencies, including CDC, NIH, FDA, USAID, immigration services, health care institutions managed by the Federal bureau of Prisons health care systems, the Veterans Administration, the Indian Health Service, and others, and is preparing recommendations to address this threat. The National Security and Homeland Security Councils have also convened an interagency working group to put together an international strategy on MDR and XDR-TB.

Malaria

Each year, over 1 million people die from malaria, and an estimated 300 to 500 million become ill and debilitated. Of these deaths, 85 percent or more occur in sub-Saharan Africa, the vast majority among children under 5 years of age. In many countries, malaria is the leading cause of mortality for both children and adults. Malaria has significant economic and social burdens: it accounts for more than 40 percent of public-health expenditures in Africa, and causes an estimated annual loss of \$12 billion from the continent's gross domestic product.

In spite of these grim statistics, malaria is a preventable and treatable disease. In June 2005, President Bush issued a global call to action on malaria, and announced \$1.2 billion in additional funding the U.S. Government will invest over 5 years to fight the disease in 15 sub-Saharan African countries.

The President's Malaria Initiative (PMI) represents a historic 5-year expansion of the U.S. Government's efforts to fight malaria in the region most affected by the disease. The President set two ambitious goals for PMI focus countries: first, to reduce the estimated deaths from malaria by 50 percent by 2010; and second, to reach 85 percent of those most vulnerable to malaria—children under 5 years of age and pregnant women—with a package of four proven and highly-effective prevention and treatment measures. In each country, PMI works closely with national malaria-control programs to strengthen their efforts, complement ongoing activities, and meet the PMI targets of 85 percent coverage with proven interventions, including indoor spraying of homes with insecticides, the distribution of insecticide-treated mosquito nets, the use of lifesaving anti-malarial drugs, and expanding access to treatment to prevent malaria in pregnant women. PMI also works with civic leaders, non-governmental organizations, faith-based and service organizations, as well as corporations and foundations, in their commitments to defeat malaria as a public-health problem.

I am proud HHS/CDC is partnering with USAID as the implementing agencies for the PMI, and that we are already seeing results in the early stages of the initiative. Aid from the American people has already reached about 6 million Africans in the first three focus countries. A U.S. Government spraying program in Zanzibar last August treated 200,000 households, which protected more than 1 million people from malaria. In camps throughout northern Uganda, a PMI-supported campaign distributed more than 200,000 nets, targeted at children under 5 years old. In Tanzania, PMI has delivered 380,000 treatments of drug therapy. This year, an additional 30 million people should benefit from life-saving treatment and prevention measures as PMI expands to four additional countries. Complementing PMI's ongoing efforts, NIH continues to support clinical researchers in the quest to understand or intervene against malaria.

The PMI has provided critical global leadership has rejuvenated interest and action on malaria prevention and treatment worldwide, and has saved children's lives in Africa.

Polio

At the launch of the Global Polio Eradication Initiative (GPEI) in 1988, polio was endemic in more than 125 countries, and paralyzed 350,000 children each year. In

2006, polio paralyzed 1,985 people, and now there are only four endemic countries—Afghanistan, India, Nigeria, and Pakistan. We can attribute this tremendous progress to the commitments and monumental work of national, Provincial, and local Governments and communities worldwide to vaccinate all children against polio. The battle to wipe out polio truly is being fought on a grassroots, house-to-house level.

HHS, through CDC, has been honored to work closely with the World Health Organization (WHO), the United Nations Children’s Fund, and Rotary International as founding co-partners of the polio-eradication campaign. The U.S. Government is historically the largest financial donor to the effort, and has provided over \$1.2 billion since 1988. U.S. Government contributions to polio eradication represent nearly 30 percent of all global contributions. In addition, HHS/CDC continues to provide significant technical expertise and support to Governments and international organizations as we work to eradicate polio.

We have never been closer to the goal of eradicating polio, but we also now face what might be the final and most difficult mile. We will continue to need your generous support and political commitment. Recent setbacks include the exportation of polio virus from endemic areas to regions and countries that had been polio-free. The populations polio affects in the four remaining endemic countries are among the poorest and most difficult for health workers to reach, whether through vaccine drives or communication campaigns. Conflict, poverty, inaccessibility, and religious and social tensions compound the difficulties. Nevertheless, we at HHS are convinced polio eradication is still possible.

Pandemic Influenza

A little over a year ago, the President mobilized our Nation to prepare for an influenza pandemic. I traveled to almost every U.S. State and territory to hold planning summits. The appropriation this subcommittee made played a significant role as well. Every level of Government in the United States has developed plans and allocated resources, so that, today, we are better prepared than we were a year ago—but there is still much for us to do.

There is also the danger that, as influenza slips from the headlines; people will believe the threat is no longer real. While the media buzz might have died down, the H5N1 strain of highly pathogenic avian influenza has not. As of April 11, 2007, the WHO has reported 28 new cases of avian influenza in humans since the beginning of the year in six countries, and 14 of these people died.

To date, 291 people have contracted the H5N1 strain around the world. Dozens of countries—across three continents—have seen H5N1 claim poultry and wild birds. While we cannot be certain H5N1 will be the spark of the next pandemic, we can be sure pandemics happen. They have happened in the past, and they will happen in the future.

That is why we continue to take this threat so seriously.

At the national level, we have made significant investments in critical areas of research, including the development of vaccines, antiviral medications, and diagnostic tools. This research will benefit not only the citizens of the United States, but individuals throughout the world.

In addition, NIH and CDC are supporting the development of new vaccines against H5N1 influenza and other virus strains. Our goal is to support and clinically test a library of live vaccine against all foreign influenza strains with pandemic potential, which could allow us to have a faster head start as any pandemic strain emerges.

We are also working on adjuvants and other dose-optimizing strategies for vaccine administration that could enable the United States to immunize more people. In January 2007, HHS awarded contracts that totaled \$132.5 million to three vaccine makers for the advanced development of H5N1 influenza vaccines that will use an adjuvant. We are developing rapid diagnostic tests that could shorten the testing time for H5 strains, from what has been in the past 2 or 3 days, to just a matter of 4 hours. In my judgment, that is still too slow, and we continue to work hard in that area, making substantial research investments targeting rapid diagnostics.

We are also looking at mitigation strategies should a pandemic occur. Some recent pandemic modeling suggests there are partially effective interventions, such as school closings and social distancing, and we are working to use them in a layered manner that can be highly effective, we believe, in controlling influenza in a community. In February 2007, CDC released new guidance on community planning strategies that State and local community decision-makers, as well as individuals, need to consider based on the severity of an influenza pandemic. These strategies are important because the best protection against pandemic influenza—a vaccine—is not likely to be available in sufficient quantities for the entire population at the outset

of a pandemic. Community strategies that delay or reduce the impact of a pandemic could help reduce the spread of disease until a vaccine that is well-matched to the virus is available.

Internationally, we have also made significant contributions in preparing our world for an influenza pandemic.

Partially through the appropriations this Committee made, the United States pledged \$334 million last January to help nations prepare for, and respond to, outbreaks of avian influenza. You added to this total in the fiscal year 2007 Joint Resolution, which provided us at HHS with 24 million additional dollars for international work. This funding has made a significant difference in improving our preparedness and response, and I wish to thank you for your commitment to this important effort.

With the funding you have given us, we at HHS have entered into cooperative agreements for influenza-control work in approximately 35 countries, and have also awarded over \$20 million to the WHO Secretariat and its Regional and Country Offices for influenza surveillance and capacity-building. We have stationed influenza experts in newly created positions overseas in the countries of greatest concern, like Indonesia, and at WHO Headquarters and Regional Offices around the world. For the first time, we will also have a liaison person focused on influenza inside the European Centers for Disease Control in Stockholm. In addition, around the world through CDC, we have established five Global Disease Detection and Response Centers to build regional capacity to respond to the emergence of pandemic influenza or any other infectious-disease threat.

We have added value to the larger Departmental and U.S. Government activities by establishing and funding projects with the Institut Pasteur Network (in Viet Nam, Cambodia, Laos, Francophone North Africa and key Francophone West African countries at risk), the International Center for Diarrheal Disease Research in Bangladesh and the Gorgas Memorial Institute in Panamá to make the collective global disease-epidemiologic surveillance/laboratory diagnostic network more robust.

The United States also supports efforts by the international community and multilateral organizations to meet the global need for an appropriate and efficacious influenza vaccine. The Office of the Assistant Secretary for Preparedness and Response (ASPR) in HHS provided \$10 million last fiscal year to the WHO Secretariat to help developing countries produce safe and effective vaccine against influenza. The WHO Secretariat just announced the first five beneficiaries of this program on April 25 (Brazil, Mexico, Thailand, Viet Nam and Indonesia). We have also invested heavily in vaccine research, and in expanding our own production capacity.

President Bush has made clear his commitment to a forward-leaning position on the development of antiviral stockpiles. In May 2006, the U.S. Government deployed treatment courses of Tamiflu to a secure location in Asia to aid an international rapid-response and containment effort if a potential pandemic breaks out overseas.

As requested by the Homeland Security Council, HHS also leads an interagency effort to implement the International Health Regulations (IHRs) for the U.S. Government, linked across Federal Departments and agencies. The IHRs, an international legal instrument that comes into force in June 2007, will govern the roles and responsibilities of the WHO Secretariat and its Member States in identifying, responding to and sharing information about public-health emergencies of international concern (including a pandemic influenza).

We have done significant work to prepare for the possibility of a pandemic influenza, but many challenges remain. Responding to a pandemic will require the cooperation of the entire global community, as no nation can go it alone. If a country is to protect its own people, it must work together with other nations to protect the people of the world.

It is my belief we are better prepared for an influenza pandemic today than we were a year ago. And we are working to assure we are better prepared a year from now than we are today. Thank you for your continued interest and support. It will be crucial as we move forward.

HEALTH DIPLOMACY TODAY: CENTRAL AMERICA

I spoke in my introductory comments about Project Horizon and health diplomacy in the future. Under the President's leadership, I have already begun to implement the kind of health-diplomacy capability Project Horizon identified as a critical need.

As you know, in March 2007, President Bush shared with the people of the Americas his commitment to advancing social justice in the Western Hemisphere. That commitment includes helping democracies in the region to build Governments that are fair, effective, and free from corruption; to maintain economies that make it pos-

sible for people to provide for their families; and to meet basic needs for education, housing, and health care.

My part in this effort is helping to improve the region's health care, especially in rural or areas that lack sufficient health-care personnel, in ways that are complementary to what other Federal Departments and agencies are already doing. The U.S. Government invests millions of dollars each year in health programs in Latin America; since 2001, the United States has spent almost \$1 billion on health programs in the region.

Our new effort at HHS will focus on three main objectives:

- Increasing direct patient care provided by U.S. Government personnel;
- Improving the training of local health workers; and
- Forging partnerships of public and private groups to provide more and better health care.

Toward the first objective, people from my Department and the U.S. Department of Defense will work with our Central American partners to provide health care to those most in need. The President is sending the USNS *Comfort*—a Navy medical ship—to Latin America and the Caribbean. The *Comfort* will make port calls in 12 countries. Between June and September of this year, its doctors, nurses, and technicians expect to treat 85,000 patients—and conduct up to 1,500 surgeries.

Dental care among the poor is an area of special concern. So, this summer, dentists and dental hygienists from the U.S. Public Health Service Commissioned Corps will join military dentists from the U.S. Southern Command on humanitarian missions to the region. They will perform basic treatments like filling cavities, treating infections and pulling teeth. They will apply sealants to children's teeth to protect them from cavities for many years to come. They will also offer preventive education on oral health and hygiene to children and their parents.

Our second objective is improving training of local health workers in the region. To do that, my Department is working with the Governments of Central America to start a Regional Training Center in Panamá. This training center will train a range of health-care workers—community health workers, physicians assistants, nurses assistants, technicians, and dental hygienists, among other disciplines—according to the particular needs in each country, because needs vary significantly across the region.

To make the school a success, we are working together as partners with our Central American hosts:

- To forge agreements between our countries and the school to supply and fund its students;
- To develop a governing structure and curricula for the school; and
- To engage universities, professional associations, and non-government health workers to build school faculty, resources, distance-learning capabilities, and other needs.

Our third objective is working more closely with American non-governmental health-care providers in the region. By partnering with these providers, we can have a greater impact on health care delivery in the region.

Now, let me tell you about our recent activities in Central America.

In June 2006, I visited Panamá to build the groundwork for the training facility, in the former Canal Zone, which I hope Panamanian Minister of Health Alleyne and I can inaugurate in June 2007. In September 2006, I discussed the idea of a training partnership with Health Ministers from Central America at the annual Directing Council of the Pan American Health Organization in Washington. In January 2007, I discussed the partnership with Central American Heads of State while in Nicaragua for President Ortega's inauguration. In March 2007, I visited Guatemala, Honduras, El Salvador, Costa Rica, and Nicaragua to discuss this initiative with heads of state, ministers of health, medical and dental professionals, and grass-roots health-care providers.

We formalized our planning by signing Letters of Intent between HHS and each Central American Minister of Health to establish the Regional Training Center. The first training module at the training center took place in April 2007, and went very well. Fifty health-care workers from six Central American countries received training on pandemic-flu preparedness and response. At every step, we have worked with local health-care providers, who are the real experts in the needs of their countries and their communities.

CONCLUSION

No matter what the future looks like, the U.S. Government will have to be engaged in a serious and direct way in global health. On my trip to Central America, I not only experienced the very real needs of the present; I glimpsed the future of

that kind of cooperation. Given the many challenges we face—HIV/AIDS, tuberculosis, malaria, polio, pandemic influenza—I can tell you that we need today, and will increasingly need tomorrow, to strategically wield all the global health assets we have as a Government. HHS counts it a privilege to be one partner in the larger fight for a healthier, safer, more compassionate world.

Senator HARKIN. Mr. Secretary, thank you very much and for your leadership in this area.

I think you're on to something, in terms of, re-focusing, perhaps? Thinking about how we set up structures in these countries, and how we address ourselves to do that.

We have a lot of wonderful doctors in this country that periodically travel to another country, and provide healthcare. They go down for 2 weeks or something like that, and dentists will fix some teeth, and reconstructive surgeons do this, and heart surgeons do that. This is all good stuff, but, it's episodic, and I'm not certain that it gets to the long-term real healthcare needs of people.

It seems that many of the problems that confront our neighbors in underdeveloped countries, poorer countries—they are chronic type illnesses that need to be addressed. This can only be done with long-term investments in infrastructures, public health infrastructures, like community health centers.

As I said earlier, we always seem to target certain areas. We target AIDS, we target malaria, we target pandemic flu, and TB, and no one would argue that that isn't all well and good, but I just wonder if it wouldn't be better to shift a little bit.

For example, if mothers are dying in childbirth, and children are dying before they turn 5, then that's a basic public health problem.

I understand that a woman living in sub-Saharan Africa—I'm not talking about Central America here—has a 1 in 16 chance of dying in pregnancy or childbirth. That compares to a 1 in 2,800 risk in developed countries. I don't know what it is in Central America, Latin America, South America—I don't know that, probably higher than 1 in 2,800.

Again, it's not so much a question—I'm just trying to draw you out to get your thinking on this, on—what should we be doing to address some of these underlying problems to help build up long-term type structures? Structures in which we interact with people for a longer period of time to become knowledgeable. I don't mean institutions—just set structures?

TRAINING HEALTH PROFESSIONALS IN CENTRAL AMERICA

Secretary LEAVITT. Mr. Chairman, I referenced a trip I recently completed in Central America. I visited five Central American countries, and I met with the medical communities in each of these areas, and had this conversation.

Without hesitation, or exception, each of them raised the issue that you have, and that is that mothers are dying, particularly in rural, remote areas, where there is no health care. They said, "If you could help us train midwives, you could save lives." Not only would you save lives, you would create an educational foundation where people would have employment. It would also create a base, when you want to provide services, you could build on it.

So, one of the things, in Central America, for example, that we're looking at developing is a short-term course in training mid-wives.

All of the health ministers in that area have committed, and the presidents—by the way—I met with each of the presidents, and this is a high enough priority that they have—each of them—entered into a letter of intent to send students.

So, we'll take students from six different Central American countries, they will come to Panama, they'll be trained for a period of 12 to 15 weeks, whatever it takes to learn a particular skill, then they will go back to their village or remote area, and continue to interact with this training school for continuing education, and continued contact with the United States.

Now, this is a school that, in fact, will be run collaboratively by the region—the United States has obviously been a major player in convening it, but that's just one area.

Another area is in lab technicians—sometimes they have labs, but they have no one to run them. Learning to manage blood banks—many of them said, "If you could just give us people that could learn to run blood banks." Others said, "We need basic public health schools, we wouldn't know a case of avian influenza if we saw one."

The whole area of dental training—you've traveled in these areas, you've seen the oral health challenges that are there—when they learn of our capacity to train technicians from their village to basic dental procedures, they could not have been more hungry to have that kind of training.

We're talking about a few million dollars a year, to be able to have a facility where people from that entire region can come, be trained, go back, have a job, make contributions—not only to their community and health, but also economically.

Senator HARKIN. How soon could we do something—how long would it take to do something? I mean—

Secretary LEAVITT. We started the project in Central America in November, and we held the first class this month. We had about 50, I think, students from around the region, it was a small class. But, we anticipate that—this does not require a lot of bricks and mortar, at least in Central America—

Senator HARKIN. Do you have facilities available?

Secretary LEAVITT. We had a facility, in the old Canal Zone that we were able to use.

Senator HARKIN. Yeah.

Secretary LEAVITT. But—

Senator HARKIN. Yeah.

Secretary LEAVITT. You know, we don't have to build up a lot of bricks and mortar here. We can move rapidly. I think it's a model. I'm going to South America to meet with our Ambassador to Brazil for this same reason. He believes—and the Brazilian Government believes—that there are regions of South America where this would be applicable.

We've had some conversation about using this model in sub-Saharan Africa, again, to train midwives and others. So, we're creating lasting skills that we leave in the region and are about lasting contact that we have with a provider.

Senator HARKIN. I shouldn't—the Brazil thing would be where they would be helpful, financially, and that type of thing.

Secretary LEAVITT. Oh yes, we're looking to partner with them in other parts of Latin America.

Senator HARKIN. Yeah, I mean, yeah, partner with—

Secretary LEAVITT. Not just in Brazil, but in other areas—

Senator HARKIN [continuing]. Partnering with them in other areas, I understand that. That'd be good.

Well, I—if there's something you'd like us to look at on this Subcommittee that we would be helpful to move this another step further in the next round, I—just speaking for myself, I'd like to take a look at it—

Secretary LEAVITT. Thank you.

Senator HARKIN [continuing]. We'd like to be helpful.

Secretary LEAVITT. We'll have to give a detailed plan.

SHORTAGE OF HEALTHCARE WORKERS

Senator HARKIN. One last, just one last question and I'll turn it over to Senator Specter.

Now, you mentioned, a lot of these Central American countries, especially, let's face it—a lot of them are here, and they're working here, and they're sending money home. But there's another problem that I've come across—I don't know how big it is, but it's there.

Because we have a shortage of certain kinds of healthcare workers in this country, there's sort of a brain drain, there's sort of a drain, if they get trained in those countries to be healthcare workers, they can make more money coming here. So they come here. I have, myself, come across some people from other countries who are here, and they're very valuable healthcare workers. So, how do we reduce that?

Secretary LEAVITT. Well, we dealt with that directly, with the heads of state and the health ministers, and our commitment has been, "Look, we're not training people to bring into the United States. We're training people to meet needs in rural Honduras, or rural Nicaragua, or rural Guatemala," and that issue continues, it will continue, but right now they have nothing. We can provide them with substantial improvement in that health base by doing this.

Senator HARKIN. That's a—that drain of healthcare workers out of some of those—I don't know, again, I have no idea how big it is, it's a significant, it's there, I just don't know how big it is, and—

Secretary LEAVITT. We're not training people in these centers to be Registered Nurses, or physicians.

Senator HARKIN. Right. Right, I understand that.

Secretary LEAVITT. We're training them in basic medical skills, and they're mostly community health workers.

Senator HARKIN. That's what you're, that's what's really important right there. I think, anyway.

Thank you, Mr. Secretary.

Senator Specter.

AVIAN INFLUENZA

Senator SPECTER. Thank you, Mr. Chairman.

Secretary Leavitt, as noted in my brief opening statement, a great deal of money has been appropriated for pandemic flu, a con-

cern that there might be a great worldwide pandemic, which is, wrecks such havoc, so many deaths back in 1918, and periodically.

I know from your written testimony that 291 people have contracted Avian Influenza around the world with 28 new cases reported in humans since the beginning of the year. We had authorized some \$7.1 billion, and \$5.6 billion has been appropriated, and contracts have been let. What is your evaluation today of the potential threat of a worldwide epidemic? Is it off the table? Is it still possible? How likely is it to occur?

Secretary LEAVITT. The most important response is a reminder to all of us that pandemics happen. They have happened throughout human history, and there's no reason to believe that the 21st Century will be any different. The H5N1 virus continues to spread across the world, it continues to mutate, it continues to follow a pattern, it's very troubling.

Senator SPECTER. So, you think it will happen, it's just a question of when?

Secretary LEAVITT. A pandemic will surely happen, whether it's the H5N1 virus that causes it, we do not know, but there is a certainty about the existence of pandemics that dates back throughout human history.

Senator SPECTER. Have we done enough, are we doing enough to guard against that eventuality?

Secretary LEAVITT. We are dramatically better prepared today than we were a year ago, but we need to be dramatically better prepared a year from now than we are today. It's a continuum of preparation. The generous appropriation of the Congress has allowed us to pursue preparation in five very important areas, one of which is monitoring around the world.

The training center I've spoken of is just a very small nugget that shows that progress. We're now training people throughout the world, and equipping them with laboratories and the skills to recognize when H5N1 virus occurs we can get an early jump on, hopefully, containing it should it mutate into the position that could cause a pandemic. That's happening in almost every region of the world.

The second area is, of course, monitoring here at home. We're developing monitoring systems, and that's part of a broad State and local preparedness. The Congress has generously allocated funds in a way that we're able to provide pandemic training, and now a lot of exercising is going on. We developed plans, we're now exercising those plans in virtually every State—well, in every State in the country, and virtually every community.

We're not at the point I wish we were in that area, but we're substantially better than we were a year ago.

Another area is in the area of vaccines. We have let contracts—we're well over \$1 billion now—to developers—

VACCINES

Senator SPECTER. Have you monitored the progress from those—are making toward the development of the vaccines?

Secretary LEAVITT. Yes, we are, and I'm able to report substantial progress, particularly in the area of adjuvant technologies, and the development of a cell-based vaccine. As you may be aware,

we've actually seen vaccines now that have been approved by FDA for use, but we're not at the point where we could crank up production and produce 300 million courses of a vaccine in the period that we desire to be able.

So, we still have some work, but we're making substantial progress. We've made stockpiles of anti-virals, and other disposable medical equipment.

Senator SPECTER. Mr. Secretary, I want to move onto a couple of other areas—

Secretary LEAVITT. Okay.

Senator SPECTER [continuing]. And there is limited time, but you've already given an encouraging response. I want to compliment what your Department has done, and what the Centers for Disease Control has done with Dr. Julie Gerberding. When the issue was on the front pages many months ago, Americans were alerted, and I think it is important at a hearing like this, that the alert be maintained.

Firsthand, I can tell you how concerned my wife was, and we have laid provisions for an extended period of time if you have to be confined to your homes, which is one of the consequences if there should be a pandemic. We couldn't go to movies, you might not even be able to leave your house safely, so the provisions have to be set in, which is a complicated matter—foodstuffs, water, medicines to tide you over, so that anyone watching this hearing on C-Span later, these are warnings which ought to be heeded. Dr. Gerberding testified about the website which CDC has, with practical suggestions as to what might be accomplished.

GLOBAL FUND

There are a number of other faces, and obviously we can't cover everything, but I note on the Global Fund for HIV/AIDS, TB and malaria, about \$300 million was appropriated in fiscal year 2002, went up to \$724 million in fiscal year 2007, but the budget request has only \$300 million for next year. I'd like you to submit in writing why it has gone down, and what your evaluation of the resources is?

[The information follows:]

In May 2001, President Bush made the founding pledge of \$200 million to the Global Fund, and has consistently requested \$200–\$300 million each year for the fund since. These contributions complement the rapid bilateral scale-up of the U.S. Government's bilateral HIV/AIDS and malaria programs.

In January 2003, the President framed future commitments to the Global Fund under his new, 5-year Emergency Plan for AIDS Relief (Emergency Plan). Of the \$15 billion he pledged for the Emergency Plan, he pledged \$1 billion to the Global Fund. Taking into account the \$300 million in the President's fiscal year 2008 budget request, the U.S. Government will have provided approximately \$3 billion to the Fund by 2008, far more than the amount the President pledged for 2004–2008. In addition to being the Fund's largest contributor, responsible for almost 30 percent of all the Fund's resources, the U.S. Government provides over 50 percent of all resources for global HIV/AIDS through bilateral programs, research, and contributions to multilateral organizations. We are eager to see other donors, particularly those without strong bilateral programs, come forward with significantly increased funding directed to the Global Fund. The Fund's greatest challenge is to raise more money from other donors, including new donors, not increase the share the United States contributes.

To date, over six rounds of funding the Global Fund Board, on which the U.S. Government holds a seat, has been able to award grants for all proposals the Fund's independent Technical Review Panel has recommended for approval, including its

most recent funding round in November 2006. The Fund has a surplus of resources beyond those necessary to meet all of its commitments to its current grantees.

AFGHANISTAN

Senator SPECTER. I note that in Afghanistan, that some \$6 million was allocated to improve maternal and child healthcare, which has been started over the last 4 years, and I'd like in writing what has happened on that program?

[The information follows:]

The Afghanistan Health Initiative aims to improve maternal and child health, and reduce maternal and child mortality in that country. The U.S. Department of Health and Human Services (HHS) believes these strategic objectives are achievable through the provision of training to upgrade the knowledge and clinical skills of physicians and other health care professionals and the leadership and management skills of hospital administrators. The primary focus of these efforts is ensuring that the attending physicians, residents, midwives and nurse-midwives and other staff at Rabia Balkhi Women's Hospital (RBH) in Kabul, the largest maternal hospital in Afghanistan, possess the core knowledge and skills required to provide quality maternal and neo-natal health care for mothers and their babies. Before HHS involvement at RBH three to four mothers died per day. Now only two to four mothers die per month, with no maternal deaths in some months. There have been similar results in neo-natal mortality rates.

From 2004 to 2006, Congress approved a total of \$16.811 million to the Afghanistan Health Initiative. HHS dedicated the largest portion of these appropriated dollars to support the activities of the Maternal and Child Health program at RBH, which the Afghanistan Ministry of Public Health authorized in accordance with the Ministry's policies, procedures and directives. These funds went to three recipients: the HHS/Centers for Disease Control and Prevention (CDC), and two non-governmental organizations (NGOs), International Medical Corps (IMC) and CURE International. In combination, these recipients have been the cornerstones of the Afghanistan Health Initiative. Two other HHS Operating Divisions—the Health Resources and Services Administration (HRSA) and the Indian Health Service—have participated in capacity-building efforts at RBH.

Through professional training and technical assistance, HHS seeks to bolster the administrative and management capacity of RBH officers and foster an environment conducive to learning, skill refinement and the overall provision of quality maternal and infant health care. At RBH, the largest and busiest maternal hospital in the country (with 13,000–15,000 births each year), managerial and clinical capacities have proven integral in establishing a sustainable health-delivery system, as well as improving infection-control procedures, developing medical records for patients, collecting vital statistics related to improving health (including morbidity and mortality), and conducting disease surveillance.

HHS adapted a basic U.S. training program for residents in obstetrics and gynecology, for use in Afghanistan. Components of the medical residency program are modeled on the system used in the United States approved by the Accreditation Council for Graduate Medical Education (ACGME). HHS has taken care to clarify, however, our use of an adaptation of a curriculum endorsed by ACGME does not mean the training program has “imposed” unrealistic or inappropriate standards to the Afghan setting, nor set the expectation that the instruction at RBH would actually qualify for ACGME accreditation. Rather, our intent has always been to create a residency program that approximated those seen in neighboring countries. In 2006, the program's efforts resulted in the development of a new 4-year residency program approved by the Afghanistan Ministry of Public Health Expert Group in Obstetrics and Gynecology. In 2007 and 2008, HHS will also be investing in strengthening the vertical referral system among clinics and hospitals in Kabul, which will help pregnant women receive appropriate care at every level in the health system, and relieve pressure on RBH.

HHS has focused additional efforts on patient education and has developed and helped distribute the Afghan Family Health Book (AFHB), an electronic, interactive tool that uses sound and pictures to deliver health-education messages in Dari and Pashto, Afghanistan's two main languages, to people who cannot read. The Afghan Ministry of Public Health (MOPH), has distributed the books in 30 of the country's 34 Provinces. To extend the benefits of this program, HHS recently teamed with the U.S. Department of State and a non-government organization to develop a series of

serialized, local-language radio shows based on the AFHB. These radio shows are scheduled for broadcast this summer.

In response to requests from Afghan Minister of Public Health, Mohammed Fatemi, to Secretary Leavitt, in 2007 and 2008 HHS will also be allocating resources to activities in Afghanistan in the fields of mental health and the quality and safety of food and drugs. We are working with the Ministry of Public Health and other partners to determine the specifics of these elements of our program, which will tie back into our goals of improving the health of women and children.

Finally, HHS has agreed to assign two U.S. Public Health Service (PHS) Commissioned Corps Officers to the staff of the Coalition Forces Command Surgeon in Kabul, to work on integrating the health-care system for uniformed Afghan military and police personnel with civilian health institutions, the U.S. Department of Defense (DOD) is reimbursing HHS for the cost of these billets. With Afghan Health Initiative funding, HHS will also be assigning two HHS/PHS officers to Provincial Reconstruction Teams in Afghanistan in 2007, to better link our program with broader reconstruction efforts in the health sector.

LATIN AMERICA INITIATIVE

Senator SPECTER. It is something that is good to do, we are fighting the Taliban in Afghanistan, and to have a showing of our concern for child and maternal care has to be a good foreign policy initiative, which you have mentioned.

In Latin America initiative, there was \$1.5 million, I'd like to get the specifics on what you can accomplish there.

Since Senator Harkin and I have a running dialogue about our seniority, Senator Harkin was selected in 1984, and I, 4 years earlier. Now, as we're moving up the seniority chain, we're waiting for the day when—instead of being chairman and ranking on this subcommittee, we'll be chairman and ranking on the full Appropriations Committee. I have a preference as to who should be the chairman there, and Senator Harkin has a preference, too, but—

I couldn't pick anybody better for second place.

Or, perhaps, for first place, to be the chairman. But, I mention this in terms of what he and I have talked about, should we get there, to have an overall evaluation as to how we divide the \$2.9 trillion—staggering sum of money. But, we start off with \$500 billion on defense, except when we add another \$100 billion as we are now—and we start off with \$34 billion on homeland security, and what's left over comes to Health and Human Services. When you have only \$6 million to allocate to Afghanistan child and maternal care, and back to the 2002 level on Global HIV/AIDS, we know what you're struggling with.

So that, we look forward to a time when there might be a top to bottom reevaluation as to how we allocate these funds. But, if you could give us some insights on those particular items, we would be appreciative.

Secretary LEAVITT. Indeed, we will.

Senator SPECTER. Thank you, Secretary Leavitt.

Thank you, Mr. Chairman.

Senator HARKIN. Well, Mr. Secretary, I don't have any further, Senator Specter asked all the questions I wanted to, but, just on that Latin America thing, if there's more information that you want to give us, and we'll look at that budget item, we'll be glad to do so.

Secretary LEAVITT. Good, thank you.

[The information follows:]

Thank you for your interest in this important initiative. Under the President's Initiative to Advance the Cause of Social Justice, my Department is proposing to channel technical and financial resources from the U.S. Government and the private-sector to improve health care to people in Central America. I outlined three objectives of the proposal: (1) to improve the training of Latin American healthcare workers in their home region; (2) to train U.S. Government medical personnel through deployment to Central American countries as part of U.S. Military medical and humanitarian missions to provide oral health care for poor populations in the region; and (3) maximize the quality and quantity of health care delivery through closer coordination with U.S. non-governmental organizations (NGOs) that are operating in the region. On my recent trip to Central America, I signed Letters of Intent between our Government and the Governments of the Republics of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama, to enhance and expand bilateral cooperative efforts in health and the medical sciences, and to confront common threats to health security. The signatory Governments, through their Ministries of Health, expressed their intent to collaborate to establish a multi-country Regional Health Care Training Center in Panamá, City.

The Regional Training Center (RTC) will support the development of a coordinated health approach in the region, with the intent of strengthening the capacity of Central America's health-care institutions for preventive and public health approaches. Students from the six countries will enhance their skills and abilities to provide basic care to poor populations, and to be prepared for specific situations related to infectious disease, including respiratory conditions and potential emerging threats like pandemic influenza. At the completion of the training, students will return to their homes to apply the skills to improve the health care provided in their own communities.

The first course for students from the region ended on April 30, 2007, focused specifically on pandemic influenza preparedness and response. In the first year, a cadre of faculty from each of the Central American countries, as well as from HHS and universities in the United States, including academics and professionals in practice with expertise and high recognition in the field, will train 150 students from across the region. The Regional Training Center is very popular among the Ministries of Health and among the professional dental and medical societies in the region, yet significant aspects of the Center are still under development or negotiation (the governance, long-term sustainable financial support, the makeup of the student body and faculty, and physical facilities, among other aspects), even as the classes are underway. Future training would include, for example, classes for the development of community health workers, technicians, dental hygienists, paramedics and skilled birth attendants and midwives; and courses would address subjects like pandemic preparedness and response, and emergency neo-natal and obstetric care.

Second, U.S. Government personnel will be trained to provide high-quality oral health care, particularly preventive dental care, by deploying them on humanitarian missions in Central America. HHS will work with the U.S. Department of Defense (DOD) and our Central American partners to provide health care to those most in need. The President has ordered the USNS *Comfort* to Latin America and the Caribbean to make port calls in 12 countries, to treat 85,000 patients and conduct up to 1,500 surgeries. HHS Commissioned Corps health officers, primarily dentists, will join those missions. They will also join military dentists from the United States DOD.

Southern Command (USSOUTHCOM) on medical readiness and training missions to the region, which are mutually beneficial, as they will represent an opportunity for the U.S. Government personnel to hone their skills in providing culturally competent care here at home, and also provide to the local population badly needed medical and dental interventions.

The total training costs for fiscal year 2007 are estimated at \$3,229,000. \$2.5 million comes through a cooperative agreement between HHS and the Gorgas Memorial Institute in Panamá. We also expect an in-kind contribution for the Government of Panamá. HHS Operating Divisions will cover the rest with existing resources.

For fiscal year 2008, the President has requested a total of \$1.5 million for the health care portion of his new Latin American Health Initiative. Included in the President's fiscal year 2008 budget request of \$1.5 million for the health care portion of his new Latin American Health Initiative are the following costs (please see the chart for complete fiscal year 2008 budget detail):

- Training of Central American health-care workers in Panamá: \$315,000. A total of 240 health-care workers will be trained from six countries (40 health-care workers per country).
- Deployment of HHS USPHS Commissioned Corps Officers training to provide oral health care: \$309,744. There are 12, one-month USSOUTHCOM missions

scheduled to Central America. HHS will provide several officers on each rotation.

—Supplies for HHS USPHS Commissioned Corps: \$375,256. This cost covers sealants, other types of oral health care, and educational materials for 8,640 children.

—\$500,000 to supplement the training component of this initiative through coordinated health campaigns, to provide care, and faculty participation at the Regional Training Center, and to create an evaluation plan for the initiative.

We are also thankful for the opportunity to provide further information on the Latin American Health Initiative and what more we hope to accomplish. During my visit to Central America in March 2006, the Governments and civic and professional organizations demonstrated an eagerness to engage with the United States that surpassed my expectations, and a number of significant opportunities for greatly enhancing the effectiveness of the program became evident. The United States has a remarkable opportunity to connect directly to the people of Central America and engender the friendship and goodwill that is so clearly in our national interest. HHS is eager to take full advantage of the potential that a more robust health-diplomacy effort could provide for the United States' interests in the region. There are three key opportunities to strengthen the initiative immediately: increase the number of U.S. Government faculty at the Regional Training Center; expand the curricula into many areas beyond the first session focus on pandemic preparedness and response; launch a more robust plan for public-private partnerships and collaboration.

HHS would like to place a U.S. Government employee as the Deputy Executive Director of the Regional Training Center, which would thus ensure American involvement but Central American ownership. A broader and more dynamic role for private and non-governmental health organizations would also be an excellent opportunity to enhance the effectiveness of the effort overall, both in direct support of the Regional Training Center, but also in the direct provision of health care. Expansion of the Regional Training Center's curriculum and U.S. faculty are within the parameters of the HHS existing business plan, but is likely to require more resources beyond the relatively modest first year of funding. Additionally, HHS could greatly enhance the reach and effectiveness of its health diplomacy if it had clearer, more specific legal authority to support with appropriated funds health-diplomacy objectives and opportunities in limited and defined areas this initiative and HHS' overseas activities in general can provide.

Perhaps the greatest opportunity to increase the effectiveness of the initiative would be a greater role for U.S. health-care professionals to interact with and treat Central American patients at the community level. Both as a part of the USNS *Comfort* and in the DOD's readiness and training missions, U.S. Government health professionals will have limited opportunities to provide oral health-care to populations with which they interact. However, as we have seen in many cases worldwide, an American provider's healing presence and interaction with host-country residents is a powerful tool in health diplomacy, and we will continue to explore more opportunities for this kind of high-touch medical care. Also, the value to the professional development of skills and experience for our own personnel gained through overseas readiness and training exercises is exceptional, as the U.S. military has demonstrated for decades.

Finally, because this would be an innovative and pioneering effort in health diplomacy, demonstrating its effectiveness and measuring its outcomes would be even more important than in other settings. My expectation is that this initiative in Central America will provide a test bed for new ideas and a chance to demonstrate proof-of-principle in health diplomacy and the training of community health professionals for underserved populations. HHS would create a Department-wide Technical Advisory Group to provide oversight to the project and ensure it is following public-health and evidence-based best practices.

Senator HARKIN. Thank you for your leadership in that area.

Now, we call for our second panel, and that's Dr. Stephen Blount, Director of the Office for Global Health with CDCP, Dr. Roger Glass, Director of the Fogarty Center at NIH.

We'll start first with Dr. Blount. Stephen Blount became the first Director of the Office for Global Health in 1997. In 1993 to 1997, he was assigned to the World Health Organization, as Director of the Caribbean Epidemiology Center in Trinidad.

Dr. Blount received his M.D. from Tufts, and his M.Ph. in 1980 from the University of Michigan. Dr. Blount, welcome to the com-

mittee, your statement will be made part of the record in its entirety, and please proceed, and then we'll turn to Dr. Glass.

STATEMENT OF DR. STEPHEN BLOUNT, DIRECTOR, OFFICE FOR GLOBAL HEALTH, CENTERS FOR DISEASE CONTROL AND PREVENTION, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Dr. BLOUNT. Good morning, Mr. Chairman. Thank you very much, to you and other members of the subcommittee.

I do serve as Director of the Coordinating Office for Global Health at the Centers for Disease Control and Prevention, where I've worked for the last 19 years, with the most recent 15 years in the area of Global Health.

I'm honored to talk with you today about the important contributions that CDC is making to improve the world's health.

Secretary Leavitt has already highlighted a number of Global Health programs in which CDC is a partner, and my written statement provides further information about our Global Health activities.

CDC currently has a total of approximately 1,400 employees in 46 countries, including our own U.S. Government employees, and hundreds of locally employed staff working with our international partners and host countries. It's the extraordinary commitment of our workforce that enables us to effectively carry out our mission in some of the most difficult countries in the world.

In general, the core work of CDC country offices includes: disease surveillance, program development and implementation, research, systems and capacity development, and emergency preparedness and response.

INFLUENZA

Today, the United States and the rest of the world face a real and urgent threat—the deadly H5N1 Influenza virus that Secretary Leavitt just commented on. CDC is playing a critical role in supporting the efforts of 20 priority countries to develop national preparedness plans.

In 2006, through our Global Disease Detection efforts, we helped countries respond to, and assess, in less than 48 hours, the public health risk of 28 cases of human H5N1 reported to the World Health Organization. We also helped to train more than 230 participants from 32 countries in influenza rapid response.

Still, we recognize—just as the conversation before focused on—that we have to build capacity to respond to all potential, natural or intentional, health threats.

GLOBAL DISEASE DETECTION

A significant resource for addressing these threats is CDC's Global Disease Detection Program. In collaboration with host countries at WHO, we are establishing response centers across the globe to strengthen global capacity for responding to these threats. This past year, we collectively responded to more than 144 disease outbreaks, including Avian Influenza, hemorrhagic fevers, meningitis, cholera, and unexplained sudden death.

Other urgent realities that we're committed to addressing include endemic infections, such as measles and malaria—also dis-

cussed earlier—chronic diseases, injury and core public health issues such as safe water, and, as you mentioned, maternal and infant health.

For example, CDC has been a core partner in the Global Measles initiative. Earlier this year, the initiative's partners confirmed that measles deaths have fallen by 60 percent worldwide—a major public health success, and a story that we haven't told widely enough. This achievement exceeded the United Nations goal of cutting measles deaths in half by 2005, and is due largely to an unprecedented decline of 75 percent of measles deaths in the Africa region.

SAFE WATER

Another area where we're continuing to have a significant health impact is access to safe water, sanitation, and hygiene. More than 1 billion people worldwide have no safe water, and more than 2 billion lack access to adequate sanitation, resulting in—what we estimate to be—3 million deaths that are, essentially, unnecessary.

Unsafe water is the source of not only potentially deadly enteric diseases, but it also results in chronic debilitating conditions that do not cause death but cause individuals to live much less rich lives because of this. To achieve reductions in this enormous burden caused by these diseases in poor countries, CDC is developing sustainable approaches to providing safe water.

For example, with our international partners, we've developed a new and low-cost technology called the Safe Water System, that has reduced diarrheal deaths in some locations by 50 percent.

PUBLIC HEALTH RESEARCH

We continue to engage in critical collaborations with global partners on applied public health research—by applied, Dr. Glass is going to talk about basic research, I believe—our work is in translating the results of NIH and other research into public health interventions on the ground that save lives. These leverage our unique capacities and opportunities for mutual benefit for the United States and our host countries.

Our collaborative study in China, for example, in the use of folic acid to prevent birth defects resulted in a significant decrease in birth defects in high-risk areas, and provide ongoing safety data to support the U.S. policy of fortifying cereal grain products with folic acid.

I just returned from China last week, and met with CDC staff, who are engaged in rapidly scaling up our presence in that country, which is critically important in executing our own foreign policy.

Additional CDC research efforts support the implementation of PEPFAR, the President's Emergency Plan for AIDS Relief. These research efforts focus on novel approaches for HIV and other diseases. We also, of course, support the President's Malaria Initiative.

Let me move quickly, in concern about the time.

So, let me turn from some of the successes that we've contributed to, to very quickly, three of the challenges.

FUTURE CHALLENGES

First, we need to continue to engage our external partners in the development of a strategic vision for Global Health Action. We continue to work very closely with WHO in this area, and other multi-lateral partners.

Second, recent global successes with integrated campaigns that bundle interventions—such as malaria, measles, Vitamin A supplementation—have made enormous progress in Africa.

Finally, the Global Health community must build a foundation for a collaborative response to the growing problem of chronic diseases.

You mentioned earlier, Senator, and I'll conclude with this, about the concern for building the public health capacity in developing countries. Here in our own hemisphere, and abroad, our focus is on training public health physicians, laboratory specialists, and managers in public health programs.

As Secretary Leavitt indicated, we're helping to build the capacity in countries to deal with their own problems. We're hoping that they will remain in their countries—one of the major benefits of these training programs is that in time, not only do they build immediate skills to address problems, but the graduates of the programs to which we contribute, have become leaders in public health in their countries. That builds friendship, it builds communication, it builds capacity in these countries, and a strong regard for our own country.

PREPARED STATEMENT

So, we want to thank you and the other members of the committee for their support. The world looks to the United States for public health leadership and guidance, and it's imperative that we fulfill our health diplomacy goals, with our expertise, our partnerships, and our spirit of innovation, I'm confident that CDC can help America to help the world. Thank you.

[The statement follows:]

PREPARED STATEMENT OF DR. STEPHEN BLOUNT

INTRODUCTION

Good afternoon Mr. Chairman, Senator Specter, and members of the subcommittee. My name is Stephen Blount. I serve as the Director of the Centers for Disease Control and Prevention's (CDC) Coordinating Office for Global Health. I am honored to be here today to talk with you about the important contributions that CDC is making to improve the world's health.

The scope and nature of the agency's global health efforts have expanded over the years, but the constant is that CDC is on the frontlines of international disease eradication and health promotion. The most recent addition to our global mandate is the ambitious goal of protecting the United States and world population from emerging global threats.

CDC'S COMMITMENT TO GLOBAL HEALTH

In fiscal year 2007, CDC has devoted approximately \$334 million to global health efforts, in addition to the approximately \$815 million it has received thus far in transfers from the Department of State, Office of the Global AIDS Coordinator, as part of the President's Emergency Plan for AIDS Relief (PEPFAR). We strongly believe that program and scientific staff should be embedded in the countries they serve. As of May 2007, the CDC has 166 staff working on assignments in 46 countries around the world. Besides these assigned staff, the agency employs approxi-

mately 1,200 local staff in host countries to support these programs and has approximately 40 staff detailed to work with our international partners. It is this commitment of funding, staff, and resources that has produced effective, efficient, and high quality global health results at CDC. Today, I will share with you some of our greatest accomplishments.

CDC'S STRATEGY TO ADDRESS GLOBAL HEALTH CONCERNS

CDC is committed to working with partners, both domestic and international, to achieve our goal of Healthy People in a Healthy World. Through the leadership of the Coordinating Office for Global Health (COGH), CDC is developing the first-ever agency-wide strategy to improve global health. This strategy includes health promotion, health protection, and health diplomacy.

Our health promotion activities help prevent the major causes of global illness and death through the implementation of proven interventions. Our commitment to health protection focuses on our collaborations within a transnational network of countries and other organizations that are dedicated to protecting the health of Americans and the global community from emerging threats. Finally, our health diplomacy efforts reflect our commitment to provide humanitarian leadership by sharing tools that enable other countries to identify and act on their own health priorities.

CDC also understands that our global health work cannot be accomplished without strong global partnerships. Today, approximately 30 of CDC's programs serve as World Health Organization (WHO) Collaborating Centers. In this role, CDC efforts help to protect the world's health by strengthening laboratory and epidemiological capacity and improving control and prevention strategies for selected diseases. CDC also works with a variety of sectors including government, private, and non-profits organizations. We partner with Ministries of Health, the Pan American Health Organization, USAID, CARE, the Carter Center, and UNICEF, just to name a few.

CDC GLOBAL HEALTH SUCCESS: HEALTH PROMOTION

A key CDC strength is our work in global health promotion activities. I will highlight a few outstanding examples.

Global HIV/AIDS, Tuberculosis, and Hepatitis

CDC's Global AIDS Program (GAP) is a proud partner in the President's Emergency Plan for AIDS Relief (PEPFAR). Secretary Leavitt has already shared with you some of its major program components and achievements. Through PEPFAR CDC is also engaged in developing next-generation solutions to the HIV/AIDS problem.

CDC is working to deploy known strategies to address Global HIV/AIDS in support of PEPFAR through new biomedical interventions. For example, we are conducting clinical trials on the safety and effectiveness of carageenan, a vaginal gel microbicide in Thailand, and on the safety and effectiveness of daily use of the antiretroviral agent tenofovir in the United States, Thailand, and Botswana. As part of the Partnership for AIDS Vaccine Evaluation, CDC is developing new animal models for the evaluation of vaccine candidates. CDC's current research priorities include microbicides, pre-exposure prophylaxis (PrEP), HIV vaccine development, and emerging retroviruses.

Tuberculosis (TB) remains a major cause of illness and deaths globally, and is closely tied to our HIV/AIDS program activities because of high rates of co-infection. Nearly 9 million people develop TB each year, and 2 million die from the disease. CDC is actively engaged in addressing the emerging global concern arising out of reports of extensively drug-resistant tuberculosis (XDR TB). XDR TB has been reported in all regions of the world that have looked for drug resistance to second-line medications. The keys to preventing the development and spread of XDR TB are to ensure that patients are treated until cured with medications that are effective and by implementing appropriate infection control practices in medical care settings. CDC is working closely with the other parts of HHS, the Department of State, USAID, WHO and other international partners to address XDR TB.

Perinatal transmission of hepatitis B also remains an international concern. The good news, however, is that through support for WHO and work with the Global AIDS Vaccine Initiative (GAVI) Alliance and other partners, CDC has contributed to the substantial progress in control of global hepatitis B. To date, 158 of 192 WHO member states have introduced hepatitis B vaccine into routine infant immunization programs.

Malaria and other Neglected Tropical Diseases

Malaria is responsible for 300 to 500 million clinical episodes and 1 million deaths each year, mostly in young children in sub-Saharan Africa. Recently malaria control efforts have been expanded by the President's Malaria Initiative (PMI). CDC is an active technical partner in PMI, and science conducted by CDC and our partners underpins the proven strategies being used in PMI: indoor residual spraying, insecticide-treated bednets, anti-malarial drugs and prevention in pregnancy. CDC's contributions to the fight against malaria generally—and to PMI specifically—capitalize on the agency's strengths in translation of data into policy and program, monitoring and evaluation, and applied research and the advancement of science that can quickly be translated into effective prevention and control strategies. CDC also supports ongoing activities to address the malaria burden in Asia and the Americas.

Beyond the burden of malaria, as much as one sixth of the world's population is affected by one or more of a group of maladies collectively known as neglected tropical diseases. These diseases are responsible for tremendous illness and death worldwide and pose direct threats to the health of the American public. Yet efforts to reduce or eliminate these diseases have historically received little attention and few resources. CDC is actively working with a broad range of partners, including the pharmaceutical industry, to bring much-needed treatments and preventive interventions to those in greatest need.

Global immunizations

Global immunizations is another major global health program at CDC, and Secretary Leavitt provided significant details about achievements to date in polio eradication. The Urgent Stakeholder Consultation on Polio Eradication at the World Health Organization in Geneva in February 2007 reconfirmed that polio eradication remains both technically and operationally feasible. New, targeted strategies in each of the four remaining endemic countries, together with monovalent oral polio vaccine—which has proven to be up to 3 times as effective as the traditional vaccine—provide powerful tools to help achieve polio eradication. As a key member of the Global Polio Eradication Initiative, CDC is actively involved in providing technical support and advocacy to reach this worthwhile goal.

Another major effort in immunization where we are seeing dramatic strides is measles control and elimination. Although entirely preventable with a vaccine that costs less than \$1 per child in the developing world, measles ranks among the top 10 killers of young children around the world—taking the lives of 345,000 in 2005. Reflecting one of the greatest successes in global public health in recent years, in January 2007, Measles Initiative partners announced that measles deaths had fallen by 60 percent between 1999 and 2005, from 873,000 to 345,000, surpassing a United Nations goal of cutting measles deaths by half during that period. CDC is a founding member of the Measles Initiative, which has provided funding and technical assistance to developing countries to fight this scourge. This achievement has led to the setting of a bold new global goal: to cut measles deaths by 90 percent by 2010. Protecting children against measles globally also protects American children from measles because of the risk of importation of the disease.

In other immunization-related activities, CDC is expanding surveillance for rotovirus and pneumococcus and is helping to introduce vaccines for those diseases in countries where they are needed most. These new vaccines will help prevent diarrhea and pneumonia, two of the biggest killers of children in developing countries.

Non-communicable diseases

As I mentioned earlier, chronic diseases contribute substantially to global illness and deaths, and CDC is increasing its involvement in this area by addressing major risk factors such as inadequate or poor nutrition, tobacco use, and physical inactivity. CDC has several programs involved in chronic disease prevention and treatment work. One program is the International Micronutrient Malnutrition Prevention and Control Program (IMMPaCt). This program assesses the state of micronutrient malnutrition in a community and works to eliminate it through evaluation and expansion of effective interventions, assistance and guidance in communication and advocacy, and strengthening of global micronutrient laboratory capacity.

CDC has worked with WHO to develop and implement the Global Youth Tobacco Survey (GYTS) to track tobacco use among youth throughout the world using a common methodology and core questionnaire. This survey has been vitally important in providing evidence to demonstrate the effectiveness of youth tobacco prevention activities worldwide. Late last year the CDC Foundation received a grant from the Bloomberg Foundation to establish systematic surveys to monitor global tobacco use among adults. The grant is part of a \$125 million initiative by Bloomberg to create a partnership devoted to reducing dependence on tobacco around the world.

Injury, violence, and safety

Car crashes kill 1.2 billion people a year worldwide and currently rank as the 11th leading cause of death, accounting for 2 percent of all deaths globally. Another 20 to 50 million people per year are injured or disabled as a result of car crashes. CDC collaborates with WHO to develop the World Report on Road Traffic Injury Prevention and to provide technical assistance to develop and implement hospital-based injury surveillance systems in Central and South America. We also supported WHO in the publication of the WHO multi-country study on domestic violence against women, contributing to worldwide efforts to prevent intimate partner violence and sexual violence. In addition, CDC funded the creation of a curriculum to train first responders on the nature of blast injuries and proper triage criteria and collaborated with WHO on guidelines for essential trauma care.

Health and safety in the occupational setting is also a concern for CDC, particularly related to Americans who work overseas. CDC has been a WHO Collaborating Center in Occupational Health since 1976 and currently serves as Chair of the Global Network of 64 Centers. CDC contributes to the reduction of occupational diseases, injuries, and fatalities among workers employed globally by cultivating international partnerships and sharing pertinent information.

Maternal, infant and child health

While chronic diseases are a threat to both the developed and developing world, the vast majority of maternal, fetal, and neo-natal deaths occur in the developing world. It is estimated that worldwide, more than half a million maternal deaths occur annually, and 4 million late fetal deaths and 4 million neo-natal deaths occur each year.

With respect to HIV/AIDS, the prevention of mother-to-child transmission of HIV/AIDS (PMTCT) is a main focus and strong component of PEPFAR. In addition to the PMTCT activities that CDC undertakes as part of PEPFAR, we also conduct research that helps influence global policy change. For example, CDC research conducted in Thailand reduced rates of maternal to child transmission through effective treatment of mothers infected with HIV. This led to a policy change in Thailand that eventually became the world's standard.

Another example of how CDC research activities have influenced policy decisions is our critical collaboration with global partners to advance research focused on the prevention of birth defects and developmental disabilities and the identification of strategies to improve the health and quality of life individuals affected by these conditions. CDC's country-specific efforts also leverage unique research capacities and opportunities found globally. For example, China recently had the highest known rate of neural tube defects in the world—5 per 1,000 infants. Following a collaborative study conducted jointly by CDC and China, these birth defects were reduced by up to 85 percent in high risk areas of China and by 40 percent in areas with prevalence similar to the United States. Our research in China has provided important information about strategies to prevent such defects, and underpins the continuation of flour fortification in the United States by addressing safety concerns and providing evidence for other countries considering fortification.

CDC GLOBAL HEALTH SUCCESS: HEALTH PROTECTION

Currently, the United States and the rest of the world are facing a very real threat posed by the highly pathogenic H5N1 avian influenza virus. Our experience with SARS showed us how a highly infectious disease in a remote region of the world can spread in a matter of days and weeks. Thanks to the rapid and constant movement of people and commodities, pathogens can hitch rides on airplanes and boats and slip across national borders unnoticed. The key to interrupting these pathogenic journeys is early detection as close to the source as possible.

An estimated 60 percent of all known human infectious diseases and approximately 75 percent of all recently recognized emerging infectious diseases affecting humans are of animal origin. We witnessed sobering evidence of the health impact of the human-animal interface during our rapid multidisciplinary response to the large epidemic of potentially fatal Rift Valley fever virus earlier this year in east Africa. Additional disease surveillance tools, laboratory capacity, and CDC expertise deployed abroad can rapidly improve our ability to recognize and intervene to contain emerging threats—including a possible avian influenza pandemic—before they become significant problems within U.S. borders.

To prepare for a pandemic of influenza, key issues we need to address are appropriate training and exercising of rapid response teams to identify, investigate, and contain local outbreaks. We also need to be able to trust that we have the most accurate and reliable information about influenza viruses and novel human influenza

cases—through strong and established surveillance systems, laboratory capacity, and communication channels so we can respond effectively.

One of the most significant USG contributions to our preparedness for an influenza pandemic is the CDC's Global Disease Detection (GDD) Program. This program improves our ability to recognize infectious disease outbreaks faster and then better control and perhaps contain them. In collaboration with host countries and the World Health Organization, CDC is establishing GDD Centers across the globe that are already strengthening global capacity to detect and respond to infectious disease outbreaks. The GDD Centers build upon proven, effective interventions and approaches including the International Emerging Infections Program and the Field Epidemiology and Laboratory Training Program. Having CDC staff on the ground was invaluable in providing initial response support for the December 2004 Tsunami, particularly in Thailand, and is a mainstay of global response to the current avian influenza outbreaks. During the past year, CDC's GDD staff helped countries respond—in less than 48 hours—to all 28 human cases of H5N1 influenza reported to WHO. The GDD Centers have collectively responded to more than 144 outbreaks of avian influenza, hemorrhagic fever, meningitis, cholera and unexplained sudden death. CDC also helped train more than 230 participants from 32 countries in influenza pandemic response, contributing to the development of more than 1,000 local Rapid Response Teams that are prepared act in the case of a pandemic.

Naturally emerging infections like influenza or hemorrhagic fever are not the only disease threats we face. Through its administration of and leadership in the World Health Organization's Global Salm-Surv network, CDC is helping to greatly increase the laboratory surveillance and diagnostic capacity of more than 100 countries worldwide to monitor, detect and respond to foodborne and other infectious enteric diseases, as well as potential bioterrorist threat agents, such as anthrax.

CDC GLOBAL HEALTH SUCCESS: HEALTH DIPLOMACY

CDC recognizes the importance of the leveraged investments we make in sustainable health systems that can help develop the people, tools and systems needed to carry out essential public health functions above and beyond what CDC can do alone.

Sustainable health systems

A key component of such sustainable capacity is the development of a trained and skilled workforce. CDC has made significant contributions to the global health workforce through the Field Epidemiology Training Programs (FETPs), developed in response to country requests for programs like the U.S. Epidemic Intelligence Service (EIS). Trainees provide epidemiologic services, including surveillance system assessments and outbreak investigations, to the Ministry of Health during their training.

Since 1980, CDC has provided a resident advisor to 28 programs covering 36 countries. Of these, 19 no longer need support from a full-time resident advisor and 19 are still producing graduates. Of the more than 1,200 epidemiologists who have graduated from these programs, many are in influential decision-making positions in their respective countries' Ministries of Health.

Safe water, sanitation and hygiene

A key area in which we have the potential to have a significant impact is through provision of safe water and sanitation systems. More than a billion people worldwide have no access to safe water and more than 2 billion lack access to adequate sanitation, resulting in an estimated 3 million deaths each year, mostly among children younger than 5 years. Unsafe water is the source not only of potentially deadly enteric diseases such as cholera, E. coli O157:H7, and shigella, but also greatly debilitating illnesses such as Guinea worm, schistosomiasis, and trachoma. Targeted improvements in water, sanitation, and hygiene in developing countries could save millions of lives each year, adding an expected 15 years to the average life expectancy, and providing powerful health and economic developmental benefits. To achieve reductions in this enormous disease burden in resource-poor nations, CDC is developing, evaluating and promoting the use of simple and sustainable approaches to providing safer, cleaner water. For example, with our international partners, we have developed a low-cost technology—The Safe Water System—that has reduced diarrheal disease in some locations by 50 percent.

NEXT STEPS FOR CDC'S GLOBAL HEALTH WORK

Today I have shared with you the framework and strategies supporting our global health portfolio, as well as substantial evidence of the scope and magnitude of CDC's efforts. While we celebrate our successes in global health, we must also look forward to next steps and future challenges.

First, CDC needs to continue to engage our external partners in the development of our strategic vision for global health action. CDC is committed to sustaining and improving our collaborations with WHO and other multilateral partners, and to continuing to foster strong bilateral relationships with Ministries of Health in our host countries. As never before, we are also working more closely with other federal partners such as the Departments of State, Defense, and Agriculture, and the U.S. Agency for International Development. CDC is also expanding existing collaborations and seeking out and working to engage with new partners.

Second, recent global experience with integrated campaigns focusing on immunization, malaria prevention and vitamin supplementation shows us that CDC needs to seek more ways to promote integration across global programs. Some examples of the kind of success we can have in this arena are the simple addition of bednet distribution to prevent malaria within HIV/AIDS prevention and treatment activities, or within polio/measles immunization campaigns, and the integration of information about simple techniques to ensure safe water into the PEPFAR basic care package. Research supporting other integrated interventions must be conducted, and when proven, implemented in the field.

Third, CDC and the entire global health community must begin to build a foundation for a collaborative response to the increasing burden of non-communicable diseases in the developing world. Left unchecked, chronic diseases like heart disease, diabetes, high blood pressure, and preventable cancers are poised to be an ever larger proportion of global disease burden.

I thank the Chair, the Committee, and Congress for this opportunity to discuss our global health work and for your support for global health. The world looks to the United States for public health leadership and guidance and it is imperative that we fulfill our responsibility as a world leader in this arena. Furthermore, our Nation's commitment to global health provides a unique opportunity for humanitarian leadership, which CDC is implementing through its priority on Global Health Diplomacy. With our resources, our partners, and our innovative spirit, I am confident that CDC can help America help the world.

Senator HARKIN. Thank you, Dr. Blount.

Now, we'll turn to Dr. Roger Glass, who was named Director of the Fogarty International Center in 2006. He's a graduate of Harvard, studied at the University of Buenos Aires, and received his M.D. and M.Ph. from Harvard in 1972, and a Doctorate from the University of Goteborg, Sweden, in 1984. I understand he's gone back and forth between CDC and NIH throughout his career.

So, welcome, again, to the committee, Dr. Glass, and please proceed.

STATEMENT OF DR. ROGER I. GLASS, DIRECTOR, FOGARTY INTERNATIONAL CENTER, NATIONAL INSTITUTES OF HEALTH, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Dr. GLASS. Senator Harkin, thank you very much for having us here today, and letting me speak about the agenda of the Fogarty International Center in Global Health. The NIH currently invests about \$700 million in research overseas, much of this is in the developed world. About 25 percent is in the developing world. The Fogarty International Center is the only Center at NIH on the campus that deals directly with problems of international health, global health, and all of our funding goes to the developing world.

Let me just paint a landscape of how we see global health in the future. A long life, and a healthy life, is what every human on Earth expects and what is the ultimate goal of medical research. When we look at the panorama of the world, we see, in Africa, that life expectancy has declined precipitously over the last decade, due to the triple epidemic of HIV, TB and malaria.

At the same time, in much of the rest of the developing world, we see life expectancy—in China, for instance—going up to 71 years. So, they are not only burdened with the acute infections and

childhood diseases, but also within the chronic diseases that affect us all—cardiovascular disease, cancer, mental illness, obesity, diabetes, and the like.

So, as we think about global health and the 21st century, we really need to broaden our perspective from the acute infectious diseases in Africa, to some of these chronic problems in the developing world.

Well, let me tell you a little bit about how Fogarty—the Fogarty Center—addresses these issues of global health. The Fogarty Center has, as its mission, the promotion of training and research in global health—training and research overseas. We fund U.S. universities who train foreign scientists and develop long-term collaborative efforts, longstanding collaborations between scientists, mentors and students, and institutions. We're really extending the arms of the research activities of American universities.

Let me give you an example—I was in South Africa recently at the bedside of a 25-year-old man with extremely drug-resistant TB. He was dying, and we had no drugs that would possibly save him. Diseases have no borders—he's only a flight away from the United States, and if we have this patient in our own setting, how would we treat him? Fogarty has trained, and through our collaborations, trainees in South Africa, who are skilled in doing the trials that are needed to develop the drugs and the strategies right there where the disease is common. So, when these diseases come to the United States, we'll have some idea of how to treat them.

Another example in chronic diseases is a grantee we have from Nigeria, working in Chicago on breast cancer. We thought that in the African-American community, African-American women, when they have breast cancer, have the disease which is much more aggressive, and much less responsive to treatment.

We thought that this might be due to access to care, but this oncologist, a woman from Nigeria, has identified that the genes of breast cancer in African-Americans and in Nigerians are different than the genes that determine the cause of cancer in Caucasians. That determines why the disease is more fulminate, more aggressive and why it's less responsive to treatment. Another example where studying the disease and the genetics overseas can really determine the appropriateness of treatment for American women.

Now, Dr. Zerhouni commented in his testimony in this committee that global health will be one of the exciting new frontiers in biomedical research in the 21st century. Programs at the Fogarty Center extend the U.S. leadership in biomedical research overseas. We are taking science to where the problems are. We engage the best and the brightest, at home and abroad, in cutting-edge research. These investments have the unstated value of humanitarianism and diplomacy that was mentioned here already, and they underscore America's caring face to the world.

PREPARED STATEMENT

But they also fuel novel discovery, novel vaccines, novel treatments, and novel approaches—we can learn a lot from our studies overseas. They advance the competitiveness of biomedical enterprise in the United States, and really, the future of America's leadership in global health will be determined by how effectively we

can grow these investigators overseas, and build partnerships with American universities and institutions.

The Fogarty Center is really working to advance this critical mission for the American public.

[The statement follows:]

PREPARED STATEMENT OF DR. ROGER I. GLASS

Mr. Chairman and members of the committee, I am pleased to present the fiscal year 2008 President's Budget for the Fogarty International Center (FIC). The fiscal year 2008 budget includes \$66,594,000, which reflects an increase of \$240,000 over the fiscal year 2007 Continuing Resolution level of \$66,354,000 comparable for transfers proposed in the President's request.

Fogarty plays a uniquely critical role in promoting better health around the globe, an increasingly significant priority for the U.S. Government. To address complex global health challenges, scientists worldwide must be able to work together, and robust research capacity must exist in locations where priority diseases are most prevalent, and be true for both communicable and non-communicable diseases. For example, the use of chemotherapy for cancer, the genes of Huntington's Disease, and hazards of methyl mercury poisoning and widespread radiation all resulted from the study of populations abroad where these conditions are highly prevalent. Fogarty rises to this challenge with its innovative research training programs that build the knowledge and skills of developing country scientists to perform health research in their countries and collaborate with U.S. scientists as full and effective partners. To advance global health research and research training domestically, Fogarty is also investing in the next generation of U.S. scientific leaders in global health research. Finally, Fogarty identifies crucial gaps in global health research and supports international research collaborations, which helps U.S. scientists maintain their competitive lead.

STRENGTHENING RESEARCH CAPACITY ABROAD

Infectious diseases continue to exact an enormous toll on millions of people in developing countries. HIV/AIDS, TB and malaria constitute a triple threat in many developing countries and collectively kill over 6 million people each year, according to the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund).

In the past 20 years, Fogarty programs have trained thousands of scientists in developing countries. Strong local research capacity is essential to ensuring the success of the President's Emergency Plan for AIDS Relief (PEPFAR), the Global Fund, and the President's Malaria Initiative (PMI). Fogarty's AIDS International Training and Research Program (AITRP) responds to the demand for in-country research capacity to effectively deal with the expanding HIV/AIDS epidemic. For example, Zambia, one of PEPFAR's focus countries, has received a significant amount of recent attention due to its early success in scale-up of antiretroviral therapy for its HIV/AIDS-infected population. This success is, in part, a result of the AITRP, which has allowed the University of Alabama to provide long-term degree training to 22 Zambian research scientists, all of whom have returned home and are working as researchers, educators, or program leaders in PEPFAR programs and other institutions such as the Centers for Disease Control and Prevention, UNICEF, and the World Health Organization (WHO).

Fogarty's International Clinical, Operational, and Health Services Research Training Award for AIDS and TB (ICOHRTA-AIDS/TB) is a newer effort that strengthens the ability of foreign scientists and their institutions to conduct clinical, operational, and health services research with U.S. scientists in the context of HIV/AIDS and TB. These investments help countries to identify effective interventions specific to local needs and better implement interventions and scale-up of treatment and care through the local health care system. For example, Haiti's ICOHRTA-AIDS/TB research training program is designed specifically to provide training for monitoring and evaluation for the scale-up of HIV prevention and care services supported by PEPFAR and the Global Fund. To support the implementation of the PMI, to provide sustainable scientific capacity to address the challenges of malaria control, and to rapidly move malaria research results into practice, FIC is duplicating the ICOHRTA-AIDS/TB model into a similar effort for malaria for PMI countries.

New TB technologies research is of particular importance given the emergence of extensively drug resistant TB, unresponsive to first- and second-line drugs, and which could pose a serious threat globally. Supported by a Fogarty Global Infectious Disease research grant to the University of Cape Town in South Africa, clinical re-

search team members are training in collaboration with The George Washington University to conduct trials of new drugs and vaccines, including TB vaccines.

New vaccines and drugs for these diseases can have a major impact on health worldwide, but the clinical research must be conducted ethically, in a culturally sensitive manner, and in accordance with all relevant laws and regulations to enable scientists to gain the trust of the public and research participants. This can be particularly challenging when research is conducted in resource-poor and culturally diverse settings. Fogarty's International Bioethics and Career Development Award program addresses this challenge by supporting the advanced training of developing country professionals who can assume the roles and responsibilities of ethicists involved in ethical review of clinical trial design and clinical research in their countries. Many trainees have gone on to become leaders in research ethics and hold key posts in government, in-country academic research institutions or multilateral organizations such as the WHO, and are now helping to train the next generation of experts.

FUTURE U.S. LEADERS IN GLOBAL HEALTH RESEARCH

There is a burgeoning interest in global health in U.S. universities across the country, and Fogarty is providing the leadership to sustain and capitalize on this energy. By investing in these junior scientists, FIC accomplishes two central objectives: attracting new research talent to global health research and advancing the career paths of exceptional junior U.S. scientists.

Fogarty's International Clinical Research Scholars Program (ICRSP) responds to the acute need for future clinical investigators who can translate basic research advances into clinical care in a global context. This next generation of clinical researchers will require hands-on experience in conducting clinical trials and clinical research in countries where the disease burdens are highest, typically in poorer countries. The ICRSP provides highly motivated U.S. graduate students in the health sciences with the opportunity to experience one year of mentored clinical research training at distinguished research institutions in developing countries. Since its inception, the program has supported 70 U.S. scholars. This program is being expanded to provide resources and opportunities during residency or fellowships to launch physician scientists on a career path that focuses on health problems and scientific challenges abroad. Through the International Research Scientist Development Award (IRSDA), Fogarty provides research support to U.S. postdoctoral scientists in the formative stages of their careers to solidify their commitment to global health research. Each IRSDA grantee works closely with an established developing country scientist and a U.S. mentor involved in collaborative research and training at both the developed and developing country institutions. These awards forge long-term partnerships between senior developing country researchers and outstanding U.S. junior scientists, who are the potential future leaders in global health research.

INTERNATIONAL COLLABORATIVE RESEARCH

Fogarty also provides leadership by identifying critical gaps in research that must be addressed to confront current and future global health challenges. For example, according to the WHO, there are more than 450 million people with mental, neurological or behavioral problems throughout the world at any given time. Brain disorders are the leading contributor to years lived with a disability in all regions of the world, with the exception of sub-Saharan Africa. The economic and social costs of these disorders are staggering. Despite the enormous burden of disease, brain disorders have been largely absent from the global health research agenda. In response, Fogarty, in partnership with other NIH Institutes, Centers and Offices (ICs), supports a program on Brain Disorders in the Developing World: Research Across the Lifespan. This program funds collaborative research projects between developed and developing country scientists on brain disorders throughout life, relevant to low- and middle income nations. Examples of research topics supported by this program include: neurocognitive consequences of HIV/AIDS in India, cerebral malaria neurological disorders, zinc nutrition and brain development, and gene-environment interactions in cognition. New insights generated from this program can lead to better treatment and delivery of services for mental illness both at home and abroad.

THE WAY FORWARD

Fogarty is now developing a Strategic Plan that will guide our priorities from fiscal year 2007 through fiscal year 2011. Several themes have emerged after consulting with a wide range of stakeholders within and outside the NIH. For example, in anticipating and addressing changing trends in the global burden of disease and

evolving research needs, Fogarty will explore new ways to confront the rising burden of non-communicable disease in developing countries. In addition, given the number of preventable deaths and extent of preventable illness around the world due to a failure to implement evidence-based interventions, Fogarty plans to provide leadership in “implementation science.” Implementation science is the study of methods to promote the integration of research findings and other evidence-based practices into routine practice, which leads to better quality and effectiveness of health services and care. Fogarty will also strengthen its efforts to build sustainable health research capacity in low- and middle-income countries, and expand its investments in U.S. scientists that are committed to global health research. Fogarty has historically considered the needs of other NIH ICs in the development of its programs, and has collaborated with almost every IC over the past 5 years. We will continue to do this as we plan for the future.

Never before has global health been a larger priority for the U.S. Government, U.S. academic research institutions or philanthropic organizations. Public and private sectors have found new and productive ways to work together, and all sectors have invested significant resources to promote better health globally. Strengthening research capacity abroad through its research training programs, Fogarty helps to maximize the benefits of these investments in the long-term. Fogarty’s investments in junior global health researchers also help to ensure that a critical mass of U.S. scientists will be able to lead the world in building a healthier future for everyone and expand the influence of American preeminence in biomedical research to the areas of greatest need.

COORDINATION WITH PARTNERS

Senator HARKIN. Dr. Glass, thank you very much. Both of you, I appreciate your testimony and your leadership.

Dr. Blount, in listening to you and sort of skimming through your testimony—I’m wondering if—tell me about coordination. I made a mark here on your testimony about, “CDC needs to continue to engage our external partners, development of our strategic vision,” et cetera, collaborations with WHO, Department of State, Agriculture, you mentioned AID.

That’s what I’m wondering, I’m wondering—what’s the coordination between CDCP and AID? How about the Peace Corps, and Peace Corps workers in other countries? How much coordination is going on there to address some of these underlying problems of chronic—you mentioned we’ve got a shift, in the 21st century, shift into chronic, progressing to chronic illnesses—a lot of those have to do with infrastructure, public health and basic things like clean water, and waste disposal and basic sanitation systems, so you know, that’s what you do—that’s what CDCP is supposed to be doing, that’s what AID does, some of it, and Peace Corps workers—so how much coordination do you do with these other people?

Dr. BLOUNT. Actually, Senator, thank you for that question. We spend a huge amount of time, in the case of PEPFAR, in the case of the President’s Malaria Initiative, what’s called the One U.S. Government Response. We coordinate our efforts in terms of the different roles and responsibilities we have—as you mentioned, USAID is a development agency. They’re helping to build long-term capacity in the countries in which we work. As a technical agency, we have a major role in working with them, to help build that public health infrastructure.

The Assistant Administrator of USAID, Kent Hill, and the head of the President’s Malaria Initiative were in Atlanta just this past Friday, spending the day with Dr. Gerberding and our leaders to strengthen our collaboration. We’ve worked for many years with USAID and are finding ways to work even more closely with them.

We also work, because of the nature of our mission, very closely with the State Department, helping in every one of the 46 countries in which we work develop mission performance plans that indicate the funding that we have available, the staff, how they work closely as part of the Ambassador's mission there.

You mentioned WHO. We're the largest contributor—our country is—to WHO, in its headquarters and regional offices. We have more than 30 staff assigned to various WHO offices. We also, and you also quickly asked the point about chronic diseases and sanitation. We are shifting some of our emphasis to those chronic problems that Roger spoke about, doing it closely with USAID, and other U.S. Government partners.

MICRONUTRIENT MALNUTRITION AND FORTIFICATION

Senator HARKIN. One thing you also mentioned in your testimony, you didn't mention verbally, but there's a private group that I'm aware of, I just lost the name right now, that is involved in providing multi—at least one multivitamin to kids in underdeveloped countries on an, you know, every day basis. You mentioned that here—vitamin supplementation.

Now, a lot of times these kids just don't get the basic vitamins and minerals. So, you know, one good multivitamin and mineral supplement every day would be something I would think we could do at very low cost. So, is CDC involved in this? Are you doing something about trying to extend vitamin supplementation?

Dr. BLOUNT. Well, we are. I mentioned, just briefly, the supplementation of cereal grains with folic acid, and the impact that that's made in China, that's part of a broader effort looking at micro-nutrient malnutrition.

I also quickly mentioned our work with WHO, USAID and others to add a single vitamin—Vitamin A—that improves the quality of sight. We help provide that at the same time that we do vaccinations for measles, and provide bed nets to prevent malaria, so we—

Senator HARKIN. Vitamin A has to do with a certain kind of blindness, if I'm not mistaken, right? The lack of Vitamin A.

Dr. BLOUNT. Yes.

Senator HARKIN. I saw a figure, and once again, I don't have it in front of me right now, but for this—a small cost of providing Vitamin A—what that would mean in terms of saving kids from going blind in these other countries—a very small cost. So, how come we're not doing more of that?

Dr. BLOUNT. Well, we are trying to do more, trying to find ways—just to your point, what are the most cost-effective interventions that can save lives, that can improve productivity, and that, as the Secretary said, leave a lasting legacy of improved health, that redounds to the benefit of our country—we're looking at different ways every day to do that.

Senator HARKIN. Well, again, it just seems to me the CDC has got a unique role to play in this. You're doing it, but you know, new times call for new approaches. I'd like to know how we shift from the acute illnesses, and focusing on those, to the more chronic illnesses, and how we get to the underlying causes of those. That's what my thing's about. If kids are malnourished and stuff, I mean,

again, food obviously, but you know, a simple multivitamin and mineral every day would be a pretty darn good thing to give to a kid in an underdeveloped country, at very small cost.

Dr. BLOUNT. You're absolutely correct—USAID is working on that. We're working closely with them, again, trying to find the cheapest, most efficient way to provide this to the largest number of children. That, as part of building the infrastructure that must be available in order to deliver this—that's one of the major challenges in a number of countries, the trained healthcare providers—to meet with that mother, and take advantage of that one opportunity per year when she may bring a child to a healthcare center.

Senator HARKIN. Well, I'll tell you what, you build some incentives into a program for a healthcare worker in an underdeveloped country to keep people healthy—you build in those incentives—you'll get them to do it. But, you've got to have the incentives in there. Incentives means money. Paying people to provide those healthcare options—not just treating someone who is sick, but keeping people healthy, in terms of nutrition, that type of thing. There are ways of doing that, incentivizing it. We've really got to look at ways, better ways, of spending taxpayers' dollars, in terms of addressing long-term chronic problems in other countries.

Again, we just—we go after the acute illnesses, but we've got to get upstream. We're just treating things downstream, and we've got to get upstream a little ways to take care of these before they break out.

Again, I also want to ask you one other question: How close are we to eradicating polio from the face of the Earth? A few years ago, I thought we were down to one or two countries, I was told it was, maybe, by now we would have eradicated it. But now we seem to have fallen back a little bit. What's happening here?

Dr. BLOUNT. Two quick responses, Senator. To your first point, about moving upstream—the P in our name is for Prevention. We are the Nation's Prevention Agency; that is the substantial focus of our work.

TOBACCO PREVENTION AND CONTROL

Let me mention the need to upgrade and modify our approaches—I didn't mention tobacco in the interest of time, but in fact, prevention of smoking among children across the world is a major effort of our Office on Smoking and Health—

Senator HARKIN. Good for you.

Dr. BLOUNT. Recently Mayor Bloomberg, through his private foundation, has pledged more than \$200 million to improving the capacity of high-burden, low-income countries to confront the issues of tobacco. Through our partner, the CDC Foundation, we are working with those countries to conduct surveys of adult tobacco use that complement the surveys that we've helped to do, looking at tobacco use in children in 150 countries over the last few years. So, we are working closely with the Bloomberg Foundation on this very important preventable risk factor.

POLIO ERADICATION

Let me come to your question about polio. You're right, sir, and Secretary Leavitt mentioned it—we are close, but we're not there

yet. We are down to four countries—India, Afghanistan, Pakistan, and Nigeria, are the only countries in which polio is now endemic. In 1988, there were 350,000 cases of paralytic polio diagnosed every year—that’s about 1,000 a day. This past year, 2006, we were down to 2,000 cases—from 350,000 cases 19 years ago—that’s enormous progress.

As we’ve seen with smallpox eradication, it’s those last few cases, the last few countries where the challenge has been so great.

A last point, here, a point about the challenge of working in those four countries—almost every case we’ve found, working with WHO involves the Muslim community—that’s the case in Nigeria, the Northern part of Nigeria, and is the case in India, Pakistan, and Afghanistan. So, we are working closely—in fact, Dr. Gerberding was at a meeting yesterday with the countries that surround those four endemic countries—urging the leaders of those countries at greatest risk for importation of cases from the endemic countries, to ban together, to provide more resources to deal with this issue. We’re close, Senator, but we’re not there yet. Each administration, each Congress, has continued to provide support. We’re doing everything that we can. We remain optimistic, but we don’t minimize the challenges of the next few years—we will make it.

Senator HARKIN. I appreciate that. I hope we don’t let up on it.

Dr. Glass, on the Fogarty Center—again, tell me why is it important for us, the United States, to invest in research capacity of other nations? Why shouldn’t we just be investing in research capacity here?

Dr. GLASS. That’s a good question, Senator Harkin.

The science and the discoveries that we make in medical research are global. As we develop new technologies, new techniques, we’re really extending the reach of American science to all of these people who have been trained in the United States, who are linked to our universities. They’re taking science to the periphery, to the real frontiers—the exciting frontiers.

Just, for example, in Iowa, you have problems with pesticides. It’s a big problem we fund through one of our environmental health grants, collaborations with some of the countries of Eastern Europe, so that where pesticide exposures are still a major problem, we can do research and understand how to address these problems together, and understand the cause of disease.

Genetics—a new frontier. The United States is a melting pot of genes—we’ve all brought our genes from around the world. If we want to decipher the important causes of disease, we almost have to go back to those communities where these genetic diseases are common. This is now a technology that’s available to us. We’re discovering the genes of deafness—well, we have deafness in the United States that’s genetic, but we can find it in studies that we’re funding in the Palestinians and Pakistanis.

We can look at other genetic links to diabetes, an incredibly important problem in the United States—15 percent of our health budget goes to diabetes. Now, we can look at genetic links of diabetes, and get at the roots of this disease in other populations.

We’re really extending the science we can do to the frontiers to the world, where these diseases are more common, where we can

try new treatments—like I mentioned for extremely drug-resistant TB—there’s a lot that we will discover by doing these studies overseas.

Senator HARKIN. Dr. Glass, I understand you’ve spent some time in Haiti?

Dr. GLASS. In Haiti.

Senator HARKIN. Tell me what the Fogarty Center is doing in Haiti?

Dr. GLASS. One of our first programs through our AIDS Program was to support Jean Pape, a young researcher from Cornell, who went back to Haiti—from Haiti originally—who developed an HIV program in Haiti. He started out with diarrheal diseases, and trained field workers around the country when HIV epidemic became identified, he was the first investigator—young investigator—to demonstrate the importance of HIV and describe it outside the United States. It’s clearly now a global disease problem, and he was the first to identify it.

He went on to demonstrate that you could control HIV in Haiti by controlling the blood supply, the private blood supply was contaminated in 50 percent of the cases in women, which came from the blood supply. He could stop that source immediately, and change the blood supply.

Most recently, we wonder—what can you learn from Haiti about treatment? He’s been able to demonstrate in treatment programs that he can actually get survivals and compliance with therapy as good as the United States, and he’s just recently done the same for children.

The impact of this has been enormous. He’s got 30 treatment centers around the country, he’s done basic research, and the incidence of HIV in Haiti has dropped from about 6 percent, a decade ago, to 2 percent today. Two-thirds decrease, because of this effort. A nice collaboration between Cornell, where he’s a professor, and his group in Haiti, where he’s trained researchers, and field workers.

So, it’s the best of international collaboration—we’ve learned from this experience, and we’ve delivered care, and he’s an outreach of American research in Haiti.

Senator HARKIN. So, what was your involvement—I don’t understand—what was the Fogarty involvement?

Dr. GLASS. Fogarty, we—

Senator HARKIN. Jean Pape, was that his name?

Dr. GLASS. Jean Pape, we gave Jean Pape his first grant, and we’ve supported his grants throughout this process. In the course of this, he’s gotten other funding, he’s trained up as a researcher, he’s been able to attract other funding—from PEPFAR, for instance—he has a team in place that’s been developed. We’ve invested in people, and without Jean Pape, and without that little circle of researchers, we would never be able to accomplish the tasks at hand. We have these small seed grants that are incredibly effective at building people and nurturing these relations with American Universities.

ACTIVITIES IN HAITI

Senator HARKIN. Dr. Blount, what are you doing in Haiti? What's CDC doing in Haiti?

Dr. BLOUNT. CDC has two major programs in Haiti, Roger mentioned the HIV effort. It is one—Haiti is one of the focus countries of the PEPFAR initiative. We have staff there, working with the Ministry of Health, with non-governmental organizations, with other multilateral agencies, with faith-based U.S. organizations, working in Haiti on prevention and on treatment of HIV. Preventing mother to child transmission, providing antiretrovirals to people ill, and also materials and other efforts to prevent the disease.

Second effort that we're working on, Senator, involves what are called, "neglected tropical diseases." Particularly in the case of Haiti, a disease called alarriasis, you may have heard it called elephantiasis, where you've seen the very large, enlarged limbs of men and women—this is a disease of poverty—we know that Haiti is the poorest country in this hemisphere.

So, in trying to prevent—and to treat—this condition, we've been working with the University of Notre Dame, and other universities on research, on treatment, and particularly on prevention of this terrible condition. It's debilitating, it leads to social isolation, people are unable to work—but there are treatments, there are effective interventions to prevent the disease, among people, again, who have no choice. We're working very closely with the Government and others in Haiti, both in prevention of elephantiasis and HIV.

ADDITIONAL COMMITTEE QUESTIONS

Senator HARKIN. Good. Okay, I think that about concludes our—well, unless there's nothing else, I thank you both very much for your leadership and for your work in these areas.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUE

Question. Hawaii has the potential to be at the center of a major outbreak of infectious diseases or other public health threats due to in large part to the widespread international travel industry, as well its interface with the relatively low level of public health reporting in the poorer countries of Asia. Recently, the Centers for Disease Control (CDC) announced that it is establishing a forward base in Hawaii in order to strengthen its disease detection and response systems for the entire Asia-Pacific region. I appreciate the recognition by the Centers for Disease Control (CDC) of the unique contributions of Hawaii as a leader in response to potential regional epidemics. Dr. Blount, what is your vision of the role this Hawaiian CDC office will play in the global efforts of disease surveillance?

Answer. The Pacific is a critically important location for the Centers for Disease Control and Prevention (CDC) and for the Department of Health and Human Services (HHS). The aspects of free association and the increasing ease and convenience of travel among the peoples in the Pacific and Asian countries may present avenues for spreading communicable diseases. In the past 10 years, the world has experienced several global, five public health emergencies caused by epidemic pathogens (H5N1, Nipah encephalitis, and Severe Acute Respiratory Syndrome or SARS) that, if detected early and responded to quickly, might have been contained at their point of origin. All of these outbreaks originated in the Asian-Pacific region, where future infectious disease epidemics with global potential, could also originate. This underscores the necessity of strengthening disease detection systems and response in the

Pacific Basin, to protect the United States from infectious disease such as highly pathogenic avian influenza (H5N1).

The plan for establishing a permanent presence in the Pacific is to have an HHS/CDC Senior Management Official placed in Hawaii, with an area of operations to include Hawaii, the four U.S. Territories, and two Freely Associated States (American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau). These Territories and States all receive domestic grants from HHS/CDC and a number of other HHS Operating Divisions. Additionally, the placement of a Senior Medical Epidemiologist in Hawaii would provide support to and build on HHS/CDC's growing pandemic influenza program, to include supporting disease surveillance systems, disease detection, and laboratory capacity in the region.

While HHS/CDC's presence for the Pacific would be based in Honolulu, HI, it would form part of a broad-based public health network focused on U.S. Pacific interests. We have already formed a working group with senior staff members from the Hawaii State Department of Health; the U.S. Department of Defense—including the Pacific Command (PACOM), Tripler—U.S. Army Medical Center, and the Joint Task Force for Homeland Defense (JTFHD); the Pacific Islands Health Officer Association (PIHOA—which represents the Health Directors from the U.S. Territories and Freely Associated States); and the University of Hawaii—Asian-Pacific Institute for Tropical Medicine and Infectious Diseases.

Question. In 2001, Hawaii experienced its first dengue fever outbreak since the mid-1940s, on the island of Maui. A report on this outbreak was done by the Hawaii State Department of Health, and published in the CDC's Emerging Infectious Diseases journal, that suspected the Maui outbreak resulted from travelers that visited Tahiti. Before this outbreak Dengue fever cases were the result of "imported" infections, and this report found that the *Aedes albopictus* mosquito species, prevalent in Hawaii and found in 24 States in the contiguous United States, could be in addition to the *Aedes aegypti* mosquito. Realizing that such an incident requires an interagency response could you elaborate on how your Center fits into this picture?

Answer. The response to an outbreak of an exotic, vector-borne disease, such as has occurred with dengue, malaria, and West Nile viruses, or could occur with the continued risk of chikungunya or Rift Valley Fever from imported cases because of the presence of competent vectors in the United States, requires close interagency coordination. In a situation such as described above, the Centers for Disease Control and Prevention (CDC) within the U.S. Department of Health and Human Services (HHS) assists State health departments with outbreak response and the diagnosis of specimens, including genetic sequencing to determine the origin of the pathogen. HHS/CDC also offers expert support to States in identifying the vectors and helping to organize vector control, as well as providing epidemiology assistance. Often other Government agencies will also participate as part of the response team, depending on the nature of the threat and the needs of the affected States. The response can involve immigration and quarantine issues, and if the pathogen is one harbored in animals, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) and the U.S. Department of the Interior's Fish and Wildlife Service could be involved.

Question. I would also like you to comment further on the CDC's global health initiatives that pertain to the Asia-Pacific region outside of the realm of influenza or SARS? Given Hawaii's unique geographic location, the State's Department of Health has in place a plan should sick passengers be heading to Hawaii from parts of Asia. In what capacity is your Center's monitoring network being developed, or augmented? In addition, I would also like you to comment on work being done on "neglected tropical diseases" outside of HIV/AIDS, malaria, and TB.

Answer. Disease Detection.—The Global Disease Detection (GDD) program of the Centers for Disease Control and Prevention (CDC) within the U.S. Department of Health and Human Services (HHS) aims to protect the health of Americans and the global community by developing and strengthening the capacity to rapidly detect and respond to emerging infectious diseases and bioterrorist threats. The central focus of the program is the establishment and expansion of the GDD Centers, which are HHS/CDC-funded international centers of excellence in the detection and control of emerging infectious diseases.

HHS/CDC currently operates five GDD Centers—including a mature center in Thailand and a developing center in China. Other Centers are located in Kenya, Guatemala, and Egypt. These Centers monitor a broad range of infectious diseases within the host country and the region, and conduct activities that enhance the capacity of Government Institutions (such as the Ministry of Health) to detect and respond to such diseases. For example, in 2006, the Thailand Center expanded an ongoing pneumonia surveillance system by adding advanced microbiology diagnostic

capacity. Within 10 months of implementation, the Center had begun to describe the bacterial causes of pneumococcal disease at a rate more than six-fold higher than the previous 3 years combined. This new capacity produces reliable information to identify appropriate public health interventions, including the potential use of pneumococcal vaccines.

In addition, the GDD Operations Center (located in HHS/CDC's Emergency Operations Center in Atlanta) is HHS/CDC's central analytical clearinghouse for information gathering, monitoring, and responding to international outbreaks. HHS/CDC collects information about outbreaks worldwide, from many different sources (including WHO, the U.S. Department of State, the U.S. Department of Defense, and others) and analyzes it by using the expertise of scientists across the Department. HHS/CDC is then able to determine the threat posed by a given event and initiate appropriate response actions.

HHS/CDC also has assets located in a number of other Asian countries. In 2006, the Department placed in Asia staff dedicated to pandemic influenza preparedness and training, including in the People's Republic of China, Viet Nam, Cambodia, Laos, Thailand, Indonesia, and at two Regional Offices of the World Health Organization (WHO), in Manila and New Delhi. Through the President's Emergency Plan for AIDS Relief, HHS/CDC also has staff posted to U.S. Embassies in India, Cambodia, Thailand, Viet Nam, and the People's Republic of China. The Department has Health Attachés assigned to the U.S. Embassies in Beijing, Hanoi, and New Delhi, who work on a wide range of health issues, and help to coordinate the work of HHS/CDC and the HHS National Institutes of Health. Finally, HHS/CDC has an expert on loan to the International Center for Diarrheal Disease Research (ICDDR-B) in Bangladesh, which has an extensive disease surveillance and research network.

HHS/CDC and other parts of the Department also fund several regional institutions (including ICDDR-B, the Institute Pasteur International Network in Southeast Asia, and the Regional Emerging Disease Investigation Center in Singapore) for work on influenza and other disease priorities.

Neglected Tropical Diseases.—Estimates are that 1 to 3 billion people worldwide are at-risk for one or more of a group of maladies collectively known as neglected tropical diseases (NTDs). These diseases are responsible for tremendous illness and death worldwide, and pose direct threats to the health of the American public. Yet efforts to reduce or eliminate these diseases have historically received little attention and few resources. For five of these NTDs—lymphatic filariasis (elephantiasis), onchocerciasis (river blindness), schistosomiasis, soil transmitted helminths (*Ascaris*, *Trichuris*, hookworm), and trachoma—disease control or elimination is possible through a strategy of mass drug administration, with annual or semi-annual doses of safe and effective oral medicines; and for one, Guinea worm, simple filtration through cloth filters or the use of insecticide applied to drinking water. HHS/CDC is actively working with a broad range of partners to bring much-needed treatments and preventive interventions to those in greatest need, and is also working on critical continued monitoring and evaluation of NTDs to maximize the impact of the most effective control strategies.

HHS/CDC offer technical support and expertise in monitoring and evaluation to partners that are developing or operating NTD programs, and conducts our own operational research that helps to define best practices for NTD programs. Since programs to target individual NTDs began in the 1990's, HHS/CDC has:

- Initiated in partnership with WHO, eradication program for Guinea worm;
- Tested intervention methods (filters, Abate) against Guinea worm;
- Developed improved surveillance and containment strategies for cases of Guinea worm;
- Developed molecular assay to confirm/distinguish human Guinea worm;
- Conducted research that provided the foundation for the global strategy to eliminate lymphatic filariasis;
- Developed monitoring and evaluation guidelines for the World Health Organization (WHO);
- Monitored and evaluated the safety and effectiveness of combination drug therapy in mass-treatment interventions;
- Developed collaborations with partners on a project to design, implement, monitor, and evaluate integrated programs to eliminate co-endemic NTDs;
- Provided technical assistance in the monitoring and evaluation of NTDs in more than 10 countries (including mapping, coverage surveys, and the assessment of social mobilization); and
- Evaluated new serologic tools and epidemiologic approaches to conduct surveillance for onchocerciasis, lymphatic filariasis, and schistosomiasis.

Financing from the Bill and Melinda Gates Foundation and donations of drugs from pharmaceutical manufacturers have jump-started NTD programs. Additional

partners include Ministries of Health, the World Health Organization, the Pan American Health Organization, schools of public health and other academic institutions, non-governmental organizations and pharmaceutical companies.

Question. In your testimony, you discuss the power of health diplomacy to not only prevent disease and mitigate global health risks, but to strengthen perceptions of the United States abroad. In the National Security Strategy, President Bush charges the United States to “promote development programs that achieve measurable results—rewarding reforms, encouraging transparency, and improving people’s lives.” Secretary Leavitt, would you discuss how you will measure the effectiveness of global health programs with respect to health diplomacy. Does the HHS have any plans to reinstate its previous practice of positioning Public Health Commissioned Corps into other U.S. Government Agencies?

Answer. The U.S. Government invests millions of dollars each year in health programs in countries throughout the world. Since 2001, the United States has spent almost \$1 billion on health programs in Latin America alone. While this financial commitment is important, money alone can only do so much. The health diplomacy initiatives in which HHS participates seek to add the human element to our health care assistance. With other Federal departments and the non-governmental organizations, HHS is becoming more directly involved in seeing that the people of foreign countries get the health care they need. This effort has focused on three main objectives:

Increasing direct patient care provided by U.S. personnel; working closer with American charities to provide more, and better, health care; and improving the training of local health workers.

Regarding the first objective, HHS and the U.S. military are becoming more directly involved in the delivery of medical, dental and public health services in various countries throughout the world.

For example, through participation this summer on joint missions aboard Navy ships such as the USNS *Comfort* and the USS *Peleliu*, U.S. Public Health Service Commissioned Officers from HHS (and other Federal Departments) have been delivering care and providing public health services to indigenous populations in numerous countries. The outcome of these missions can be measured in many ways. The number and types of clinical encounters can be tallied. The public health assessments and interventions can be recorded. The collective impact of these clinical and professional services has already been profound, and recognized as such by both the political, medical and professional leadership within the countries visited by the ships. But perhaps more importantly, the generosity of the United States and the compassion of its people have been recognized by the people who have been the recipients of the health care and public health services provided. Surveys done following the visit of such hospital ships have consistently shown a dramatic improvement in attitudes toward America and the American people.

Our second objective is working closer with American health-care providers in the region. Often this involves coordinating care with non-governmental organizations which are based in the United States and/or have significant numbers of health professionals in the countries where we are also investing resources. By coordinating health-care delivery, we can do a better job of making the most of available resources, in both the private and public sectors. The results of these collaborative efforts can be measured by U.S. Government personnel on the ground as well as by our non-governmental partners.

Our third objective is to improve the training of health workers. The need for better training of health workers has been a consistent message we have heard from health ministers throughout the world. In addition to the highly professional physicians, dentists, and nurses that many of these countries already have, they need more trained sub-physicians, sub-nurses, medical and dental technicians, and community health workers. By investing some of its resources toward this end, HHS is partnering with some countries to help them develop more of these health professionals. Hopefully, the outcome will be a strengthened health care system within those countries—a system that can better address its health care needs before those needs reach our borders.

One example of this collaboration is the Regional Training Institute recently opened in Panamá. The center opened its doors for the first time in April at the City of Knowledge in Panamá City. Fifty students from all six partner countries attended. The faculty included regional experts as well as experts from American universities and HHS. The curriculum for the first training module focused on a challenge every country in the world faces: pandemic influenza.

Initial results of this training were very encouraging. Pre- and post-course knowledge tests demonstrated a high level of learning among the students. Student feedback after the course indicated that the training was highly beneficial to them.

The solution to our shared challenges is shared expertise. By working together, we can improve the health of the people of various regions of the world, build a common defense against disease, and bring all of our countries closer.

There is no need to re-instate the practice of assigning Commissioned Officers to other Departments; we have not stopped and continue to provide such support today.

The Commissioned Corps of the U.S. Public Health Service supports the public health activities and missions of several U.S. Government Agencies by detailing approximately one-third of its officers or over 1,900 officers outside the Department of Health and Human Services. The Corps has a statutory commitment to provide health care services and health providers in support of the Federal Bureau of Prisons (641 officers), U.S. Environmental Protection Agency (77 officers) and the U.S. Coast Guard (172 officers). Other Departments where Corps officers are detailed include: Department of State (7 officers); Department of Homeland Security (250 officers); Department of Interior (31 officers); U.S. Department of Agriculture (21 officers); Department of Justice, U.S. Marshals Service (22 officers); and Tribal Health Programs (over 1,000 officers). The Corps will soon enter into an agreement to support the Department of Defense by assigning Corps officers to military treatment facilities providing mental health care and critical care to the men and women of our armed services and to their families.

Question. In your testimony, you describe how the Navy supported humanitarian missions to provide healthcare in the Caribbean and in Central and South America, and most recently deployed the USS *Mercy* on a PACOM mission. However, most humanitarian missions require an interagency approach. In 1998, I established the Center for Excellence in Disaster Management and Humanitarian Assistance in Hawaii, to study civil-military operations in response to international disaster management, humanitarian assistance and interagency coordination. Secretary Leavitt, can you describe the interagency coordination you expect to be involved in public health diplomacy through HIV/AIDS mitigation, pandemic outbreak preparedness and disease research and public health education such as the Center for Excellence in Disaster Management and Humanitarian Assistance at U.S. Pacific Command, Armed Forces Research Institute for Medical Sciences (AFRIMS) in Bangkok, or the Naval Medical Research Unit in Djakarta?

Answer. Much of our current and future work in public-health diplomacy would not be possible without close interagency coordination, especially with the U.S. Agency for International Development (USAID), and the U.S. Departments of Defense (DOD) and Agriculture (USDA). As an example, the Department has experts assigned to the DOD Navel Advanced Medical Research Units (NAMRU) in Lima, Peru and Cairo, Egypt, and funds disease-surveillance, research, laboratory and training activities at those two facilities and its sister lab in Jakarta, Indonesia. Commissioned Corps officers from the HHS Public Health Service are serving on billets with DOD in Afghanistan to assist in the reconstruction of the health-care infrastructure of that country, both on the staff of the Command Surgeon of the combined Security Transition Command and on Provincial Reconstruction Teams. Also, HHS officers served with distinction this summer on the humanitarian missions of the USNS *Comfort* and the USS *Pelilieu* in Latin America and the Caribbean and the Pacific, respectively, and the Department is negotiating arrangements to deploy with DOD medical and dental missions in Central America in fiscal year 2008. Finally, jointly funded projects and personnel arrangements with USAID are also a common feature of our international programming.

I should also note that for several years the Office of Global Health Affairs in my Department had a Commissioned Corps officer assigned on a detail to the Center for Excellence in Disaster Management and Humanitarian Assistance in Hawaii, an association that was productive.

Question. Could you please comment on the Fogarty International Center's research initiatives in the "neglected tropical disease" area, and those that pertain to waterborne diseases, as well as other vector borne diseases, some of which can also be found in the United States and U.S. Territories which have more tropical and sub-tropical climates?

Answer. The Fogarty International Center (FIC), within the National Institutes of Health (NIH) of the U.S. Department of Health and Human Services (HHS), funds several research and research-training efforts focused on neglected tropical diseases, as well as water-borne and vector-borne infectious diseases.

Examples include the following:

(1) The Ecology and Infectious Diseases (EID) Research Program, in which innovative, multidisciplinary research projects define factors that drive transmission of infections in the United States and globally, and create predictive models for the spread of these diseases.

(2) The Global Infectious Disease (GID) Research Training Program funds collaborations between United States and developing-country institutions to build research capacity and expertise in malaria, tuberculosis, and many of the high prevalence, more neglected infections that cause significant disability and mortality world-wide. Some of these activities include the following:

(A) *Leptospirosis*.—Leptospirosis is a zoonotic bacterial disease often carried by animals that contaminate standing water contacted by people who are living in poor peri-urban or rural agricultural areas. Untreated, this illness can result in kidney damage, meningitis, liver failure, and respiratory distress. Recent outbreaks of leptospirosis in the United States have occurred in Illinois and Florida (1998), while leptospirosis is endemic to Hawaii and many developing countries, where millions of cases occur, and fatality rates range as high as 20–25 percent. One long-term GID research program through Cornell University, together with Brazilian scientists, sequenced the organism's genome, developed a patented leptospirosis diagnostic test, and is currently testing an experimental vaccine.

(B) *Dengue Fever*.—Dengue fever is a viral disease transmitted by *Aedes* mosquitoes in most tropical areas of the world. Each year, tens of millions of cases of dengue fever occur, and, depending on the year, up to hundreds of thousands of cases of dengue hemorrhagic fever. Locally acquired cases of dengue fever occurred in southern Texas in 1980, and were associated with epidemic dengue in adjacent States in Mexico. The most recent cases occurred in 2005. A limited outbreak of dengue fever occurred in Hawaii in 2001, associated with epidemic dengue in the South Pacific. HHS/NIH/Fogarty supports two dengue research-training programs—one in Peru and another in Mexico.

(C) *Cholera*.—Cholera is an acute, diarrheal illness caused by infection of the intestine with the bacterium *Vibrio cholerae*, primarily by ingesting contaminated water or food. In January 1991, epidemic cholera appeared in Peru, and quickly spread to several countries via contaminated food carried on a flight from Argentina to Los Angeles. In 2005, 131,943 cases from 52 countries were reported to the World Health Organization, with nearly 95 percent of the cases from Africa. Current vaccines confer brief and incomplete immunity. HHS/NIH/Fogarty currently funds a research training program grant at the Massachusetts General Hospital to train Bangladeshi scientists at the International Diarrheal Disease Research Center (IDDRC), as well as to conduct research on cholera vaccine candidates at this same center.

(D) *Hantavirus*.—Humans contract hantavirus pulmonary syndrome when they come into contact with infected rodents. The disease was first recognized in the Four Corners area of the United States in 1993 (Arizona, New Mexico, Colorado and Utah). It has since been identified in 30 U.S. States, including most of the western half of the country. Thirty-five percent of all reported cases have resulted in death. American Indians account for about 19 percent of cases, and Hispanics account for 14 percent of the cases. Outbreaks occurred in Argentina in 1996, in Chile in 1997, and in Panama in 1999. HHS/NIH/Fogarty funds training and research grants related to hantavirus transmission in Paraguay, Brazil and Chile.

(3) HHS/NIH/Fogarty has provided funding at levels of approximately \$5 million for work on neglected diseases in fiscal year 2006 and expects a similar funding level in fiscal year 2007.

CONCLUSION OF HEARING

Senator HARKIN. Thanks for being here this morning. That concludes our hearing.

[Whereupon, at 10:40 a.m., Wednesday, May 2, the hearing was concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]