The U.S. Commitment to Global Health: Recommendations for the New Administration

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Committee on the U.S. Commitment to Global Health

THE U.S. COMMITMENT TO GLOBAL HEALTH

Recommendations for the New Administration

Committee on the U.S. Commitment to Global Health

Board on Global Health

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Willing is not enough; we must do."
—Goethe

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This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report:

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SUMMARY

At this historic moment, the Obama administration and leaders of the U.S. Congress have the opportunity to advance the welfare and prosperity of people within and beyond the borders of the United States through intensified and sustained attention to better health. The promise of potential solutions in global health has captured the interest of a new generation of philanthropists, students, scientists, private industry leaders, and citizens, eager to make a difference in our interconnected world. During the last decade, the U.S. government has mirrored the American public's interest with record expenditures on global health. By building on these commitments and deploying the full complement of U.S. assets to achieve global health, the United States can continue to improve the lives of millions around the world, while reflecting America's values and protecting and promoting the nation's interests.

The Institute of Medicine—with the support of four U.S. government agencies and five private foundations—formed an independent committee to examine the United States' commitment to global health and articulate a vision for future U.S. investments and activities in this area. To coincide with the U.S. presidential transition, the committee prepared the following report outlining how the U.S. government can improve global health under the leadership of a new administration. A more complete exploration of this vision—including the role of the commercial sector, foundations, academia, and nongovernmental organizations—will be released in the spring of 2009.

Health is a highly valued, visible, and concrete investment that has the power to both save lives and enhance U.S. credibility in the eyes of the world. In today's market crisis, the financial policies and practices of the most developed nations, including the United States, are seen as the cause of painful economic spillovers in low- and middle-income countries. During economic downturns, population health declines, especially among the poor in low-income countries, who pay a large portion of their health care costs out-of-pocket, without the benefit of social safety nets. It is crucial for the reputation of the United States that the nation live up to its humanitarian responsibilities, despite current pressures on the U.S. economy, and assist low-income countries in safeguarding the health of their poorest members.

The U.S. government can take this opportunity to demonstrate, through policies and actions, that this nation fundamentally believes in the value of better health for all. The committee is calling on the next President to **highlight health as a pillar of U.S. foreign policy.** This could be confirmed by a major speech early in his tenure, declaring that the United States has both the responsibility as a global citizen,

and an opportunity as a global leader, to contribute to improved health around the world. The U.S. government should act in the global interest, recognizing that long-term diplomatic, economic, and security benefits for the United States will follow.

If health is to hold a more prominent position in U.S. foreign policy, the U.S. government will need to increase coordination among the multiple agencies and departments engaged in global health. A 1997 Institute of Medicine report, *America's Vital Interest in Global Health*, called for the establishment of a government Interagency Task Force on Global Health, led by the U.S. Department of Health and Human Services. The committee supports this recommendation, but calls for the interagency group to be located more centrally, in the White House. Locating the effort in the White House, potentially within the National Security Council (NSC) and reporting to the President through the NSC Advisor, would give it convening authority among sometimes competing agencies and the ability to make policy recommendations directly to the President.

Within the first year of his administration, the committee recommends that the President **create a White House Interagency Committee on Global Health** to lead, plan, prioritize, and coordinate the budgeting for major U.S. government global health programs and activities. The Interagency Committee—consisting of heads of major U.S. departments and agencies involved in global health activities—should play the crucial role of ensuring that the U.S. government has a coherent strategy for ongoing investments in global health, and also that health is taken into account when setting U.S. foreign policy in other areas, such as trade, environment, and security.

The committee also calls on the President to **designate a senior official at the White House (Executive Office of the President, potentially within the NSC) at the level of Deputy Assistant to the President for Global Health to chair the Interagency Committee.** The Deputy for Global Health should serve as the primary adviser at the White House on global health, attend NSC meetings which deal in any way with global health issues, and work with the National Security Advisor, the Director of Management and Budget, and the President's Science Advisor in carrying out his or her responsibilities.

The committee also asks that by the end of the administration's term, the President and Congress **double annual U.S. commitments to global health between 2008 ($7.5 billion) and 2012 ($15 billion)**. The committee recommends that the U.S. government commit to $13 billion for the health-related Millennium Development Goals (MDGs) and an additional $2 billion to address the challenges of noncommunicable diseases and injuries.

Meeting the globally recognized MDGs, adopted by the Member States of the United Nations (UN) in 2000, would require advanced economies to devote 0.54 percent of their gross national income (GNI) to overseas development assistance. Accordingly, the committee estimates that the U.S. contribution to the health-related MDGs (Goal 4: Reduce child mortality, Goal 5: Improve maternal health, and Goal 6: Combat HIV/AIDS, malaria and other diseases) would be $13 billion per year by 2012.

The allocation of this $13 billion per year should be **balanced across the portfolio of global health spending** to reflect the breadth of the health-related MDGs. The U.S. government should fulfill its implied commitments under the President's Emergency Plan for AIDS Relief (PEPFAR) reauthorization to global AIDS programs ($7.8 billion per year), malaria ($1 billion per year), and tuberculosis ($800 million per year). The remaining $3.4 billion per year would double current levels of spending by the U.S. government for global programs in support of health systems strengthening, child and women's health, nutrition, family planning and reproductive health, and neglected diseases of poverty, all of which have been severely under-resourced during the past decade.

Additional resources will be required to **respond to the contemporary challenges of chronic and noncommunicable diseases and injuries,** which are responsible for more than half of the deaths below age 70 in low- and middle-income countries, but are not captured in the health-related MDGs. Cost-effective strategies, such as tobacco control, have the promise of averting millions of premature deaths from noncommunicable diseases in low- and middle-income countries. The committee recommends $2 billion per year to expand the U.S. portfolio in support of these efforts, bringing the overall U.S. government commitment to global health to $15 billion by 2012.

Translating this commitment into sustained, significant, and measurable health outcomes in low- and middle-income countries requires a partnership between the United States and national governments; aid should therefore be allocated in **support of technically and financially sound country-led health plans**. Even disease- and intervention-specific programs should contribute to stronger health systems and a better trained, more productive health workforce. Congress and the administration should require that aid be accompanied by **rigorous country- and program-level evaluations to measure the impact of global health investments** in order to maximize their effectiveness.

America's traditional strength in the global health field is its capacity to generate knowledge. The committee recommends that Congress **continue to fund research** in important areas—such as new interventions for the prevention and treatment of infectious diseases—but also allocate a portion of the funding levels recommended in this report to increase funds for three purposes: to study the basic mechanisms of diseases that disproportionately affect poor countries; to identify means to control noncommunicable diseases that are applicable in low-resource settings; and to conduct health systems research to improve the delivery of existing interventions.

While the U.S. government interacts with multiple UN agencies and other intergovernmental bodies, the committee believes that the United States has much to gain from supporting the World Health Organization (WHO) as this body has the unique mandate of setting evidence-based norms on technical and policy matters to improve global health. Many aspects of the WHO's current structure and function, though, hinder its effectiveness. The United States, along with the international community, should **support the WHO, but also request a rigorous external review of the organization** to develop future-oriented recommendations.

The American public has strongly supported commitments to global health in the past. Repeated polls have shown that health now ranks among Americans' top priorities for development assistance—not merely to protect U.S. interests, but also as a way of promoting human development worldwide. Working with partners around the world and building on previous commitments, the United States has the responsibility and chance to save and improve the lives of millions; this is an opportunity that the committee hopes the United States will seize.

THE U.S. COMMITMENT TO GLOBAL HEALTH

Recommendations for the New Administration

Charge to the committee

In 1997, an Institute of Medicine (IOM) report, *America's Vital Interest in Global Health: Protecting Our People, Enhancing Our Economy, and Advancing Our International Interests*, brought to the American public and policy makers an appreciation for America's direct stake in the health of people around the globe. A decade later, the IOM—with the support of four U.S. government agencies (the Centers for Disease Control and Prevention, Department of Homeland Security, Department of State, and the National Institutes of Health) and five private foundations (the Bill & Melinda Gates Foundation, Burroughs Wellcome Fund, Google.org, Merck Company Foundation, and the Rockefeller Foundation)—convened an expert committee to revisit the U.S. commitment to global health and articulate a fresh vision for future U.S. investments and activities in this area.

To coincide with the U.S. presidential transition, the committee prepared this report outlining the committee's ideas for the U.S. government's role in global health under the leadership of a new administration. The committee's final report, scheduled for release in the spring of 2009, will more thoroughly address the vision for a renewed U.S. commitment to global health, and communicate specific recommendations, not just for the U.S. government, but also pertaining to foundations, academia, nonprofit organizations, and the commercial sector (henceforth referred to as the private sector).

The 1997 committee defined global health as encompassing "health problems, issues, and concerns that transcend national boundaries, and may best be addressed by cooperative actions."[1] The present committee views global health not just as a state but also as the *goal of improving health for all people by reducing avoidable disease, disabilities, and deaths.* While global health encompasses the health of everyone (including U.S. citizens), this report focuses on how the U.S. government can best improve health in low- and middle-income countries.

The United States cannot achieve global health alone. Progress toward this goal requires the collaboration of all countries to develop, finance, and deliver essential and cost-effective health interventions. The United States can, however, lead by setting an example of meaningful financial commitments, technical excellence, and respectful partnership; this will go a long way toward achieving the globally recognized Millennium Development Goals (MDGs), adopted by the United Nations (UN)

Member States in 2000, and help to position the United States in a leadership role for addressing the emerging challenges of the 21st century.

The incoming administration should take this opportunity to examine whether the existing architecture, investments, and activities of the U.S. global health enterprise are best geared to achieving sustainable and measurable global health gains. To this end, the committee considered the following key areas of U.S. government engagement in global health: the financial and technical resources provided to countries to expand public health infrastructure and improve access to health interventions; the governance structures across U.S. agencies responsible for delivering these benefits; the research effort that focuses on health problems endemic to poor countries; and the relationship of the United States with the World Health Organization (WHO), the leading global agency in the field of health policy.

While the scope of this report was limited to U.S. government efforts in the realm of global health, this topic is inevitably linked to broader discussions on U.S. commitments to global economic development and the environment.[2] This report does not, however, cover the related areas of food security, water and sanitation, climate change, educational and economic opportunity, and gender equity. Similarly, the committee was not tasked with evaluating or recommending action on broader international development reforms.

A prominent role for health in U.S. foreign policy

Much has changed since the 1997 IOM global health report. In the past decade, global health has drawn record funding, both from the U.S. government and from private sources, becoming a very visible part of U.S. foreign policy. Repeated polls during this period have shown that health now ranks among Americans' top priorities for development assistance—not merely to protect U.S. interests, but also as a way of promoting human development worldwide.[3]

Even during this time when the U.S. economy is under some pressure, attention to global health is essential. Working with partners in other countries and building on previous commitments, the United States has the opportunity to demonstrate global leadership by fulfilling its responsibility to save lives and improve the quality of life for millions around the world.

Unprecedented commitments to global health

The promise of potential solutions to global health problems has captured the interest of a new generation of philanthropists, students, scientists, private sector leaders, and citizens—eager to make a difference in this interconnected world. During the last decade, extraordinary philanthropic commitments have been made to develop and support strategies to combat disease and resolve health care delivery problems. The most notable example has been the nearly $3 billion spent on global health by the Bill & Melinda Gates Foundation, now the world's largest charitable organization.[4] On American university campuses, global health initiatives have burgeoned, with a globally oriented student body demanding a curriculum that reflects its interests and career aspirations.[5] Through new models of collaboration, the private sector is responding to pressures and opportunities to apply technology and business acumen to enduring social problems. The convergence of public and private commitments has produced an unprecedented level of interest in global health on the part of the American people.

During the last decade, the U.S. government has mirrored this public interest with record commitments to global health. In 2008, U.S. government funding for health-related foreign assistance

was more than $7.5 billion—an all-time high.[6] This extraordinary increase in the percentage of U.S. aid for health was driven mostly by new models of assistance, such as the Global Fund to fight AIDS, Tuberculosis, and Malaria (GFATM), the President's Emergency Plan for AIDS Relief (PEPFAR), and the President's Malaria Initiative.

PEPFAR constitutes the largest commitment ever by any nation for a global health initiative dedicated to a single disease.[7] Between 2001 and 2003, the United States spent $3.5 billion on the global fight against AIDS; since the inception of PEPFAR in 2004, the United States has spent a combined total of more than $18 billion on AIDS, both through PEPFAR and GFATM.[8] Very few countries could have mobilized this level of resources so quickly to deliver a complex treatment and prevention regimen to millions of people across multiple countries. PEPFAR's achievement—bringing lifesaving drugs to 1.73 million people and tripling the number of HIV-infected people receiving treatment in sub-Saharan Africa alone[9]—also demonstrated the success the United States is capable of achieving when it seriously commits to improving health outcomes.

In addition to development assistance for global health, the importance of the U.S. commitment to health research cannot be overemphasized. One half of the world's health research can be attributed to investments by the American taxpayer (especially through funding of the National Institutes of Health [NIH]) and the U.S. private sector.[10] Yet only 8 percent (or $9.3 billion) of the total U.S. investment made by public and private entities in health research ($116 billion) is devoted to solving global health problems.[11]

Investments in global health reflect American values

Undertaking investments and activities in global health is not only a matter of protecting Americans' health from overseas threats or enhancing U.S. economic interests. Today, U.S. leadership in global health reflects the values of many Americans—generosity, compassion, optimism, and a wish to share the fruits of U.S. technological advances with others around the world who can benefit from them. In addition to supporting U.S. government efforts to save lives, the American people also value the goal of enabling healthy individuals, families, and communities everywhere to live more productive and fulfilling lives. Resources dedicated to improving health play a crucial role in the broader mission of reducing poverty, building stronger economies, promoting peace, and restoring U.S. credibility in the world today.

In today's market crisis, the financial policies and practices of the most developed nations, including the United States, are seen as the cause of painful economic spillovers in low- and middle-income countries. During economic downturns, the health of a country's population worsens due to lowered household income and reduced access to health care.[12] The poor in low-income countries are most affected because they pay a large portion of their health care costs out-of-pocket, without the benefit of social safety nets.[13] It is therefore crucial for the reputation of the United States that the nation live up to its humanitarian responsibilities, despite current pressures on the U.S. economy, and assist low-income countries in safeguarding the health of their poorest members.

Good health is a necessary condition for economic development and global prosperity.[14] Numerous studies have demonstrated that as people benefit from the positive economic aspects of globalization, good health is important in keeping them from falling back into poverty. Ill health has been shown to be one of the leading reasons that individuals and families in Argentina, Chile, China, Ecuador, Honduras, India, Kenya, Peru, Thailand, Uganda, and Vietnam descend into poverty.[15] Poor health not only reduces economic productivity and earning potential, it also reduces personal resources by imposing higher

health care costs and diminishing savings.[16] Without investments in health, prosperity from economic growth will be tenuous, especially among the poor.

Improvements in health are thus a core investment in stable and vibrant economies around the world. One study shows that more than half of Africa's growth shortfall, relative to the high-growth countries of East Asia, can be explained by disease burden, demography, and geography, rather than by the more traditional variables of macroeconomic policy and political governance.[15] The Commission on Macroeconomics and Health of the WHO estimated that 8 million lives saved from the leading causes of death in sub-Saharan Africa—infectious diseases and nutritional deficiencies—would save approximately $186 billion per year.[17] China, India, and the Russian Federation could each forego between $200 billion and $550 billion in national income during the next 10 years as a result of heart disease, stroke, and diabetes.[18]

Investments in health can also demonstrate U.S. commitment to avert conflict and promote a more peaceful world.[20] Most of the people living in the societies of the world's poorest billion people are either currently engaged in a civil war or have recently been through one.[21] Implementing disease control and public health activities—which help break the cycle of poverty, conflict, and poor health—is particularly challenging in fragile states and countries that have experienced conflict.[22] For example, countries with the highest infant and child mortality rates are those most likely to be engaged in war;[23] in both 1990 and 2005, Afghanistan, Angola, and Sierra Leone—three war-torn countries—had the highest mortality rates in the world for children under 5, even during times of relative peace.[24] By improving health and restoring human dignity, the United States can help avoid or reverse the social fragmentation, economic decay, and political instability that often cause, prolong, or result from devastating conflict.

The expansion of U.S. government investments in global health has the potential to change perceptions that the United States is indifferent to the plight of the global poor. Health is a highly valued, visible, and concrete investment. Public opinion polls following U.S. aid efforts in the aftermath of the Pakistan earthquake[25] and the South Asian tsunami showed an improvement in how America is viewed.[26] In fact, while the recent opinion of the United States has been negative in most regions of the world, the U.S. image has remained consistently positive in Africa,[27] the region that has received the most U.S. foreign aid in health.[28] Saving and improving lives worldwide will help to rebuild global trust in U.S. leadership and make possible the global cooperation required for the critical challenges of the 21st century, such as nuclear disarmament and climate change.

Global health is a responsibility and an opportunity to seize

Given the importance of health in building stable and prosperous communities, the committee encourages the new President to make a bold public statement that global health is an essential component of U.S. foreign policy. This could be confirmed by a major speech early in his tenure to pledge support to the United States' successful investments in this arena and propose new means for pursuing global health objectives in a committed, cooperative, and nonpartisan manner. **In a public address, the President should declare that the dominant rationale for U.S. government investments in global health is that the United States has both the responsibility as a global citizen, and an opportunity as a global leader, to contribute to improved health around the world.**

The U.S. government should act in the global interest, recognizing that long-term diplomatic, economic, and security benefits for the United States will follow. Priorities should be established on the basis of achieving sustained health gains most effectively, rather than on short-term strategic or tactical

U.S. interests. Government efforts should focus on reducing deaths and disabilities among the most vulnerable and marginalized populations in regions with the greatest need, in countries that possess the capacity to effectively use financial and technical resources.

Equally important, health resources should not be withheld from people in countries where the United States takes an unfavorable view of the governing regime. The U.S. offer of cyclone assistance to Myanmar in February 2008 was a good example of placing priority on humanitarian needs over politics. In developing sanctions at the UN and elsewhere, food, medicine, and other health necessities should not be included among the areas of denied trade or assistance.

Progress in global health can be achieved now

While the goal of improving the health status for all people around the world requires a long-term, global commitment, the U.S. government can take immediate concrete action to start on this urgent task. Historically, the United States has contributed greatly to the achievement of health gains, and should continue to do so through the development and delivery of cost-effective health interventions.

Technological innovation and diffusion main drivers of health improvements

Health achievements in the last 50 years have been remarkable; global life expectancy has increased more in this period of time than in the preceding 5,000 years.[29] Average life expectancy—the age to which a newborn baby is expected to survive—was approximately 40 years in low- and middle-income countries in 1950; 50 years later, life expectancy in these same countries has risen more than 60 percent to about 65 years.[30] Most of the improvements in life expectancy are derived from reduced health risks for young children. Since record keeping on child mortality began in 1960 (when 20 million children died annually, or 180 deaths per 1,000 live births), the number of children dying before their fifth birthday has been reduced by more than half, to 9.2 million in 2007 (72 deaths per 1,000 live births).[31]

Contrary to expectation, increased wealth is not always the main driver for improved child survival rates. Levels of child survival in Niger and Eritrea are 74 and 91 percent, respectively, even though these two countries have similar levels of gross domestic product (GDP) per capita. India has the same child survival rate as Eritrea although its GDP per capita is three times higher. Vietnam has the same income per capita as India but a higher child survival rate (98 percent). Strikingly, the poorest 20 percent of Vietnam has higher child survival rates than the richest 20 percent of India.[32] Economic well-being, then, is not a sound predictor of health status.

Economic growth has been shown to account for less than half of the health gains in low- and middle-income countries between 1952 and 1992.[33] Instead, technological innovation and diffusion of knowledge have been the main drivers for improved and prolonged lives in even the most impoverished settings (see Table 1).[34] For instance, a study examining infant mortality in 70 low- and middle-income countries revealed that even in periods of rapid economic growth, diffusion of technology and educational improvements were far more important than income changes in explaining why infant mortality rates varied across countries.[35]

Significant U.S. role in global health progress

The United States has been an important source of global health knowledge, with research by institutions such as the NIH and the National Science Foundation providing the scientific basis for many global health

TABLE 1 **Example of science contribution to decline in infectious disease mortality in the 20th century**

Condition and intervention	Annual deaths before intervention *(reference year)*	Annual deaths after intervention *(reference year)*
Polio, diphtheria, pertussis, tetanus, and measles — immunization programs	~5,200,000 (1980)	1,400,000 (2001)
Small pox — eradication campaign	~3,000,000 (1950)	0 (1979)
Diarrhea — oral rehydration therapy	~4,600,000 (1980)	1,600,000 (2001)
Malaria outside Africa — residual indoor spraying and acute management	~3,500,000 (1930)	<50,000 (1990)
Malaria in Africa — limited use of residual indoor spraying and acute management	~300,000 (1930)	1,000,000 (1990)

SOURCE: Global IDEA Scientific Advisory Committee, 2004.

successes. The U.S. government—in partnership with other countries, intergovernmental organizations, and the private sector—has also provided financial and technical resources to expand public health infrastructure and access to health interventions in many countries, resulting in major public health achievements.

One example of U.S. research with significant global benefit is the story of vitamin A, which costs about 2 to 3 cents per capsule. The distribution of this simple pill as part of a supplementation program in low-resource settings was found to save the lives of millions, reducing child mortality by 23 to 34 percent.[36] Today, as a vital component of child survival strategy, more than 60 nations have vitamin A supplementation programs (many supported by United States Agency for International Development [USAID]).[37] USAID-supported research and programming has also contributed to other significant public health gains, such as the use of oral rehydration salts, which has reduced deaths from diarrheal disease dehydration by 82 percent among infants in some countries.[38]

The U.S. Centers for Disease Control and Prevention (CDC) has also played a historic role in global health progress, collaborating with others in such successes as the worldwide eradication of smallpox (in partnership with the WHO) and the reduction of guinea worm prevalence by 99.7 percent in Africa (with the help of the Carter Center).[39] In addition to its role in controlling and preventing infectious diseases, the CDC developed the Global Youth Tobacco Survey, in collaboration with the WHO, to monitor tobacco use among youth in 140 countries. This surveillance system has played a key role in guiding national tobacco prevention and control programs in low- and middle-income countries.[40]

The United States' willingness to forge strong partnerships—both as a leader and as a supporter—has played a major role in many global health successes. Under the leadership of the WHO, the World Bank, the Food and Agriculture Organization, and the United Nations Development Program, a host of countries and agencies have succeeded in virtually eliminating onchocerciasis (river blindness) in West Africa through a grassroots effort by village volunteers, aerial spraying with environmentally safe insecticides, and Merck & Co.'s donation of drugs for 45 million people.[41] Extensive vaccination programs run by the Measles Initiative partnership (a collaboration of the American Red Cross, CDC, UN Foundation, United Nations Children's Fund [UNICEF], and the WHO) reduced measles deaths by 68 percent worldwide and by 91 percent in Africa.[42]

As these examples demonstrate, simple and cost-effective interventions can help save lives in countries around the world during any phase of economic development.[43] What is needed, then, are

appropriate investments to develop cost-effective interventions, and commitments from governments, in partnership with donors, to invest in sustainable and equitable systems to deliver these interventions.[44] By building on past achievements and continuing successful partnerships, the U.S. government has the opportunity to move the world closer to the ultimate goal of improved health for all.

Urgent opportunity for action

The successes of the past are only a beginning. The global health community has reached a critical juncture in that now, more than ever before, the knowledge, innovative technologies, and proven tools to help millions of people in need are within reach. But, despite demonstrated success in tackling certain health issues, the gap continues to grow between what *can* be done with existing knowledge, and what is actually being done in disadvantaged communities.[45] Existing interventions are not widely used even though many are inexpensive and easy to administer.[46] In the area of child mortality, for example, the tremendous gains made in child survival during the past half-century have actually slowed or been reversed since the mid-1990s.[47] At the same time, chronic diseases (such as diabetes and heart disease) have joined the traditional list of infectious "poor country" diseases in an extraordinary global epidemiologic transition.

If the global community neglects its responsibilities at this critical moment, health outcomes for the most vulnerable populations will remain static or decline, progress achieved in poverty reduction thus far will be threatened, and the poorest countries will continue to be left behind. The global health community should act now. The progress seen in recent years in Latin America and Southeast Asia should be replicated in the poorest countries in sub-Saharan Africa and South Asia.

Achieving the Millennium Development Goals by 2015

The globally recognized MDGs were adopted by the Member States of the UN in 2000 to achieve demonstrable reductions in poverty and improve specific health outcomes by 2015. Three of the eight goals pertain directly to health (Goals 4, 5, and 6) and the other five indirectly (see Box 1). While progress has been made, as discussed below, the MDG targets remain a distant goal for many countries, particularly in sub-Saharan Africa and South Asia.[48]

MDG 4: Reducing child mortality. Global child mortality rates have dropped steadily during the last 50 years. But between 1990 and 2006, about 27 countries—the large majority in sub-Saharan Africa—made little or no progress in reducing childhood deaths (see Figure 1).[49] This reality is made sharper by the knowledge that existing health interventions could reduce child mortality by as much as 63 percent if they could reach those in need.[50] While progress has been made in important areas—for example, deaths from measles fell by two-thirds between 2000 and 2006 due to dramatically improved vaccination programs covering 80 percent of children in developing countries[51]—the lack of well-functioning health care systems severely constrains the delivery of many essential health interventions.[52]

MDG 5: Improving maternal health. Ninety-nine percent of maternal deaths occur in low-resource settings, with sub-Saharan Africa and South Asia accounting for 86 percent of all such deaths (see Figure 2). Less than half of all births are attended by health professionals in these regions: 47 percent in sub-Saharan Africa and 40 percent in South Asia. Meanwhile, progress in North Africa and Southeast Asia has been remarkable, demonstrating that substantial progress in maternal health is possible.[53] What is required is the commitment to establish countrywide systems of qualified and adequately equipped

Box 1 **United Nations Millennium Development Goals**

Goal 1 **Eradicate Extreme Hunger and Poverty**

Goal 2 **Achieve Universal Primary Education**

Goal 3 **Promote Gender Equality and Empower Women**

Goal 4 **Reduce Child Mortality**
- Target 1: Reduce by two thirds, between 1990 and 2015, the under-five mortality rate

Goal 5 **Improve Maternal Health**
- Target 1: Reduce by three quarters the maternal mortality ratio
- Target 2: Achieve universal access to reproductive health

Goal 6 **Combat HIV/AIDS, Malaria, and Other Diseases**
- Target 1: Have halted by 2015 and begun to reverse the spread of HIV/AIDS
- Target 2: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it
- Target 3: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

Goal 7 **Ensure Environmental Sustainability**

Goal 8 **Develop a Global Partnership for Development**

SOURCE: *Millennium Development Goals (MDGs)*, 2008.

personnel, and effective infrastructure that allows women to be referred and transported for emergency obstetrical care.[54] Without these, one in six women living in the world's poorest settings will continue to die from treatable or preventable complications in pregnancy and child birth.[55]

MDG 6: Combating HIV/AIDS, malaria, and other diseases. AIDS continues to be the leading cause of death in sub-Saharan Africa and the fourth largest killer worldwide.[56] Recent expansion of antiretroviral treatment for HIV-infected individuals has succeeded in reversing the direction of AIDS mortality; between 2005 and 2007, the number of people who died annually from AIDS declined from 2.2 million to 2 million. However, in 2007, 2.7 million people were newly infected with HIV.[57]

Globally, more than 2 billion people are at risk of malaria.[58] Though malaria incidence and mortality has been dramatically reduced in some parts of Africa due to widespread increases in the use of artemisinin-containing medicines and anti-mosquito measures like insecticide-treated bed-nets, approximately 500 million people still contract malaria each year resulting in 1 million deaths.[59]

Tuberculosis (TB) kills an additional 1.7 million people a year. If global targets are to be met, Africa, China, and India—which collectively account for more than two-thirds of undetected TB cases—will have to improve both the extent and timeliness of the diagnosis of active TB and increase the rate of successful treatment.[60] Complicating diagnosis and treatment further, the extremely drug resistant strain of tuberculosis, XDR-TB, leaves patients (including many people living with HIV) virtually untreatable using currently available anti-TB drugs.[61]

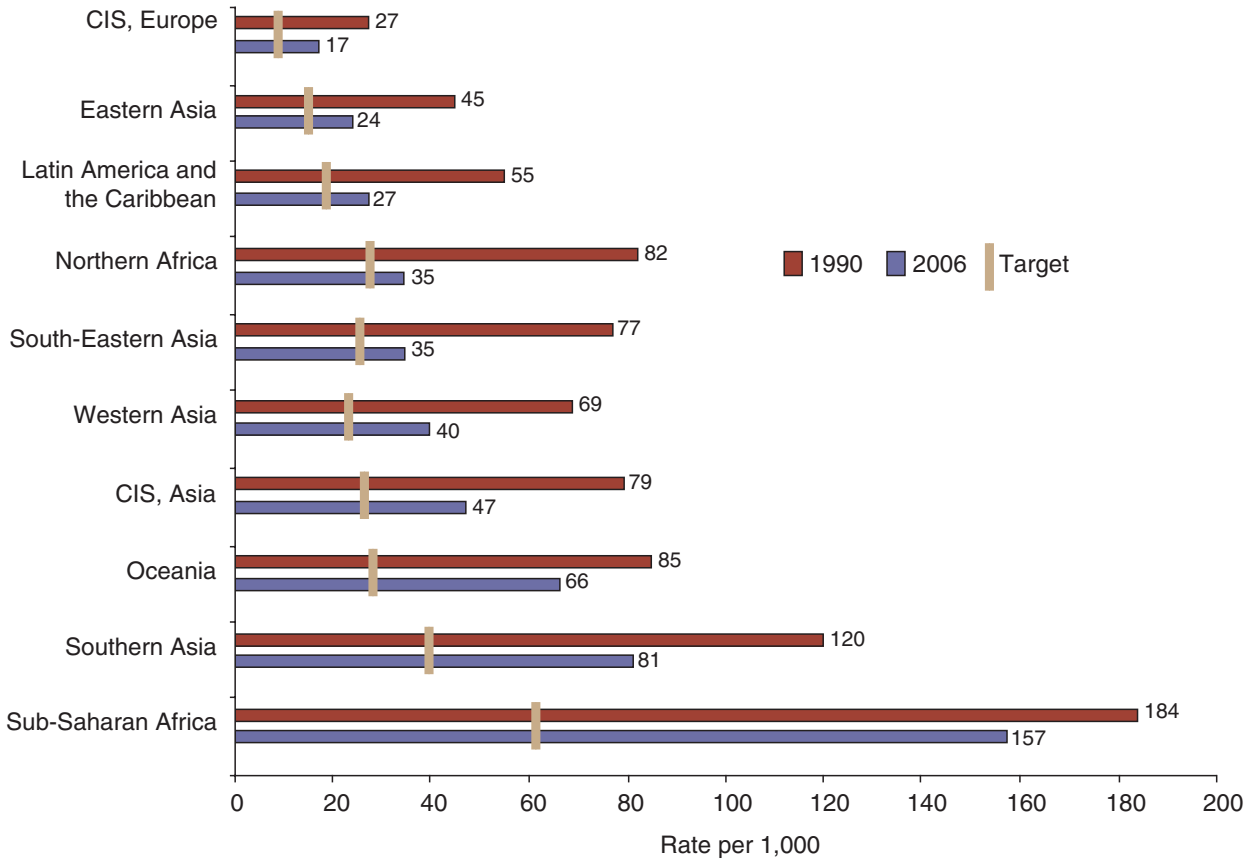
Often overlooked are the neglected diseases of poverty like roundworm and schistosomiasis infection—scourges that have afflicted the world's poorest since ancient times. These infections continue

to be common among the estimated 2.7 billion people living on less than $2 a day, causing conditions that often result in long-term disability and poverty.[62]

The remaining five MDGs do not exclusively deal with health issues, but are indirectly linked to health outcomes. Nearly one billion people—a sixth of the world's population—lack access to safe drinking water, and 2.5 billion people are in need of improved sanitation services (MDG 7). In the developing world, one out of every four children under 5 years old is underweight, mostly due to inadequate food, and often also as a result of disease (MDG 1).[63] Malnutrition retards growth and also leads to weak cognitive functioning, with consequences for the progress of whole societies. An estimated 200 million children under the age of 5 fail to reach their potential in cognitive development due to poor nutrition, poverty, and deficient care.[64] While one in seven people already suffer from food scarcity,[65] the threat of climate change is further increasing the risk of crop failure, livestock losses, and subsequent food shortages (MDG 7).[66]

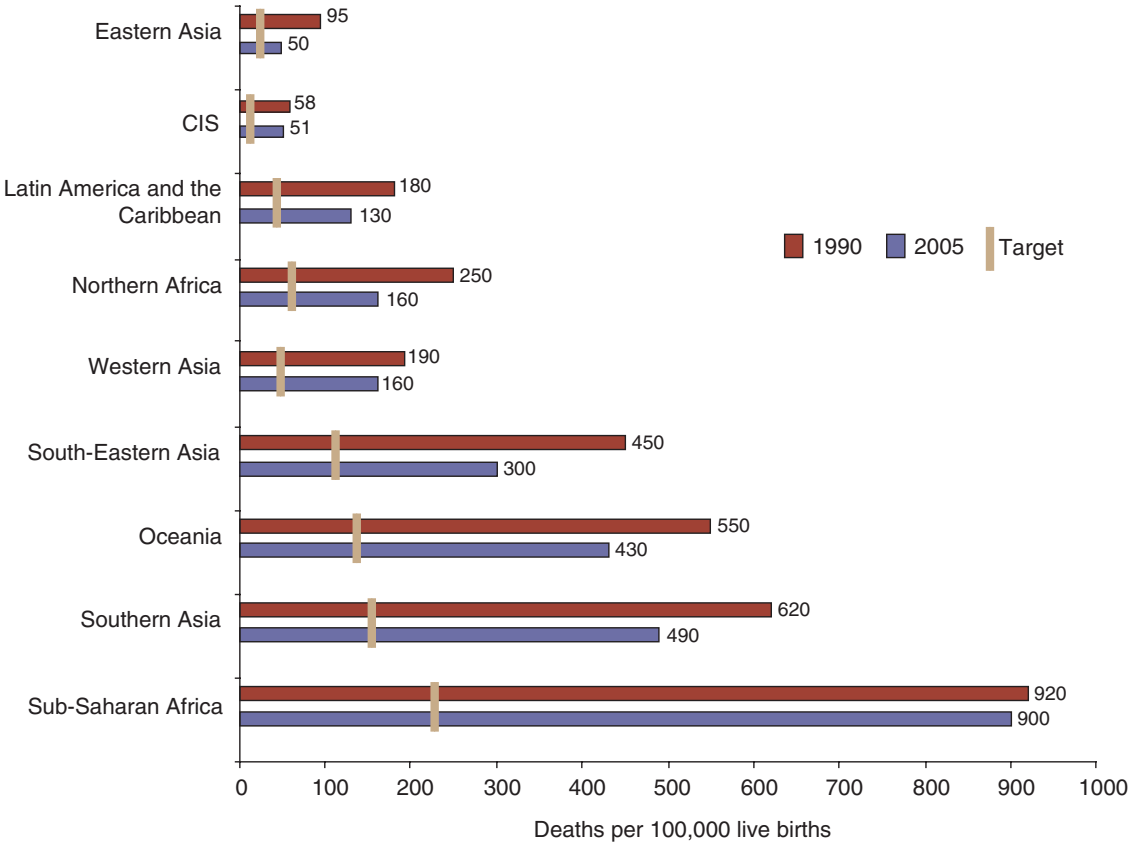
Educational and economic opportunities are also out of reach for many of the poor, especially young women. Among primary school age children worldwide, more than 90 percent attend school, but 38 million children in sub-Saharan Africa do not go to school (MDG 2). Low rates of school enrollment and attendance are especially devastating to girls as they are linked to their future income, personal health status, and the health status of their future children and families (MDG 3).[67]

FIGURE 1 **MDG 4: Under five deaths per 1,000 live births (1990, 2006, and 2015 target)**



SOURCE: *The Millennium Development Goals report,* 2008.

FIGURE 2 **MDG 5: Maternal deaths per 100,000 live births (1990, 2005, and 2015 target)**



SOURCE: *The Millennium Development Goals report,* 2008.

Neglected health systems undermine health progress

Functional health systems are sorely lacking in most poor countries, undermining the achievement of the health-related MDGs.[68] A functioning health system, as defined by the WHO, should include access to a well-performing health workforce; reliable and timely health information; essential medical products, vaccines, and technologies; adequate financing; and strategic policy frameworks to provide effective analysis, oversight, and governance.[69]

More than half of the meager spending on health in low-income countries is in the form of out-of-pocket payments made by patients—the most inequitable type of financing because it disproportionately hurts the poor, and provides no protection from the costs of catastrophic illness. Government assistance for health in low-income countries is only 29 percent of the total expenditure on health compared to 65 percent in high-income countries; in fact, the poorer the country, the lower the proportion of government money devoted to public health.[70]

Individuals who do gain access to health care are often confronted with a shortage of essential drugs and medical personnel.[71] For example, the WHO estimates that 57 countries (36 of which are in sub-Saharan Africa) have critical health workforce shortages[72] and nearly 2 billion people do not have regular access to essential medicines.[73] These shortages often stem from larger policy failures, such as a lack of

capacity to provide health worker training programs, manage a drug supply system, or anticipate health care needs.[74]

Planning and decision making to improve health systems requires reliable and timely statistics on births and deaths (including the medical causes of death),[75] but most people in Africa and Asia are born and die without leaving a trace of any legal record or official statistic.[76] Each year, nearly 50 million births are not registered worldwide,[77] and half of the countries in Africa and Southeast Asia record no "cause of death" data at all.[78]

Efforts to improve health outcomes can be much more successful if sector-wide and disease-specific strategies aim to strengthen health systems and expand the reach of existing interventions.[79] Successful models do exist. In Tanzania, improved local health system planning and priority setting, together with modest investments in health services and increased coverage of key child-survival interventions, contributed to significant reductions in infant and child mortality.[80] Both Thailand and Mexico embarked on health system reform that provided increased financial protection for the poor; in these countries, health systems research was a powerful tool for informing decision making and moving the agenda forward.[81] Commitments are therefore needed from low- and middle-income country governments and their donor partners to invest in health systems and research that can aid in the delivery of existing interventions to attain the health-related MDGs, as well as address the emerging challenges of the 21st century.

Emerging challenges for the 21st century

While the MDGs are useful guides for mobilizing and focusing aid resources, much more will need to be done to attain the goal of global health. Investments need to go beyond well-recognized infectious diseases like HIV/AIDS and malaria and take a more comprehensive view of health in developing countries.

Globalization is changing the way that nations must protect and promote health, in part due to the growing number of health hazards that increasingly cross national boundaries. These threats include infectious diseases as well as unhealthy imports, such as tobacco and processed foods, which heighten the risk of many noncommunicable and chronic diseases.[82] As a result of rapid urbanization, more than half of the world's 6.6 billion people now live in cities, where they are exposed to a variety of risk factors for chronic disease.[83] City dwellers live more sedentary lives than their agrarian counterparts and have easier access to cheap, high-energy, high-fat food.[84]

Emerging pandemic threats like bird flu, which can spread with alarming rapidity in today's globalized world, need urgent preparation. Infectious disease outbreaks have significantly increased during the last several decades[85] and are dominated (60 percent) by zoonoses, or diseases contracted from animals.[86] This increase in infectious diseases must be attributed to both climate change[87] and increasing contact between humans and wildlife.[88] Severe acute respiratory syndrome (SARS)—a zoonotic disease thought to have been first transmitted from bats to humans in south China[89]—infected 8,000 people in 26 countries and caused 774 deaths in a matter of months between 2002 and 2003.[90] Its global economic impact was estimated at about $30 billion.[91]

The rising tide of chronic and noncommunicable diseases in both industrialized and low-resource settings also cannot be ignored any longer. Chronic conditions like cardiovascular disease and diabetes have joined the traditional list of infectious "poor country" diseases in an extraordinary global epidemiologic transition. Remarkably, 80 percent of chronic disease deaths occur in low- and middle-

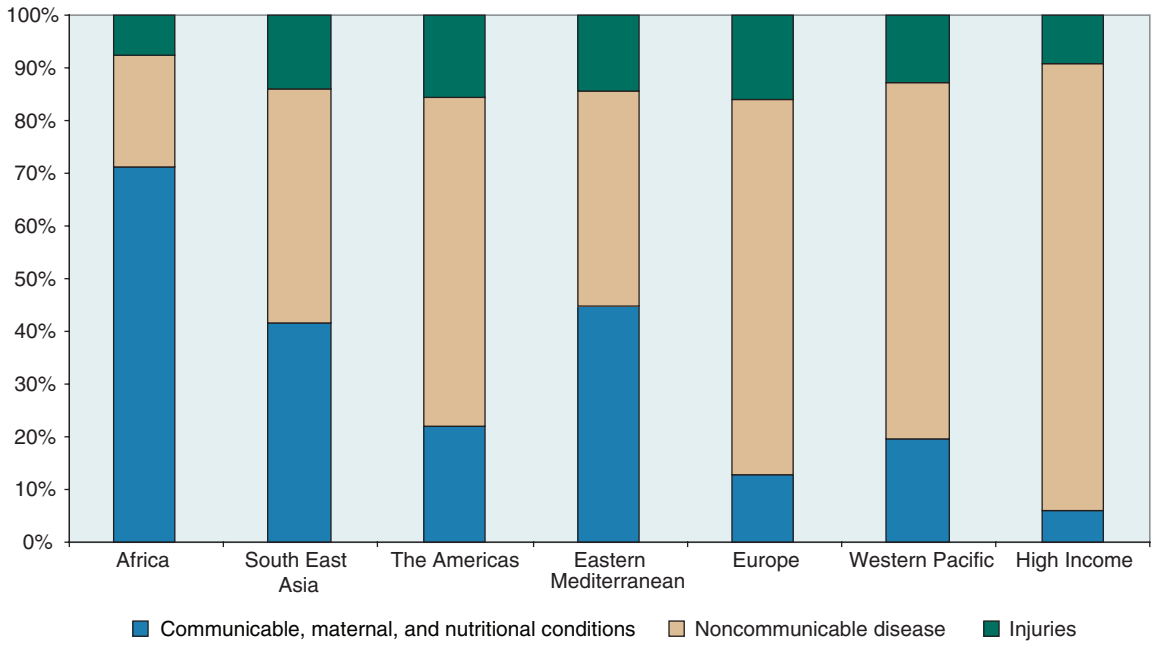
income countries.[92] In 2001, cardiovascular disease alone was responsible for almost three times as many premature deaths in low- and middle-income countries as AIDS, malaria, and TB combined.[93] Smoking, which greatly increases the risk of acquiring diseases such as TB, heart attacks, and cancer, remains an addiction in many poor countries. Unless large numbers of adults quit, smoking will account for 1 billion deaths this century.[94]

The prevention and treatment of chronic and noncommunicable diseases should become a priority in global health, along with interventions to reduce risk factors such as tobacco use, obesity, and sedentary lifestyles. As noncommunicable diseases are not included in the MDGs,[95] the WHO has called for a global commitment to reduce chronic disease death rates by an additional 2 percent annually or by 36 million deaths by 2015.[96]

Increased mortality from chronic disease is not merely a result of fewer deaths from infectious disease. In East Asia and the Pacific, for example, the anticipated increase in death rates from chronic disease will be more than five times the predicted drop in mortality rates from infectious disease.[97] Both emerging infectious threats and chronic diseases are increasing globally, resulting in the so-called "dual burden" of disease, whereby significant infectious and chronic diseases burden the same country or region (see Figure 3).[98] For example, developing countries are experiencing a protracted, polarized epidemiologic transition with high levels of malnutrition alongside high levels of obesity.[99] This mix of health challenges demands new approaches that integrate both infectious and chronic disease interventions.

Morbidity and mortality from injuries are also on the rise. As the use of motor vehicles rapidly expands in low- and middle-income countries, road traffic accidents have increased dramatically. They now claim 1.2 million lives each year,[100] and are the leading cause of death among young people between 10 and 24 years.[101] The highest burden of such injuries and fatalities is borne disproportionately by poor people in

FIGURE 3 **Burden of disease in disability adjusted life years by cause and WHO region (2004)**



SOURCE: Committee's calculations based on WHO, 2008.

developing countries, such as pedestrians, cyclists, and the passengers of buses and minibuses.[102] Violence is another problem worldwide, resulting in the death of more than 1.6 million people each year.[103] For women, in particular, the prevalence of lifetime physical or sexual violence (or both) by an intimate partner ranges from 15 to 71 percent.[104]

Restructure the U.S. global health enterprise

To respond to the increases in chronic and noncommunicable diseases and injuries in developing countries, while also meeting the intended objectives of the MDGs, the U.S. government will need to deploy the full complement of U.S. assets. This will require improved coordination across government agencies and a coherent strategy to guide future health commitments.

Need for coherent strategy for U.S. involvement in global health

More than 20 U.S. government agencies work internationally, with many of them contributing to some aspect of human development. To date, the committee is not aware of any efforts to broadly coordinate and quantify U.S. actions in global health across even the *major* government agencies. The tools available to track U.S. government global health funding are limited, and their results are often piecemeal, subject to double counting, and not inclusive of all agencies' work. As a result, the total U.S. government commitment to global health is not known with any certainty; the United States can neither measure the positive impacts nor justify the level of its investments in global health.

To ensure that the U.S. government is working in a strategic fashion and having the greatest possible impact to improve health globally, the government should inventory current U.S. efforts as a baseline, and track, measure, and coordinate future investment across different federal agencies. It is within this context that the committee suggests reforms to the U.S. global health enterprise.

Appoint White House Senior Official and Interagency Committee on Global Health

The 1997 IOM global health committee called for the establishment of an Interagency Task Force on Global Health within the U.S. government to anticipate and address global health needs and to maximize global health opportunities—both for the United States and the world—in a coordinated and strategic fashion. The 1997 committee further recommended that the U.S. Department of Health and Human Services coordinate global health strategy and priority setting across the federal agencies represented in the Interagency Task Force, and act as the lead agency in establishing liaison with the private sector and international agencies. While this recommendation has yet to be implemented, the potential benefits of formalizing cooperation and coordination across government agencies and departments engaged in the important task of achieving global health can still be realized.

The current IOM committee supports the concept of the 1997 IOM recommendation, but calls for the interagency group to be located more centrally, in the White House. Locating the effort in the White House, potentially within the National Security Council (NSC) and reporting to the President through the NSC Advisor, would give it convening authority among agencies and the ability to make policy recommendations directly to the President. Any other reporting line would not have the coordinating power that comes with the direct presidential chain of authority.

The committee calls on the President to create a White House Interagency Committee on Global Health to lead, plan, prioritize, and coordinate the budgeting for U.S. government global health

programs and activities. The Interagency Committee, which would consist of heads of major U.S. departments and agencies involved in global health activities, would play the crucial role of ensuring that the U.S. government has a coherent strategy for ongoing investments in global health, including the means to achieve measurable, significant, and sustained health gains. The Interagency Committee would also play the critical role of making sure health is taken into account when setting U.S. foreign policy in others areas, such as trade, environment, and security.

The committee also calls on the President to designate a senior official at the White House (Executive Office of the President, potentially within the NSC) at the level of Deputy Assistant to the President to chair the Interagency Committee. The Deputy Assistant to the President for Global Health should serve as the primary adviser at the White House on global health, attend all NSC meetings which deal in any way with global health issues, and work with the National Security Advisor, the Director of Management and Budget, and the President's Science Advisor in carrying out his or her responsibilities.

The Deputy for Global Health should be an individual of recognized accomplishment with a significant background in health issues and programs, and have the stature to play a leading role in formulating U.S. global health policy. A staff of three to five officers should support his or her work at the White House. The Deputy for Global Health could create a small committee of nongovernmental advisers to oversee the work of the Interagency Committee. Finally, if the Deputy for Global Health and the Interagency Committee are to be effective, individuals who directly oversee global health activities within the various government agencies should be strong and effectual leaders with significant experience and success in global health programming.

Mobilize financial resources for health

Attaining global health will require more than just improving the U.S. government machinery that oversees global health programming and activities. A greater financial commitment will also be needed, including advanced economies making good on their promises of aid.[105] Low-income countries depend greatly on external assistance to fund health programming. In some 30 African countries, 30 percent of health spending comes from donors and nongovernmental organizations;[106] in Rwanda, this figure is more than 50 percent.[107]

The task of achieving the MDGs has become even more challenging in light of the current economic crisis. Sub-Saharan Africa, one of the regions hit hardest by rising food prices, could be further affected if foreign direct investment and aid flows now decline.[108] In the current volatile atmosphere, there is a risk that some hard-won advances in poverty reduction and health could unravel. It is therefore especially important that the global community uphold its commitments and remain focused on the MDGs.[109] The United States will need to go beyond affirming its current financial commitments and pledge additional resources, while also taking a close look at the distribution of funding.

Increase U.S. commitments to achieve health-related MDGs

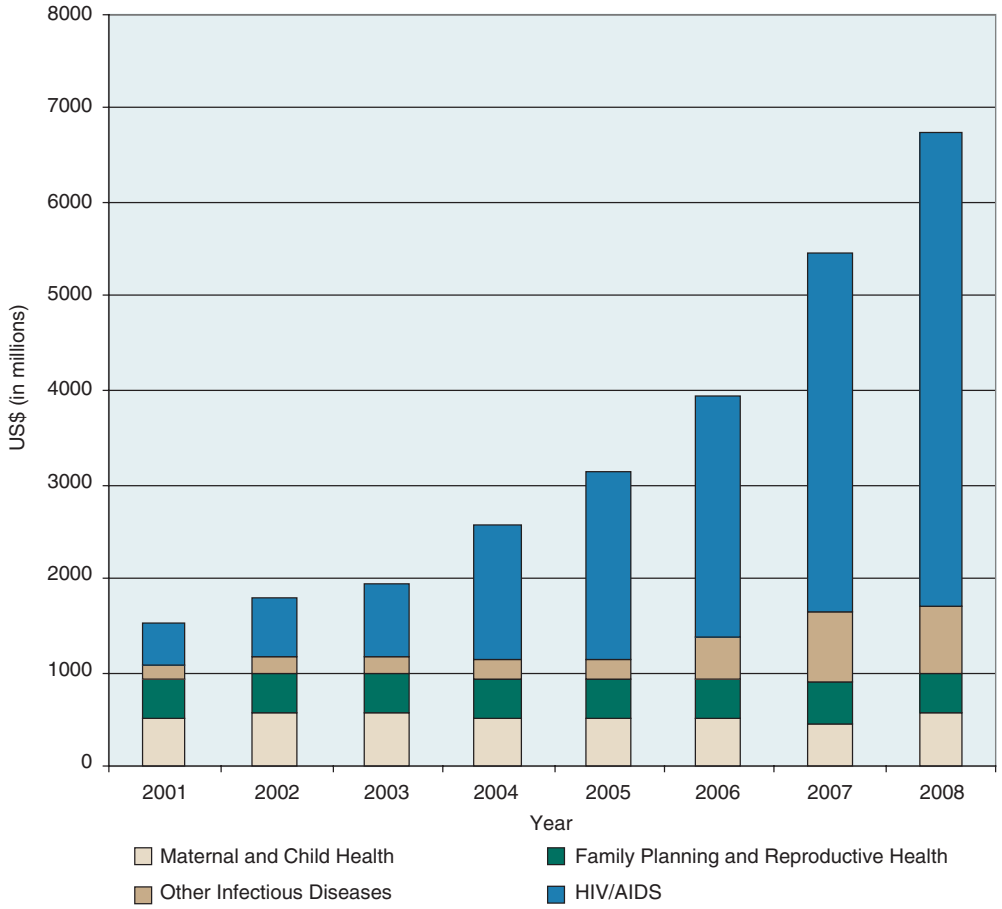
The global community uses two benchmarks to quantify the basic health "needs" of low-income countries: the costs of scaling up to meet the health-related MDGs, estimated at $20 billion to $70 billion annually;[110] or the price estimate of $34 per capita per year for an essential health benefit package, as assessed by the WHO's Commission on Macroeconomics and Health. To meet these needs, low-income countries have been asked to raise an additional 1 to 4 percent of GDP in public revenue.[111] While the

committee supports the call for increased health spending by low-income countries, it also recognizes that revenue performance during the past few years has been disappointing and even stagnant in some regions.[112] Even if poor countries mobilized an additional 1 to 2 percent of GDP to finance health, it would amount to only $12 billion to $24 billion, which is insufficient to meet the MDG needs.[113] Likewise, if the aim were to deliver the $34 per year benefit package, poor countries would need to increase their health spending by more than 40 percent—an unlikely prospect.[114]

If poor countries are to move closer to meeting the MDGs and delivering essential health services, foreign assistance for health from advanced economies will need to increase. In 2002, the UN Millennium Project estimated that total overseas development assistance (ODA) volumes would need to rise to 0.54 percent of rich country gross national income (GNI)—or $135 billion—by 2015 if the MDGs were to be met.[115] Unfortunately, although global ODA directed to health has increased significantly, from 4.6 percent of ODA in 1990[116] to 16 percent in 2006,[117] the overall level of ODA commitment is still too low to meet the MDG funding gap.

Between 2001 and 2008, State Department and USAID global health programming grew by nearly 350 percent (see Figure 4). As a result, health now makes up a significantly larger portion of both the U.S. foreign affairs and the overall ODA budgets. In 2006, health aid comprised nearly one-quarter of

FIGURE 4 **State Department Global HIV/AIDS Initiative (GHAI) and USAID spending on global health (2001-2008)**



SOURCE: Committee's calculations based on Salaam-Blyther, 2008.

U.S. allocable aid; this is more than the average proportion of spending on health aid by other advanced economies (see Figure 5).[118]

Despite dramatic increases in spending for global health during the last decade, U.S. commitment to overall ODA has been below the efforts of other developed countries in relative terms. So even though the United States was the largest aid donor in absolute dollars ($21.8 billion) in 2007, it has one of the lowest levels of net ODA as a percentage of GNI: 0.16 percent (see Figure 6). This is well below the UN target of 0.54 percent and the Development Assistance Committee average of 0.45 percent. Even when private giving is included, the United States does not come close to the level of most other rich countries' ODA. The U.S. government gives only 25 cents per day per person and an additional 10 cents per day being given by private donors. Sweden and Denmark, by comparison, give $1.00 and $1.07 per day per person, respectively, in public aid alone.[119]

The committee commends the recent increases in spending on global health but recognizes that an even greater commitment by the U.S. government is required to demonstrate leadership in global health. **By 2012, the President should commit to spending a minimum of $13 billion annually on development assistance for health in support of the health-related MDGs.** (This number is the product of the UN goal of 0.54 percent of GNI; the estimated GNI for the United States in 2012 [$15 trillion]; and the average proportion of ODA for health [16 percent] in countries belonging to the Organisation for Economic Co-operation and Development in 2006.) This level of spending, though still below the capacity of the United States and the overall resources needed for health, is justified on the basis of international norms and commitments.

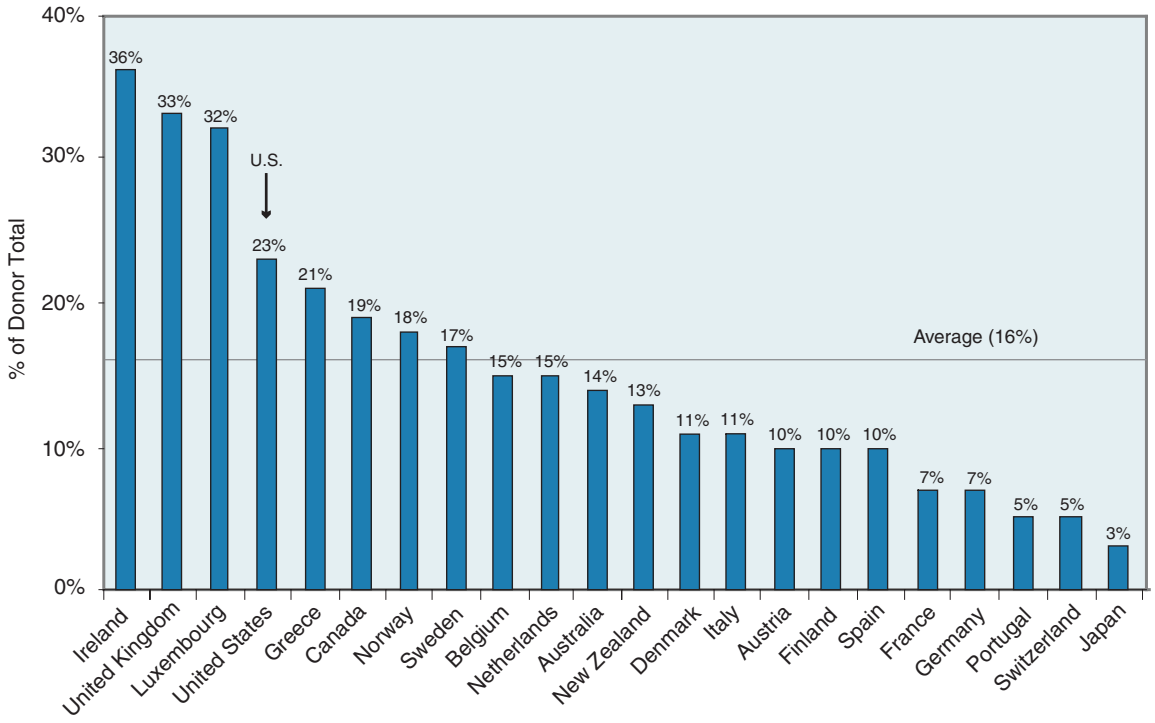
Balance traditional portfolio of U.S. investments in global health

Increased finances would provide an opportunity to balance the portfolio of U.S. government investments in global health to reflect the breadth of the health-related MDGs. Allocations during the last 8 years have been heavily skewed in favor of HIV/AIDS, which received more than 70 percent of funds in 2008 (see Figure 7). Between 2004 and 2008, projects to combat HIV/AIDS, TB, and malaria received $19.7 billion, far outpacing support for other health programs. During the same period, USAID programs for children and women's health received only $4.6 billion, representing little or no increase in real terms.[120]

While pursuing the goal of $13 billion per year for the health-related MDGs, the committee strongly recommends that the Deputy for Global Health and the Interagency Committee work with Congress to create balance in the traditional portfolio of global health aid. The U.S. government should fulfill its implied commitments under PEPFAR reauthorization to global AIDS programs ($7.8 billion per year), malaria ($1 billion per year), and TB ($800 million per year). The remaining $3.4 billion per year would roughly double current spending levels for programs in support of health systems strengthening, child and women's health, nutrition, family planning and reproductive health, and neglected diseases of poverty, all of which have been severely under-resourced during the past decade.

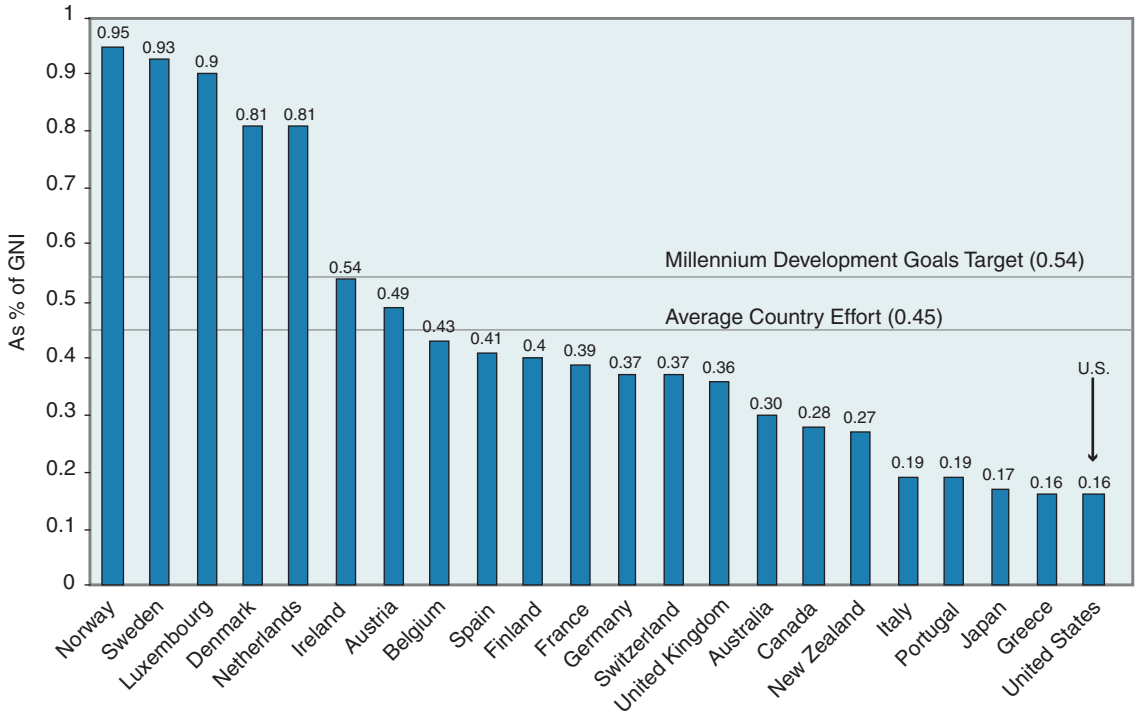
Concerns have been raised that PEPFAR commitments have already created a new global "entitlement" that could prevent an increase in funding for other initiatives. This entitlement exists in the form of an open-ended commitment to provide AIDS treatment in countries receiving PEPFAR money that would be very difficult to halt. (Treatment costs are themselves set to escalate, mainly due to three factors: antiretroviral drugs have successfully prolonged the lives of AIDS patients who now require life-long treatment; new HIV infections continue to outpace the number of people receiving treatment, due to inadequate prevention; and a portion of those on first-line drugs, for which dramatic price reductions have been attained, will require more costly, second-line therapies as their disease progresses.)[121]

FIGURE 5 **Share of allocable aid to health by Organisation for Economic Co-operation and Development (OECD) countries (2006)**



SOURCE: Committee's calculations based on OECD, 2008b.

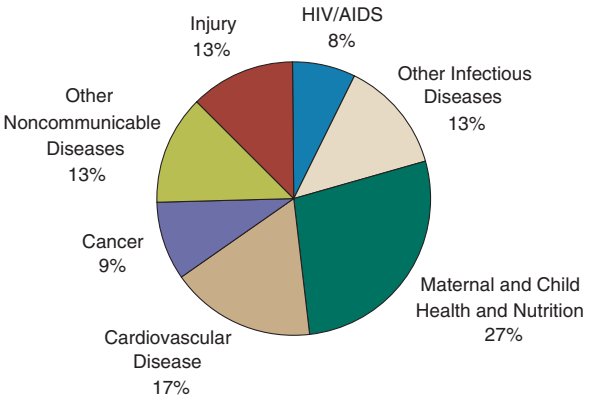
FIGURE 6 **Net official development assistance by Organisation for Economic Co-operation and Development (OECD) countries (2007)**



SOURCE: OECD, 2008a.

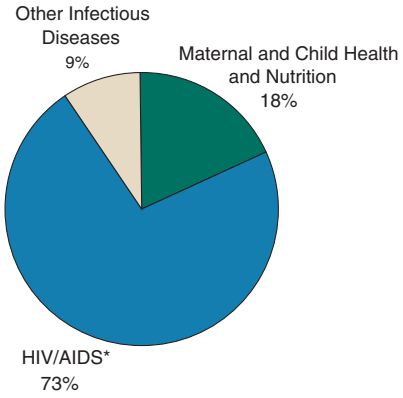
FIGURE 7

Top seven causes of death in low- and middle-income countries, below age 70 (2001)



SOURCE: Committee's calculations based on *Global burden of disease and risk factors,* 2006.

Allocation of PEPFAR and USAID global health funding by category (average for 2004-2008)



SOURCE: Committee's calculations based on Salaam-Blyther, 2008.

*NOTE: The right figure is not inclusive of all U.S. government spending on global health aid and research. *Some portion of the funding captured under HIV/AIDS may also go to support malaria and TB programs and U.S. contributions to The Global Fund.*

The importance of HIV prevention—as both a public health and fiscal imperative—cannot be overemphasized. The United States should maintain funding for antiretroviral treatment for individuals already supported by PEPFAR, but also act diligently to ensure that the program prevents as many HIV infections as possible, especially among young women in Africa (who are three times more likely to be infected than men of the same age in many high-burden countries).[122] This committee supports the 2007 IOM committee findings on PEPFAR implementation, which state that in order to help countries make gains against the HIV/AIDS epidemic, PEPFAR will need to emphasize effective, evidence-based prevention with the same urgency and intensity it has focused on treatment.[123] Without a stronger focus on prevention, PEPFAR costs could crowd out other equally important global health initiatives.[124]

Additional funding for noncommunicable diseases and injuries

While the recommended $13 billion per year for global health would support the health-related MDGs, additional resources will be required to meet the global burden of disease for the 21st century. Even though chronic diseases account for nearly half of the disease burden in low- and middle-income countries,[125] virtually no USAID programs address chronic or noncommunicable diseases.[126] Cost-effective strategies—such as higher tobacco taxes, reduction of salt in processed foods, and the administration of a multi-drug regimen to treat those with cardiovascular disease—hold the promise of averting 32 million premature deaths from noncommunicable diseases in low- and middle-income countries.[127] Injuries, which account for an additional 12 percent of deaths below age 70 each year, also receive little U.S. attention.[128] Preventive and low-cost treatment measures specially tailored to low-resource areas can help reduce the burden of chronic diseases and injuries,[129] which threaten to overwhelm health systems in low- and middle-income countries.[130]

The Deputy for Global Health and the Interagency Committee should work with Congress and the federal Executive Branch agencies and departments—particularly CDC, NIH, and USAID—to identify specific ways to respond to the contemporary challenges of noncommunicable diseases and injuries. The committee believes an additional $2 billion to expand the U.S. portfolio to address noncommunicable diseases and injuries would be appropriate. The U.S. government should adopt clear health goals, such as lowering deaths from smoking or reducing injuries from domestic violence, to guide the allocation of funds. Expenditures should include the scale-up of proven interventions and policies to reduce avoidable deaths, as well as research efforts to translate existing knowledge (often individualized treatment) into population-based interventions that are cost-effective in low-resource settings with large at-risk populations.

Declare U.S. commitment to global health

The committee is calling on the President and Congress to double U.S. commitments to global health programming between 2008 ($7.5 billion) and 2012 ($15 billion). In recognition of the partnership needed to achieve the health-related MDGs and meet the global burden of disease for the 21st century, the President should call together world leaders at the UN General Assembly in the fall of 2009 to announce the U.S. commitment to the overall funding levels recommended in this report. In light of this commitment, the President should ask heads of state of other wealthy countries to re-commit to their financial promises on global health, and in the interest of sovereignty and sustainability, ask low-income countries to commit publicly to providing an additional 1 to 4 percent of their GNI by 2012 to finance their own health initiatives.

Focus U.S. government efforts on health outcomes

Effective aid is as much about quality as it is about quantity.[131] The President should not only ask for more money for health, but also for more health for the money. The U.S. government should articulate and adopt a coherent strategy that uses the overall funding levels recommended in this report ($15 billion) to achieve sustained, significant, and measurable health gains. By working in partnership with low- and middle-income countries and other donors to support country-led health plans, and by including a rigorous evaluation of health programming, the United States can improve health outcomes—such as reducing child mortality or preventing HIV infections—while delivering aid that encourages countries to take ownership for the long-term health of their populations.

Support country-led health plans to achieve sustainable, significant health outcomes

Historically, the U.S. government has preferred to deliver aid through bilateral mechanisms that focus on a specific disease or intervention.[132] Aid is often "off-budget," being delivered and managed through nongovernmental organizations outside the recipient government's budgeting system.[133] While this allows the U.S. government several benefits—greater oversight of how the money is spent, quality control over each program, and the ability to demonstrate a direct link between taxpayer money and results—it can create disincentives for the recipient country to accept long-term ownership and accountability for the health of its population.[134]

Emerging evidence shows that off-budget donor financing can lead to decreased government spending on health. The World Bank estimates that a 10 percent increase in off-budget donor funding generates a 0.87 percent reduction in domestically funded government health expenditures.[135]

To ensure that countries retain ownership and accountability for the health of their populations, and to promote long-term sustainability, federal Executive Branch agencies and departments should deliver aid that supports technically and financially sound country-led health plans to the greatest extent possible. The U.S. government should work with recipient countries and other donors to develop results-focused, country-led agreements that rally all development partners around one national health plan, one monitoring and evaluation framework, and one review process.

Coordinating actions and expenditures with national health priorities will also ensure that U.S. programming strengthens local health systems and creates a better trained and more productive health workforce—two essential areas that can deliver broad and sustainable benefits in the long term. The human resource crisis in developing countries would also be mitigated by improving the capacity of health workers—both in the public sector and civil society organizations—through better compensation, training, and empowerment to manage their health systems more sustainably. (Attempts to merely increase the supply of workers by restricting emigration visas or reversing migration would not solve the problem of human resource deficits and would put unnecessary restrictions on the right of workers to migrate; migration is itself only a symptom of larger issues in the sending country.)[136]

Even disease- and intervention-specific programs, such as PEPFAR and the President's Malaria Initiative, should contribute to wider health outcomes by working with countries to incorporate programmatic best-practices into health service delivery. This would allow U.S. health investments to go beyond merely treating a patient for a single disease and support the delivery of comprehensive care.

Taking the example of U.S. spending to fight malaria, when a woman brings her child to see a health worker in Zambia, malaria treatment can temporarily prolong the child's life. But a comprehensive approach to care—by using that same health worker and drug supply chain to provide malaria treatment as well as preventive measures such as oral rehydration salts, inoculation against polio and measles, and deworming—can save the child's life. Improving comprehensive care delivery can also improve the life of the child's mother, who would visit a health clinic because of her sick child, but gain access to cervical cancer screening, antenatal care, family planning, treatment for sexually transmitted infections, and HIV testing and counseling.

The committee commends the language in the reauthorization of PEPFAR, which calls for expanded efforts to strengthen health systems and human resources, and to collaborate with other programs, such as child and maternal health, clean water, food and nutrition, and education.[137] Leveraging the implementation successes of PEPFAR to support broader national health priorities would go far in making even greater improvements to health outcomes.

Measure impact of investments in health

If U.S. health efforts are to help countries achieve sustainable and far-reaching health outcomes, the importance of knowing what works is critical. Evaluation should form an essential component of U.S. global health programs. However, with the exception of the Millennium Challenge Corporation, a U.S. government corporation established in 2004 to reduce global poverty through the promotion of sustainable economic growth, there has been little emphasis on evaluating impacts. Recent trends—including the reorganization of foreign assistance under the State Department and the implementation of PEPFAR—have focused significant attention on creating indicators for recording and monitoring purposes, such as the number of health workers trained or the number of pregnant women receiving HIV testing and counseling.[138] While such data on inputs (such as dollars spent) and outputs (such as

vaccines delivered) is necessary for timely managerial decisions and accountability for the use of resources, it does not provide any useful information on the effect of U.S. interventions on saving lives and improving health.

As a result, the United States has lost the opportunity to learn what kinds of programs are most effective and should be disseminated to other settings, and which ones are yielding fewer benefits than they could. For example, a 2007 IOM evaluation of PEPFAR found that some of the indicators being collected did not provide appropriate information on the progress being made toward the ultimate goal of controlling the AIDS epidemic. In its early stages, most of the results reported were for targets that could only be measured in the short-term, and therefore revealed more about the process of implementation than the impact of the program.[139]

In addition to measuring inputs and outputs, Congress should require that aid be accompanied by rigorous country- and program-level evaluations to measure the impact of global health investments. Independent and rigorous evaluation of the impact of programs (such as deaths avoided), accompanied by careful process evaluations, is the recommended means of addressing policy questions of enduring importance. Beyond counting the number of vaccines administered or health workers trained, it is important to ask tough questions such as, "Are we preventing HIV infections in adolescent women?" and "Do our efforts lead to sustained reductions in child mortality?" Critical questions like these should inform future U.S. investments to improve knowledge of what does or does not work.

Along with program-level evaluation, investments are needed for the expansion of country-based reliable, transparent, and long-term systems for recording health information. These should include complete (as far as possible) registration of births and deaths, along with details on the causes of death, and focused surveillance systems for infectious diseases. Indeed, such systems form the backbone of global rapid response to new diseases and pandemics, like SARS, and will be needed to track sustained health gains in preventing infections such as HIV. The CDC has played a historically important role in surveillance, and the success of its partnerships with countries should be enhanced.[140]

Advance U.S. strengths in global health knowledge

Investing in the health of people today (through better delivery of existing approaches) and in the health of people tomorrow (by making new discoveries to understand and combat disease) produces measurable improvements in health. Investments in research to understand diseases, devise new interventions, and implement them widely pay rich dividends in improving global health. The United States has a distinguished record in research, spending more in this area than any other country, and conducting 50 percent of health research worldwide.[141] The U.S. government should continue to advance America's traditional strength in the global health field—the generation of knowledge.

Rectify underfunding of research on health problems of the global poor

Despite being a leader in health research, the United States devotes very little money to ailments of the world's poorest populations. These issues are neglected in poor countries too because of the limited capacity for research in the public sector, and the inadequate commercial incentives for the private sector, in any country, to undertake research on diseases that have little or no viable financial market. For example, the NIH spends $350 million annually (less than 1 percent of its budget) to tackle parasitic and bacterial diseases, such as malaria, sleeping sickness, and lymphatic filariasis,[142] which are virtually

unknown in the United States, but are among the most common infections of the world's poorest billion people.[143] In the absence of commercial markets to treat such diseases, the pipeline for any new drugs has virtually dried up during the past three decades.[144] Public–private partnerships have emerged in response, using cutting-edge drug discovery technology in addition to traditional drug development to explore new ways of addressing some of the world's most devastating scourges.[145]

Certain global health challenges, such as AIDS, have recently received substantial research funding and will likely be met, in part by the successful deployment of innovative biomedical and behavioral strategies. Effective vaccines against AIDS, TB, and malaria could prove as essential as past technological breakthroughs in combating polio and smallpox.[146] Improved diagnostics and drugs in these critical areas are also important in light of increased drug resistance resulting from poor adherence to treatment regimens.[147]

As global disease burden shifts, and noncommunicable diseases become more prevalent in low- and middle-income countries, the line between global and domestic U.S. health research is increasingly blurred. Many noncommunicable diseases, such as cardiovascular disease, have received significant research attention, resulting in important advances that focus on individual risk factors and individual treatments. However, the scale and urgency of such diseases in low- and middle-income countries require population-based methods, which are currently little understood or studied.[148] A challenge for the coming decade is to understand how successful interventions in the United States can translate globally to low-resource settings.

It also needs to be recognized that the full benefits of existing knowledge and technologies are far from completely realized. In fact, current challenges reflect, to a large extent, the inability to *deploy* existing technologies more fully and effectively, especially in low-resource settings.[149] Surveys of deaths among children under 5 years of age in 42 low-income countries revealed that while improved technology could potentially avert 22 percent of deaths, the improved utilization of existing methods could avert 63 percent of these deaths.[150]

Although most research focuses on interventions—97 percent of the grants awarded by the two largest research funders in recent years were for the development of new technologies[151]—little is known about the characteristics of delivery strategies capable of achieving and maintaining high coverage for specific interventions in various epidemiological, health system, and cultural contexts. A systematic program of research to answer questions about how best to deliver interventions is urgently needed.[152]

Research on both delivery and utilization mechanisms (as well as new technologies) is needed to achieve the goal of global health. **The committee recommends that Congress continue to fund research in important areas—such as new interventions for the prevention and treatment of infectious diseases—but also allocate a portion of the funding levels recommended in this report to increase funds for three purposes: to study the basic mechanisms of diseases that disproportionately affect poor countries; to identify means to control noncommunicable diseases that are applicable in low-resource settings; and to conduct health systems research to improve the delivery of existing interventions.**

Given the tight budgets for research, there is now, more than ever, a need for increased coordination, transparency, and accountability in the use and distribution of funds to the various U.S. government agencies funding global health research. The Interagency Committee on Global Health can be an important forum for coordinating global health research across these agencies and avoiding any duplication of efforts. The Interagency Committee, under the leadership of the Deputy for Global Health, can recommend a strategic and coherent plan for financing global health research funding, which can be reflected in the President's budget.

Strengthen research partnerships and build capacity

The United States has been a leader in global health innovation because of its extensive expertise in science and biomedical research, its strong financial commitments, and the synergies that exist when the government works in partnership with other entities. An example of such a partnership can be found in the Global Alliance for TB Drug Development, a public–private product-development venture that receives funding from the Bill & Melinda Gates Foundation, NIH, USAID, and pharmaceutical companies. The Global Alliance is effectively harnessing the strengths of many participants to discover and develop new drugs for TB. Several such partnerships have emerged during the past decade to deal with global health challenges,[153] creating an infrastructure that future investments can build on. Increasingly, these new models of collaboration have included entities in low- and middle-income countries. The Drugs for Neglected Diseases initiative, for example, is a partnership that capitalizes on virtual networks of scientists in Africa, Asia, and Latin America to address diseases of poverty.

Once dominated by health experts from advanced economies, the field of global health now reflects a more diverse and globally representative group of experts and organizations. Much of the international community's work in building the capacity of public health in the developing world has borne noticeable results. Twenty-five years ago, global health experts gave guidance to health officials in low-income countries; today, the relationship is more a partnership than a tutorial. Low- and middle-income countries have global health experts of their own who not only sit at the same table, but are often better informed and better aware of the health status and specific needs of their country or region than their international partners.

The NIH's Fogarty International Center has played a pivotal role in building the capacity of researchers in low- and middle-income countries. Fogarty's highly successful AIDS International Training and Research Program provides training in multi-disciplinary biomedical and behavioral research at institutions that address the AIDS epidemic in their particular countries. More recently, Fogarty built on this model and designed the Millennium Promise Awards, a program that builds research capacity in low- and middle-income countries in fields related to cancer, cerebrovascular disease, lung disease, obesity, lifestyle factors, and genetics as related to chronic diseases.[154]

The United States can increasingly expect to find institutions in middle-income countries that are among the world's centers of excellence on public health and science, thereby enabling the establishment of meaningful partnerships. Public spending on health research by developing countries now exceeds $2 billion a year.[155] In an example of an emerging economy taking the lead in global health research, the International Vaccine Institute in Seoul, Korea, is conducting vaccine research to help children in poor countries with funding from numerous public and private donors including the NIH, the National Science Foundation, and USAID.[156] Another example is provided by Brazil's recent plan to invest $23 million in a pharmaceutical factory in Mozambique that will use raw materials from India to produce much-needed antiretrovirals for Africa.[157]

Federal Executive Branch agencies and departments should strengthen existing partnerships with the private sector and explore new collaborations with the public and the private sectors in low-income and emerging economies. Through sustained research partnerships with low- and middle-income countries, the U.S. government can further strengthen the local capacity of researchers, practitioners, and policy makers, as well as their respective institutions.

Harness information technology and promote access to knowledge

Increasingly, research is being conducted on a global scale through virtual communities of geographically dispersed scientists. This highlights the need to foster access to information in low-resource settings through a global network to exchange ideas and scientific tools, promote sustainable cross-country research partnerships, and enable the timely dissemination of best practices. A unique opportunity now exists for the U.S. government to invest in information technology and infrastructure that will encourage more efficient and effective communication among the multiple players in the global health arena.

The tools of the modern digital world—in conjunction with novel technologies, especially those in the biological and medical sciences—have dramatically changed the potential for obtaining and using new information. In the field of global health, the benefits can be seen in many ways: how medical research is conducted; how new information is published, stored, retrieved, and used; how scientists and clinicians communicate with each other; how diseases are monitored and tracked; and how medicine is practiced.

Ideally, everyone in the field of global health would have access to the digital tools that would allow them to benefit from these advances. In reality, developing countries lag far behind. Despite some improvements, the use of the Internet and mobile technologies that allow access to information remains very uneven. For example, only 3 percent of the African population uses the Internet, as opposed to 60 percent in North America.[158] It is clear, therefore, that continued commitment is needed for long-term investments in infrastructure to bring more people around the world "online."

The results and data of publicly funded global health research and evaluation also need to be made fully accessible in the public domain, for the benefit of all. Developments in electronic publishing have greatly reduced the cost of production, distribution, and storage of scientific work. Access to these resources can be greatly enhanced by the creation of public digital libraries and open access publishing. The major funders of biomedical research now require that all reports resulting from their support be made freely accessible through existing online libraries, such as NIH's PubMed Central, within 6 months or a year after publication. Since much of global health research is either publicly funded or funded through philanthropic endeavors with the aim of achieving social benefits, its results should be placed in the public domain as quickly as possible. Where feasible, data generated through publicly funded research should also be made available for reanalysis and other purposes.

Support and collaborate with the WHO

If the goals of U.S. global health investments are to be realized, collaboration with the global health community will be essential. This burgeoning community—comprising more than 40 bilateral donors, 26 UN agencies, and 20 global and regional funds, all supporting more than 90 global health initiatives[159]—is vast and diverse, and greatly in need of strong leadership. The WHO is uniquely positioned to provide this leadership by virtue of its role in setting evidence-based norms on technical and policy matters, highlighting best practices that improve health globally, and monitoring and coordinating action to address current and emerging global health threats. **The U.S. President should demonstrate support for the WHO as a leader in global health.**

While the U.S. government interacts with multiple UN agencies and other intergovernmental bodies—including the World Bank, International Monetary Fund, UNITAID, UNICEF, and UNAIDS—the committee believes that the United States has much to gain from supporting the WHO. This is not to suggest that the other organizations are not crucial players in global health, but instead that the

committee sees a unique opportunity for the United States to provide leadership in strengthening this global body whose primacy has declined in recent decades.

While this report is not prescriptive of a role for the WHO, it does recommend an honest reassessment of the agency's role and comparative advantages. The committee advocates an early review of the WHO and its six semi-independent regional offices, all of which have different strengths and weaknesses. **The administration should support a rigorous, multinational, external review of the WHO with a view to producing future-oriented recommendations as part of broader UN reforms to ensure that the organization is appropriately structured and funded to meet the global health challenges of the 21st century.**

Even though U.S. financial commitments to the WHO are already lower than those of other industrialized countries as a share of GDP, the U.S. government has consistently declined to meet its commitments in a timely manner. As of November 2008, the United States owed more than $140 million in back dues for 2007 and 2008[160]—a significant share of the $900 million that constitutes the WHO's core budget. Prompt payment of U.S. commitments would help the WHO's budgetary cycle and also set an example for other countries in their relationship with the WHO. The United States should go further and propose an increase in *assessed (non-earmarked) contributions* to the WHO budget (as compared to voluntary contributions which are earmarked, and today constitute almost 80 percent of the agency's budget). Assessed non-earmarked contributions have been more or less frozen for the last 15 years. An increase in such contributions would change the budget structure of the WHO, allowing it the flexibility to implement the most important global health priorities.[161]

While some political interplay is unavoidable in the WHO's relationship with individual Member States, the agency's function as a scientific clearinghouse can be jeopardized by too much interference from different countries.[162] Not only is the WHO's funding directed by Member States and external funders, but the agency is also structured to need the broad agreement of these stakeholders to support its mission and priorities. In carrying out functions that require independence and scientific credibility, the WHO should be protected from competing political philosophies so that it can be trusted as a source of technically sound advice.

For 50 years, the CDC's tremendous concentration of technical expertise in public health has been a key source of input and support to a range of bilateral and multilateral organizations, with CDC staff being placed at the WHO, the World Bank, and in individual nations. This important in-country presence during the design, implementation, and evaluation of health initiatives has contributed to numerous programmatic successes. For example, in the late 1960s and 1970s, CDC staff—in partnership with the WHO—helped lead the successful eradication of smallpox. The United States should build on this impressive record by continuing a high-level exchange, and sending leading technical and policy experts to engage in the WHO's tasks as requested.[163]

Call to action

Under the new administration, an opportunity exists to chart a different course for the United States and to present to the world an America that is committed to the reduction of poverty and the promotion of economic and human development. The committee is calling on the new President to highlight health as a pillar of U.S. foreign policy and to declare that the U.S. government should act in the global interest, recognizing that long-term diplomatic, economic, and security benefits for the United States will follow.

Within the first *year* of the presidency, the committee encourages the President to restructure the U.S. global health enterprise. This can be achieved by creating a White House Deputy Assistant to the President and an Interagency Committee on Global Health to lead, plan, prioritize, and coordinate the budgeting for major U.S. government global health programs and activities. The Interagency Committee should play the crucial role of ensuring that the U.S. government has a coherent strategy for ongoing investments in global health, including the means to achieve measurable, significant, and sustained health gains.

For the *term* of the Presidency, the committee proposes two objectives. The first is to mobilize financial resources for overseas health assistance. Specifically, the President and Congress should commit to spending $15 billion annually on global health by 2012 in support of the health-related MDGs and noncommunicable diseases and injuries. This assistance should be balanced across the government's health portfolio in order to meet the global disease burden of the 21st century. With the aim of maximizing impact, these investments should focus on health outcomes, achieved through careful attention to country-led health plans, health systems, and health workforces, followed by rigorous evaluation.

Second, the committee suggests that Congress and the federal Executive Branch agencies and departments endeavor to advance U.S. strengths in global health research through an increased focus on health problems of the poorest populations. This will entail continuation of existing partnerships and creation of new partnerships between the U.S. government and the public and the private sectors in low-income and emerging economies, with the global benefit of building the capacity of local researchers, practitioners, policy makers, and institutions.

If the goals of U.S. global health investments are to be realized, multilateral collaboration with the global health community is essential. The United States should therefore provide full support to the WHO, and help to increase its financial security, technical excellence, and scientific independence from political influence. The administration should also support a rigorous, multinational, external review of the WHO with a view to producing future-oriented recommendations.

The United States has both the responsibility as a global citizen, and an opportunity as a global leader, to contribute to improved health around the world. Working in partnership with others and deploying the full complement of U.S. assets, the next President of the United States has the prospect of saving lives and improving the quality of life for hundreds of millions, while enhancing U.S. credibility abroad; this is a responsibility and opportunity to seize.

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