

U.S. National Security and Global Health

An Analysis of Global Health Engagement
by the U.S. Department of Defense

A Report of the CSIS Global Health Policy Center—Working Draft

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U.S. NATIONAL SECURITY AND GLOBAL HEALTH: AN ANALYSIS OF GLOBAL HEALTH ENGAGEMENT BY THE U.S. DEPARTMENT OF DEFENSE

Eugene V. Bonventre, Kathleen H. Hicks, and Stacy M. Okutani¹

Executive Summary

Despite a broadening consensus that global health care efforts have an impact on national and global security, the U.S. national security community's efforts to address global health are weak and uncoordinated. The 2006 National Security Strategy states that "development reinforces diplomacy and defense, reducing long-term threats to our national security by helping to build stable, prosperous, and peaceful societies." While the U.S. government struggles to find the right balance among the "three Ds" of defense, diplomacy, and development, the U.S. military has increased its involvement in global health where it perceives the diplomacy and development to be underresourced—or to achieve its own specific objectives. As efforts to renew the capabilities of civilian agencies proceed, it is an appropriate time to step back and consider the role that the U.S. Department of Defense (DoD) currently plays in global health, the impact of its health activities on national and regional security, and the role it could play to support a newly balanced U.S. foreign policy.

The intersection of global health and national security is usually discussed in terms of "threats" and is best understood in the context of biosecurity, biosurveillance, and medical countermeasures. Less well understood are the importance of health development in fragile or conflict-affected states and the issue of health diplomacy in bilateral and multilateral relations. Recent reports have highlighted the potential relevance of chronic disease, water and sanitation, and access to basic health care on the stability, security, economic stability, and legitimacy of

Note: This is a working draft. CSIS welcomes your feedback. Please direct comments to the authors at GBonventre@csis.org.

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governments.² This paper attempts to frame health and security in terms of the “opportunities” they present to advance both the United States’ objectives and the quality of global health care.

DoD plays a critical supporting role in the nation’s interagency response to human-made and natural disasters. It provides unparalleled logistical, air transport, and sea transport capabilities, as well as expeditionary medical personnel, to protect the health and welfare of populations affected by crises. In addition, DoD’s extensive network of laboratories, technologies, therapies, and medical expertise is a key component in the overall U.S. and international global health surveillance and response system. Myriad DoD programs have an impact on global health, but each has different and sometimes conflicting objectives. Some short-term DoD activities risk undermining the longer-term objectives of civilian development agencies. Although, relative to the huge overall DoD budget, the small amounts in DoD programs spent on global health make it difficult to garner the attention of senior DoD leaders, these expenditures represent large sums to developing nations and nongovernmental organizations (NGOs), which have pointed out that much can be accomplished in global health with small monetary outlays.

In combat environments such as Iraq and Afghanistan, DoD has a clear responsibility to protect the health of its forces. But it has been thrust into an unanticipated role in the reconstruction of host-nation medical capability and infrastructure, given the relative lack of adequately resourced expeditionary capacity among civilian U.S. government agencies. The counterinsurgency strategy of “clear, hold, and build” requires a swift and agile entry of agencies that can build essential services, including health, water, and sanitation, within a very small window of opportunity. But civilian agencies are woefully underresourced, and aid mechanisms are complex, inflexible, and uncoordinated. If U.S. civilian agencies are not sufficiently mobilized, or if their NGO implementing partners are not willing to participate in such a “securitized” version of relief and development efforts, then the military will fill perceived gaps. New civilian structures have been created to plan and implement reconstruction and stabilization missions, without achieving a consensus on the strategies required for health-sector reconstruction to reduce the risk that conflicts will recur or ensuring that individual agencies play complementary roles. Civil-military dialogue on these issues is vital, and it must take into account the voice of civil society and the post-conflict nation itself.

The most controversial areas of DoD’s involvement in global health are diplomacy and development. In both, DoD is best equipped to serve in a supporting role to NGOs and civilian government agencies. Progress on creating an appropriate, fiscally responsible role for DoD in these areas is hindered by the lack of a whole-of-government strategic approach and of productive debate on the effect that a more integrated civil-military process would have on the NGO

² National Intelligence Council, *Strategic Implications of Global Health*, ICA 2008-10D, December 2008; and Institute of Medicine, *The U.S. Commitment to Global Health: Recommendations for the New Administration*, 2009.

implementing partners of civilian agencies. To better define and prioritize the duties and goals of such involved agencies, including DoD, the U.S. government should take these steps:

- Create a strategy for global health that balances the security dimension appropriately within a holistic national and international approach and clearly articulates the role of global public health within the U.S. national security strategy.
- Create a global health security cooperation plan to guide DoD investments that build the capacity of partner militaries' public health, medical, and veterinary systems in a way that complements the health development and health security efforts of civilian agencies and multilateral partners.
- Ensure that DoD's global health actions support security and stability by improving coordination between the undersecretary of defense for policy, the assistant secretary of defense for health affairs, geographic combatant commands, and their subordinate agencies and components.
- Combine civilian and military disease surveillance and outbreak response capabilities, and create a synergy between these activities and the public health systems capacity-building efforts of U.S. government agencies.
- Revise U.S. military training plans to support and complement building partner militaries' public health and medical care capacities.
- Create an integrated interagency assessment and evaluation system to measure both the health and the security outcomes and effects of the interventions noted above.

These steps will require an expansion of resources of the State Department and the U.S. Agency for International Development and strong political leadership from these agencies, as well as more robust political will and support from Congress. But by taking these steps, the U.S. government will become better able to meet its global health, foreign policy, and national security objectives, without an expansion of the DoD's budget or authorities.

Overview

Global health and U.S. national security are inexorably intertwined. "Global health" is increasingly understood as a strategic approach to health promotion and disease prevention that transcends national interests in an increasingly globalized, multilateral, and interdependent world. Framing the issue of health this broadly requires consideration of safe water, sanitation, and animal health, rather than medical care alone. The health of human and animal populations overseas can affect nearly every aspect of Americans' safety and prosperity—from trade to the stability of foreign governments and populations, to the physical well-being of U.S. citizens at home.

As shown by the cautionary example of how the severe acute respiratory syndrome (SARS) virus reached Toronto by commercial airliner after the disease's outbreak in China, protecting any

country's citizens depends on detecting outbreaks early and then quickly isolating them at their origin. Therefore, developing strong national public health systems and global surveillance systems benefits both the United States and other nations. Yet global health-related programs and activities are not coordinated across the U.S. government nor within federal agencies or departments. Programs are usually directed at a specific disease, and often with resources that are not proportional to the disease's prevalence or risk.

The recognition of a link between global health care and security has grown dramatically in recent years. From World War II through the United States' unilateral renouncement of its biological weapons in 1969, the only diseases of security concern were those that were, or had the potential to be, weaponized. That outlook changed in 2000 with the publication of *The Global Infectious Disease Threat and Its Implications for the United States*,³ the first U.S. National Intelligence Estimate "to consider the national security dimension of a nontraditional threat," which broadened the global health aperture beyond infectious diseases:

Highly publicized virulent infectious diseases—including HIV/AIDS, a potential influenza pandemic, and "mystery" illnesses such as the 2003 outbreak of severe acute respiratory syndrome—remain the most direct health-related threats to the United States, but are not the only health indicators with strategic significance. Chronic, noncommunicable diseases; neglected tropical diseases; maternal and child mortality; malnutrition; sanitation and access to clean water; and availability of basic health care also affect the U.S. national interest through their effects on the economies, governments, and militaries of key countries and regions.⁴

At the same time, concern over bioterrorism increased dramatically during the 1990s and even further, following the September 11, 2001, terrorist attacks. The potential threat posed by weaponized agents compounds the magnitude and range of health-related risks to national security, although some experts believe that the response to bioterrorism threats has been out of proportion to the actual threat.

DoD has long made significant contributions to science through military medicine, but its strategic thinking about global health and security issues is evolving very slowly. Many defense analysts view U.S. and Western efforts to improve the lives of populations considered at risk for jihadist or other anti-American influences as particularly important. A prominent DoD report recently noted that "in the battle for the narrative [between jihadists and the West], the United States must not ignore its ability to bring its considerable soft power to bear in order to reinforce the positive aspects of joint force operations. Humanitarian assistance, reconstruction, securing

³ National Intelligence Council, *The Global Infectious Disease Threat and Its Implications for the United States*, NIE 99-17D, January 2000.

⁴ National Intelligence Council, *Strategic Implications of Global Health*, 5.

the safety of local populations, military-to-military exercises, health care, and disaster relief are just a few examples of the positive measures that we offer.”⁵

However, there is little direct evidence to suggest that health-sector activities contribute to the long-term security, stability, governance, or legitimacy of fragile states.⁶ Furthermore, DoD’s involvement in these “soft power” activities is not without controversy. Though few would argue with DoD’s logistical support for the Office of U.S. Foreign Disaster Assistance after natural disasters, civilian relief agencies have pointed out that because DoD’s assets are usually more expensive than their civilian equivalents, military assets should be used only as a last resort and also that to avoid militarizing disaster relief, these assets should remain under civilian control.

More controversial, however, is DoD’s growing peacetime civil-military health activity—which DoD calls humanitarian assistance, but which more closely resembles what civilian agencies call development. Such activities include well drilling, constructing or repairing clinics, and hospital ship visits. DoD refers to these peacetime activities as “shaping” or “phase 0” activities because they prepare its personnel for their combat and postcombat roles, which follow as phases 1 to 6. Stewart Patrick laments, however, that “what DoD calls phase 0 is what we used to call foreign policy.” A clear benefit would be gained by more precisely defining which of these peacetime activities truly contribute to fulfilling the principles of security and stability, and by ensuring that these often short-term efforts set the stage for the long-term development and conflict-mitigation efforts of civilian agencies, rather than competing or interfering with long-range goals or threatening the impartiality of nongovernmental organizations (NGOs) that claim to abide by these principles.

DoD has also come to terms with the importance of rebuilding civil society following direct combat operations. However unlikely U.S. involvement in new combat operations and post-conflict operations may be, the fact remains that the United States is now involved in two major reconstructive efforts; likewise, the possibility of involvement in other wars, even decades into the future, cannot be completely eliminated. In 2005, the deputy secretary of defense issued a policy directing military planners to prepare for military support for stability, security, transition, and reconstruction operations with the same level of attention that they place on planning for combat operations. Under this policy, DoD medical personnel must be “prepared to meet military and civilian health requirements in stability operations.”⁷

Within the constraints of its existing authorities, missions, and expertise, DoD should be viewed as a supporting agency in the pursuit of global health. DoD is at a strategic crossroads on global

⁵ U.S. Joint Force Command, *The Joint Operating Environment*, Center for Joint Futures, November 25, 2008, 39–40.

⁶ HLSP Institute, *Health System Reconstruction: Can It Contribute to State-Building?* Study commissioned by the Health and Fragile States Network, October 2008.

⁷ Department of Defense Directive 3000.05, *Military Support for Stability, Security, Transition, and Reconstruction (SSTR) Operations*, November 28, 2005.

health—it is driven to do more in post-conflict settings and in biomedical research and surveillance, indirectly involved in supporting health diplomacy and development, yet often poorly received by and integrated with underresourced and understaffed civilian agencies and poorly organized internally to rise to these demands. Its roles and responsibilities must be clarified, and its conflicting policies and strategies must be resolved. Fears of securitization must be critically examined in light of available evidence, not emotion, and DoD’s effects on a wide range of stakeholders must be addressed, if it is to fulfill its potential as an important supporting player in efforts to improve global health.

The U.S. Government’s Global Health Activities

A number of major U.S. government global health programs have an impact on national and global security. These programs are listed in appendix A, which is intended to complement an inventory of Global Health Funding being conducted by the National Security Council. Under these U.S. programs, efforts to address potential health threats to U.S. security and leverage opportunities fall into three basic categories. First, extensive U.S. government biodefense and bioterrorism preparedness activities aim to prevent the spread of infectious diseases or biological threats to Americans at home or U.S. service members overseas. These efforts are led by the Department of State, Department of Homeland Security (DHS), Department of Health and Human Services (HHS), and DoD. The National Institutes of Health (NIH) under HHS and the Department of Agriculture lead U.S. government efforts to develop medical countermeasures to the potential exposure of U.S. citizens and livestock to disease. Second, the State Department, HHS, and other agencies engage in health diplomacy to improve bilateral and multilateral relationships in support of U.S. foreign policy objectives. Third, the United States undertakes programs to reduce poverty and improve the health of foreign populations in developing nations, including those susceptible to radical, anti-Western influence. Support for governance and economic development is in part intended to reduce the risk of political instability, mitigate the effects of infectious diseases, avert conflict, and help post-conflict countries rebuild. The U.S. Agency for International Development (USAID), the Millennium Challenge Corporation (MCC), and the Office of the Global AIDS Coordinator, among others, provide funding for these purposes.

Diplomatic and Development Efforts

In the last 10 years, issues such as the handling of the SARS outbreak in China, the USNS *Mercy* hospital ship’s visits to Southeast Asia after the tsunami, and the donation of a mobile Army surgical hospital to Pakistan after the Kashmiri earthquake have renewed debate on the relationship between health and foreign affairs. David Fidler eloquently explains the various

models for conceptualizing this relationship.⁸ For purposes of this paper, “health diplomacy” is used to mean the influence of health activities on bilateral and multilateral relationships, and the influence of bilateral and multilateral diplomacy on the U.S. global health agenda.

The major health diplomacy programs of the State Department are within the Office of International Health Affairs and Biodefense in the Bureau of Oceans and International Environmental and Scientific Affairs. The office “protects U.S. security and global economic growth by promoting global health . . . and works with agencies throughout the U.S. government to facilitate policy-making regarding environmental health, infectious diseases, health in post-conflict situations and surveillance and response, bioterrorism and health security.”⁹ The Avian Influenza Action Group is housed within this office.

Additionally, two State Department offices with global health responsibilities report directly to the secretary of state. The Office of the U.S. Global AIDS Coordinator is the interagency leadership and coordination body for the President’s Emergency Plan for AIDS Relief, which is designed to reduce the transmission and impact of HIV/AIDS through support for prevention, treatment, and care programs. The Office of the Coordinator for Reconstruction and Stabilization leads, coordinates, and institutionalizes the U.S. government’s civilian capacity to help stabilize and reconstruct societies in transition from conflict or civil strife, including the creation or restoration of public health capabilities.

USAID is the U.S. government’s focal point for development assistance. Its key goals include promoting human health and providing emergency humanitarian assistance.¹⁰ Its foreign service officers work closely with NGOs, international organizations, and other partners around the world. Since 2004, the MCC has also provided overseas development assistance. The MCC’s mission is to reduce global poverty by promoting sustainable economic growth. It has several programs aimed at improving the health of foreign populations and uses health indicators as a means of measuring progress.

⁸ Nations and organizations have undertaken health activities for the purpose of influencing both bilateral and multilateral relations, where achievement of any health objectives is secondary. Thus, Cuba deploys medical doctors abroad, and Hamas and Hezbollah operate medical clinics and engage in post-conflict health reconstruction. Likewise, however, diplomacy can influence health, such as when the World Health Organization negotiated the Framework Convention on Tobacco Control. Still others frame health diplomacy in terms of human rights, social justice, and equity. See D. P. Fidler, “Health as Foreign Policy: Between Principle and Power,” *Whitehead Journal of Diplomacy and International Relations* (Summer/Fall 2005): 179–194.

⁹ See International Health and Biodefense, <http://www.state.gov/g/oes/c1874.htm>.

¹⁰ See, for example, *USAID Primer: What We Do and How We Do It*, http://www.usaid.gov/about_usaid/primer.html.

Numerous other U.S. government entities administer diplomacy and development programs related to global health. The Centers for Disease Control and Prevention (CDC),¹¹ the DHS Office of Health Affairs, and the Fogarty International Center of the NIH have significant activities related to global health development and diplomacy.¹²

Biodefense and Global Biosurveillance Capacity Building

Although biodefense has historically been DoD's responsibility, this responsibility is now widely shared with the DHS and the NIH. The HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) is also a major contributor to biodefense preparedness and coordinates all international activities related to public health emergency preparedness and response. The ASPR's responsibilities overlap with both the DHS Office of Health Affairs and the State Department's reconstruction and stabilization initiatives. Also at HHS, but housed within the CDC, the Coordinating Office for Terrorism Preparedness and Emergency Response handles domestic preparedness activities, including management of the Select Agent Program and the Strategic National Stockpile.

Global disease surveillance has historically been done by the World Health Organization (WHO), with member states contributing information according to their obligations under the International Health Regulations. This situation has been changing over the past decade as alternative sources of reporting and new programs to develop disease surveillance capacity have emerged.¹³

Building the public health capacities of the United States and its multilateral partners improves biosurveillance and response, and protects populations at home and abroad. Internationally, the CDC's Coordinating Office for Global Health builds transparent, sustained public health systems overseas, in part to be able to rapidly detect and respond to emerging infectious diseases and bioterrorist threats. Three main programs are coordinated in the CDC's Global Disease Detection Program: the Field Epidemiology Training Program, the International Emerging Infections Program, and influenza activities related to surveillance and detection.¹⁴

Biodefense and biosurveillance expertise is diffused across agencies, with inadequate information exchanged between the "stovepiped" efforts directed at individual diseases. The result is a highly fragmented mosaic of capabilities, with occasional synergy but much overlap. Thus, along with DoD, DHS, HHS, the NIH, WHO, and the CDC, other departments and agencies with biodefense responsibilities include the Department of Commerce, the Food and Drug Administration, the Department of Agriculture, and the Environmental Protection Agency.

¹¹ CDC Budget Request Summary, "Making Leaps in Public Health," 2009.

¹² See <http://www.fic.nih.gov/about/index.htm#mission>.

¹³ Mark Zacher, "The Transformation in Global Health Collaboration since the 1990s," in *Governing Global Health: Challenge, Response, Innovation*, ed. Andrew F. Cooper et al. (Aldershot, UK: Ashgate, 2007).

¹⁴ This information was downloaded from http://www.cdc.gov/cogh/pdf/GDD_At_a_Glance_2008.pdf.

A clear national security priority related to global health is the development of medical countermeasures. Outbreaks of exotic agents occur in other countries where the collection of samples and, when available, the testing of medical therapies is possible. Some of the microbes on the Select Agent Program’s list remain endemic in some parts of the world. Experimental vaccines and therapies have sometimes undergone field trials in those countries.¹⁵ Cooperation among countries enhances disease detection and fosters the development of effective medical countermeasures.

The Department of Defense’s Global Health Activities

A number of major DoD programs have an impact on global health.¹⁶ These programs are listed in appendix B, which is intended to complement an inventory of the U.S. government’s Global Health Funding being conducted by the National Security Council. The Defense Health Program (DHP) is designed to recruit and maintain healthy armed forces, and to protect the health of the nation’s 2.5 million soldiers, sailors, airmen, and marines, as well as 6.9 million family members and retirees. The DHP budget for fiscal year 2009 is \$46 billion. Because disease has historically been significantly more lethal to military forces than combat itself, DoD addresses civilian health and endemic disease in areas where troops are deployed. As a World War II field manual notes, “Safeguarding and improving the health of the civilian population in an occupied area is necessary, not only for humanitarian reasons, but to protect the health of the occupying troops.”¹⁷ Despite the very broad policy in DoD Directive 3000.05,¹⁸ there is no consistent strategy or policy for how the military should approach issues beyond force health protection. Yet a growing number of DoD activities affect health diplomacy and health development, accounting for more than \$1.5 billion annually. The result is an ad hoc array of activities—from high-quality, innovative civil-military health activities to occasional projects that duplicate or undermine the efforts of other stakeholders—with a wide range in between.

The DoD HIV/AIDS Prevention Program provides military-to-military assistance to educate foreign militaries about HIV/AIDS prevention methods, train foreign militaries as peer educators,

¹⁵ See Stacy Okutani, “Structuring Biodefense : Legacies and Current Policy Choices,” PhD dissertation, University of Maryland, 2007.

¹⁶ Cristen Oehrig provided substantial research assistance for this section.

¹⁷ U.S. Army and U.S. Navy, *United States Army and Navy Field Manual of Civil Affairs Military Government*, FM 27-5: 14, http://www.loc.gov/rr/frd/Military_Law/pdf/FM-27-5-1947.pdf.

¹⁸ Paragraph 5.3.7 of this directive instructs the undersecretary of defense for personnel and readiness to “ensure DoD medical personnel and capabilities are prepared to meet military and civilian health requirements in stability operations.”

and develop country-specific education and testing centers. Its annual expenditures have grown to more than \$100 million.¹⁹

Support for Health Development and Diplomacy

The only defense appropriation specifically intended to benefit civilian populations is the Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) Program.²⁰ The intent of OHDACA is to provide opportunities for the U.S. military to strengthen relationships, promote peace and stability, and deter potential aggressors.²¹ A recent Harvard University review demonstrated that up to 68 percent of OHDACA's projects have an impact on global health in a broad sense—through public health and medical infrastructure; direct health care provision and training; and water, sanitation, and disaster preparedness, including building avian and pandemic influenza response capacity.²² Approximately \$100 million was obligated in fiscal year 2008, but after major disasters, Congress added funds through supplemental budget requests so that total annual expenditures could exceed \$200 million.²³

DoD's medical, dental, and veterinary civic action programs and its medical readiness training exercises aim primarily to train U.S. troops to provide clinical care in developing countries.²⁴ The Navy uses its medical ships the *Mercy* and the *Comfort*, as well as amphibious assault ships, for training missions that also provide medical care to indigenous populations abroad. Most missions include engineers who build or renovate health, water, and sanitation infrastructures. *Mercy* personnel (composed of staff from DoD, the Public Health Service, and NGOs) have seen 260,000 patients in Southeast Asia since 2005, and the *Comfort* provided medical and dental care to 98,000 civilians in Central and South America in 2007. Each mission lasts several weeks and costs \$10 million to \$20 million, excluding personnel costs. The Navy reports a significant impact on goodwill for the United States as a secondary benefit.²⁵

The Commander's Emergency Response Program (CERP) helps meet humanitarian needs as part of military operations in Iraq and Afghanistan. Between 2 to 7 percent of CERP funds are spent on

¹⁹N.M. Serafino, "The Department of Defense Role in Foreign Assistance: Background, Major Issues, and Options for Congress," Congressional Research Service, December 9, 2008, 48.

²⁰The OHDACA has three components: a humanitarian mine action program, a humanitarian assistance program; and foreign disaster relief assistance. See www.dsca.osd.mil.

²¹OHDACA, "Fiscal Year (FY) 2007 Budget Estimates Overseas Humanitarian, Disaster, and Civic Aid." 22 M. Bourdeaux et al., "The Department of Defense's Involvement in Civic Assistance, Part I: The OHDACA Program," *Disaster Medicine & Public Health Preparedness*, in press.

²³See <http://www.dsca.osd.mil/programs/HA/HA.htm>, accessed at http://www.defenselink.mil/comptroller/defbudget/fy2009/budget_justification/index.html.

²⁴The use of DoD component operations and maintenance funds for these activities is authorized under Title 10, USC 401.

²⁵See <http://www.mercy.navy.mil/>, <http://www.med.navy.mil/sites/usnscomfort/Pages/default.aspx>; and Dr. Ward Casscells, presentation at CSIS, January 7, 2009.

public health projects, and in fiscal year 2007, CERP funds totaled \$456 million. Since 2003, DoD has spent \$523 million in health-sector reconstruction activities in Iraq on more than 1,800 projects, including 378 primary health care centers and 138 hospital projects.²⁶

A less-well-known DoD effort is the U.S. Air Force's International Health Specialist (IHS) Program. The Air Force selects skilled medics for IHS who also have cultural and linguistic competency, expertise in regional medical threats, knowledge of joint coordination, and the ability to build the "medical bridges" needed to support operations abroad.²⁷ In recent years, DoD has begun exploring the expansion of IHS to the Army and Navy.²⁸

The Defense Institute for Medical Operations teaches train-the-trainer courses to military and civilian constituencies overseas, to improve partner-nation skills in disaster management, force health protection, and disease surveillance and outbreak management. Courses are funded primarily through the International Military Education and Training Program or through OHDACA.²⁹

In 2008, the Office of the Assistant Secretary of Defense for Health Affairs (ASD/HA) established an International Health Office. Though still a work in progress, ASD/HA provides the assistant secretary with subject matter expertise for developing policies related to DoD's global public health activities, fulfilling its mandate under Directive 3000.05.³⁰ The portion of the \$46 billion defense health budget that is spent on international programs is not known. Because ASD/HA does not have oversight of any program mentioned above or direct responsibility for developing DoD's strategy and guidance on long-term overseas activities, it has only a limited ability to coordinate DoD's many diplomacy and development activities.³¹

Although the funds committed to these programs are small by DoD's overall standards, the programs still do directly affect the development activities of civilian agencies and NGOs, which often complain about poorly implemented programs that undermine their long-term efforts or distract host nations' attention from more sustainable activities. Moreover, the techniques that

²⁶ Casscells, presentation at CSIS, quoting the inspector general for Iraq's quarterly report to Congress on October 30, 2008.

²⁷ Bo Joyner, "Helping Hands: International Health Specialist Program Opens Doors for Medical Professionals to Better Serve Around the World," *Citizen Airman*, April 2004.

²⁸ There are no medical personnel organic to the Marine Corps, which relies upon the Navy for medical support.

²⁹ See http://airforcemedicine.afms.mil/idc/groups/public/documents/webcontent/knowledgejunction.hcst?functionalarea=DIMO&doctype=subpage&docname=CTB_075080.

³⁰ Department of Defense Directive 3000.05, *Military Support for Stability, Security, Transition, and Reconstruction (SSTR) Operations*, November 28, 2005, 6.

³¹ ASD/HA acknowledges DoD's direct role in health diplomacy as "Conducting Diplomacy Through Health: How Our Military Health System Is an Indispensable Global Asset That Serves Our National Security Interests and Saves Lives," <http://www.tricare.mil/stakeholders/introduction.cfm>.

DoD uses to execute small programs like OHDACA often become the model for larger military operations, as was the case in Iraq and Afghanistan.

Support for Biodefense and Global Biosurveillance Capacity Building

DoD's medical research activities represent a significant portion of the U.S. national security response to potential global health threats, accounting for \$900 million in fiscal year 2009.³² Though these DoD activities are driven by force protection considerations, their benefits for global health are nonetheless significant. The Army, Navy, and Air Force each has capabilities that support biodefense research and surveillance, as do the Defense Advanced Research Projects Agency and the Defense Threat Reduction Agency (DTRA).

The U.S. Army Medical Research Institute of Infectious Diseases, the lead medical research laboratory for the U.S. Biological Defense Research Program, is equipped to study highly hazardous infectious agents requiring maximum containment at biosafety level 4. The Army also operates the joint U.S.-Thai Armed Forces Research Institute of Medical Sciences in Bangkok, which conducts collaborative research on tropical diseases endemic to Thailand and Southeast Asia.

The U.S. Navy operates medical research units in Egypt and Indonesia and a Medical Research Center in Peru to support military personnel deployed in these theaters. These facilities provide significant biocontainment space and field research in the infectious diseases indigenous to their host regions. The Naval Health Research Center in San Diego serves as the backbone for Naval biomedical research.

The U.S. Air Force is the executive agent for DoD's Global Laboratory-Based Worldwide Influenza Surveillance Program, located at the Air Force Institute for Operational Health in Texas, whose mission is to "promote global health and protect Air Force warriors and communities."³³ Using sentinel bases in the United States, Europe, and Asia, the Air Force collects specimens from U.S. military personnel and their families for culturing and provides selected isolates to the CDC and WHO for further subtyping.

Intersecting many of these programs and institutions is the DoD's Global Emerging Infections Surveillance and Response System (GEIS). President Bill Clinton directed the establishment of GEIS in 1996 to "strengthen the prevention of, surveillance of, and response to infectious diseases that (1) are a threat to military personnel and families, (2) reduce medical readiness, or (3) present a risk to U.S. national security."³⁴ GEIS relies upon the various research and treatment facilities operated by DoD's components both overseas and in the United States to provide early

³² See <http://www.health.mil/MHSBlog/Article.aspx?ID=377>.

³³ Brooks-City Base, "Air Force Institute for Operational Health," <http://www.brooks.af.mil/unjits/airforceinstituteforoperationalhealth/index.asp>.

³⁴ See www.geis.fhp.osd.mil.

detection of emerging threats and seeks to coordinate training, research, and response related to infectious diseases.

The Cooperative Threat Reduction (CTR) Program, originally created to prevent the spread of nuclear weapons and expertise from the then–Soviet Union, is increasingly engaged in biodefense efforts. CTR is unique among DoD’s biosurveillance programs in that its primary objective is building the capacity of foreign scientists and governments, not the direct protection of U.S. service members. The program seeks to engage scientists in animal and human disease surveillance, and it assists foreign nations in building research facilities to be owned and operated by the host country. CTR funds may only be used for efforts to detect and respond to especially dangerous pathogens.

The National Center for Medical Intelligence (NCMI)—formerly the Armed Forces Medical Intelligence Center—is charged with monitoring and analyzing events that could have a negative impact on the health of U.S. military and civilian populations, such as pandemic influenza, novel zoonotic diseases, and incidents of bioterrorism. the NCMI’s expansion into the homeland security area has been called a “critical link between DoD force protection and broader homeland health protection.”³⁵

The DTRA leads a recently created Transformational Medical Technologies Initiative dedicated to anticipating future genetically modified emerging threats and developing strategies and treatments that will enable a broad spectrum of medical countermeasures to be effectively undertaken. Almost 75 percent of the initial funding for this program—estimated to reach \$1.5 billion in its first five years—was provided to the pharmaceutical and biotechnology industries.³⁶

Recommendations

- *Recommendation 1:* Create a strategy for global health that balances the security dimension appropriately within a holistic national and international approach and clearly articulates the role of global public health within the U.S. national security strategy.

The growing tendency to view global health as a national security issue invites scrutiny. Some have termed this trend the “securitization of public health”:

Securitization means that the theory and practice of public health are increasingly considered in security terms. Linking public health to different concepts of security became ubiquitous in the past decade, whether discourse focused on homeland, national, collective, global, or human security. These linkages revealed a widespread belief that securitizing public health was a productive strategy to achieve greater protection from pathogenic threats. A critical aspect of

³⁵ See www.upmc.biosecurity.org/website/biosecurity_briefing/archive/govt_response.

³⁶ Center for Arms Control and Non-Proliferation, “Federal Funding for Biological Weapons Prevention and Defense, Fiscal Years 2001 to 2009,” April 2008, [http://www.armscontrolcenter.org/media/fy2009_bw\)budget.pdf](http://www.armscontrolcenter.org/media/fy2009_bw)budget.pdf).

the securitization process involved elevating public health as a political priority in domestic governance, foreign policy, and international diplomacy. The securitization phenomenon represents one of the most important policy shifts creating the new governance challenge of biosecurity.³⁷

Such “securitization” could help the global health community. Despite a growing chorus of support for rebuilding the capacity of both the State Department and USAID, these agencies are not likely to ever enjoy the same degree of support from Congress as does DoD, and the defense budget will always greatly exceed those of these other two agencies. For instance, U.S. defense spending in Afghanistan is 20 times larger than development spending.³⁸ The “national security” label thus provides the promise of increased funding and attention, greater funding flexibility, and adding DoD’s planning, logistics, and medical prowess (both latent and actualized) to global health initiatives.

There are also risks to characterizing investments in global health as security investments and having health programs carried out by entities perceived to be agents of a security organization.³⁹ International and nongovernmental humanitarian responders are able to intervene during and after conflicts and in otherwise closed societies because they are perceived as independent and impartial. When they lose this hard-earned reputation, they can become victims of attacks or lose the support of communities in implementing activities such as vaccination or awareness-raising campaigns.

Securitization in biosurveillance has likewise had mixed results. A security-centric approach has brought substantial funding to biodefense. But in some countries, it has resulted in the development of sophisticated laboratory facilities that allow researchers to work with exotic and highly pathogenic agents that are not necessarily endemic in, or very pertinent to, the domestic context. This kind of investment builds physical capacity but with questionable benefits for the local population—and at the risk of diverting resources from greater needs and increasing the likelihood of an accidental or deliberate release of dangerous pathogens. Instead, building the capacity of basic public health systems, surveillance systems, and local research might pay greater security dividends by facilitating the earlier detection of outbreaks and emerging diseases, as well as a more robust local response.

In this respect, the CDC’s programs and the Fogarty Center grants serve to build public health systems and infrastructure in a few nations and are focused on creating both local expertise in endemic diseases and institutional norms of scientific cooperation. These programs do not

³⁷ David P. Fidler and Lawrence O. Gostin, *Biosecurity in the Global Age: Biological Weapons, Public Health, and the Rule of Law* (Stanford, Calif.: Stanford University Press, 2007).

³⁸ Oxfam America, “Smart Development in Practice: Field Report from Afghanistan,” 2009.

³⁹ See Andrew Lakoff and Stephen J. Collier, eds., *Global Health and Security in Question* (New York: Columbia University Press, 2008); and Rebecca Katz and Daniel Singer, “Health and Security in Foreign Policy,” *WHO Bulletin* 85, no. 3 (March 2007).

directly serve biodefense or bioterrorist defense efforts—nor are they designed with that purpose in mind. Rather, such efforts build mutually beneficial networks of trust and scientific expertise that serve global health care efforts. Increased information exchanges between these programs and DoD, however, may result in a more synergistic effect on biosecurity.

The lack of a unified U.S. national approach exacerbates the debate over how to best link national security and global health. The expertise, capability, and responsibility for global health reside in a number of separate government departments and programs, with evident duplicated efforts, absences of coordination, and gaps in approaches. Unless there begins to be stronger unifying direction, the inherent ability of security institutions and programs to garner resources for global health, combined with the logically helpful recognition by DoD and other agencies of the security implications of global health, will continue to drive unbalanced, poorly integrated U.S. activities.

Thus, the United States' global health strategy and its security subcomponent should expand beyond the “threat” framework and take into account the myriad opportunities available for improved coordination with multilateral partners, a more coherent use of health diplomacy, and better transitions from short-term crisis responses to long-term global health development. Improved visibility and coordination among programs across the U.S. government will create greater synergy for increasing the capacity of partner nations' public health systems. Within DoD, this shift away from direct clinical intervention and toward support for whole-government capacity building is consistent with the agency's agenda for building partnership capacity outlined in the Quadrennial Defense Review.⁴⁰

Adjusting priorities from within agencies is challenging because staff are naturally protective of their own specific programs and strive to preserve the resources associated with those programs. To mitigate the risk of programmatic baggage unduly influencing the creation of a global health strategy, the National Security Council is likely to be the most appropriate convening authority to drive this process. The development of this strategy requires a cross-pollination of expertise from both the security and health sectors and must include all stakeholder agencies—including, along with all those discussed above, the Environmental Protection Agency, the Food and Drug Administration, the Commerce Department, and the Central Intelligence Agency. Broad interagency participation will leverage activities that address the security implications of environmental health and climate change.

- *Recommendation 2:* Create a global health security cooperation plan to guide DoD's investments in partner nations that build the capacity of their militaries' public health, medical, and veterinary systems to complement the health development and health security efforts of civilian agencies and multilateral and implementing partners. The U.S. Africa Command and U.S. Southern Command are particularly well suited to pilot such coordinated, long-term global health and security strategies in their regions.

⁴⁰ See <http://www.defenselink.mil/qdr/>.

- *Recommendation 3:* Ensure that DoD’s global health actions support security and stability by improving coordination between the undersecretary of defense for policy, the assistant secretary of defense for health affairs, geographic combatant commands, and their subordinate agencies and associated components.

Ultimately, healthy U.S. military and security forces will be more capable of providing security and stability than militaries that are weakened by infectious or chronic diseases.⁴¹ DoD will likely contribute to any U.S. global health strategy. Just as at the national level, however, its programs are not well coordinated and have global health benefits that are largely secondary because the programs were created for other purposes. DoD’s sheer diversity and size, coupled with the variety of authorities and accounts through which it undertakes global health-related initiatives, create an integration challenge.

Moreover, the authorities for most international programs rest with the undersecretary of defense for policy, whereas the assistant secretary of defense for health affairs oversees health personnel and readiness issues. The creation of a policy in Washington would not necessarily change activities conducted by the armed services or the combatant commands on the ground—unless there is buy-in from those levels through existing guidance mechanisms, and a clear demonstration of the advantages of moving in this new direction. The potential for synergy that would result from greater synchronization of existing programs within DoD, and improved coordination with long-term efforts of civilian agencies as outlined in a broad U.S. global health strategy, would likely have a large impact without increasing DoD’s programmatic budgets.

The undersecretary of defense for policy publishes an annual classified document, the Guidance for Employment of the Force, outlining DoD’s strategy of security cooperation and contingency response. The same office, in coordination with the assistant secretary of defense for health affairs and the DTRA, should issue guidance on a global health security cooperation plan to guide DoD’s investments and activities that have an impact on international health diplomacy and development, overseas biodefense, and overseas medical countermeasures activities. This would require consultation across U.S. government agencies, which would mean distributing an unclassified version of this plan. Civilian agencies must be willing and able to contribute to shaping this document; it would require robust State Department leadership for health diplomacy coordination and USAID leadership for health development. Global health and security must be an integral part of rebalancing the three Ds—defense, diplomacy, and development.

The health security cooperation plan should emphasize military-to-military cooperation, focused on improving the health of partner nations’ security forces, building partners’ capacity for disaster

⁴¹ In “DoD Inspector General Report No. SPO-2008-001 from July 2008,” the special inspector general for Iraq reconstruction noted that “building a responsive, proactive, and successful health care delivery system in a stability operation scenario such as Iraq will expedite and sustain the ability of the Iraqi Army to be fully combat ready and more effective in counterinsurgency and counterterrorism.”

and disease outbreak management and response in support of civilian authorities, and protecting the health infrastructure and functions during conflicts and peacekeeping operations.

The growing interagency nature of the U.S. Southern Command and U.S. Africa Command, coupled with the risk of natural disasters in both regions and the myriad health needs on the African continent, make those two commands particularly suitable for the creation of regional health security cooperation plans with significant input from civilian agencies.

Because of the many programs and multiple levels of oversight and execution within DoD, this plan must have ownership at all levels, from the secretary of defense to the Joint Staff and the combatant commands, to the services and joint task forces and units in the field. Military medical personnel alone cannot achieve this plan synchronization without strong command ownership and leadership, as well as adequate civil-military coordination at all levels. Formalizing this plan would improve coordination between the policy and the health experts in the secretary of defense's office and would give both sets of experts a single voice on the health and security activities of the combatant commands, their components, and the services.

In critical countries such as Afghanistan, Iraq, Pakistan, and key African nations, DoD should consider “adopt-a-hospital” programs that pair local military hospitals with similar-sized U.S. military hospitals. Faculty and staff exchanges could build local military health capacity, especially in critical gap areas—nursing, biomedical equipment repair, laboratory and radiology technicians, and the like. Having personnel on the ground could leverage existing programmatic money from Afghanistan/Iraq Security Forces Funds to focus military-to-military assistance. U.S. military teaching hospitals and the Uniformed Services University could exchange visiting professors with their foreign equivalents and assist with curriculum development. In areas where U.S. military operations are ongoing, the complex web of U.S. and international donor aid and development mechanisms for global health must be untangled, and their caveats resolved, to allow a better balance among the three Ds. In the meantime, the United States should seek increased health diplomacy and health development contributions from its coalition partners, rather than emphasizing troop contributions.⁴²

- *Recommendation 4:* Combine civilian and military disease surveillance and outbreak response capabilities, and create a synergy between these activities and U.S. government agencies' capacity-building efforts for public health systems.

DoD's surveillance sites share information and expertise fairly easily among their domestic and overseas laboratories, the CDC, and international networks such as WHO's Global Outbreak Alert and Response Network. The CDC and WHO will always be underfunded relative to DoD, so a more formal relationship among U.S. government surveillance and response capabilities may achieve greater synergy than maintaining independent systems.

⁴² Norway is an interesting model; it contributes 1 percent of its gross national income as official development assistance, and its civilian and military contributions to Afghanistan operations are equal.

GEIS, regional laboratories, the CTR Program, and other DoD programs that emphasize disease surveillance or focus on particularly dangerous pathogens should coordinate more closely with each other and with the CDC and USAID to determine to what extent developing general public health infrastructure and systems capacity would achieve these same goals, while also being useful to the broader U.S. global health engagement strategies now being developed. This may require legislative changes in some of the authorities in both civilian and military agencies, and a change in mindset from focusing on “threats” to “opportunities.” Strengthening overseas public health infrastructures and systems would not only improve the detection of outbreaks but could also reduce the likelihood of new outbreaks as public health, water, and sanitation conditions improve—better protecting both the American and partner nations’ populations. Moreover, expanding agencies’ authority to address systemic issues, beyond just dangerous pathogens, would strengthen preparation for emerging and unanticipated diseases, address unglamorous but more common diarrheal and respiratory diseases, and at the same time maintain emphasis on protection against dangerous pathogens. An increased emphasis on building local veterinary capacity would reduce the risk of zoonotic origin for new diseases.

- *Recommendation 5:* Revise U.S. military training plans to support and complement efforts to build partner militaries’ public health and medical care capacities.

Military health personnel must train to hone their clinical skills for use on the battlefield, and their deployment skills for work in remote areas. Such training missions often deliver health care to civilian populations, from a variety of platforms, including hospital ships, warships, C-130s, and even the tailgate of a pickup truck. Military medics conduct medical civic action programs, known as MEDCAPS, while deployed, either as part of a strategic plan as in the Horn of Africa or because commanders are loath to see their medical personnel idle under deployed conditions. However, such training has potential health diplomacy benefits—and risks. Hospital ships’ visits to Central and South America have paid dividends not only for the skills of military medics but also in influencing both populations and government leaders to view the United States and its military in a more favorable light. The *Mercy’s* visit to Indonesia was more problematic, because the standard of care delivered far exceeded what the Indonesian government was able to provide after the ship departed, and Indonesia claimed that this had undermined its legitimacy and authority.

Such training missions should be more closely coordinated with military and civilian authorities in partner nations, and should support and complement the State Department’s health diplomacy plans and USAID’s health development plans. Activities that focus on supporting the efforts of U.S. government civilian agencies to improve public health infrastructure and systems capacities more closely match DoD’s expected role during stability operations than training to provide direct patient care to civilians. Capacity building more closely fits into the evolving whole-government strategy for providing global health care. The conflicts in Iraq and Afghanistan have demonstrated that military medical care involves reconstruction and capacity-building tasks far more often than direct patient care, so refocusing military training activities ensures that military medics “train as they will fight.” Short-term military training activities should not be isolated

events. Instead, they should be part of a spectrum of activities, in conjunction with civilian and multilateral partners and stakeholders, that take a more long-term view of the ultimate goal of development through poverty reduction.

As the U.S. Africa Command seeks to improve its relations on that continent, it faces an ocean of needs. It should focus its training missions on true two-way information exchanges with African military medical personnel, with an eye toward improving military public health infrastructure and health systems capacities, in coordination with civilian agencies' plans. This would fulfill DoD's training requirements while reducing the risk of short-term, unconnected clinical activities that are not locally sustainable. Military veterinarians are essential to this effort, given the importance of animal health to social and economic well-being in most African countries. Training missions that involve vaccinating local herds are beneficial. But it would be even more worthwhile to strengthen local veterinarians' capability to address animal health in a sustainable manner, in support of civilian agencies, donors, and NGOs with similar objectives and a more long-term point of view.

Civilian agencies seldom find support or funding for such a "systems" approach, because it is easier to explain a single disease like HIV or malaria than a complex system; the American public will donate funds to specific diseases, but the resulting disease-specific stovepipes leave gaps and often compete with one another. Military training resources are always available; they do not need donor support, so they can focus on the unglamorous "systems" side—but only if civilian public health experts lend their expertise to steer such military activities in the right direction and ensure that training efforts support long-term civilian development goals.

- *Recommendation 6:* Create an integrated interagency assessment and evaluation system to measure both the health and security outcomes of the interventions described above.

Because these recommendations chart a new way forward at the nexus of global health and national security, the effectiveness of this method should be measured—ideally, by an objective mechanism outside the military. Capitalizing on the experience of the State Department and USAID, techniques should be developed that attempt to measure the outcome of programmatic interventions, and the impact of activities on both global health and on security objectives.⁴³ Critical analysis of data by scholars should be fed back into the planning systems of each agency to allow decisionmakers to emphasize cost-effective activities that have the greatest chance for long-term sustainable impact and capacity growth. DoD has a long history of measuring the effectiveness of its destructive activities—it risks pilots' lives to photograph the results of aerial bombardments, for instance. Military medical personnel, like their civilian counterparts, strive to practice "evidence-based medicine" to ensure the efficacy of their medical interventions. The U.S. government should accept no less when it comes to global health interventions. If agencies

⁴³ E. Bonventre, "Monitoring and Evaluation of Department of Defense Humanitarian Assistance Programs," *Military Review* (January–February 2008): 66–72.

implement health programs for the purpose of improving security or stability, they should collect data prospectively to test whether these activities have the intended effect.

Increased coordination requires improved information sharing. And this information sharing will be easier if military and civilian personnel agree on a common terminology and on common assessments, both for peacetime activities and for responses to crises; collect data in common formats; and develop common monitoring and evaluation techniques. Military databases on global health should be unclassified to the maximum extent possible. Databases such as the Overseas Humanitarian Assistance Shared Information System (www.oasis.org) should be opened to USAID for programmatic coordination, and to academia and contractors for assessments and analysis. Crisis response data should be shared with civilian databases, such as the Complex Emergency Database and the Emergency Events Database.⁴⁴ DoD's disaster response in support of the Office of U.S. Foreign Disaster Assistance should also share information with the UN Office for the Coordination of Humanitarian Affairs, and with WHO as the cluster lead for health-sector crisis response.

Conclusion

Although U.S. government efforts to advance global health have evolved from divergent interests, including humanitarian motives, today there is an increasing willingness to link global health with U.S. national security. However, viewing the complex linkages between global health and national security in terms of opportunities rather than threats will better enable the U.S. government to improve its coordination with its international partners and other stakeholders, and to achieve a better balance between security and global health. Shifting DoD's resources more in favor of building the public health capacity of partner nations' militaries, and synchronizing its efforts with the Department of State's health diplomacy and USAID's health development efforts, would create a synergy beneficial to global health, and potentially beneficial to global and national security.

Today, more sustained investments in capacity building are being seen as necessary to achieve lasting improvements in global health and, hence, in economic growth, stability, and security.⁴⁵ If the World Bank and WHO are correct in their conclusions that virulent diseases can destabilize economies and entire political systems,⁴⁶ then it is in the national security interest of the United States to address the causes of diseases and develop effective systems to detect and contain them.

⁴⁴These databases are maintained, with funding by USAID, at the Centre for Research on the Epidemiology of Disasters, www.cred.be, www.cedat.org, and www.emdat.be.

⁴⁵See Ron Waldman, *Health Programming in Post-Conflict Fragile States* (Arlington, Va.: Basic Support for Institutionalizing Child Survival for U.S. Agency for International Development, 2006); and Laurie Garrett, "The Challenge of Global Health," *Foreign Affairs* 86, no. 1 (January/February 2007).

⁴⁶ *WHO Commission on Macroeconomics and Health, Investing in Health* (Geneva: World Health Organization, 2003).

Accordingly, the global health activities of those U.S. agencies whose activities are related to national security must be better coordinated to improve the U.S. government's overall effectiveness in this area. Moreover, the White House, the National Security Council, and Congress should appropriately harness and rebalance DoD's vast resources and growing interest in health care to ensure that the military's activities and investments advance, rather than hinder, the nation's global health agenda.

Appendix A. U.S. Government Global Health Programs That Have an Impact on National Security

Program	Parent Organization	Mission
Bureau of Global Health	U.S. Agency for International Development (USAID)	Confront global health challenges by improving the quality, availability, and use of essential health services
Office of U.S. Foreign Disaster Assistance	USAID	Save lives, alleviate human suffering, and reduce the social and economic impact of natural and man-made disasters worldwide. Includes Food for Peace, Displaced Children and Orphan's Fund, Patrick J. Leahy War Victims Fund, Victims of Torture Fund
Office of International Health and Biodefense	State Department Bureau of Oceans and Environmental and Scientific Affairs	Protect U.S. security and global economic growth by promoting global health
Avian Influenza Action Group	Office of International Health and Biodefense, State Department	Coordinates U.S. international engagement with multilateral partners and the private sector to contain the spread of avian influenza in poultry and to mitigate the global socioeconomic and security consequences of a potentially catastrophic human influenza pandemic
Global AIDS Coordinator	Secretary of state	Interagency leadership and coordination body for the President's Emergency Plan for AIDS Relief (PEPFAR), designed to reduce the transmission and impact of HIV/AIDS through support for prevention, treatment, and care programs.
Global AIDS Program	Centers for Disease Control and Prevention (CDC)	Supports PEPFAR
Coordinator of reconstruction and stabilization	Secretary of state	Leads, coordinates, and institutionalizes U.S. government civilian capacity to help stabilize and reconstruct societies in transition from conflict or civil strife, including the creation or restoration of public health capabilities
Bureau for International Narcotics and Law Enforcement Affairs	State Department	Reduce entry of illegal drugs into the United States; minimize impact of international crime on the United States and its citizens. Fund drug rehabilitation clinics
Department of Agriculture	Cabinet level	Provide leadership on food, agriculture, natural resources, and related issues; animal health

Food and Drug Administration	Cabinet level	Protect the public health by assuring the safety, efficacy, and security of human and veterinary drugs, biological products, medical devices, the U.S. food supply, cosmetics, and products that emit radiation
Millennium Challenge Corporation	Public-private partnership	Reduce global poverty through the promotion of sustainable economic growth
International Affairs and Global Health Security Office	Office of Health Affairs, Department of Homeland Security (DHS)	Subject matter experts on all aspects of global health security, including avian and pandemic influenza, international medical readiness, and all-hazards emergency public health planning; leads and coordinates interagency biodefense activities
Fogarty International Center	National Institutes of Health (NIH)	Form and support international partnerships for collaborative global health research and training programs
Office of Global Health Affairs	Department of Health and Human Services	Develops U.S. policy and strategy positions related to health issues. Provides policy guidance and coordination on refugee health policy issues, in collaboration with the U.S. Public Health Service Operating Divisions, the Office of Refugee Resettlement in the Administration for Children and Families, the Department of State, and others.
Office of Medicine, Science, and Public Health	Office of the Assistant Secretary for Preparedness and Response (ASPR), Department of Health and Human Services (HHS)	Coordinate all international activities related to public health emergency preparedness and response and coordinate ASPR's overall influenza pandemic efforts
Coordinating Office for Terrorism Preparedness and Emergency Response	CDC	Domestic preparedness activities, including management of the Select Agent Program and the Strategic National Stockpile
Coordinating Office for Global Health	CDC	Global Disease Detection Program, Field Epidemiology Training Program, International Emerging Infections Program, and influenza activities related to surveillance and detection
Biosurveillance Coordinating Unit	CDC	Oversees the National Biosurveillance Strategy. Outlined in Homeland Security Presidential Directive-21; addresses global disease outbreaks
National Biosurveillance System	DHS National Biosurveillance Information Center	Around-the-clock domestic biosurveillance
Medical countermeasures	National Institute of Allergy and Infectious Diseases, NIH	Conduct and support research aimed at developing new and improved medical tools against potential bioterrorism agents

Biomedical Advanced Research and Development Authority	ASPR	Establish systems that encourage and facilitate the development and acquisition of medical countermeasures such as vaccines, therapeutics, and diagnostics, as well as innovative approaches to meet the threat of chemical, biological, radiological and nuclear (CBRN) agents and emerging infectious diseases, including pandemic influenza
Project Bioshield	HHS	Project BioShield Act of 2004 (PL 108-276), to create a government market for research and development of CBRN medical countermeasures in which the commercial market would not otherwise invest

Appendix B. Department of Defense Programs That Have an Impact on Global Health

Program	Parent Organization	Mission	Fiscal Year 2009 Budget
Defense Health Program, www.health.mil	Assistant secretary of defense for health affairs	Force health protection; recruit and maintain a healthy force; prevent illness and injury in the force; provide clinical care to beneficiaries	\$46 billion
DoD HIV/AIDS Prevention Program, http://www.med.navy.mil/sites/nhrc/dhapp/Pages/default.aspx	Naval Health Research Center	Assist in developing and implementing military-specific HIV prevention programs; integrate with other U.S. government, nongovernmental organizations, and United Nations programs; support the mission of the Presidents Emergency Plan for AIDS Relief	\$100 million
Center for Disaster and Humanitarian Assistance Medicine (CDHAM)	Uniformed Services University of the Health Sciences	Advance the understanding and delivery of disaster medical care and humanitarian assistance worldwide; includes an Afghanistan Reachback Office	
Afghanistan Medical Reachback Office	CDHAM	Assist in the development of the health care system for the Afghan National Security Force	\$3.5 million
Overseas Humanitarian, Disaster, and Civic Aid, www.dsca.osd.mil	Assistant secretary of defense for global security affairs	Shape international security environment to assure allies and deter threats; respond rapidly and effectively to crises	\$83 million

Ship Visits (Hospital ships and Warships), www.msc.navy.mil	Military Sealift Command	Increase the security of the United States through engagement and training	\$10–20 million per mission
Medical civic action programs	Military services	Promote the specific operational readiness skills of armed forces personnel; advance security assistance of the United States and partner nations	\$9–11 million
Dental civic action programs	Military services		
Veterinary civic action programs	Military services		
Joint exercises	U.S. Joint Forces Command J-7 and Joint Staff J-7		
Service exercises	Military services		
Commanders Emergency Response Program	Undersecretary of defense (comptroller)	Enable local commanders in Iraq and Afghanistan to respond to urgent humanitarian relief and reconstruction requirements within their areas of responsibility by carrying out programs that will immediately assist the indigenous population	\$1.5 billion
Air Force International Health Specialist Program	Air Force Medical Service	Identify Air Force medical personnel with specialized language or cultural skills and provides a database of medics with capabilities tailored for specific missions	\$600,000
Defense Institute for Medical Operations, http://airforcemedicine.afms.mil/idc/groups/public/documents/webcontent/knowledgejunction.hcst?functionalarea=DIMO&doctype=subpage&docname=CTB_075080	U.S. Air Force School of Aerospace Medicine	Strengthen global medical capabilities in disaster response and health care management through education and training	Uses International Military Education and Training, and Overseas Humanitarian, Disaster, and Civic Aid

International Health Office, http://fhp.osd.mil/intlhealth/	Assistant secretary of defense for health affairs	Provide health care to indigenous populations affected by complex emergencies and natural disasters to promote stability and security	
Defense Threat Reduction Agency, www.dtra.mil	Undersecretary of defense for acquisition, technology, and logistics	Safeguard America and its interests from weapons of mass destruction (chemical, biological, radiological, nuclear, and high explosives) by reducing the threat and providing quality tools and services	
Cooperative Threat Reduction Program	Defense Threat Reduction Agency and assistant secretary of defense for global security affairs	Build biodefense capacity of foreign scientists and governments to prevent spread of chemical, biological, radiological and nuclear weapons; focus only on highly dangerous pathogens	
Defense Advanced Research Projects Agency, www.darpa.mil	Undersecretary of defense for acquisition, technology, and logistics	Develop new technology for use by the military; radical innovations	\$3.2 billion
U.S. Army Research Institute of Infectious Diseases	U.S. Biological Defense Research Program and Department of the Army	Studies highly hazardous infectious agents to biosafety level 4I	
Armed Forces Research Institute of Medical Sciences	U.S. Army–Thailand	Conducts collaborative research on tropical diseases endemic to Thailand and Southeast Asia	
Navy medical research units	U.S. Navy partnership with Indonesia and Egypt	Field research on infectious diseases endemic to host countries	
Naval Medical Research Institute Detachment	U.S. Navy partnership with Peru	Field research in infectious diseases endemic to host country	

Air Force Institute of Operational Health	Promote global health and protect Air Force warriors and communities		
Global Emerging Infections Surveillance and Response System	Department of Defense	Strengthen prevention and surveillance of, and response to, infectious disease threats to military personnel and families, readiness, and national security	
National Center for Medical Intelligence	Defense Intelligence Agency	Produces finished, all-source medical intelligence assessments, forecasts and databases on foreign military and civilian health care capabilities and trends, worldwide infectious disease risks, global environmental health risks, and militarily significant life science issues, including biotechnology and nuclear, biological, and chemical medical defense advancements	

Note: Only a fraction of the FY2009 programmatic budget is directed toward global health activities.