From Conflict to Pandemics

Three Papers from the CSIS Global Health and Security Working Group

A Report of the CSIS Global Health Policy Center

May 2010
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INTRODUCTION

“An outbreak in Indonesia can reach Indiana within days, and the public health crises abroad can cause widespread suffering, conflict, and economic contraction... [T]he world is interconnected, and that demands an integrated approach to global health.”—President Barack Obama, Global Health Initiative, May 5, 2009

The CSIS Global Health Policy Center formed a working group in the spring of 2009 to examine the nexus of security and global health, with a special focus on the missions and programs of the U.S. Department of Defense (DOD). Specifically, the group concentrated on:

- The role of the U.S. Department of Defense in preparing for global pandemics
- Leveraging military-to-military cooperation to support global health
- Preserving and improving civilian health in conflict-affected nations

An additional appendix examines the respective roles of civilian institutions and the military in promoting health in conflicted settings.

The CSIS Global Health and Security Working Group, cochaired by recently retired Colonel Eugene Bonventre, M.D., and former Secretary of Veterans Affairs James B. Peake, M.D., convened health and security experts from U.S. government agencies, humanitarian organizations, academia, the private sector, and foundations. Over the course of 10 months, the 40-member group held four formal meetings, hosted multiple guest lecturers, and had numerous side discussions. Out of this emerged a realistic strategy, detailed in the three papers contained herein, for the United States to concurrently improve global health and security.

This report represents the majority opinion of working group members, not a unanimous consensus on every last issue. The opinions expressed in the report are those of the cochairs.

Within this report are actionable recommendations for how the Obama administration can better use its military health programs to overcome knowledge gaps between the often segregated global health and national security objectives and improve interagency and civil-military communication. Recommendations focus on increasing global public health capacity, improving access to health care for host-nation civilians, and increasing security and stability abroad.

The working group could not have succeeded without the leadership of its cochairs, Gene Bonventre and James Peake, along with the dedicated participation of the working group members. Special thanks go to Elizabeth Morehouse for managing the working group. This report
greatly benefited from Phillip Nieburg’s editorial and substantive inputs and the support received from J. Stephen Morrison, director of the CSIS Global Health Policy Center, along with CSIS staff Karen Meacham and Emily Poster. The working group received valuable input from several experts: LTG Louis Lillywhite, former surgeon general of the United Kingdom; Wayne Hachey, director of preventative medicine and surveillance at the Office of the Assistant Secretary of Defense; Colleen Hardy, field epidemiologist at the International Rescue Committee; Andrew Weber, assistant to the secretary of defense for nuclear, chemical, and biological defense programs, and Mr. Weber’s staff. Additionally, within CSIS, a sincere thank you is due to Becky Auerbach, Seth Gannon, Brittany Goettsch, Marie Ridoff, and Christianne Persenaire.

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THE ROLE OF THE U.S. DEPARTMENT OF DEFENSE IN PREPARING FOR GLOBAL PANDEMICS

“In an influenza pandemic, the DoD’s mission is to preserve the U.S. combat capabilities and readiness and to support U.S. government efforts to save lives, reduce human suffering and slow the spread of infection.”—Department of Defense Pandemic Influenza Watchboard

Introduction

The National Strategy for Pandemic Influenza rests on three pillars: (1) Preparedness and Communication; (2) Surveillance and Detection; and (3) Response and Containment. The accompanying National Strategy for Pandemic Influenza: Implementation Plan identifies the Department of Homeland Security (DHS) as coordinating the overall domestic response, with the Department of Health and Human Services (HHS) having the responsibility for specific public health and medical issues. In addition, the Department of State is tasked with managing the United States’ international preparedness, response, and recovery activities.

The Implementation Plan also assigns primary or support roles to the Department of Defense (DOD) for more than 100 (of a total of 300) specific tasks as part of both the domestic and international pandemic responses. These DOD tasks largely focus on disease surveillance, assistance to partner militaries, preventing and treating illness in U.S. military forces and their families, and supporting domestic civil authorities.

Just as the participation of all relevant government agencies is required for the most effective federal response to domestic pandemics and natural disasters, that same integrated civil-military...
approach makes sense in planning for U.S. participation in responses to pandemics and other public health crises in other countries.

This paper discusses DOD’s various roles in this whole-of-government context, including its strengths, limitations, and the additional contributions that it might make to improve global disease surveillance, partner military assistance and partner capacity-building efforts. The paper provides a number of specific recommendations on how DOD’s unique capabilities and resources can best be integrated into the larger national and global preparedness efforts, including: (1) focus existing military-to-military activities to build health capacities of sister military systems; (2) anticipate and mitigate the tensions that result from inequities in external support of military versus civilian health systems; (3) encourage and incentivize collaboration between individual overseas U.S. military laboratories and nonmilitary health agencies for the purpose of increasing developing countries’ capacities in disease surveillance and response; (4) continue to break down the stovepipes separating DOD programs supporting public health preparedness from those programs in bioterrorism detection and response; (5) give regional combatant commanders key roles in U.S. government response planning; (6) keep an ongoing and long-term focus on pre-pandemic (and pre-disaster) planning, training, and other capacity-building efforts.

Unique Military Capabilities

To protect its own military members from the effects of a pandemic, DOD plans, programs, stockpiles, and creates policy within its medical system and command structure. Planning includes consideration for both those forces and family members based in the United States and those deployed in other countries. Real-time monitoring provides the opportunity for early identification of disease clusters within the force, and plans are adjusted as specific threats are identified. Having a globally dispersed segment of the U.S. military population prepared to respond does contribute to global health preparedness. However, the potential exists to leverage DOD capabilities even further to act synergistically with a comprehensive U.S. government effort for global pandemic and disaster preparedness. This possibility is explicitly recognized in the Department of Defense Implementation Plan for Pandemic Influenza, which states that DOD may support containment or stability operations in another nation when directed by the Department of State or the president, or when a request by a federal agency is approved by the secretary of defense. Most of the attention given to DOD’s potential role in pandemic influenza to date has been limited to the response phase of a pandemic. However, the capabilities and expertise described in this paper highlight DOD’s actual and potential strengths in contributing to pre-pandemic and/or pre-disaster preparation efforts, specifically in coordinated capacity building, surveillance, and planning expertise.

Among the many capabilities resident in U.S. military forces, several stand out as directly applicable to a larger contribution to a government-wide approach to pandemic preparedness:

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1. A global presence that consists of overseas bases and other facilities; participation in disaster responses; routine engagements with foreign militaries for training and for civic assistance missions, resulting in influence with foreign civilian governments and in the creation of unique long-term relationships with those other military organizations and their senior officers;

2. Robust military-to-military relationships, sometimes in countries or regions where civilian public health capacity is weak;

3. An extensive biosecurity program that combines technical education and training with capacity building;

4. A network of overseas laboratories, with extensive diagnostic capacities, in Peru, Thailand, Southeast Asia, Egypt, and Kenya; these laboratories are also sources of significant disease surveillance expertise;

5. A comprehensive electronic health records system for 9 million military personnel, retirees, and their family members in every corner of the globe that can contribute to disease outbreak identification;

6. Strong traditions of both contingency planning and of training exercises to practice organizational responses;

7. An unparalleled global logistics system with an organized command, control, and communications architecture, flexible enough to respond effectively to unanticipated threats.

The Whole-of-Government Context

The 2009 H1N1 influenza pandemic highlighted significant strengths of our response systems but also exposed gaps in several aspects of global preparedness, particularly in developing nations. A recent draft CSIS report examined these gaps and recommended ways for the United States to enhance preparedness both domestically and overseas.\(^7\) That report calls for building on the success of existing agency programs to reduce the time required to identify, characterize, and respond to emerging disease threats in developing countries.

Leveraging DOD’s Military-to-Military Relationships for Capacity Building

DOD’s geographic combatant commands build and maintain relationships with militaries across the globe through disaster responses, civic assistance missions, training exercises, and formal security cooperation programs. This network of connections to foreign militaries gives DOD access to senior decisionmakers across the globe.

In countries with weak civilian emergency response capacity, governments often turn to their militaries for emergency responses. Focusing a portion of military-to-military activities on building the military public health capacity of these countries could fill important gaps in global disease detection and response. DOD also has an opportunity to engage multilateral forces such as UN peacekeeping operations, NATO, the African Union, or other regional military forces to undertake broader disease surveillance and response efforts. Using the World Health Organization (WHO) or other neutral international organizations as an independent interlocutor can facilitate the building of trust and strengthen partnerships between military and civilian health agencies and result in a fuller DOD engagement with a greater legitimacy.8

For example, officials from NATO, WHO, and DOD’s Global Emerging Infections Surveillance and Response System (GEIS) met with Russian counterparts in 2003 to discuss pandemic preparedness. A follow-on event on emerging disease surveillance, communication with civilian counterparts, and compliance with the legally binding and internationally agreed upon International Health Regulations (IHRs) is being planned for fall 2010 under the aegis of WHO and the International Congress of Military Medicine, a consortium of military surgeons general from 104 nations. There is an opportunity to leverage these expanding global networks of military medical policymakers, some of whom command more health capacity than their civilian health ministries.

**Potential for Additional Synergy in Disease Surveillance: DOD’s Laboratory System**

DOD’s domestic and overseas military laboratory network has a long and rich heritage, having contributed over the years to many important developments in preventive medicine that not only benefit uniformed personnel, but also contribute to improving overall global public health. The Centers for Disease Control and Prevention (CDC), for example, evolved out of a wartime agency established to reduce malaria around military training bases in the southern United States.9 These laboratories were originally established for the explicit purpose of researching and developing products (e.g., yellow fever vaccine, antimalarial drugs) that would preserve and protect the health of our uniformed personnel; these efforts continue to this day through the Military Infectious Diseases Research Program. Although geographic locations of the laboratories have changed over time, their current sites are in Peru, Thailand, Southeast Asia, Egypt, and Kenya, assuring broad visibility to global health risks. In 1996, after Presidential Decision Directive 7 stated that DOD’s role should be “expanded to include support of global surveillance, training, research, and response to emerging infectious disease threats,” the DOD Global Emerging Infections

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Surveillance and Response System (GEIS) was established to implement this directive. The GEIS program brought much needed flexibility to DOD’s laboratories by facilitating outbreak investigations, disease surveillance, capacity building, and training that directly benefits host nation civilian populations while simultaneously improving collaborative military-to-military relationships and providing baseline disease-specific data to help frame future DOD research priorities.

At the outset of the recent H1N1 pandemic, two GEIS-funded laboratories, the Naval Health Research Center/San Diego and the U.S. Air Force School of Aerospace Medicine/San Antonio, identified the first four untypeable influenza A cases within the United States and forwarded the isolates to CDC where they were eventually identified as the new H1N1 variant. Partners in the GEIS surveillance network have also contributed to the seasonal influenza vaccine by identifying and providing at least five different reference or seed virus strains. These successes are highlights of many years of DOD’s work in health surveillance, vaccine development, and in strengthening partnerships within the U.S. government and with governments abroad.

There are several actions DOD could take internally to better reach its potential for contributing to the national effort to improve global preparedness. In this report, we have discussed only a few of the many DOD programs that contribute to global public health surveillance networks either as their primary mission, or as a useful secondary consequence of that mission. However, just as coordination between agencies is challenging, coordination of diverse programs within DOD can be complex, requiring ongoing active dialogue. DOD’s efforts to contain dangerous pathogens should be part of a more holistic effort to address biodefense, including global laboratory and research cooperation, development of mitigation strategies, stockpiling of countermeasures, and building surveillance and outbreak response capacities in developing nations. Indeed, the offices of several senior DOD officials have begun increasing their information sharing and examining their biosecurity and health programs to identify ways to work together more efficiently where their objectives intersect. Intensifying such collaborative efforts and focusing on public health capacity building might identify areas of synergy that would permit each individual program to achieve its primary objectives and still allow a contribution to global preparedness as a secondary objective.

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10 In 2008, GEIS became a division within the new U.S. Armed Forces Health Surveillance Center.
13 The Offices of the Assistant Secretary of Defense for Health Affairs, the Assistant Secretary of Defense for Global Security Affairs, and the Under Secretary of Defense for Advanced Technology and Logistics.
Example of Synergies between DOD Surveillance Efforts and Public Health Preparedness

DOD’s Biological Threat Reduction Program (BTRP) is an integral component of the U.S. government’s approach to preventing the proliferation of biological weapons.\(^{14}\) BTRP implements key elements of the president’s national strategies for biodefense (NSPD-33), combating terrorism (NSPD-46), and combating weapons of mass destruction (NSPD-17). Leveraging the reporting requirements in the International Health Regulations (IHR) and those of the Organization International Epizootics (OIE), BTRP focuses on improving the sensitivity of national disease detection networks in partner countries. To this end, the program has trained thousands of clinicians, veterinarians, and epidemiologists in disease recognition, sample processing, and outbreak investigation and control measures, and it has partnered with dozens of host country laboratories to introduce enhanced diagnostics and improved biosafety and security practices. BTRP maintains active partnerships with the CDC, including its Field Epidemiology and Laboratory Training Programs; the U.S. Department of Agriculture; the Army Medical Research Institute for Infectious Diseases; the Walter Reed Army Institute for Research; and the Navy Medical Research Center; as well as a number of international partners in the United Kingdom, Canada, and Germany.

Since BTRP’s inception in 1999, the program has focused on improving disease detection capabilities, largely, though not exclusively, in the countries of the former Soviet Union (FSU). BTRP has provided major lab enhancements for Azerbaijan, the Republic of Georgia, Uzbekistan, Kazakhstan, Russia, and Ukraine, facilitating the study of several extremely dangerous pathogens endemic to this region. In addition to this important diagnostic laboratory support, BTRP programs, with the support of its partnerships, have also trained many clinicians, veterinarians, and epidemiologists in FSU countries.

BTRP’s activities have clearly and directly contributed to pandemic preparedness and global health. While its emphasis is on the detection of agents that are potential biological weapons, all of BTRP’s efforts contribute to improving partner countries’ ability to comply with the requirements the IHRs and OIE, thus improving their overall preparedness to identify and respond to possible disease outbreaks. For example, in 2009, Kazakh and Georgian graduates of CDC’s BTRP-supported Field Epidemiology and Laboratory Training Programs, working in concert with BTRP-supported laboratories, were responsible for the clinical recognition, epidemiological investigation, laboratory diagnosis, and successful responses to outbreaks of Crimean Congo Hemorrhagic Fever in their respective countries.

An assessment of BTRP by the U.S. National Academies of Science highlighted the dual benefits of creating international networks to mediate the proliferation of biological weapons, as an “essential mechanism in building trust among governments... [And] at the same time, BTRP can use such networks in joint efforts to help provide early warning of disease outbreaks, contribute

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\(^{14}\) BTRP operates within DOD’s Defense Threat Reduction Agency (DTRA).
to development of safe and affordable vaccines and drugs, and provide pathogen detection devices.\textsuperscript{15} Combining biodefense, public health surveillance, and capacity-building efforts creates a robust and broad approach that serves U.S. security interests in many ways.\textsuperscript{16} The BTRP approach to improving preparedness in developing countries with limited resources should be examined as a possible model for increasing the coverage and effectiveness of global disease surveillance.

**DOD’s Electronic Health Surveillance**

The DOD health care system maintains an electronic database—the Defense Medical Surveillance System (DMSS)—encompassing all health care encounters of service members at any military facilities, as well as their encounters in civilian health facilities. This routine and comprehensive data set includes demographics; deployment-related histories, health assessment forms, and serum specimens; vaccine histories; and other routine serum specimens. DMSS is monitored in real time and retrospectively for beneficiaries’ health needs. In 2008, DOD mandated that its disease surveillance efforts be centralized and unified across the armed forces, creating the Armed Forces Health Surveillance Center (AFHSC). Missions of this center include normalizing information collecting, standardizing surveillance efforts, and providing a “single source for DOD-level health surveillance information.”\textsuperscript{17} The AFHSC brings GEIS, DMSS, and other surveillance programs under a single umbrella, raising the possibility of linkages and synergies between and among several disease surveillance systems, including those represented by army, navy, and air force public health centers.

**Recommendations**

The recommendations for DOD in this paper are provided in the context of a whole-of-government pandemic preparedness effort, with strengthened interagency collaboration, greater clarity of roles and missions, and increased synchronization of efforts.

Recommendations fall into three general areas. First, on the importance of maintaining and enhancing DOD’s military-to-military focus; second, on DOD’s ability to enhance global disease surveillance efforts; and third, on the value DOD can bring to contingency planning as a supporting element of U.S. government preparedness efforts.

- **Recommendation 1:** A primary DOD focus in a comprehensive pandemic preparedness effort should be on leveraging its current and future military-to-military activities to continue to build capacity for pandemic preparedness in sister military systems.


\[\textsuperscript{16}\text{ Ibid., p. 7.}\]

In many countries, the military has a larger civil health support role than is traditional in the United States. Planning, training, equipping, appropriate stockpiling, and exercising response plans are activities in military-to-military programs that can help build sustainable indigenous civilian capacity in pandemic and other health preparedness. With improved coordination with donor civilian agencies and international organizations, U.S. investments in military medical response capacities in other countries can have a significant effect on national and regional preparedness capacity well beyond the substantial impact felt within the specific military population itself.

- **Recommendation 2:** Special considerations for the U.S. military in support of its own personnel and in military-to-military responses in other countries must include the political sensitivities and consequences of potential inequities in response.

In some countries, perceived inequities between a robust military health system and a weak civilian health system may itself contribute to civil unrest, especially if soldiers receive medicines, vaccines, and other countermeasures but civilians do not. When preparing for a pandemic or other disaster response in areas where large numbers of military forces are deployed, the United States and coalition nations should balance their responsibilities to protect their own troops, their citizens overseas, and the troops of partner militaries with the assistance they provide to host nation civilian populations. Discussions of equity should take place during the planning phase of pandemic responses, and civil-military strategic communication plans should be carefully devised and well coordinated to explain their response efforts, since both civilian and military populations are vulnerable.

- **Recommendation 3:** Expand the collaboration of the current network of overseas U.S. military laboratories with nonmilitary partners and leverage their work through a comprehensive approach—to include, for example, the U.S. Agency for International Development (USAID), the Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), and the CDC—to help improve local disease surveillance and response capacities.

This paper has highlighted the successes of DOD’s overseas laboratory network in supporting preparedness and capacity development both locally and regionally. Beyond these laboratories, military-to-military and civil-military collaborations on disease surveillance, preparedness, and capacity building have enhanced disease surveillance, preparedness, and capacity building in recent years. DOD should continue to strengthen civil-military dialogue on public health preparedness and response issues. The successful cooperation among DOD’s regional labs, GEIS, and CDC should be reinforced and expanded. Priority in expanding the reach of the military laboratory network to include willing and capable partners on the African continent (e.g., Ghana, Liberia, Senegal, Uganda, Zambia, and Botswana) and on focused cooperative military health relationships with the governments of Pakistan and other countries can lead to additional long-lasting benefits in pandemic preparedness.

- **Recommendation 4:** To promote better internal synchrony and reduced duplication, DOD should accelerate ongoing efforts to break down the stovepipes housing its programs in
bioterrorism response and in public health preparedness programs. DOD should designate a central DOD focus to seek collaboration within the larger government framework of disease surveillance and preparedness.

The U.S. government should nest its traditional biosecurity strategies in a more holistic framework that can also help address global (collective) all-hazards preparedness.\(^\text{18}\) Identifying and containing dangerous pathogens should continue to be a critical program activity but one that is better integrated into broader strategies to improve global surveillance and early detection, laboratory coordination, effective local responses, global research cooperation, and development of countermeasures. This approach will require the medical and the security communities across all agencies to conduct integrated planning, and it will require enhanced cooperation and information sharing between the United States, other governments, and international organizations. By building synergies between the activities of BTRP, GEIS, and other military disease surveillance efforts, and between DOD activities and other global surveillance activities, DOD could better leverage the extensive capabilities developed by the biosecurity communities. This approach would strengthen the overall process of capacity building and pandemic preparedness.

- **Recommendation 5:** Regional combatant commanders should have a key role in U.S. government response planning, with contingency requirements coordinated in a transparent manner at the Joint Chiefs of Staff level. Coordinated joint and service doctrine should help structure this role.

Recognizing the primacy of DOD’s protect-and-defend mission, we also recognize the important capabilities and assets that DOD’s investments have purchased. Though the application of these assets to local, regional, or global pandemic or disaster response are not assured, DOD’s capabilities may in fact become available to a combined and coordinated civil-military response through the national command authority. Furthermore, as DOD and, more specifically, the regional combatant commanders participate in the military’s preparedness planning process, that military process can influence the larger government effort to more effectively address current and future operational and contingency planning issues.

- **Recommendation 6:** DOD and its partner agencies should keep an ongoing and long-term focus on pre-pandemic (and pre-disaster) planning, training, and other capacity building within both military and civilian health components of developing country governments.

In each developing nation, it is likely to take many years of work with national, bilateral, and multilateral partners to sufficiently and sustainably strengthen pandemic and disaster preparedness and response capacities. The recognition that an active pandemic or a recent natural disaster may well create an unstable security environment demanding DOD’s primary

\(^{18}\) Ostfield, “Pathogen security.”
attention is a strong argument for having DOD focus on its long-term contributions to preparedness and capacity building that can be implemented before pandemics or other disasters strike. These latter contributions are far less likely to be limited by competing security and combat requirements.

Unity of Effort across Agencies: The Example of Navy Medical Research Unit #3

Navy Medical Research Unit #3 (NAMRU-3) was established in Cairo, Egypt, in 1946 to conduct medical research with an emphasis on emerging disease threats that could impact U.S. interests. NAMRU-3 operates under the auspices of Egypt's Ministry of Health and the U.S. embassy in Cairo and has survived numerous periods of regional and local instability, including being the only U.S. entity that continued functioning in Egypt during the 1973 Arab-Israeli war.

Over many years, NAMRU-3 has successfully carried out several highly regarded programs to create disease surveillance capacity and other health infrastructure through public health training programs run throughout the Middle East, North and West Africa, Central Europe, and Southwest Asia. This effort has contributed to improved pandemic preparedness throughout the region. The overall keys to this success have been a working style of collaboration, transparency, and working largely “behind the scenes” to allow the key ministries of respective countries to receive the primary recognition for success.

The characteristics of this civil-military nexus include a number of important lessons:

1. Headquarters and field personnel from DOD, CDC, and the government of Egypt jointly plan their activities.
2. NAMRU-3 personnel share information freely with Egypt’s Ministry of Health and with WHO staff.
3. Egyptian personnel are in the forefront of all in-country capacity-building efforts and therefore have a sense of ownership over programs; to the extent possible, U.S. personnel remain in supporting roles.
4. Programs focus on addressing disease outbreaks and responses within an explicit context of building long-term capacity.

Most NAMRU-3 staff are Egyptians hired through the U.S. embassy. That staff provides much of the technical, cultural, and language expertise. The U.S. staff brings additional scientific expertise and logistical and fiscal support. Because of the relatively stable workforce, long-term relationships with the governments of Egypt and other partner countries have been developed.

In terms of NAMRU-3’s regional programs, most countries in the region work through WHO; that relationship is critical therefore. Program funding and expertise has been leveraged among GEIS, CDC, Department of State, WHO, and the respective Ministries of Health, an operating style that provides a unique platform for improving public health in the region. In addition, all research protocols are examined by a U.S.-approved Institutional Review Board (IRB) that has local representation, ensuring that the highest ethical standards will be followed.

In response to the H1N1 pandemic, within a one month period NAMRU-3 worked closely with WHO and CDC to train 30 laboratory staff from the region to isolate and identify new influenza strains. For the most part, regional laboratories already had sufficient technical capability but lacked the training and specific H1N1 lab kits from CDC to confirm the virus. NAMRU-3 trained from one to four laboratory technicians from each country, provided initial diagnostic supplies, and
coordinated the distribution of CDC H1N1 kits to each country. Subsequently, NAMRU-3 also provided quality assurance through follow-on laboratory reference services. Laboratories in Lebanon and Bahrain identified H1N1 infections within one to two weeks of NAMRU-3 training.

Follow on activities included rapid H1N1 testing of U.S. DOD personnel in Afghanistan, Bahrain, Kuwait, Turkey, and Djibouti. NAMRU-3 also prepared additional diagnostic kits and supplies for countries in the WHO Eastern Mediterranean region, West Africa, and Central Asia. In addition, as part of its reference laboratory roll, NAMRU-3 tested over 300 WHO samples and collected 100 viral isolates, many of which were sent to CDC for further characterization.
LEVERAGING MILITARY-TO-MILITARY COOPERATION TO SUPPORT GLOBAL HEALTH

Military Objectives and Global Health: Identifying the Links

While leading a multinational effort to improve the effectiveness of Sierra Leone’s army during that country’s 11-year civil war,1 British headquarters in Freetown received an urgent message from an army battalion that was fighting the rebels in the northeast of the country: “90 percent of our soldiers have diarrhea. Send all the antibiotics you can.” Instead, the British sent a single Sierra Leonean public health officer, who identified and treated a contaminated well that was the battalion’s main water supply. The diarrhea resolved, and the battalion’s fighting strength was restored.

The United States builds the defense capabilities of partner nations’ security forces through a group of programs collectively known as security cooperation.2 But even the best trained and equipped army cannot defend a nation, contribute to peacekeeping operations, or combat terrorism if a significant number of its soldiers suffer from injuries or illnesses such as diarrhea, heart disease, or HIV/AIDS. Military health professionals contribute to security objectives by helping partner nations keep their soldiers healthy. In developing nations that face threats from hostile neighbors or transnational groups, only healthy security forces can maintain the stability necessary for economic growth, development, and improved global health. In countries where the military provides a substantial amount of health services to civilians, improved military health services can have even more direct and far-reaching effects on civilian health. To date, however, U.S. security cooperation programs have not addressed health consistently. The secretary of defense’s security cooperation guidance prior to 2006 required geographic combatant commands to develop pandemic influenza response plans but was silent on all other aspects of health. Although new guidance developed in 2007 contained a few sentences on health in security cooperation, the combatant commands and Department of Defense (DOD) policymakers prioritized health too low to develop consistent policies or methods of addressing the health of partner military forces. This meant that DOD health security cooperation activities remained ad hoc, with inconsistent, non-sustained, and largely unknown impacts on the health of foreign

military and civilian populations alike. This is a missed opportunity to more consistently improve both military and civilian health while advancing U.S. security objectives. Achieving security and global health objectives need not be mutually exclusive; well-planned and coordinated security cooperation activities can advance both.

This paper examines the various ways that the U.S. government could leverage the extensive worldwide network of security relationships established by DOD in order to continue advancing the health of foreign military and security forces while also increasing the U.S. contribution to improving global health. To do this, DOD should (1) create a specific health theme\(^3\) to be incorporated into its military-to-military activities and coordinate with relevant civilian agencies in order to optimize the balance between military and civilian health assistance; (2) stress a systems approach\(^4\) to military medicine and public health, modeled on the system used for health promotion among U.S. forces; (3) align its military health training activities in specific countries to be compatible with the partner nations' health strategies; and (4) measure the impacts and outcomes of its various foreign military health assistance programs as rigorously as it measures the outcomes of programs that maintain the health of U.S. soldiers.

**Health and Security Cooperation**

**Searching for Synergy**

Security cooperation has long included military health professionals, and gains in military medical capabilities are often reciprocal. DOD medics trained Pakistani Army medics on trauma care for their operations in South Waziristan, for instance, while Pakistani Army medics trained their U.S. counterparts on mountaineering skills developed in Kashmir.

The State Department has primary responsibility for U.S. government security assistance programs, including equipment sales, military training, grants, and loans. DOD implements about 5 percent of U.S. security assistance programs in peacetime and about 20 percent in wartime.\(^5\) Therefore a true partnership between the State Department and DOD will be required to identify health security cooperation strategies that will improve the health and security of

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\(^3\) This “theme” should be an implicit and recurrent idea throughout DOD’s war and security cooperation plans; a global health theme, for instance, would require military planners to consider the impact of all planned military activities on civilian health. Currently, DOD war plans have separate health sections, generally read only by military health personnel.

\(^4\) A “systems” approach attempts to strengthen all organizations, people, and actions that contribute to health, including service delivery, the health workforce, health information, medical technologies, health financing, and leadership and governance. See Don de Savigny and Taghreed Adam, *Systems Thinking for Health Systems Strengthening* (Geneva: WHO, 2009), http://whqlibdoc.who.int/publications/2009/9789241563895_eng.pdf.

foreign military partners and have secondary benefits that spill over to positively impact the
civilian health sector in partner nations.

Expanding on Success

DOD’s 2006 Quadrennial Defense Review (QDR)\(^6\) stressed the importance of improving the
capacity of foreign partner militaries as a way of improving the security of the United States by
enhancing a partner nation’s ability to contribute troops to multinational operations, to combat
terrorism, and to defend their territories and citizens. The 2010 QDR reinforced this message, and
suggested that military health activities have a potential role, but it stopped short of outlining a
potential health security cooperation strategy. Two combatant commands have published
guidelines to focus health activities on specific security objectives; to date this has been a relatively
closed and classified process, but in 2007 the under secretary of defense for policy invited the U.S.
Agency for International Development (USAID) to comment on DOD’s draft guidance on
security cooperation to ensure that DOD’s planned activities do not interfere with long-term
development goals and to identify opportunities for synergy. Significant positive, although
perhaps still ad hoc, impacts of DOD’s security cooperation programs on health are evident:
DOD’s overseas military research labs hire and train foreign nationals, whose expertise directly
benefits civilian health in the region; DOD’s HIV/AIDS Prevention Program partners with the
President’s Emergency Plan for AIDS Relief (PEPFAR) to reduce military HIV rates in foreign
military forces, ultimately exposing fewer civilians to the disease.

The current chairman of the House Foreign Affairs Committee, Representative Howard Berman
(D-Calif.) has noted that “foreign assistance programs are fragmented across 12 departments, 25
different agencies and nearly 60 government offices.”\(^7\) Discussion of foreign assistance reform,
including security assistance, has focused on revising development programs and creating a
comprehensive U.S. government strategy for promoting economic growth in developing
countries, but only limited attention has been paid to the role of health in the security assistance
process, beyond the Iraq and Afghanistan contexts.

Although coordination among DOD and the State Department, USAID, and the Department of
Health and Human Services (HHS) is steadily improving, interagency discussions must critically
examine the relationship between health and security and formulate a health theme for DOD’s
security cooperation programs that takes into account partner nations’ goals and objectives.
Continuing to implement health security cooperation activities ad hoc is like trying to build a
house by scattering bricks around a yard randomly, in the hope that the bricks will somehow

\(^6\) The Quadrennial Defense Review (QDR) is a comprehensive, top-to-bottom assessment of the capabilities
and strategies that DOD uses to address anticipated security threats. QDRs profoundly impact DOD
policies and can change the way the department is organized, trained, and equipped. See
http://www.defense.gov/qdr/.

\(^7\) Committee on Foreign Affairs, U.S. House of Representatives, “Berman Introduces Bipartisan Legislation
Requiring U.S. Foreign Assistance Strategy,” April 28, 2009,
eventually form a house. A well-coordinated health theme or strategy can act as the blueprint to guide health security cooperation activities to support specific objectives, just as an architect’s blueprint would help shape those bricks into a house. Specific health security objectives will vary from nation to nation and always require negotiation to identify activities that benefit the health and the security of both the partner nation and the United States.

Military and Civilian Health Systems

Understanding the Interactions

In developing countries, the military health sector can have a profound impact, positive or negative, on civilian health. Four basic models exist to describe the range of relationships possible between military and civilian health systems.

1. **No military health system exists.** Soldiers receive their health care from civilian facilities. The United Kingdom and Iraq generally fit this model.

2. **Little or no connection between military and civilian health sectors.** Soldiers who need health care attend military clinics, and if secondary care is needed, they are referred to military hospitals. Afghanistan is one example, where the Ministry of Defense runs a health system for soldiers, the Ministry of the Interior runs a separate health system for police, and the Ministry of Public Health runs a third health system for civilians.

3. **Soldiers use primarily military health facilities but depend on civilian facilities for some referral care.** Countries with small armed forces generally fit this model, although it is also used by the United States.

4. **Military health care facilities provide significant health care to civilians living in the military hospital’s catchment area.** This is the case in France, Tanzania, and Pakistan, to name just a few. The Muzaffarabad military hospital near the epicenter of the 2005
Kashmir earthquake was the only inpatient facility in that region and routinely provided health care to Pakistani civilians, for instance.

No single model fits any country perfectly, but there is always some interaction between the civilian and military health systems. Even in countries with a nearly impermeable firewall between the two health systems, military health care providers, technicians, and nurses often hold jobs in the civilian sector during or after their military service. Examining the connections between donor programs that assist military health systems and those that assist civilian health systems may identify potential synergies that can improve efficiency by reducing duplication of effort. For instance, DOD trains partner militaries in disaster medicine and disaster management. The Office of Foreign Disaster Assistance (OFDA) trains partner civilian ministries in disaster management. Improving DOD-OFDA coordination can reduce duplication in those efforts and encourage civil-military cooperation in partner nations during disaster management. DOD helps partner militaries to develop medical logistics and pharmaceutical distribution systems, and USAID provides similar assistance to civilian health ministries. Improved DOD-USAID coordination might encourage partner ministries of defense and health to share best practices, cooperate in training medical logisticians, and share common capabilities. The potential for synergy in places where health and security are critical issues, such as Afghanistan and Pakistan, is significant. There is no need to increase DOD commitments in health and security cooperation to identify these synergies. Simply realizing that a connection exists between the military and civilian health sectors in partner nations, and then analyzing and discussing those areas of intersection with relevant agencies and the partner nation, will increase the efficiency of DOD’s current efforts.

Striking a Balance

Developing a coordinated health theme for DOD’s security cooperation programs will benefit both U.S. civilian and military health assistance efforts. However, the needs of civilian and military health systems will never be equal, and the balance of health assistance to each sector will rarely match exactly. In many countries, the lure of free health care is an important incentive for military recruitment and retention. Also, military medical units must sometimes deploy and provide trauma care to soldiers in warzones, two tasks without significant equivalents in the U.S. civilian health care system. On the other hand, in some developing countries a disproportionate share of the government budget is allocated to the military, while social services remain under resourced, creating “islands of plenty in a sea of misery.” Achieving the optimal balance between U.S. military and civilian health assistance will depend on context and each partner nation’s security and health objectives, as well as the foreign policy and global health objectives of the

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8 In Iraq under Saddam Hussein, for example, an elite military health care system existed, with greater capacity than the civilian health care system. This balance is now reversed.
United States. Nonetheless, the U.S. government should closely examine the relationship between assistance to civilian and military health systems in each country and consider reducing any significant disparities over the long term. Because these complex issues involve both U.S. security and U.S. global health goals, interdepartmental dialogue and clear direction and leadership from the White House and Congress are crucial to reach agreement on agency roles and responsibilities toward strengthening all aspects of a partner nation’s health care system.

Leading by Example: Encouraging Humanity in Military Partners

The most negative impact that a military can have on the health of civilians is to use rape, torture, child soldiers, and the killing of noncombatants as instruments of war. As a signatory of the four Geneva Conventions, U.S. forces must teach the principles of International Humanitarian Law (IHL) during military-to-military activities, including military health activities. DOD does this by delivering formal classes on IHL, by building appropriate scenarios into exercises, and by inviting representatives of the International Committee of the Red Cross and others to teach classes to its security cooperation partners. To reinforce the principles of IHL, as well as principles of gender equality and equitable access to health care, the United States should lead by example; formal courses in IHL are more effective if foreign militaries see U.S. soldiers practicing what they preach. This approach requires a conscious and continuous DOD effort to follow these principles during military health assistance activities, whether or not they are included in formal curricula. The sight of U.S. military medical personnel obeying civilian authority, following the rule of law, and providing health care equitably, without regard for race, ethnicity, social class, or gender, sends a strong message to the military medical personnel in developing nations and encourages them to follow similar principles. Firsthand observations of the significant contribution that uniformed women and highly valued noncommissioned officers make to the U.S. military demonstrate the practical benefits of equality, without seeming to preach from a moral perspective. If civilian contractors rather than uniformed personnel were used to provide security assistance, that message would be considerably diluted.

Health Promotion for Soldiers: Combining Preventive Medicine and Curative Care

DOD places a much greater emphasis on health promotion and preventive medicine than does the civilian health care system in the United States. DOD maintains the health of its own soldiers with a systems approach to health promotion; its expertise in this area is undervalued and underappreciated by the development community. The Force Health Protection and Readiness

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9 In some contexts, an imbalance of the amount of assistance directed to military and civilian health systems may exacerbate ethnic tensions, prop up unstable military regimes, and/or make militaries less likely to respond to civilian authority.
10 The texts and explanations of the four Geneva Conventions and many of the subsidiary international treaties and agreements can be found on the Web site of the International Committee of the Red Cross at http://www.icrc.org/eng/ihl.
Programs rest on three pillars: (1) recruiting and maintaining a healthy and fit force; (2) preventing disease and injury; and (3) treating illness and injury in soldiers and their family members. DOD’s program is cost effective relative to the U.S. civilian health care system and has developed an elaborate system of monitoring and evaluation to track and maximize its effectiveness. The system’s curative side works equally well; DOD boasts the lowest lethality rate for wartime wounds of any military in history. DOD’s impressive system is the elusive horizontal approach that development agencies often seek and that critics say cannot be done. DOD, however, can quantify and demonstrate the success of its systems approach, which avoids programs targeted exclusively at single diseases. The quality health care that the United States provides to its retired soldiers and veterans could serve as a model in post-conflict disarmament-demobilization-reintegration programs to keep former soldiers employed and healthy and to improve stability and security.

Recommendations for Core Elements of a Military-to-Military Strategy for Improving both Security and Health

These recommendations frame a consistent approach for the U.S. government to plan and institutionalize current health and security activities in a way that can advance both the health and security of partner nations.

- **Recommendation 1:** The U.S. government should create a specific global health theme for DOD’s military-to-military activities, accompanied by coordination across relevant agencies.

  Lessons gleaned from current medical security cooperation activities should be molded into a coherent and consistent global health and security strategy; this global health theme should run throughout DOD’s security cooperation programs in specific countries and should focus on improving the health of partner security forces. Establishing a health theme would reduce

11. Excluding deployment costs, DOD spent $32 billion in 2007 to prevent and treat injuries and illness among its 9 million-plus beneficiaries, for a per capita cost of $3,437, or 8 percent of the defense budget; this is about half the cost of the U.S. civilian health care system, both by per capita dollar amount and by share of gross domestic product.

12. A vertical approach to health creates programs that tackle one specific disease at a time; a horizontal approach looks across an entire health system to strengthen the system’s capacity to handle any and all diseases, anticipated and unanticipated. The two approaches are not mutually exclusive; balancing both approaches will be necessary to advancing global health.

13. The United States provides health care to military retirees through the Tricare program (http://www.tricare.mil) and to veterans through the Veterans Health Administration of the Department of Veterans Affairs (http://www1.va.gov/health).
the ad hoc nature of DOD’s health security cooperation activities, increase their consistency and sustainability, and help civilian agencies to identify areas where military health assistance may positively impact civilian health. Other U.S. agencies involved in global health and/or security programs in those same countries should be provided with adequate resources to work with DOD to ensure that this theme supports both national security and global health objectives.14 Greater interagency coordination creates synergies that benefit the civilian health sector and achieve U.S. security objectives simultaneously. During medical security cooperation activities, DOD should set an example of adherence to civilian control of the military, international humanitarian law, and the rule of law.

- **Recommendation 2: Military health assistance should stress a systems approach to military medicine and military public health, modeled on DOD’s own health promotion system.**

DOD should play to its strengths during military-to-military health activities by adopting the same systems approach that it uses to promote the health of its own forces. DOD should focus on long-term military-to-military relationships that stress a comprehensive, lifetime preventive approach in harmony with the civilian health system in partner nations.

DOD’s horizontal systems approach to health promotion is a natural complement to civilian global health programs that are currently vertical in nature, such as the President’s Malaria Initiative and PEPFAR. This approach is consistent with the intent and principles of the Obama administration’s Global Health Initiative, allowing partners to determine their own military health needs and priorities, from mental health and drug addiction to tuberculosis or water and sanitation, and from physical fitness to reduce obesity or heart disease, to smoking cessation to reduce pulmonary disease.

- **Recommendation 3: DOD should align its military health training activities with partner nations’ broader national health strategies.**

DOD should seek help in this effort from development experts at USAID and other U.S. and international agencies to ensure that its programs are both compatible and sustainable; that short-term, episodic activities support the long-term U.S. global health strategy; that military health systems share common capabilities, as appropriate, with civilian health systems; and that health assistance complements broader security sector reform initiatives.

- **Recommendation 4: DOD should measure the outcomes of its military health assistance programs with the same rigor with which it measures outcomes of programs that protect the health of its own forces.**

14 Relevant agencies may vary depending on the partner country and the context of U.S. health and security partnerships with that country, but at a minimum they should include the Department of State and USAID, as well as the HHS (including the Centers for Disease Control and Prevention and the Public Health Service).
Accountability and transparency are essential elements of any effective health security cooperation program. Encouraging partner nations to follow these principles is difficult unless our own efforts consistently embrace them. DOD has a proven track record of quantifying the progress and effectiveness of its own health promotion programs, and it should apply these same rigorous metrics to assess its impact on partner nation security, military health, and civilian health. The monitoring and evaluation expertise available in U.S. civilian agencies can help DOD to meet this objective. As USAID strengthens its impact planning capability and redoubles its efforts to demonstrate the impact of its health assistance programs, it should assist DOD to develop similar indicators for DOD’s military health assistance programs. These indicators should be both quantitative and qualitative and should attempt to assess the impact that DOD’s programs have on both the health and the security of partner nations. Health security cooperation plans should be piloted in specific focus countries, especially in sub-Saharan Africa where military health directly impacts civilian health. In this way, identifying synergies and promoting health in security cooperation plans would pay quantifiable dividends in both global health and global security.

- **Recommendation 5: The U.S. government should examine the connections between programs that assist military health systems and those that assist civilian health systems to identify potential synergies.**

Given the frequent links between civilian and military health care systems in countries that receive assistance from the United States, improving the coordination between military and civilian health assistance should improve efficiency by reducing duplication of effort. Currently, this is especially important in Afghanistan and Pakistan. Improving coordination of health assistance within the United States is the first step toward improving coordination with other donor nations. Specific potential synergies will vary from one partner nation to another, but they may include improving civil-military coordination for disaster management, sharing common capabilities such as biomedical equipment repair, medical logistics, pharmaceutical distribution, and common training venues for health workforce development. Improving the coordination between U.S. military and civilian health assistance will improve the potential positive impact that DOD’s security cooperation activities have on the health and security of partner nations, without increasing DOD resources.
Examining the Impact of War on Civilian Health

As the United States’ commitment to the war in Iraq winds down and as the commitment in Afghanistan accelerates, an opportunity exists for military and civilian health policymakers to examine the effect that recent conflicts have had on the health of civilian populations. As challenging, dangerous, and controversial as it is to measure civilian mortality in war, evidence shows that more civilian deaths in conflict zones, including Iraq and Afghanistan, occur from disease and illness than from violence.\(^1\)\(^2\) Excess mortality, defined as civilian deaths above and beyond what would normally be expected in the absence of a crisis, is generally attributed to a collapse of local public health systems, including reduced access to safe water and food, collapse of pharmaceutical and other medical logistics systems, lack of health care workers due to their injury or flight, damage to health facilities from combat or looting, and inadequate security for both patients and health care workers to reach health facilities.\(^3\) It is also clear that this trend continues for some time after fighting stops, indicative of a long-term degradation of health system capacity.\(^4\) Lessons from events in Iraq, Afghanistan, and elsewhere can be used to inform future U.S. war planning, with an eye toward achieving military objectives while minimizing the effects of combat on civilian health and maximizing the effectiveness of post-conflict health assistance.

The primary mission of military health practitioners and planners during conflict is to preserve fighting strength and combat effectiveness by preventing and treating injury and illness in sailors, soldiers, airmen, and marines. The U.S. Department of Defense (DOD) has evolved a sophisticated program to accomplish, monitor, and evaluate the effectiveness of this mission by tracking the health status of individual service members to keep them fit to fight. These programs monitor (1) military clinic visit rates, (2) vaccination coverage rates, (3) surgical complications rates, (4) injury rates and patterns (e.g., to evaluate the effectiveness of various types of body armor), (5) effectiveness of ground and air evacuation of casualties, etc. The results are

impressive: a U.S. soldier injured in combat today has the highest survival rate of any soldier in
the history of all militaries worldwide. In addition, because up to 85 percent of all casualties
during war have been caused by disease and non-battle injuries, DOD has developed strong
surveillance and public health systems that emphasize preventive medicine and implementation
of countermeasures. Again, the prevention and treatment results for noncombat injuries and
illness have set historical records.

Despite these sophisticated and successful methods for documenting and promoting the health of
the force, DOD’s approach to the health of indigenous civilians during conflict remains ad hoc.
Yet civilian health is a critical issue: if the affected population perceives that their government and
its donors are failing to address basic conflict and post-conflict concerns such as security, health,
and equitable access to essential services, they may support (or at least not oppose) insurgents.
During counterinsurgency operations, if a government loses its place as the legitimate provider of
equitable services, peace may remain elusive, conflict may recur or the nation may descend into
chronic banditry, violence, and state failure.

Because the United States has the most technologically advanced military and military health
system, DOD has an important place in facilitating the Obama administration’s global health and
foreign assistance agenda when it can, while still accomplishing its own military objectives. This
paper examines how DOD can realistically contribute to better civilian health in areas of military
conflict by (1) planning and coordinating war plans to preserve civilian public health and medical
capacity during and after conflict and (2) supporting and participating in a multisectoral,
comprehensive interagency approach to health assistance throughout the conflict period.

To move toward these goals, DOD should (1) develop a theme for conflict and post-conflict
planning that is oriented toward preserving and improving civilian health and that is coordinated
with relevant civilian donor agencies, and when appropriate, the affected nation; (2) support a
civilian-led comprehensive strategy in support of a conflict-affected nation’s reconstruction of its
essential health services; (3) be prepared to play a major role in supporting a conflict-affected
nation’s reconstruction of its military health services in close coordination with civilian health
sector reconstruction; (4) support a transition strategy that parallels and facilitates the transition
from relief to development; and (5) in concert with all other participating health-related agencies,

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5 John Sanders et al., “Impact of Illness and Non-combat Injury during Operations Iraqi Freedom and
Enduring Freedom (Afghanistan),” *American Journal of Tropical Medicine and Hygiene* 73, no. 4 (2005):
713 –719.

6 This “theme” should be an implicit and recurrent idea throughout DOD’s war plans; including a global
health theme, for instance, would require military planners to consider, during the planning process, the
impact of all military activities on civilian health. Currently, DOD war plans have separate health
sections, generally read only by military health personnel, so civilian health issues are not completely
integrated into military planning.
DOD should measure the impacts and outcomes of the various military health assistance programs on civilian health and on security and post-conflict stability.7

New Techniques, New Challenges

Over the last decade, conflict and post-conflict planning by the United States and many of its allies has steadily progressed toward a comprehensive interagency approach and improved donor coordination. This approach recognizes that all relevant allied government agencies should have a voice in planning post-conflict activities in support of the affected nation and that tasks may be best performed by different agencies or organizations as the security situation on the ground changes. The approach further recognizes that health assistance should not be addressed in its own stovepipe, but rather in a multisectoral manner that includes all essential medical, public health, and support services. However, current thinking has paid inadequate attention to health during combat activities—a critical period when access to affected civilian populations is restricted and dangerous and when interventions can impact the success of both short- and long-term health assistance and broader post-conflict stabilization efforts. Furthermore, most planning efforts have focused on DOD’s role in emergency service provision, rather than on potential roles in preserving or enhancing the health capacity of the affected nation.

DOD’s Responsibilities for the Health of Noncombatants

Current DOD policy mandates that its soldiers and contractors adhere to International Humanitarian Law (IHL) in all conflicts, regardless of the conflict’s context or character. IHL, which includes not only the four Geneva Conventions, but also treaties and customary law, requires that militaries minimize the impact of war on civilian public health and medical care.8 This responsibility is more complex than merely including hospitals on “do not target” lists. Minimizing the impact of conflict on civilian health requires optimizing efforts to preserve the integrity and capacity of the affected nation’s health system as a whole.

All aspects of an indigenous health system must be considered: retention of the health workforce and its support systems; reduction of brain drain; creation of safe lanes for workers and patients to reach clinics and hospitals; preservation of medical and pharmaceutical supply lines; maintenance or rapid restoration of communication systems, electrical power, safe water, and sanitation; and addressing specific wartime needs, such as gender-based violence and the health of displaced populations. These issues go beyond the military’s security and medical capabilities and require expertise from civilian agencies of donor nations, international organizations, and others. For example, following the 2003 invasion of Iraq, Iraqi health facilities were looted, effectively degrading the capacity of the health care system and greatly increasing the eventual burden on

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7 These measurements can be either qualitative or quantitative.
8 The texts of the four Geneva Conventions and many of the other subsidiary international treaties and agreements can be found on the Web site of the International Committee of the Red Cross at http://www.icrc.org.eng.ihl.
U.S. and coalition nations to provide stability and rebuild or substitute for the health system. Coalition military medical personnel could not have protected Iraqi health facilities by themselves; only security forces with a deliberate and coordinated security plan could have done so. In Fallujah in 2004, insurgents occupied the city’s only hospital and established a military command, control, and communications node on the top floors; most of the hospital beds were empty. Iraqi military forces recaptured the hospital without firing a shot, and U.S. military forces dropped off medical supplies to restore and sustain the function of the hospital.9 Again, military medical personnel could not have accomplished this alone. Considerations on a broad scale are necessary and illustrate the need for military planners to interact with civilian medical personnel and agencies, including international organizations and the affected nation, to develop and work from a synchronized plan.

A New Paradigm of Preserving Civilian Health System Capacity

Preserving civilian health system capacity during conflict is not only an obligation of the military, but it actually helps the military achieve its own strategic objectives. The better the civilian health sector functions during a conflict, the fewer injured and sick civilians will require treatment in military field hospitals that are ill-equipped to address many of the needs of the women, children, and elderly who represent the demographic groups most affected by conflict. During a counterinsurgency, where a host nation’s legitimacy is tied to the population’s perception of its government as a reliable and equitable service provider, preserving civilian health capacity is also strategically important. The more effectively the government provides essential services (including public health services) to its population, the sooner a counterinsurgency can be won.

In many conflicts, a key paradox is that the expertise needed to maintain function in the civilian health sector lies with civilian health officials and agencies, while the military often has better access to insecure areas. International and indigenous nongovernmental organizations (NGOs) with cultural and medical expertise may have access to some affected populations, but direct NGO association with the military in conflict zones may carry significant risks for those NGOs if opposing forces target health facilities in a struggle for legitimacy. One practical, partial solution is to consider and plan for civilian health needs during pre-hostility military planning, giving a voice in the planning process to all civilian agencies likely to be involved in the conflict or post-conflict phases; comprehensive interagency objectives can be outlined first, and tasks carried out by specific U.S. and other donor agencies later, based on each agency’s capability, expertise, and access based on security conditions.10 This approach should take into account the effect of operations on NGO activities. In certain cases, such as peacekeeping operations, where donors

10 Although direct input from indigenous health agencies or NGOs may not be able to be incorporated from the outset of such a planning effort, the planning efforts can at least come to some consensus about which specific U.S. or other foreign agencies will seek and transmit this local input at the first opportunity.
and their militaries are supporting the government of a conflict-affected nation, planners should consult with the affected government to determine and support its post-conflict health priorities.

**Humanitarian Space Is Vital**

NGOs use the term “humanitarian space” to refer to the concept of freedom to access war-affected populations without significant risk to their staff, under conditions in which all parties respect International Humanitarian Law. An optimal outcome of comprehensive interagency conflict planning would see the creation of humanitarian space for nonmilitary aid organizations to support the affected nation’s efforts to protect and preserve civilian health as a first option, while ensuring that DOD in concert with other U.S. agencies is prepared to provide or restore essential health services in areas too dangerous for civilian organizations to operate, or where civilian resources or capacities are inadequate, as a second choice. The more effectively DOD can create humanitarian space, the less the burden on the military and the less civilian health will be negatively impacted.

**Military Contributions to Post-conflict Health Reconstruction**

The current U.S. paradigm recognizes that civilian agencies and organizations should lead post-conflict health assistance to affected nations, including the restoration of public health and medical system capacities. However, the military has comparative advantages in certain critical tasks that can help facilitate successful reconstruction, and they may remain involved in reconstruction for a prolonged period. In addition to DOD’s recognized logistical and security expertise, for example, the military excels in trauma systems development and implementation, disaster management, and planning. An additional underappreciated contribution of DOD is the impact that its rebuilding of another nation’s military health system can have on that nation’s civilian health; most military health systems provide some degree of health services to nearby civilian populations—such as family members of soldiers or civilians who live in remote areas. DOD assistance to the indigenous military health system can best benefit the local civilian health system if there is coordination with civilian agencies and the local government to identify common capabilities that could be shared (e.g., medical logistics, training of health personnel, laboratory capacity, and biomedical equipment repair). A complex challenge is to balance the amount of assistance to the military health sector with the amount provided to the civilian health sector. Equity between the two systems may not be achievable in the short or medium term, and indeed may not be practical or even advisable until social cohesion is reestablished. However, it seems clear that close coordination of military and civilian health sector reconstruction, based on health needs, host nation priorities, and donor objectives, can help planners to see the host nation health system as a whole and lay the foundations for a successful transition to long-term civilian-led support to a nation’s health sector development.

**Blending Current and Future Operations Seamlessly**

Balancing short-term civilian health needs with long-term health development is not a zero-sum game. DOD has a particular skill in simultaneously addressing current operations (military tasks
that need to be implemented today) and future operations (military tasks, both anticipated and unanticipated, that may need to be implemented in the coming days, weeks, or months); civilian agencies may benefit from using the same approach. In the health sector, donors and the affected nation must address today’s emergency health needs of civilians while simultaneously creating the conditions for developing indigenous health systems capacity. Effectively addressing current operations sets up future operations for success, just as missteps during current operations are likely to impede future operations and fuel the grievances of potential spoilers. U.S. government conflict and post-conflict planning must balance the health assistance requirements of current and future operations, in coordination with other essential service sectors, ideally prior to the onset of any hostilities.

**Core Elements of Health Planning in Conflict and Post-conflict Situations**

A comprehensive approach structured on the following recommendations would help DOD minimize the effects of combat on civilian health and maximize the effectiveness of civilian-led post-conflict health assistance.

- **Recommendation 1:** The DOD should develop a civilian health theme for conflict and post-conflict planning in close consultation with other relevant U.S. government and other agencies.

  To date, DOD war plans have not addressed civilian health adequately; DOD can fill this gap by developing a theme in its war plans for how U.S. military forces should protect and preserve civilian health and public health systems during combat. DOD should clearly articulate its responsibilities regarding the health of noncombatants early in the planning process and should be organized, trained, and equipped to fulfill its responsibilities. Since military medical personnel cannot accomplish these tasks in a vacuum, security and medical personnel must reach consensus on objectives, tasks, roles, and responsibilities. Finally, civilian agencies, including NGOs in at least some cases, should have a voice in the planning process to help a conflict-affected nation to preserve and restore essential services, including public health and medical systems capacity.

  Whether the United States is a party to a conflict, or whether it is involved in peacekeeping operations, DOD plans should include efforts to ensure that the civilian population can reach functioning health care facilities and have access to essential public health services, such as a safe water supply, sanitation, and power. Local or international civilian medical staff should have safe access to their workplace. These tasks must be accomplished in a complex operating environment where health capacity may be targeted, precisely because it contributes to the population’s perception of their government as a legitimate service provider. DOD, in concert with other government agencies, should be prepared to directly provide essential health services when the government or humanitarian organizations cannot, in a way that avoids undermining local capacity and long-term development efforts. Although DOD’s role in sector-wide protection of public health and medical capacity is highly dependent on context,
developing comprehensive interagency objectives will allow a thorough analysis of the comparative advantages and the respective roles and responsibilities of each organization.

- **Recommendation 2: DOD should support a civilian-led comprehensive strategy for assisting a conflict-affected nation to reconstruct essential health services.**

DOD’s activities should be planned in a manner that enables civilian donor agencies and international organizations to support the affected nation’s reconstruction of its civilian health sector. U.S. and other civilian agencies should continue to utilize DOD’s expertise in situational awareness and assessments, planning, and implementation to develop comprehensive interagency objectives and improve donor coordination. Civilian donor agencies must move toward a “networked” system that acts in parallel, designing and implementing activities in response to local needs. Immediate, short-, medium-, and long-term health objectives must be considered simultaneously, early in the planning process. Planners and health experts from all relevant agencies must continuously analyze the volatile and often rapidly changing post-conflict situation in order to respond quickly to changing security, political, social, and economic conditions, as well as the health environment. Reconstruction of health facilities and systems should proceed in close coordination with other sectors such as governance, rule of law, and security, based on the affected nation’s needs and capacity. The most highly skilled and experienced civilian planner needs to be familiar with military planning in order to interface more effectively with the military in the immediate post-conflict environment, where both military and civilians may be operating in the same space.

- **Recommendation 3: DOD should be prepared to play a major role in support of the reconstruction of the military health services of conflict-affected nations in close coordination with civilian health sector reconstruction.**

DOD should coordinate with U.S. and other civilian donor agencies to plan assistance to reconstruction of the military health sector in a way that complements civilian health sector reconstruction and shares common capabilities. Coalition planners should be cognizant of the interface and the balance between military and civilian health assistance. In order to track progress and reduce unintended consequences, DOD should monitor and evaluate its health assistance programs in the same way it monitors and evaluates the effectiveness of the health programs for its own forces.

- **Recommendation 4: DOD should support a transition strategy that parallels and facilitates the transition from relief to development.**

All relevant agencies should contribute to the development of health assistance objectives in support of host nation led reconstruction and agree on what tasks must be accomplished; the ambassador is the final arbitrator of U.S. official health assistance. Careful delineation of those objectives should allow a smoother transition from approaches initiated by DOD during insecure conditions, to civilian agencies as security improves, or back again to DOD if security deteriorates. The strategy should have the flexibility to anticipate unintended
consequences and adjust to unanticipated events—what DOD terms “branch planning.” Appropriate civilian donor agencies should be included in the planning process as early as possible in order to avoid gaps in health care provision in insecure areas.

- **Recommendation 5:** All agencies including DOD should measure the impacts and outcomes that their conflict-related civilian health assistance programs have on health and on security and stability.

DOD’s sophisticated and extensive monitoring and evaluation techniques for maintaining the health of its own forces should be applied to its civilian health assistance activities, including their transition to civilian control. Such assessments should include both benefits and unintended consequences of DOD and other U.S. government agency activities. To maximize the utility of these assessments for future coordination with civilian agencies, assessments should be unclassified whenever possible. The untested and unverified assumption that restoration of essential services contributes to security and stability should be critically examined. Techniques should be developed for assessing the impact of health assistance on social cohesion, security, recurrence of conflict, and long-term stability.
APPENDIX: ROLES AND RESPONSIBILITIES FOR CIVIL SOCIETY AND THE MILITARY IN THE FIELD

As a general rule, experts agree that relief and development activities should generally be performed by civilians rather than military personnel unless there is an explicit and near-term security objective that is the primary focus of the project.¹

Because the military and private relief agencies can find themselves in close proximity in times of conflict, clear guidelines have been developed by U.S. civilian and military leaders to reduce tensions.² The guidelines were adopted in 2005 and follow a common-sense approach. For example, military personnel should wear uniforms to avoid being mistaken for representatives of nongovernmental organizations (NGOs), arrange visits to NGO sites in advance, and avoid describing humanitarian groups as “force multipliers.” NGO personnel should not wear military-style clothing, not travel in military vehicles, and NGO facilities should not be colocated with U.S. Armed Forces personnel. The guidelines also recommend appropriate ways to coordinate in order to minimize the risk of confusion.

But more is behind the need for a clearer understanding of roles and responsibilities for civilians and military personnel engaged in relief and development. Civilian and military organizations have different goals for their work that affect their approaches. Many international NGOs adhere to humanitarian principles and strive to deliver aid based on need, in an independent and impartial manner. For these reasons, they may want to operate separately from the military. In addition, recent experiences in Afghanistan and Iraq have led some NGOs to conclude that working closely with the military may contribute to hostility toward aid workers and endanger NGO security. NGOs engage in longer-term development projects for moral reasons or to fight poverty. The military may want to undertake relief and development projects as part of an overall national security mission. Or, as is sometimes the case, military commanders may see relief projects as a way to win over local populations (“hearts and minds”), improve troop skills, or boost troop morale.

It is far easier for military and civilian actors to work together in response to natural disasters that occur in peacetime. The U.S. military has unique advantages such as logistical lift capabilities, search and rescue, evacuations, expeditionary engineering (e.g., portable bridges), imagery and

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area reconnaissance, and ability to provide area security, not to mention many other resources on which it can draw. There are also disadvantages, in that use of the military can be a very expensive option for U.S. taxpayers and the presence of soldiers can raise questions about ulterior motives.

In the health sector, military and civilian medical personnel have worked side by side in response to disasters. For example, after the Asian tsunami of December 2004, NGO medical teams caught rides on U.S. Navy helicopters to reach rural communities. Navy doctors benefited from the NGO know-how about treatment in emergency situations. On the other hand, the navy has found it harder to involve NGOs in the work of its hospital ships. These ships can deliver life-saving or life-changing medical procedures on a one-time or infrequent basis. But NGOs prefer to give priority to primary health care systems that benefit large numbers of people in poor countries.

With the exception of assistance to foreign militaries, military involvement in longer-term development projects in the health sector is problematic. Traditionally, these types of projects have been more appropriately the work of the U.S. Agency for International Development (USAID). USAID and implementing partners have development expertise, local knowledge, and the legislative authorities to carry out this work. In recent years, other development offices have been created outside of USAID, including the Millennium Challenge Corporation, and the Office of the Global AIDS Coordinator. Some U.S. domestic agencies also play a role in advising on or carrying out foreign aid programs, such as the Centers for Disease Control and Prevention.