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## **The Soft Power of Solid Medicine**

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### **Abstract**

Medical assistance undertakings have a long history of engendering positive international relations and fostering domestic stability. Interactions ranging from military medical civic action program (MEDCAP) missions to nongovernmental organization (NGO) efforts have demonstrated effectiveness, yet this capability is not routinely available in a meaningful way to the Secretary of State or the extended diplomatic community. MEDCAP and other global military presences can generate positive reactions, but can also be tainted by host nation suspicions of ulterior motives. In this paper, the authors posit that an organized, global public health presence would support international diplomacy while also establishing a worldwide surveillance capability for emerging communicable diseases.

**Keywords:** global health, health surveillance, medical intelligence, public health

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While the United States enjoys a rich and often underappreciated legacy of humanitarian assistance, the application of exceptional medical capabilities is episodic, often disjointed, and limited in scope. In this article, the authors argue that a broader, coordinated program of medical diplomacy would generate dual benefits: increased global engagement and stability and the creation of a worldwide disease surveillance network that could detect and deter an emerging pandemic.

## **Framing the Issue**

At an April 2008 conference on preparedness hosted by the Potomac Institute for Policy Studies' National Security Health Policy Center, Dr. C. Everett Koop observed that our national approach to communicable disease has not changed in over a century. In Foggy Bottom—at the far end of the National Mall from the Department of Health and Human Services (HHS)—diplomacy is similarly practiced as it was 100 years ago. This seemingly strange correlation and recent world events point to the need to augment nineteenth-century “Gunboat Diplomacy” with twenty-first-century “Hospital Ship Diplomacy.” Linking the considerable scientific and public health expertise of HHS to the diplomatic mission of the State Department would serve to bolster both the U.S. international diplomacy mission and improve global public health (Avery 2010).

The positive impact of projecting quality public health and medical expertise—*on a consistent basis*—to the developing world is well documented (Gillert 1996). The success of General Petraeus' approach in Iraq is attributed largely to enhancing the availability of the civic infrastructure (Petraeus 2006). Médecins San Frontières (Doctors Without Borders) and similar nongovernment organizations (NGOs) sow well-documented international goodwill. Even the Taliban recognize the value of providing medical infrastructure services where the government does not. Providing these services was a significant factor in their early successes in parts of Afghanistan and the frontier provinces of Pakistan (Homas 2008). Serving the needs of vulnerable populations can be an entrée to acceptance, including providing a salve for an otherwise unwanted foreign military presence. It should be noted that when U.S. Marine and French paratrooper barracks were bombed in Beirut in 1983, Italian medical troops were left unharmed. The efficacy of medical diplomacy in underserved regions has been validated by first-hand experience. As a young Army medic serving in Phu Bai, Vietnam in 1971, one of the authors built an 80-bed hospital which

was named “Tu Ai,” a Vietnamese-Buddhist term for peace. This facility provided medical treatment to all in need with no questions asked. After the fall of South Vietnam in 1975, the Tu Ai medical facility was the only one in the I Corps area of operations (and perhaps of all Vietnam) that was allowed by the new government to continue its mission unchanged. It continues to provide medical care to this very day.

There is ample precedent that supporting improvements in world health produces a political payoff, as evidenced by multiple, if sometimes disjointed, efforts (Avery 2010; Public Health Systems Research Interest Group Advisory Board 2009; Macqueen KM, et al. 2001; Subcommittee on Oversight & Investigations 2008). The U.S. and other nations’ military organizations routinely conduct medical assistance missions throughout the developing world. The U.S. Agency for International Development (USAID) and a number of medical NGOs regularly provide disaster and humanitarian medical and public health assistance. Significant goodwill was engendered by deployment of U.S. Army, Navy, and Public Health Service (PHS) Commissioned Corps resources to Banda Aceh after the 2004 Indian Ocean earthquake and tsunami and, more recently, to Haiti. Relief missions to Pakistan have been mounted following the 2005 earthquake and again in response to recent, epic flooding.

## **Defining an Underutilized Resource as an Available Solution**

The benefit of having a robust, organized health and medical presence around the globe to help collect and disseminate medical information and coordinate public health activities, including humanitarian assistance, is less obvious. This benefit is manifested in three ways: the fostering of human security, the increase in effectiveness of global public health efforts, and an increase in political legitimacy (Nye 2004). While it is beyond the scope of this commentary to debate the components and relative merits of human security, history supports the position that a population with increased levels of disease and illness is more susceptible to destabilizing factors that can pose direct threats to state viability and create fertile fields for radicalism and insurgency (WHO 2007a). This is especially true if there are very clear differences in healthcare and public health services available to ruling and elite classes compared to that available to the general population. Reflective of this, the National Center for Medical Intelligence (NCMI) routinely assesses medical information and reports on diseases and poor public health

conditions that may contribute to politically destabilizing a country (e.g., AIDS). Despite significant, if disparate, initiatives and interest for improving international health throughout the executive branch of the U.S. government, these collective efforts lack meaningful coordination into a comprehensive approach on foreign health diplomacy, and therefore fail to realize the cumulative benefit of and the inherent political stabilization impact fostered by an organized and coordinated global health improvement effort.

Even with improved political stability, the need for increased global health capabilities continues unabated. The emergence of SARS, H5N1 influenza, and the pandemic H1N1 outbreak clearly demonstrates that national borders and ocean expanses no longer protect us from far-flung illnesses. In a global economy and with the ability to travel almost anywhere in the world within 24–36 hours, a local infectious disease aberration can become an international health crisis in a matter of days. Moreover, because H1N1 influenza turned out to be not as deadly as feared, the danger of a future calamitous pandemic occurring could be enhanced because the public may not heed future health official warnings. This is not limited to individual perception. In a rare divergence of political and clinical focus regarding communicable disease, the Parliamentary Assembly of the Council of Europe soundly criticized the World Health Organization (WHO) and national health authorities for “distortion of priorities of public health services across Europe, waste of large sums of public money, and also unjustified scares and fears about health risks faced by the European public at large”(Flynn 2010, ¶ A.1.).

The specter of a 1918-type outbreak and the absence of a robust public health mechanism were aptly documented by Laurie Garrett of the Council on Foreign Relations in her books “The Coming Plague” (Garrett 2004) and “Betrayal of Trust: The Collapse of Global Public Health” (Garrett 2000). A decade has passed since publication of these works with little in the way of meaningful reform or development in this arena.

There have been multiple initiatives spanning political ideologies and public/private constituencies intended to increase health security in disadvantaged parts of the world. The U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) allocated unprecedented resources to combat a single disease—global HIV/AIDS. The remarkable commitment of the Bill and Melinda Gates Foundation has spawned an intense effort to relieve targeted afflictions in Africa by making immunizations available throughout the continent. Our University of Pennsylvania colleague Harvey Rubin has proposed an International Compact for Infectious Diseases to coordinate global research and vaccine development. These initiatives stand

independent of broad coordination and, in many ways, run counter to the old WHO adage to “adapt, not adopt.” They insert advanced, Western techniques and equipment into environments ill-suited to integrate enduring applications thereof.

As an example, consider the multiple military medical missions to underserved regions of the world. This includes deployments of the very visible hospital ships and the less evident “boots on the ground” missions inland. The care provided is first rate and has an immediate, positive impact. Services provided span the spectrum from immunizations to minor surgery to dental remediation. Typically, the beneficial effects of the intervention end with the departure of the medical team. What are lacking are more durable investments in the infrastructure that mirror the ongoing commitments made in adjacent sectors by entities such as Millennium Challenge Corporation and USAID, which would result in health sustainability. This calls to mind the Chinese proverb “Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.” When it comes to global health, we serve a lot of fish.

We would question the political impact of these well-intentioned interventions. All evidence indicates that the recipients of services are highly appreciative. Less obvious is the reaction of local medical personnel who may have just been shown to be less than optimal in the eyes of their patients when services are provided that are not normally available or are beyond the capacity of the locale. An effective involvement would include several enhanced characteristics, including ongoing training consistent with the understanding and capabilities of the local medical community, coordination with social influencers such as village or tribal elders, traditional medical providers such as shamans, and continuing involvement with an eye toward prompting meaningful, culturally appropriate societal changes at the grass roots level. Domestically, the Centers for Disease Control and Prevention (CDC) posts subject matter experts at the state and local level. We do not maintain this level of participation on an international level. This is the operational equivalent of an ambassador visiting his diplomatic post once a year.

A 1998 report on a training workshop conducted by the CDC, the National Institutes for Health (NIH), and the American Society for Microbiology (ASM) to assess President Clinton’s call for domestic and international training programs in emerging and reemerging infectious diseases addressed multiple aspects of this need and issued several recommendations developed by participants from government, academia, and industry (Western 1998). It cited universal under-resourcing of critical assets, a lack of coordination among constituent entities, and societal risk

engendered by the global deficit in training in emerging infectious diseases. The factors cited included risks to humans from direct zoonotic or human-to-human contagion as well as threats to food safety. Twelve years hence, these needs remain.

The U.S. administration has a rare opportunity to establish global health as a national security priority and to facilitate that function. In discussions with several former Secretaries of State, a common complaint has been the lack of a viable and consistently available medical asset to employ as an implement of diplomacy. The White House has taken initial steps to create this capability. The May 26, 2009, *Statement by the President on the White House Organization for Homeland Security and Counterterrorism* created “a new Global Engagement Directorate to drive comprehensive engagement policies that leverage diplomacy, communications, international development and assistance, and domestic engagement and outreach in pursuit of a host of national security objectives, including those related to homeland security” (The White House 2009). Public health can and should serve as a core aspect of this global engagement. We urge the President to include health diplomacy as a priority initiative.

Citizen health and wellness are stabilizing factors, whereas health deficiencies destabilize societies. Reflect on the human and economic impacts cited by Dr. Rubin in his global compact proposal. The statistics are staggering. Approximately 400 million people are chronically infected and an estimated one million people will die each year from hepatitis B and its complications. Approximately 50 million people worldwide are infected with HIV. About one third of the world’s population is affected by *schistosomiasis* and soil-transmitted helminthes, representing more than 40% of the disease burden due to all tropical diseases, excluding malaria. SARS cost the world \$30 billion, an amount sufficient to prevent 8 million deaths from infectious disease. In the event of a more virulent influenza pandemic, the impact could rise to over \$600 billion in the United States alone. This poses a dual threat to national security. Pervasive disease and illness prevent a society from advancing. Significant advances in overall public health and life expectancy rose hand-in-hand with similar progress in industrialization, critical infrastructure, and public services. Communicable diseases diminished because of advanced medical capabilities, but also because fetid swamps and open dumps were replaced by paved streets, modern utilities, efficient refuse disposal, and commercial and residential complexes. Societal stability resulted from advancements in engineering as well as feats of clinical accomplishment.

Civil infrastructure development has for decades shielded us from disease, but once-distant threats now enjoy remarkable mobility. Communicable illnesses move via ever-shortening lines of communication. In terms of travel time, the trip from a primitive farm to the international marketplace can be made by a virus in a matter of days, if not hours in certain circumstances. For a rapidly appearing novel disease, the impact in terms of cost, lost capacity, and forfeited productivity can be crushing. Prevention by eliminating the contributing conditions would seem prudent policy.

Expanded public health and medical engagement provides the stated mutual benefit of fostering stability while opening technical and clinical communications channels. There is broad precedent for this approach. The U.S. military conducts frequent medical missions as part of the Combatant Commanders' Theater Engagement Plans and via programs sponsored by the Defense Security Cooperation Agency; but these efforts take a back seat to ongoing military operations and are colored by the fact that they are, first and foremost, military. Similarly, the preponderance of overseas infectious disease detection capabilities lies in the military laboratories dispersed around the globe. While highly capable, these resources carry the imprimatur of an institution viewed with suspicion in many regions where novel diseases will emerge. This dichotomy was highlighted by Victor W. Sidel in his contribution to the 2002 book *Biological Warfare and Disarmament: New Problems/New Perspectives*: "Military, intelligence, and law enforcement agencies and personnel have long histories of secrecy and deception that are contrary to the fundamental health principles of transparency and truthfulness. They may therefore be unsuitable partners for public health agencies that need to justify receiving the public's trust" (Sidel 2002, 86). Building the foundation of emerging disease surveillance on the military is comparable to placing the health department under the umbrella of law enforcement; it inherently limits acceptance of the organization and access to information. The Naval Medical Research Unit (NAMRU) 2 in Jakarta conducts extensive research on malaria, including drug-resistant strains widespread in Indonesia, and is part of the influenza WHO surveillance network. According to the WHO, half of the world's population is at risk of malaria and an estimated 243 million cases led to an estimated 863,000 deaths in 2008. Despite its work on this pressing health issue, the Jakarta laboratory is periodically subjected to threats of expulsion from Indonesia because of its military sponsorship and the perception of ulterior motives.

Similarly, otherwise successful efforts such as collaborative research between U.S. and host nation military medical assets (e.g., multiple

Uniformed Services University laboratory projects) may suffer from inherent suspicion of underlying intentions of both U.S. and domestic military forces. If viewed as a pretext for collecting intelligence information, military medical initiatives will be inevitably less effective in conducting the basic research function of gathering information.

The PHS commissioned corps officers serve overseas, but in insufficient numbers to significantly impact and assist the world community. We have called, in other forums, for a dramatic expansion of the commissioned corp. This would be a small investment in protecting the nation from the persistent threats of disease and illness. As with the other uniformed services, overseas assignments should be an integral part of PHS career development and progression. Assigned to embassies and consulates, PHS officers would act as health liaisons to host nations, local coordinators for a global disease surveillance network, and scientific representatives to station staff and as a liaison with local government and health officials. As is practice within the international military community, exchange assignments could be coordinated to foster cross fertilization, knowledge dissemination, and increased cooperation against common health “enemies.” As active engagement, this would establish a universal presence to augment and support world health improvement initiatives. While this could be viewed as a form of medical imperialism, the ability to universally enhance the level of public health protection would have the dual return of reducing disease, illness, and death elsewhere while enhancing the ability to identify and counter emerging disease threats that can and will impact us domestically. The end results would be manifest: increased popular credibility via the application of culturally competent, health literate assistance—winning hearts and minds through health diplomacy.

## **The Role of Medical Intelligence**

Perhaps the greatest indirect contribution of a robust global public health presence would be establishment of a universal disease surveillance network, facilitating the development of meaningful medical intelligence (MI). The function of MI is little understood and practiced even less. Even the term medical intelligence carries a negative connotation as previously described. As defined in this context, MI is distinct and apart from traditional intelligence associated with national security. (Although we would make the argument that the security of the nation-state is inseparable from its political,

economic, and social welfare. The health of the nation cannot be divorced from that of its people.)

In a world increasingly connected by rapid travel and shipment of goods, the ability to detect, analyze, and assess emerging medical threats has become a skill of critical national importance. That skill must be exercised dramatically differently than standard epidemiological practice. Medical science is uncomfortable with predicting future events without the benefit of detailed analysis of extensive data sets steeped in the scientific method and rigorous empirical standards for validation—the legacy of a Cartesian discipline. Extremely rapid detection of emerging contagion and consideration that an outbreak may be purposely induced—an act of bioterrorism—rely on skills not prevalent in the practice of medicine. The increased importance of this ability argues for creation of an MI educational or developmental path to support this need.

MI assessments focus on extant and emerging disease, environmental, foreign medical science and technology capabilities, and occupational threats. An accurate assessment ensures that health hazards can be anticipated, protective actions taken, exposed individuals or populations located, informed, and treated, and healthcare delivery processes appropriately adjusted in a timely fashion.

MI is frequently derived from scant and often conflicting information and is, therefore, an inexact science. Developing a health threat intelligence assessment requires identification and acquisition of data and recognition of correlates among often disparate facts. These individual facts are often in isolation but can link to indicate a pattern or identifiable occurrence. The process is further complicated by the flow of information: sometimes as individual data points and at other times within a torrent of information with no discernable theme or pattern. Because the data are often disjointed or isolated, the development of an intelligence assessment often relies on the analyst's professional judgment and intuition, employed in the synthesis of these data into a probability assessment. This insight is typically born of experience, the type of knowledge that would be facilitated by a developmental career path that included intimate knowledge of source environments. This can best be achieved by career and professional development in situ.

It is equally important that MI consumers be identified and educated in how to access the MI community and what role MI can play in assisting them in implementing timely policy that can reduce morbidity and conserve and appropriately allocate medical resources in a public health emergency situation.

Early detection is a staple of effective epidemiological countermeasures. The time at the beginning of an epidemic is not linear, but exponential. A matter of a few days' lead time can prevent an outbreak from becoming a local, regional, or national emergency. The next Ebola, SARS, or influenza pandemic will undoubtedly arise beyond the current reach of U.S. public health capabilities. We should be there when it does; otherwise we are relegated to the eternal role of catching up with the next outbreak.

Consider the global impact of largely preventable diseases. Nearly one million people—many of them children—die annually from malaria. In 2008 there were an estimated 20.5 million cases of tuberculosis, resulting in some 1.8 million deaths worldwide. Combined, the death toll from these two preventable and treatable diseases equals the population of Chicago. Ominously, strains of drug-resistant, multiple drug-resistant, and extreme drug-resistant tuberculosis are emerging, challenging our ability to treat a disease many considered to be in retreat from the world stage. The threat is both pervasive and relentless.

The possibilities—some say inevitabilities—of a significant, novel disease outbreak with high morbidity and mortality pose a challenge for public health entities and the nations and people they serve. These represent threats that “require urgent action” according to the 2007 WHO *World Health Report* (WHO 2007b, xii). “Recent history shows that some of the most serious threats to human existence are likely to emerge without warning” (WHO 2007b, xii). Early identification facilitates interventions that can stem the spread of disease. Figure 1 depicts the dramatic reduction in the epidemiologic curve that can be achieved through early identification and prompt application of countermeasures to an emerging disease.

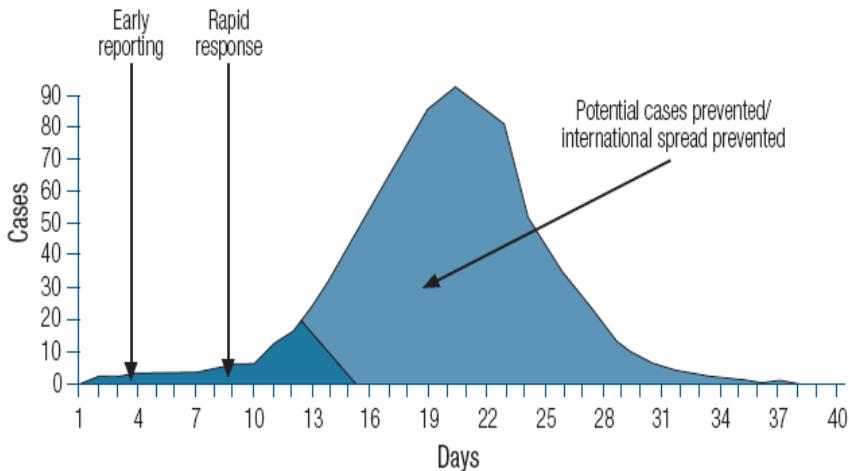


Figure 1. Global outbreaks, the challenge: late reporting and response (WHO 2007b, xii)

## Reaping Added Benefit

The utility of an expansive public health presence is not limited to combating disease. When disaster strikes, U.S. assets often play a leading role in synchronizing and implementing response and recovery. The shortcoming in current practice is its episodic and reactive nature, versus leveraging the efficiencies that can be realized with prior coordination and communication followed by extended engagement. Catastrophic disasters such as the earthquake in Haiti offer unique opportunities to create a solid public health infrastructure. This, of course, represents an investment in prevention, an approach that is rarely given the priority it deserves (in any aspect of health and medicine) considering the return realized.

Disasters often result in disease outbreaks. Breakdowns in healthcare, food safety, sanitation, and disease vector control can lead to a wide variety of deadly outcomes, especially when the affected population's health is already compromised by malnutrition or poor health practices. Tending to the foundational public health needs of a nation should link hand-in-hand with economic, security, military, and other forms of humanitarian and political engagement.

Ominously, WHO has documented unprecedented novel disease emergence on a global scale and increasing rate. In its 2007 *World Health Report*, WHO stated "Infectious diseases can not only spread faster, they

appear to be emerging more quickly than ever before. Since the 1970s, new diseases have been identified at the unprecedented rate of one or more per year. There are now at least 40 diseases that were unknown a generation ago. In addition, during the last five years, WHO has verified more than 1,100 epidemic events” (WHO 2007b, x). Over the past decade novel outbreaks of infectious diseases have been recorded on every continent save Antarctica, in all climates, and across all cultures from highly developed nations to emerging states, as illustrated in Figure 2.

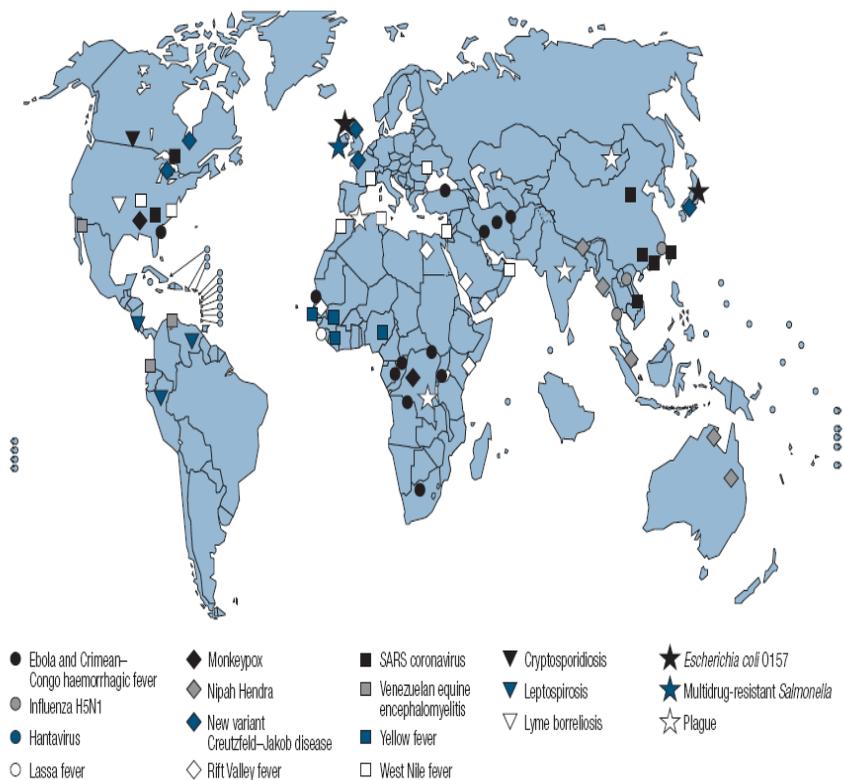


Figure 2. Selected emerging and reemerging infectious diseases: 1996–2004 (WHO 2007b, 12)

The discussion of American primacy rarely addresses the impact and influence of medicine in diplomacy. At the end of World War II, Navy physicians were stationed in embassies around the globe. Ironically, at a time when disease travels faster than ever and the impact of basic health on

societal stability is widely recognized, we are less engaged internationally from a public health perspective than we were 65 years ago.

Disease is the original global economy. Because illness has always followed mankind's travels, the quickening of transit has accelerated the spread of disease. Transoceanic trips and port of entry quarantine stations once provided effective prevention. Those interventions are no longer applicable.

## Conclusion

A robust, global health presence offers myriad benefits. Attending to human security increases population health, thereby promoting political stability and generating diplomatic return. We therefore recommend a significant expansion of the public health presence and the effective employment of that capacity as an implement of diplomacy. Improving public health diminishes the opportunity for disease emergence and enhances the ability to detect, counter, and treat those that do develop. This affords a level of benefit beyond enhancing relationships between nations and peoples. It creates a "far forward" warning system against new disease.

As a nation, we should be engaged in global public health as though our lives depended on it—because they may.

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