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SPECIAL REPORT

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ABOUT THE REPORT

Recognizing the threat posed by old and new infectious diseases, this report examines U.S. policies in support of foreign capacity to control the spread of dangerous pathogens.

It calls for expanding U.S. policies designed to strengthen surveillance and response capacity abroad as a frontline defense against a potential pandemic and as a peaceful and positive dimension of U.S. global health diplomacy.

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William J. Long

Pandemic Preemption

A U.S. Strategy for Infectious Disease Control

Summary

- The spread of old and new infectious diseases constitutes both a threat to U.S. and global security and peace and an opportunity for the United States to burnish its international image through strengthening foreign capacity in infectious disease surveillance and response.
- Despite an increase in overall U.S. expenditures on global public health, U.S. policy is not fully meeting this challenge or capturing this opportunity. Little-known policies implemented by the Centers for Disease Control and Prevention, the United States Agency for International Development, and the Department of Defense offer cost-effective strategies that should be expanded under President Obama's new Global Health Initiative to improve infectious disease control abroad as both a frontline defense against a potential pandemic and a peaceful and positive dimension of U.S. global health diplomacy.

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SPECIAL REPORT 244

JULY 2010

CONTENTS

Rhetoric versus Reality in U.S. Policy	2
U.S. Government Programs	3
Recommendations	12

The Challenge and the Opportunity

The spread of avian influenza virus and other naturally occurring or man-made biological threats poses grave security, economic, and humanitarian risks to U.S. and global interests. Dramatic increases in the worldwide movement of people, animals, and goods; growing population density; and uneven public health systems worldwide are the driving forces behind the heightened vulnerability to old and new infectious diseases. In addition to traditional threats, since the early 1980s scientists have identified dozens of new viruses, many of which are capable of global reach.¹ With more than one million travelers flying across national boundaries every day, it is not an exaggeration to say that a health problem in any part of the world can rapidly become a health threat to many or all—what one author calls the “microbial unification” of the world.²

The outbreak of severe acute respiratory syndrome (SARS) in 2002–03 demonstrated how a largely unknown lethal virus could spread via modern air transport, traveling from Hong Kong to Toronto in fifteen hours and eventually reaching twenty-seven countries.³ The

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relatively benign H1N1 influenza outbreak of 2009 provided an early warning of the danger posed by a novel influenza virus against which most people have little or no protection. For example, since emerging in 1997, avian influenza virus—which to date has infected more than four hundred people and killed half of those infected—could, if it becomes capable of human-to-human transmission, as H1N1 influenza virus did, create a global pandemic of unprecedented lethality, including an estimated two hundred thousand to sixteen million U.S. deaths.⁴

Global economic and political stability could fall victim to a pandemic, too. Accelerating transnational flows, especially of pathogens, can stress and overwhelm a state's capacity to meet its essential functions. Weak states could fail economically or politically, thereby creating regional instability and a breeding ground for terrorism or human rights violations. Statistical studies reveal that declining public health substantially increases the probability of state failure,⁵ and historical examples of the correlation between disease outbreak and political instability and violence extend from the fall of ancient Athens to recent violence in Zimbabwe that was fueled by a cholera outbreak.

Reducing the danger of influenza or other infectious diseases requires a focus on preparedness and monitoring. Rapid identification, information sharing, and a coordinated response are critical to limiting the threats from pathogens. Although the peril is great, so too is the opportunity to build cooperation through strengthening regional and worldwide disease surveillance, detection, reporting, and response capacity. Recently, subregional networks of cooperation in infectious disease control have sprung up in traditional zones of conflict and in resource-constrained regions of the world, including the Middle East, the Mekong Basin, East and Southern Africa, and the Balkans.⁶

Here is the positive potential of globalization: the deployment of health and information technology in disease surveillance and response and the sharing of best health practices across nations create an unprecedented opportunity for U.S. leadership that could deepen bilateral ties, foster regional cooperation and stability, and burnish the nation's image globally. Simultaneously, such cooperative measures would help secure the health and welfare of U.S. citizens. A leader in both medical and information technology, the United States is well placed to encourage the strengthening of public health systems abroad as a peaceful and positive dimension of its global health diplomacy and as a first line of defense against the threat of infectious diseases, whose outbreaks typically begin in the developing world.

U.S. policy does not go far enough to address the dearth of foreign capacity in infectious disease control, however. Although the U.S. government recognizes the importance of the threat and opportunity posed by infectious disease spread in its policy pronouncements, programs directed toward meeting this challenge are insufficiently funded. Little-known policies implemented by the U.S. Centers for Disease Control and Prevention (CDC), the U.S. Department of Defense (DoD), and the United States Agency for International Development (USAID) currently support infectious disease surveillance and response capacity abroad. These cost-effective programs should be expanded to better meet the challenge to U.S. interests and the opportunity for enhanced cooperation posed by the emergence and potential global spread of old and new infectious diseases.

Rhetoric versus Reality in U.S. Policy

Rhetorically, protecting domestic and foreign populations from old and new infectious diseases has become a national priority. The need to develop foreign capabilities in infectious disease detection and response has repeatedly received explicit presidential endorsement. In 1996, President Clinton's Decision Directive NSTC-7 "established a national policy to address the threat of emerging infectious diseases through improved domestic and interna-

tional surveillance, prevention, and response measures.”⁷ In introducing the new national policy to the public, then vice president Al Gore underscored that the directive instructed the U.S. government, particularly the CDC, USAID, and the DoD, to work with other nations and international organizations to establish a global infectious disease surveillance and response system, based on regional hubs and linked by modern communications technologies.⁸ Shortly after taking office, President Obama reiterated this commitment in May 2009 by announcing a new Global Health Initiative that would adopt an integrated approach to fighting the spread of infectious diseases while addressing other global health challenges. The president emphasized, “We cannot wall ourselves off from the world and hope for the best, nor ignore the public health challenges beyond our borders. An outbreak in Indonesia can reach Indiana within days, and public health crises abroad can cause widespread suffering, conflict, and economic contraction.”⁹ The National Security Council’s 2009 document, “Strategy for Countering Biological Threats,” reinforces the importance of strengthening foreign capacity in detecting and responding to infectious disease outbreaks, as this capacity is of equal importance in combating naturally occurring or man-made biological threats.¹⁰

Despite consensus on the importance of the issue and clear recognition that combating the threat of infectious diseases requires support for public health systems abroad, U.S. policies designed to bolster foreign capacity in infectious disease control have not kept pace with the United States’ burgeoning global public health expenditures in the past decade. During that period, U.S. funding for global health programs quintupled, from \$1.7 billion in fiscal year (FY) 2001 to \$8.8 billion in FY 2010. The president’s FY 2011 budget request anticipates another increase in funding to \$9.6 billion.¹¹ Nonetheless, core support for programs designed exclusively to strengthen international infectious disease surveillance and response remains less than \$100 million annually, constituting about 1 percent of the total U.S. government global health expenditures.¹²

To understand in what ways U.S. policy is not fully meeting the challenge and opportunity posed by infectious disease spread, it is important to appreciate first what the United States is doing to support foreign capacity in infectious disease control.

U.S. Government Programs

Four programs shared by three federal departments explicitly aim to improve the infectious disease detection and response capabilities of other nations and regions:

- the Global Disease Detection Program, operated by the CDC;
- the Field Epidemiological and Laboratory Training Program, administered by the CDC with significant support from USAID;
- the Integrated Disease Surveillance and Response Program, funded primarily by USAID and administered through the CDC; and
- the Global Emerging Infections Surveillance and Response System of the U.S. DoD.

In addition to these four programs, USAID provides bilateral in-country support to public health programs in most of the more than one hundred countries in which it operates. This aid was estimated at \$14 million in 2006.¹³

Global Disease Detection Program

Congress appropriated funds for the CDC to create the Global Disease Detection (GDD) program in 2004, shortly after the SARS epidemic. Recognizing that a weakness in the infectious disease surveillance system of any country potentially imperils U.S. and global interests, Congress directed the program to “protect the health of Americans and the

The CDC has aspirations to eventually establish eighteen GDD centers worldwide to serve as regional resources to detect, confirm, and respond to pathogen spread at the source.

global community by developing and strengthening public health capacity to rapidly detect and respond to emerging infectious diseases and bioterrorist threats.¹⁴ The program draws on the CDC's long-standing expertise in infectious disease detection and response to support overseas public health surveillance, provide training in laboratory methods, build investigatory and communications capacity, and enhance rapid response to emerging infectious diseases.

The CDC has established six GDD centers, one in each World Health Organization (WHO) region, to serve the needs of that country and neighboring states.¹⁵ Start-up activities at a seventh GDD regional center are under way. The CDC has aspirations to eventually establish eighteen GDD centers worldwide to serve as regional resources to detect, confirm, and respond to pathogen spread at the source.

Funding for the program grew rapidly from \$11.6 million at its inception in FY 2004 to \$32.4 million in FY 2006, then held relatively steady at \$31.4 million in FY 2008, \$33.7 million in 2009, and \$37.8 million in 2010.¹⁶ Staffing for the program includes thirty-three CDC employees overseas, locally employed staff, and an oversight team in the CDC's Atlanta headquarters.¹⁷ The CDC coordinates the work of the GDD centers with WHO. GDD regional centers also function as members of the WHO's Global Outbreak Alert and Response Network during emergencies. The GDD program collaborates and supports the work of numerous NGOs and philanthropies working in this policy space.

The CDC qualitatively and quantitatively monitors the outputs, outcomes, and, where possible, the overall impact of the GDD programs with respect to five key capacities: (1) outbreak response, (2) surveillance, (3) pathogen discovery, (4) training, and (5) networking. From 2006 through 2009, the CDC reported rapid responses to more than five hundred disease outbreaks and other serious public health emergencies, the detection of thirty-four new pathogens, public health training of more than 37,000 participants worldwide, and successful participation with the WHO as part of the international response to the 2009 outbreak of H1N1 influenza.¹⁸

Field Epidemiological and Laboratory Training Program

The CDC's Field Epidemiology Training Program (FETP) and Field Epidemiological and Laboratory Training Program (FELTP) are applied epidemiology education programs designed to help foreign countries develop, run, and sustain a robust public health infrastructure. The programs are established in cooperation with ministries of health around the world and in concert with national and international partners.¹⁹ The goal is to build host country epidemiological and laboratory capacity and thereby contribute to evidence-based public health decision making that will improve the host country's overall health and safety policies.

Started in 1980, the programs provide two years of applied training for public health leaders to strengthen disease surveillance and assessment skills and to improve health interventions. The FELTP program, as the name implies, includes a laboratory training component. Before initiating a program, the CDC requires a serious commitment from the recipient country, including material support, and expects that the recipient country will own the program and that the program eventually will become fully self-sustaining. Planning for the creation of an FETP or FELTP typically takes up to two years to ensure its initial success and to guarantee its long-term adoption and sustainability by the host nation. As one CDC official explained, "We go into the project with an exit strategy."²⁰ The cost to set up an FETP or FELTP program is estimated to be in the range of \$1 million to \$2 million, primarily to support an in-country resident adviser and pay for training and materials.

FELTP and FETP trainees typically take courses in epidemiology, communication, economics, management, and methodology, and they spend most of their time in the field

conducting epidemiological investigations and surveys, evaluating surveillance systems and prevention practices, and training other health workers. The CDC develops and delivers most of the curriculum and assigns an in-country adviser for four to six years to provide training and technical assistance.²¹ Directorship of the program remains the responsibility of the host nation, however.

Over the course of the program, the CDC has supported thirty-one initiatives involving forty countries that have produced more than 1,500 graduates. In addition to the nineteen self-sustaining FETP programs and twelve ongoing programs involving twenty-three countries, twelve programs engaging seventeen countries are in development.²²

Besides the continuation of country programs and their eventual graduation to self-sustainability, there are other measures of long-term impact. A 2007 internal analysis of six FETP programs established between 1999 and 2004, for example, revealed that 92 percent of the graduates continued to work in public health after graduation.²³ With regard to assessment, the CDC has developed and is piloting a self-administered scorecard for FETP and FELTP programs to measure progress regarding their quality and sustainability.²⁴

The core CDC budget for the program has been roughly steady since 2005, at approximately \$3 million per year. Through leveraging its resources with transfers from other federal agencies and programs, particularly funds transferred from USAID and private donors, the CDC reported total program expenditures in FY 2010 approaching \$25 million.²⁵

Integrated Disease Surveillance and Response Program

The Integrated Disease Surveillance and Response (IDSR) program is a creation of the World Health Organization African Regional Office (WHO-AFRO) adopted by its member states in 1998 and supported by the CDC. The IDSR strategy focuses on developing surveillance systems, monitoring and evaluating those systems, and strengthening laboratory capabilities and workforce training. The emphasis is on a multilevel, multidisease surveillance and response system that integrates activities from the district level to the national level. The integrated approach strives to develop and maximize the potential of a resource-constrained country to promote public health, increase its ability to respond to emerging threats, and meet international standards for disease reporting and control.

The CDC provides expertise in the design, development, implementation, monitoring, and evaluation of IDSR activities and tools for disease surveillance and laboratory confirmation. The CDC's annual budget for the program is about \$3 million.

A participating country begins the implementation of an IDSR program with an assessment of the national surveillance system by a team of national and international experts. This team examines the current surveillance, laboratory confirmation, and epidemic preparedness and response activities at all levels of a country's health system. The ministry of health then uses the assessment results to develop a plan of action for creating a fully functional IDSR system, including improvements at various levels of the national public health system.

The IDSR network grew rapidly from 2001 to 2005, with the number of countries having a developed IDSR plan of action increasing during that period from thirteen to forty-one, and the number of countries with an established national IDSR committee expanding from six to thirty-two.²⁶ Recently, the program has slowed to incorporate new WHO requirements for disease detection and reporting. Turnover in personnel at several WHO-AFRO offices has also contributed to delays in the program.

The countries themselves are largely responsible for assessing and evaluating their respective programs. A WHO-AFRO task force, with input from the CDC and USAID, adopted IDSR core indicators in 2003. Participating countries utilize the IDSR core indicators to

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monitor and evaluate their own progress to ensure they maintain effective and functional IDSR systems.²⁷

Global Emerging Infections Surveillance and Response System

The U.S. DoD has personnel deployed to at least 147 countries around the world and has a presence of more than two hundred personnel in at least twenty-one nations.²⁸ Given this widespread dispersion of military forces, the DoD has long had in place systems designed to detect and respond to infectious diseases, as a way of maintaining force readiness and protecting its employees. In all, more than a dozen different DoD entities and their foreign military partners work together on infectious disease detection and control.

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Connecting many of these programs and integrating overseas research laboratories and humanitarian assistance programs is the Global Emerging Infections Surveillance and Response System (GEIS). The DoD created GEIS in response to President Clinton's Decision Directive NSTC-7 "to strengthen the prevention of, surveillance of, and response to infectious disease that (1) are a threat to military personnel and families, (2) reduce medical readiness, or (3) present a risk to U.S. security."²⁹ The GEIS increasingly interprets this mandate broadly to include encouragement of host country capacities in infectious disease control capability and compliance with WHO regulations. The GEIS works with various research and treatment facilities operated by the DoD to improve local ability to provide early detection of emerging infectious disease threats, share information in disease surveillance and research, and enhance response capabilities, with a particular focus on five categories of infectious diseases: respiratory disease (particularly influenza), gastroenteritis syndromes, febrile illnesses (such as dengue fever and malaria), antimicrobial resistance (a particular problem in tuberculosis), and sexually transmitted infections.³⁰

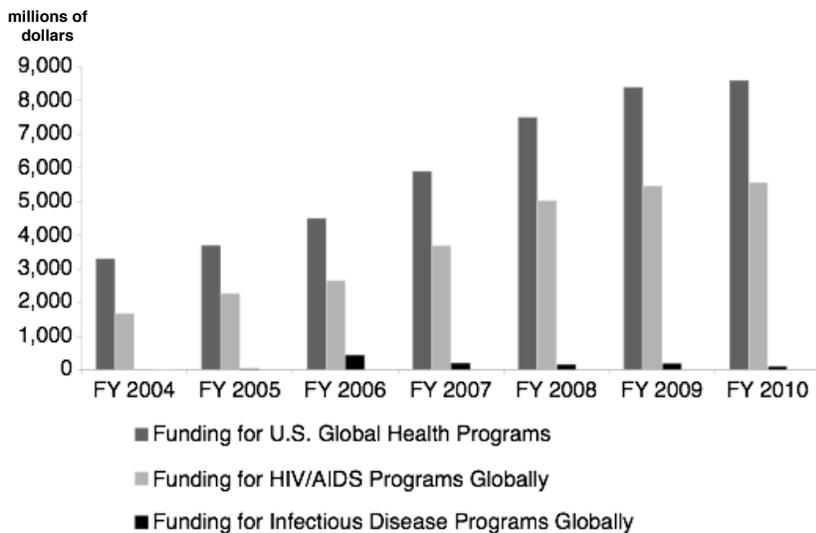
In FY 2009, the DoD obligated approximately \$12 million to core surveillance capacity building for the GEIS, up from \$8 million in 2005. Separately, the GEIS received \$40 million in supplemental funds as part of the government's efforts targeted on pandemic and avian influenza. These funds help support research laboratories in Egypt, Indonesia, Kenya, Peru, and Thailand, as well as other military research units for surveillance projects located in seventy-eight countries.³¹ Many of these projects are conducted with host country nationals, often in the form of military-to-military cooperation, and include establishing or improving laboratories, training host country staff in surveillance techniques, and providing advanced diagnostic equipment.³² The labs themselves remain DoD assets and belong to particular branches of the armed services.

GEIS assessment and reporting on particular programs occurs quarterly and annually. As in civilian programs, developing metrics for overall effectiveness and impact is difficult in this area. Success in terms of disease prevention is hard to quantify, and country baselines by which to measure performance can be difficult to obtain. Regarding interagency coordination, a 2008 study by the United States Institute of Medicine encouraged GEIS to enhance its coordination and collaboration with its domestic counterparts, particularly the CDC, which operates in almost all the countries where DoD laboratories are located.³³

Assessment of U.S. Policy

As far as they go, there is little wrong and much that is right about U.S. programs in support of improving foreign capacity in infectious disease surveillance and response. The problem is that they do not go far enough. The failure to adequately engage the threat of infectious disease outbreaks at the source and to seize the potential opportunity for enduring international collaborations in public health is both a security lapse and a forgone opportunity for the effective exercise of U.S. influence.

Figure 1. Funding for U.S. Global Health Programs, FY 2004–10



Source: Kaiser Family Foundation, "The U.S. Global Health Initiative (GHI) Budget Analysis," December 2009

This shortcoming reflects generic problems in U.S. global health policies, including the tendency of American global health policy to

- fund treatment for a few targeted diseases rather than strengthen public health systems generally to enable them to respond to existing and emerging challenges;
- focus overwhelmingly on treating the problem of infectious disease spread after it has reached U.S. shores;
- offer charity rather than make investments in host countries;
- deploy funding in response to the current interests of the donor community and focus on near-term impact rather than on recipient needs and sustainable, long-run effects; and
- support related programs in various agencies without a formal mechanism for interagency coordination and collaboration.

Each of these problems, as applied to the issue of controlling infectious disease spread, is discussed below.

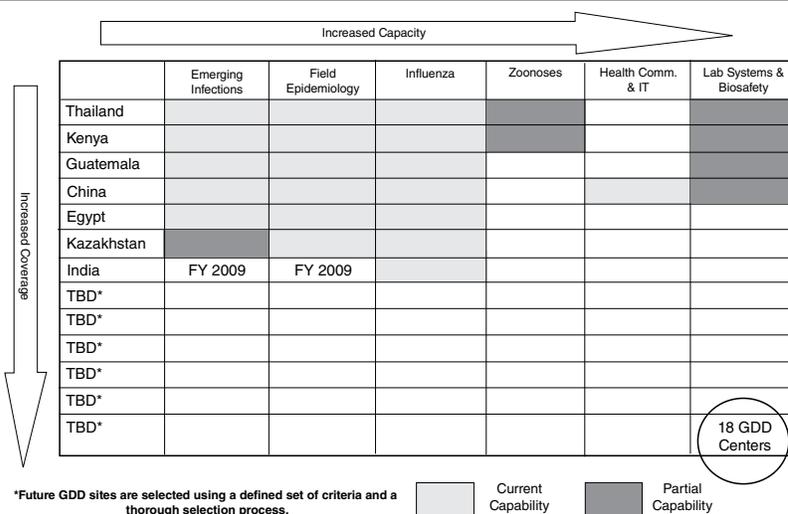
First, programmatic funding levels are insufficient to meet the threat of infectious disease spread and to capture the promise of improved diplomatic relations through strengthening overseas capacity. Despite a huge increase in U.S. global public health expenditures, funding for long-term programs that strengthen global capacity in infectious disease surveillance and response remains small and relatively stagnant, especially for civilian programs (figure 1).

A decade ago, the Government Accountability Office (GAO), an independent assessment body of the U.S. Congress, noted the need to strengthen overseas laboratory capacity, improve disease surveillance, and prevent the spread of diseases in developing countries through greater support of programs like the GDD and the FELTP.³⁴ Nonetheless, core budgets for foreign capacity building have not increased in real terms since 2006.³⁵

The status of the GDD program illustrates the implications of underfunding. The GDD aspires to create eighteen linked regional or subregional centers for infectious disease control around the world—a network first called for in President Clinton’s 1996 directive. To date, however, that network is not in place, and only six centers are completed. To fully implement the program, GDD’s budget would need to increase approximately sixfold, to about \$200 million—still less than 2 percent of the U.S. global health budget. The U.S. government

Funding for long-term programs that strengthen global capacity in infectious disease surveillance and response remains small and relatively stagnant, especially for civilian programs.

Figure 2. GDD Growth Matrix



Source: Division of Global Disease Detection and Emergency Response, Center for Global Health, CDC, March 5, 2010

should not wait until after an infectious disease disaster before filling in the gaps in this system (figure 2).

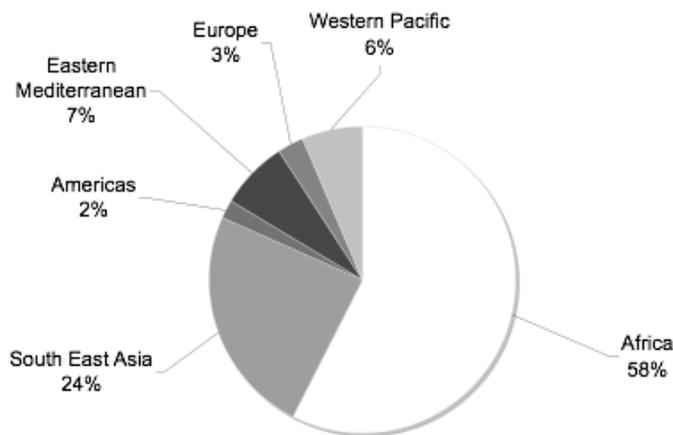
In the context of U.S. global health expenditures generally, the core budgets of those programs designed to strengthen overseas capacity in infectious disease surveillance and response are miniscule. Rather than increasing core budgets to meet a critical, long-run need, the agencies and programs with primary responsibility in this crucial domain have been given a hunting license to capture funds from disease-specific programs via inter-agency transfers or to procure donations from international organizations or private philanthropies to meet their programmatic objectives. While these governmental programs have been effective and entrepreneurial in augmenting their budgets, an ad hoc, opportunistic funding model does not allow for systematic planning and expansion of programs to meet a stated national priority.

The increase in U.S. global public health funding has gone overwhelmingly to fighting a handful of diseases, and in particular to treating HIV/AIDS. Since the launch of President George W. Bush's President's Emergency Plan for AIDS Relief (PEPFAR) in 2003, more than 70 percent of U.S. global health funds have been allocated to AIDS programs.³⁶ The proposed 2011 budget would continue this trend, with nearly \$7 billion of the proposed \$9.6 billion total going to PEPFAR.³⁷ Not only does an overwhelming percentage of U.S. funding go toward treating one disease, during the first five years and \$15 billion of the PEPFAR initiative, funds were earmarked for treatment largely in the form of antiretroviral drugs (55 percent), palliative care (20 percent), prevention (20 percent), and care of HIV/AIDS orphans and vulnerable populations (10 percent), leaving little to fund efforts designed to strengthen public health capacity in recipient countries.³⁸

PEPFAR has been a powerful impetus for garnering U.S. support for global health programs generally, and the initiative is remarkable for its generosity and the number of lives it has saved and enhanced. Focusing on treating one disease, however, leaves other health problems unattended³⁹ and neglects capacity building in core areas, such as epidemiology and laboratory capacity. Capacity building is critical to combating infectious disease and to making the entire health system robust and grounded in sound science and reliable data. PEPFAR's own analysis of its first five years concludes that the program has largely ignored the issue of strategic strengthening of health systems in the countries in which it operates and has "had both positive and negative impacts on country-level health systems"; the report further notes that programs "did not fully translate to a broader service

The increase in U.S. global public health funding has gone overwhelmingly to fighting a handful of diseases, and in particular to treating HIV/AIDS.

Figure 3. Infectious Disease Deaths by Region



Source: World Health Organization (WHO), "Global Burden of Disease 2004," 54-55, accessed at http://whqlibdoc.who.int/publications/2008/9789241563710_eng.pdf, February 27, 2010

delivery impact across the health sector.⁴⁰ The consequence, health analyst Julie Fischer concludes, is that "U.S. support for disease-specific programs [saves] lives but leaves most of the population without essential services [and] does little to free human capital for economic development, or to accomplish either public health or soft diplomacy goals."⁴¹ Other disease-specific programs that have grown more gradually have had a greater opportunity to balance short-run treatment with long-run system building and sustainability. In time, this outcome may prove true of PEPFAR too, as discussed below.

U.S. disease-specific support in the case of pandemic influenza illustrates a second problem with the focus of U.S. funding: the tendency to spend funds overwhelmingly on domestic preparedness rather than creating a front line of defense by detecting and controlling infectious disease outbreaks at the source, that is to say, primarily in Africa and Asia (figure 3).⁴²

When the United States responded to the H1N1 influenza outbreak with a supplemental appropriation of more than \$6.5 billion in 2009, for example, only \$190 million went to global programs, with the balance spent largely on domestic defensive countermeasures.⁴³ Of course, domestic programs such as vaccine stockpiling are essential to protect those residing in the United States, but the issue is whether an ounce of protection achieved by putting a higher priority on global overseas surveillance and response capacity is worth a pound of domestic medical cure.

The failure to strengthen foreign capacity reflects the United States' tendency to give support for the treatment of particular diseases rather than invest for the long term in public health infrastructure abroad.⁴⁴ The approach persists even though viable health systems are the key to curtailing the spread of infectious disease and improving the overall health of the recipient country.

There are several reasons for limited investment in foreign public health capacity, but they are not particularly sound policy reasons. First, demonstrating the direct, quantifiable impact of bolstering overseas public health systems is difficult. Lives not lost to disease, infections prevented by early detection, and pandemics avoided by rapid containment at the source are not as easily calculated or as compelling as the immediate, measurable effects of a program that vaccinates or treats thousands or millions of patients for a particular illness. This public relations problem would be solved, of course, after a deadly pandemic, but surely

we do not need to learn that lesson the hard way. Second, system strengthening takes time to realize and appreciate. Most analysts recommend a time frame of ten to fifteen years or more for measuring systemic health impacts.⁴⁵ Policymakers in donor countries rarely think beyond the current budget or electoral cycle, however, and are unlikely to make such patient investments. Third, because funding for global health primarily reflects the popular interests of the donor rather than the needs of the recipient, U.S. foreign health expenditures do not always align with the recipient's national health plans or support the recipient's overall public health and treatment infrastructures to maximize long-run returns on foreign investment through a true partnership. Finally, despite rhetoric to the contrary, U.S. policy still reflects an insufficient appreciation of global interconnectedness. U.S. interests defined in security, welfare, diplomatic, and humanitarian terms require significant investment abroad, not just at home.

The Obama administration has heard some of these critiques. Its early policy planning, as reflected in PEPFAR's second five-year strategy document and the President's Global Health Initiative Consultative Document, appears responsive. For example, in its second five-year cycle, PEPFAR aims to "focus on transitioning from an emergency response to promoting sustainable country programs" that serve a broader health and development context.⁴⁶ Similarly, the Global Health Initiative sets out a broader set of global health priorities. Rather than focusing just on particular diseases, the initiative emphasizes upgrading the health care systems and infrastructure of recipient countries. The vision statement for the policy explains, "The GHI will help partner countries improve health outcomes through strengthened health systems with a particular focus on improving the health of women, newborns, and children through programs including infectious disease, nutrition, maternal and child health, and safe water." Although not focused on infectious disease per se, the Global Health Initiative recognizes that "Building functioning systems will, in some cases, require a new way of thinking about health investments, with increased attention to the appropriate deployment of health professionals, improved distribution of medical supplies, and improved functioning of information and logistic systems."⁴⁷ The new approach articulated in the initiative calls explicitly for a business model that encourages country ownership, invests in country-led plans, and creates sustainability through health systems improvements.

The new approach articulated in the initiative calls explicitly for a business model that encourages country ownership, invests in country-led plans, and creates sustainability through health systems improvements.

The rhetoric is right, but time will tell if resources follow. Changing the orientation of U.S. policy and implementing a system-strengthening approach to global health challenges will be a slow and uneven process. Notably, under President Obama's proposed FY 2011 budget for global health, the FETP and FELTP programs would receive significant new funding but the GDD program would receive \$37.8 million, a steady-state budget and far short of what is needed to make meaningful strides toward reaching the program's full potential.⁴⁸

Many believe that a fragmented bureaucracy and a lack of harmony among competing interests in U.S. global health policy create a major challenge to developing a new approach to global health in general and to expanding support for foreign capacity in infectious disease surveillance and response in particular. The prevailing wisdom calls for greater inter-agency consultation in global health policy and centralization of strategy under the National Security Council or other White House office.⁴⁹

True, there is no overarching coordinating mechanism across the major agencies, no plan for creating an integrated, interagency structure, and, until the Global Health Initiative, no government wide plan for meeting global health challenges. Although various agencies meet and discuss programs frequently, no one office or individual resolves conclusively which agency will lead on which issue. Coordination mechanisms do exist for particular disease initiatives, however.⁵⁰ These disease-specific coordination bodies generally receive high marks for giving a strategic focus to the programs under their jurisdiction. Further, each of the major agencies involved in shaping global health policy has its own mechanism for coordination.

Improved interagency coordination is something all can agree on in principle. In practice, however, there are many competing notions of how best to achieve broad coordination of U.S. global health policy and where best to locate the authority to resolve issues concerning overlapping agency jurisdiction. More important, centralized policymaking might help with disputes concerning interagency power sharing in Washington, but it is unlikely to be a panacea for improving support for, or the operational effectiveness of, overseas capacity with regard to infectious disease control. Moreover, centralization of policy and a common strategic framework issuing from the White House, National Security Council, or Homeland Security Council would not be without its potential pitfalls. It risks pulling authority farther away from those experts who know the medical, technical, and in-country dynamics best. These experts are more likely located in Atlanta and around the world, rather than inside the Beltway. They possess superior knowledge of programs and possibilities, an understanding of what works in different settings, and an appreciation for cost-effectiveness and sustainability. Public health professionals also stay with the issue for the long term and have fewer short-term or political motivations for the actions they recommend. Furthermore, these specialists have real, robust, and efficacious networks across governmental agencies, within the countries they operate in, and in multilateral institutions involved in the same issue area. These networks are essential to the success of health initiatives. Interagency coordination in this area is probably better “in the field,” that is, in-country, rather than in Washington. Most long-time infectious disease experts, be they in the DoD, CDC, or USAID, are mission-oriented and committed to finding ways to get the job done efficiently.⁵¹ Both civilian and military officials point to the effective teamwork between their co-located disease detection programs in the Middle East and South America, for example.⁵² Admittedly, the level of coordination varies from one country or region to the next and may turn on personal and professional relationships, but edicts from Washington are unlikely to change this reality. Coordinated reporting mechanisms would likely go farther toward promoting the adoption of the most effective practices and the elimination of redundancies.

Ironically, greater centralization and politicization of global health policy also run the risk of reducing the political effectiveness of U.S. policy designed to improve foreign capacity in infectious disease control. One of the great advantages possessed by global health professionals in this field is that they generally are not viewed as political actors. Most people implementing U.S. infectious disease control policy are medical and public health specialists and scientists who see the first order of business as “doing good public health.”⁵³ Because of their reputation for doing good work well, U.S. public health officials working this issue can play a critical and early role in many conflict or postconflict situations, as they are doing in Iraq and Afghanistan, and can enhance relations with difficult countries that would reject a more openly political overture, as is happening in Yemen and Sudan. In short, centralization could further exclude from strategy those who know the issues the best, and could compromise some of the delicate but important political dividends associated with global disease control initiatives.

Harmonization in this area should not mean that U.S. policy has a single voice, only that it works coherently. U.S. infectious disease control policies are not meant to serve one policy goal but several: national security, economic development, human rights, public diplomacy, commercial, and other goals. It is both natural and inevitable that different agencies should pursue different goals consistent with their respective core missions. For example, the DoD’s greatest concerns are ensuring the health of its troops, protecting American borders from foreign (microbial) invasion, and promoting stability in foreign nations in which the troops operate. Capacity building in public health is a means to these ends. The CDC, in contrast, gives pride of place to building sound medical practices and capacity abroad, thereby promoting healthy lives and indirectly serving national security as a consequence. Each agency

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has unique strengths in health, too. The CDC is considered to have set the gold standard in epidemiological practice and is viewed as a prestigious international partner. The DoD, by virtue of its logistical abilities, can deliver health services and build capacity in regions that might be difficult or dangerous for civilians to enter. USAID knows best how infectious disease control fits within a country's overall development objectives. Complementary mandates leverage different skills and perspectives to extend the scope and performance of U.S. policies designed to improve foreign capacity in infectious disease control, even at the risk of some duplication of efforts and jurisdictional disputes at the margin.

Recommendations

Several recommendations for strengthening the U.S. role in global infectious disease control emerge from this discussion. These recommendations are consonant with the dual goal of defending against a potential pandemic, thus securing the health of U.S. citizens, and promoting a positive dimension of U.S. global health diplomacy.

- **Match U.S. global health policy rhetoric to reality in regard to strengthening overseas capacity in infectious disease surveillance and response.** Programs such as the GDD, FETP and FELTP, and IDSR are precisely the type of long-term, system-strengthening initiatives that are the aspiration of the president's Global Health Initiative. These programs help contain disease outbreaks; transfer technical skills in epidemiology, surveillance, and health promotion to partner countries in the developing world; and establish evidence-based technical standards and procedures that make possible regional or global collaboration. Many of these programs have operated quietly and effectively for years. In addition to their successes in controlling disease spread, they generate political goodwill and promote a favorable image of the United States.⁵⁴ However, their base funding needs to be increased over existing levels.
- **Designate a percentage of disease-specific funding to be used for improving public health infrastructure in the developing world.** Because the United States dedicates considerable funding to particular diseases, a near-term transition to a system-strengthening perspective might entail allocating a percentage of disease-specific funding for use in improving core competencies in the public health infrastructure in developing areas. Such core competencies would include infectious disease control and laboratory capacity. These systems will help ensure the long-run success of disease-specific initiatives. This set-aside would assist programs such as PEPFAR to move in the directions enunciated in their strategic plans and would contribute toward realizing the aims of the Global Health Initiative.
- **Connect technical specialists and agencies knowledgeable in disease with those knowledgeable in country conditions to devise broad, overarching strategies.** The creation of an interagency committee to provide greater harmony in U.S. global health policy is potentially useful, but undue centralization may impede promoting infectious disease control systems abroad. In developing broad strategies, then, any new coordinating body should find ways to tap the expertise of those technical specialists and agencies (particularly the CDC and USAID) knowledgeable in the diseases and the country conditions.
- **Avoid politicizing the work of disease control specialists and programs.** Many disease control programs and experts have, over the years, fostered goodwill as nonpolitical actors in the countries where they work. Coordination efforts should refrain from introducing an overtly political tone to these programs.
- **Refrain from contriving a one-dimensional Washington policy consensus that fails to recognize the diverse objectives served by U.S. policies in support of infectious disease control.** A centralized policy conducted under the aegis of the White House should

avoid subjecting complex and diffuse networks of interagency and international coordination in infectious disease control to a Washington-based political compromise. Such a compromise, while producing policies more uniform in content, would likely prove less effective in practice in serving the many distinctive but interrelated goals pursued through U.S. disease control policies.

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