

The Global Dimensions of Public Health Preparedness and Implications for US Action

The globalization of public health is both real and relevant throughout the United States and to Americans traveling or residing abroad. US public policy responses are evolving, but a crisper and more comprehensive global perspective is needed.

I suggest four timely US actions to address today's competing realities of globalization and economic austerity: raise awareness among clinicians and local health departments; capture and share exemplary disaster management practices across countries; ensure that US global health investments are effective, efficient, and sustainable; and think globally while acting locally to enhance US health security.

The reauthorization of the Pandemic and All-Hazards Preparedness Act of 2006 provides an opportunity to more clearly address the global dimensions of domestic preparedness. (*Am J Public Health*. 2012;102:e1–e7. doi:10.2105/AJPH.2011.300644)

Melinda Moore, MD, MPH

“Every place on earth is both local and global. We cannot make the United States safe without making the world safe.”

—William Foege, MD, MPH,
founder of the Task Force for
Global Health

THERE IS NO ESCAPING THE global nature of public health these days. The increasing globalization of public health has clear-cut implications for the United States. Current realities mean that infected people and contaminated food and other products from any corner of the world can (and do) reach any place in the United States in just hours. Also, Americans traveling to or residing in other countries can be exposed to diseases, get sick, and bring those diseases back to the United States. Americans can also be caught in the initial impact of natural disasters occurring overseas—for example, the 2004 Asian tsunami, the 2010 Haiti earthquake, and the 2011 earthquake, tsunami, and nuclear disaster in Japan—and the subsequent public health crises that tend to follow these disasters.

In the early years following the 2001 terrorist attacks, public health emergency preparedness became a new national security priority and an important focus of public health programming to improve US capabilities to respond effectively to any event with serious public health consequences. The term was conceptualized and defined in early 2007 as

the capability of the public health and health care systems, communities, and individuals, to prevent, protect against, quickly respond to, and recover from

health emergencies, particularly those whose scale, timing, or unpredictability threatens to overwhelm routine capabilities.^{1(pS9)}

This same source also indicated that,

As much as possible, [public health emergency preparedness] should be integrated with and expand upon day-to-day public health practices and build upon existing systems, not developed de novo.^{1(pS10)}

The US Assistant Secretary for Preparedness and Response recently emphasized that public health system preparedness is the foundation for public health emergency preparedness (N. Lurie, MD, MSPH, oral communication, August 2011). Although the term “public health preparedness” has typically been equated with public health emergency preparedness, I use the former term in its broader, systems sense to underscore the importance of basic public health system capabilities as the foundation for scaling up effective public health disaster response and recovery.

In the current, global era, the weakest link in public health preparedness anywhere in the world creates vulnerability for other countries, including the United States. Such weaknesses stem from inadequate resources and core public health capacities, poor coordination and accountability, and failure to scale up known effective interventions, among other factors. Public health cooperation across borders is in every country's health security interest.

I have described the health connections between US localities

and other countries, areas of progress in addressing US public health preparedness in this new global era, and four actions to incorporate a more explicit global perspective into domestic preparedness. This is especially timely given the pending reauthorization of the Pandemic and All-Hazards Preparedness Act of 2006, which explicitly recognized those global connections, albeit in a scattered, unfocused way.

US HEALTH CONNECTIONS WITH OTHER COUNTRIES

The size, diversity, and mobility of the US population and the number of foreign visitors each year mean that the United States is necessarily part of the “global health picture.” About 358 million travelers entered the United States in 2008, including 206 million entering via land ports of entry along the US–Mexico border.² Americans face health threats, which can be of natural or deliberate origin, both at home and abroad. Pandemics and major natural disasters are high-visibility threats, but public health preparedness requires attention to the broader range of infectious and environmental threats that affect Americans every day, as well as the capabilities to effectively respond to and recover from a large-scale event.

Table 1 presents 14 examples of infectious diseases that have recently appeared in the United States and were epidemiologically linked to international sources. These diseases are unfamiliar to,

or at least uncommonly seen by, many US clinicians. Although most did not cause large outbreaks, they do underscore the importance of both clinical diagnostic acumen and public health preparedness in this country. Ten of the 14 diseases in Table 1 are among the 71 distinct illnesses and pathogens in the 2011 list of US nationally notifiable infectious conditions, for which the Centers for Disease Control and Prevention receives information on each case.²⁷ This means that reporting was likely more complete for these diseases than it was for those not on the list. Most of the 14 diseases are nearly always of international origin and occurred, but were not transmitted further, within the United States. Measles is a contrasting example: about half of all US measles cases are linked to imported cases but are acquired through domestic transmission.^{4,5} Nearly all dengue cases are imported, but occasional autochthonous cases, that is, those transmitted within the United States, have been reported in 3 states since 2001.¹⁴ Rabies and other diseases also affect individuals beyond the directly affected patients. In several instances, a larger number of potential contacts needed to be investigated, and some offered treatment or prophylaxis.^{9,15,16}

Table 2 presents four examples of food-borne illnesses or pathogens associated with imported food products in recent years, including 99 cases of *Salmonella agona* in 23 states during the first half of 2011, linked to consumption of fresh papayas imported from Mexico²⁸; 272 cases of *Salmonella montevideo* in 44 states and the District of Columbia from July 2009 through July 2010, linked to salami contaminated with spices imported from three

Asian countries²⁹; and about 4500 outbreak-associated *Cyclospora* infections from 1996 to 2008, linked to imported fresh produce, including fresh raspberries from Guatemala, mesclun from Peru, and basil from Mexico or the United States.^{33–35} The spread of multidrug-resistant *Salmonella schwarzengrund* from 1998 to 2005³⁰ is also of concern and perhaps just the tip of the iceberg with regard to the threat of the international spread of drug-resistant pathogens transmitted by a wide range of routes or vehicles, including food.

So why is a global perspective important locally throughout the United States? As suggested, all jurisdictions face the realities of foreign tourists, immigrants, refugees, imported food, and returning international travelers. For example, the United States has received about 50 000 refugees each year since 2000 from various parts of the world.³⁸ Vaccination is not required for such persons, who may also enter the United States with diseases that have the potential to spread to others. For example, the enhanced health screening of 390 of approximately 4000 Somali refugees resettling in the United States in 1997 revealed 7% with malaria parasitemia and 38% with intestinal parasites.³⁹ Tables 1 and 2 illustrate a broad range of infectious diseases detected in the United States with origins in other countries and the broad range of US jurisdictions in which they have occurred. However, Americans' exposures to hazards in other countries are not limited to infectious diseases but also include injuries and noncommunicable diseases, such as those experienced following the 2004 Asian tsunami, the 2010 Haiti earthquake, and the 2011 triple

disasters in Japan. Despite the global economic downturn, trends in trade and population mobility probably mean more, and not fewer, global public health connections in the future for local jurisdictions throughout the United States.

PROGRESS

Although it was not necessarily so just a decade ago, there is now growing recognition in the United States and elsewhere of the global nature of public health. High-profile events such as severe acute respiratory syndrome, the threat of H5N1 avian influenza, and the 2009 H1N1 influenza pandemic served as reminders of the transnational nature of infectious diseases, not only to public health and medical professionals but also to the public. In addition, recent natural disasters are reminders that anyone can suffer from injuries and noncommunicable health risks at home or abroad.

The global dimensions of public health have also become more prominent within the context of US national security. In recent years the federal government's national security framework has evolved rapidly to become increasingly explicit about addressing strategic global health threats. For example, the 2006 National Security Strategy briefly acknowledges their importance:

Public health challenges like pandemics (HIV/AIDS, avian influenza) that recognize no borders—The risks to social order are so great that traditional public health approaches may be inadequate, necessitating new strategies and responses. . . . If left unaddressed, [nontraditional security challenges including infectious diseases] can threaten national security.^{40(p47)}

The 2006 Pandemic and All-Hazards Preparedness Act comprehensively addressed national preparedness and response, leadership, public health security preparedness, all-hazards medical surge capacity, and vaccine and drug development.⁴¹ Several sections of that legislation explicitly address a global perspective, including calls for US leadership in international public health preparedness programming (section 102), development of a National Health Security Strategy (NHSS; section 103), situational awareness of public health threats both domestically and abroad (section 202), coordination of incident response with both domestic and international partners (section 304), and collaboration with international agencies, among others, in the research and development of countermeasures (section 305). The NHSS was released in 2009 and also addresses the global dimensions of national health security in 1 of its 10 objectives: "Work with cross-border and global partners to enhance national, continental, and global health security."^{42(p15)} The 2010 National Security Strategy notes:

The threat of contagious disease transcends political boundaries, and the ability to prevent, quickly detect, and contain outbreaks with pandemic potential has never been so important. . . . Addressing these transnational risks requires . . . extensive collaboration with the global community.^{43(p48–49)}

It also refers to "promoting global health security" and calls for a "comprehensive global health strategy" that will be "essential to the future security and prosperity of nations and peoples around the globe."^{43(p33)} In contrast to the 2006 strategy, the 2010 strategy makes numerous mentions of global health, epidemic and

TABLE 1—Examples of Infectious Diseases With International Sources: United States, 1987–2011

| Disease | Location | Time Frame | Description |
|--|---------------------------------|--------------------------------|--|
| Cholera ^a | FL, MA, NYC, KS, MI, NC, VA, TX | Nov 2010–Apr 2011 ³ | 23 US cases (22 from travel, 1 from food) in 6 states associated with outbreak in Hispaniola; exceeds annual US average of 6 cases, 2000–2010 |
| Measles ^a | MA, NY, TX, PA, WA, CA | Jan–Feb 2011 ⁴ | 13 imported cases in US residents; 7 of the 13 in unvaccinated infants aged 12–23 months; infant cases linked to travel to Haiti, India, Dominican Republic, Qatar, Philippines, and Nigeria |
| | US | 2001–2010 ⁴ | 604/692 (87%) cases import associated; of 604, 48% imported, 52% import linked; 54% in US residents, 46% in foreign visitors |
| | US | Jan–May 2011 ^{5–7} | 118 cases from 23 states (highest since 1996); 44% of cases imported from 15 countries (highest from France and India); 74% in returning US travelers, 26% in foreign visitors; 49% of cases associated with 9 US outbreaks in households, child care centers, shelters, schools, emergency departments, and community; 90% of cases were US residents (~85% of these cases were unvaccinated); similar to patterns in 2008 and 2009 |
| Tuberculosis ^a | US | 2010 ⁸ | 11 181 total cases; foreign-born 18.1/100 000 (60.5%) of all cases, ~7000–8000/y 1993–2008; 1.6/100 000 (39.5%) were US-born |
| Lassa fever ^a | PA | 2010 ⁹ | 1 case, traveler returning from Liberia, survived; 140 contacts investigated; 6 US-imported cases through 2010 (2 arrived asymptomatic) |
| Malaria ^a | FL, PA | 2010 ¹⁰ | 4 US flight crew members returning from Ghana |
| | US | 2010 ¹¹ | 11 cases associated with Haiti earthquake response (7 US emergency responders including 6 military responders; 3 Haitian residents; 1 US traveler); 6 of 7 US emergency responders nonadherent to chemoprophylaxis recommendations |
| | US | 2009 ¹² | 1484 cases, 4 fatal; from all states except NV; 1478 imported (77% US residents, 23% foreign visitors), 2 from transfusion, 3 possibly congenital, 1 transplant-associated; only 25% of US civilians had used any chemoprophylaxis (only 18 cases in US military); 84% with symptom onset on or after US arrival |
| Dengue ^a | GA, NE | Oct 2010 ¹³ | 7 cases among 28 missionaries returning from Haiti (following earthquake response) |
| | US | 2006–2008 ¹⁴ | 732.0 cases from 37 states; ~20% with dengue hemorrhagic fever, dengue shock syndrome or dengue with hemorrhage; average 244.0 cases/y in 2006–2008 higher than 1990–2005 annual average of 33.5 cases; US transmission rare but reported (TX: multiple years, HI: 2001–2002, FL: 2009–2010) |
| Rabies ^a | LA | 2010 ¹⁵ | Migrant farm worker, bat bite in Mexico, died; 204 contacts investigated, 95 treated with PEP; 8 of total 32 US rabies cases 2000–2008, in 5 states, were imported |
| | VA (DC, MD) | 2009 ¹⁶ | 1 case (VA) exposed to dog in India, died; 174 contacts investigated, 32 received PEP |
| | NJ | 2008 ¹⁷ | Imported rabid dog from Iraq in shipment of 24 dogs, 2 cats distributed to 16 states; investigation of animals and people in 16 states |
| Marburg hemorrhagic fever ^a | CO | 2008 ¹⁸ | 1 case in US resident traveling to Uganda; 260 contacts investigated (co-workers, health care workers) |
| Japanese encephalitis | MN, CA, WA | 2003–2008 ¹⁹ | 3 Asian immigrants returning from travel to Thailand, the Philippines, and Cambodia |
| Tick-borne encephalitis | UT, WY, CT, NYC, DC | 2000–2009 ²⁰ | 5 cases in returning US travelers (4 from Russia or Europe, 1 from China) |
| HIV-2 ^a | US | 1987–2009 ²¹ | 242 cases, 97% foreign-born; implications for diagnosis, clinical management (different from HIV-1) |
| Chikungunya fever | US | 2006 ²² | 37 confirmed imported cases in US travelers from India (87%), Sri Lanka, Zimbabwe, and Reunión |
| Monkeypox | IL, IN, KS, MO, OH, WI | 2003 ^{23,24} | 72 cases (including 51% lab confirmed); from infected pet prairie dogs housed or transported with infected Gambian giant rats imported from Ghana |
| SARS ^a | US | 2003 ^{25,26} | 418 cases from 42 states plus Puerto Rico; 344 (82%) suspect, 74 (18%) probable; travel alerts to Beijing and Mainland China, Hong Kong, Toronto, and Taiwan lifted July 1–15 |

Note. NYC = New York City; PEP = postexposure prophylaxis; SARS = severe acute respiratory syndrome.

^aOn the 2011 list of nationally notifiable infectious conditions.²⁷

TABLE 2—Examples of Imported Food-Borne Diseases: United States, 1990–2011

| Disease | Location | Time Frame | Description |
|--------------------------|--------------------|---------------------------------|--|
| Salmonella ^a | US | Jan-Jul 2011 ²⁸ | 99 cases of <i>S. Agona</i> in 23 states; linked to fresh papayas imported from Mexico; 119 cases of similar strains occurred in 14 states May–September 2010, but unable to link to source |
| | US | Jul 2009–Apr 2010 ²⁹ | 272 cases of <i>S. montevideo</i> in 44 states and DC; linked to salami with contaminated black and red pepper imported from 3 Asian countries; spices voluntarily recalled by 2 companies with documented contaminated products; 8 previous spice-associated outbreaks 1973–2009 (1656 human illnesses); 2 voluntary dried spice recalls in the 1990s and 16 in 2000–2004 |
| | US | 1998–2005 ³⁰ | International spread of multidrug-resistant <i>S. schwarzengrund</i> in food products; 45 US isolates tested for sensitivity: 17/38 human, 3/7 food or animal isolates resistant to nalidixic acid (all 3 in food from Taiwan or Thailand) |
| | US | 1990–1998 ³¹ | FDA testing of 11 312 imported seafood samples; highest positivity rates from central Pacific (especially Vietnam), Africa; 7.2% positive overall (cf. 1.3% in US samples); 10.0% positive in raw seafood (cf. 2.8%); 2.6% in cooked or ready to eat (cf. 0.46%); 12.2% positive in raw imported fish |
| Cyclospora ^a | 37 states, NYC, DC | 1997–2008 ³² | 1110 sporadic cases and ~3000 outbreak-associated cases during this period; 33.5% sporadic cases linked to international travel, including Mexico, Central America, Peru, Hispaniola, China, Indonesia, Bahamas, India, and Thailand |
| | US | 1990–1999 ^{33–35} | > 3600 cases, 177 clusters in ≥ 20 states and DC; large outbreaks linked to imported raspberries in 1996 (1465 cases) and 1997 (1012 cases); > 1 outbreak attributed each to raspberries (Guatemala, possibly also other sources), mesclun (Peru), and basil (Mexico or United States); 1 possible waterborne outbreak |
| Listeria ^a | US | 2001–2008 ³⁶ | CDC lab-based surveillance; 60 isolates from cheese imported from Mexico, Italy, Israel, Portugal, Colombia, Greece, and Spain |
| Scombroid fish poisoning | LA, TN | 2006 ³⁷ | 11 cases in 2 outbreaks; linked to tuna steaks imported from Indonesia and Vietnam; most seafood in United States is imported |

Note. CDC = Centers for Disease Control and Prevention; FDA = US Food and Drug Administration; NYC = New York City.

^aOn the 2011 list of nationally notifiable infectious conditions.²⁷

pandemic disease, global cooperation in health, and even health security. Other recent US policy frames global health within global development and frames both within the context of national security.^{44,45}

The broader global community has also increasingly recognized and addressed the globalization of public health. Experiences during the 2009 H1N1 influenza pandemic suggest progress in international cooperation related to influenza surveillance and information sharing and planning for adequate medical countermeasures such as vaccines and drugs. The coordination of pandemic responses by the United States and the entire global health community

was good in several ways, aided at least in part by the World Health Organization's recently revised International Health Regulations oriented toward the early detection and control of "public health emergencies of international concern" and the need for all countries to build and maintain the core capacities to address them.⁴⁶ Preestablished relationships among countries and relationships that individual US government staff members already had with their foreign counterparts also contributed favorably to the US pandemic response. The global community has also linked disease surveillance and response capacity building to the health security of each nation and thereby to the world.^{47–49}

FOUR AREAS FOR ACTION

Despite clear progress in addressing the global dimensions of US public health preparedness and response, more is needed. The development and wide use of new technologies will improve disease diagnosis, surveillance, and control in the United States and countries around the world. For example, wide use of rapid, point-of-care diagnostics for infectious diseases will improve the timeliness and accuracy of clinical diagnosis and public health surveillance.⁵⁰ Continued expansion of domestic and international electronic communications, the use of electronic health records, and sharing information will help

ensure that policymakers have the information they need on a timely basis and also contribute to integrated surveillance for public health action. Sufficient production and timely, wide availability of vaccines and drugs will help prevent and treat cases and control outbreaks.

There are numerous ways to address the increasingly global nature of public health and preparedness. Current economic conditions call for practical policy solutions that can be implemented in today's context of fiscal austerity. There are four areas for timely action to address the global dimensions of US preparedness.

First, sensitize more US clinicians and public health departments to the global nature of

diseases when they are treating or learning about patients with unusual illnesses, reporting cases through the surveillance system, responding to outbreaks, or helping Americans prepare for international travel. Clinicians in every corner of the country must have a sufficient index of suspicion, and their local health departments must respond appropriately to urgent case reports. Such sensitization begins in schools of medicine and public health and continues via guidance from governments and information in professional publications. Evidence suggests that performance among local health departments in receiving and responding to urgent cases reports (focusing in particular on potential bioterrorism-associated illnesses) has improved significantly in recent years in terms of reliably and promptly reaching an action officer who then takes appropriate action.^{51–53} Nonetheless, the role of the astute physician or public health department remains critical to detect diseases of foreign origin and take prompt action if needed. Tables 1 and 2 reinforce the important point that infectious diseases, among other health risks, do not strictly respect national borders; threats originating in other countries can affect Americans in this country and abroad, whether they are directly affected or are contacts of such persons.

Second, learn from the successful experiences of other countries as one means to improve US public health preparedness and disaster management. This reiterates an earlier call to institutionalize a mechanism to capture and share exemplary disaster management practices across countries.⁵⁴ Exemplary practices are not systematically captured, at least not in a searchable, user-friendly fashion.

The United States should add international exemplary practices to its own arsenal of “lessons learned” for good disaster management. Some relatively easy dots to connect would be between the federal agencies responsible for international disaster response and those responsible for domestic responses, and even the conscious effort for agencies involved in both realms to harvest lessons from their international experiences for use in US disaster preparedness, response, and recovery. Such connecting of international and domestic dots also applies to public health preparedness more broadly, to address the full global disease burden that includes communicable and noncommunicable diseases and injuries.⁵⁵

Third, ensure that US investments in global health are effective, efficient, and sustainable. The 2009 Global Health Initiative explicitly supports these aims.⁴³ This means better identifying programs and program elements that are particularly effective, cost-effective, and efficient; creating greater synergies across US government global health programming; coordinating better across federal agencies and with international partners; and seeking country ownership and sustainability. Successful global health programs and program elements should be replicated or adapted for use elsewhere. Better synergies and coordination across federal (and other) programs will undoubtedly be more efficient from an economic perspective and better received in host countries. Even in this time of economic austerity, wise US investments in effective, efficient, sustainable global health and public health preparedness programming will produce returns on those investments, from both

a health and economic perspective; they will help improve US and global collective health security and minimize the consequences of both routine and low probability but high consequence health-related events. As the 2010 National Security Strategy points out, such investments are also driven by America’s moral interest in doing the right thing.⁴¹

Fourth, think globally while acting locally. US policymakers are well advised to seize every opportunity to explicitly address the global dimensions of US public health preparedness and national health security as they conceptualize and operationalize US policy. This applies to public health preparedness in its broadest sense—addressing the full spectrum of the global disease burden—and to the narrower focus on disasters. For the latter, the NHSS, Global Health Initiative, National Security Strategy, Presidential Policy Directive for Global Development, and forthcoming NHSS Implementation Plan provide a solid start. The reauthorization of the Pandemic and All-Hazards Preparedness Act of 2006 provides a critical opportunity to bring a crisper and more comprehensive global perspective to US preparedness. The bill introduced in the House of Representatives contains no mention of internationally oriented action.⁵⁶ The legislation could be strengthened with a section focused exclusively on the global dimensions. It could reiterate the international components scattered through different sections of the original legislation: the need for effective US cooperation with global partners for situational awareness, public health preparedness, and incident response. It could also call for three new actions. First, “de-silo” and enhance information across

federal agencies by creating a mechanism to organize information on diseases, health capacities and capabilities, and US and non-US organizations working in all countries worldwide. This would greatly enhance situational awareness and enable better leveraging of US resources. Second, call for US coordination with other countries and agencies to help less developed countries build the core capacities called for in the International Health Regulations. Third, create the mechanisms to systematically learn from successful disaster management experiences across countries.

The United States is well poised to “think globally while acting locally” and “think locally while acting globally.” Both conceptual approaches will improve public health preparedness in this country and worldwide by explicitly tying US global health engagements to our own national health security—thereby more fully harnessing the global dimensions of public health preparedness into US policy and action.

About the Author

Melinda Moore is the associate director for global public health at the RAND Corporation, Arlington, VA.

Correspondence should be sent to Melinda Moore, MD, MPH, RAND Corporation, 1200 South Hayes St., Arlington, VA 22202 (e-mail: mmoore@rand.org). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

This article was accepted December 13, 2011.

Acknowledgments

This article derives, in part, from a set of projects that were supported by the Office of the Assistant Secretary for Preparedness and Response within the US Department of Health and Human Services (contract HHSP233200800565G).

References

1. Nelson C, Lurie N, Wasserman J, Zakowski S. Conceptualizing and defining

- public health emergency preparedness. *Am J Public Health*. 2007;97(suppl 1):S9–S11.
2. Centers for Disease Control and Prevention. Public health surveillance using emergency medical service logs—U.S.—Mexico land border, El Paso, Texas, 2009. *MMWR Morb Mortal Wkly Rep*. 2010;59(21):649–653.
 3. Newton AE, Heiman KE, Schmitz A, et al. Cholera in United States associated with epidemic in Hispaniola. *Emerg Infect Dis*. 2011;17(11):2166–2168.
 4. Centers for Disease Control and Prevention. Measles imported by returning U.S. travelers aged 6–23 months, 2001–2011. *MMWR Morb Mortal Wkly Rep*. 2011;60(13):397–400.
 5. Centers for Disease Control and Prevention. Measles—United States, January–May 20, 2011. *MMWR Morb Mortal Wkly Rep*. 2011;60(20):666–668.
 6. Centers for Disease Control and Prevention. Summary of notifiable diseases—United States, 2009. *MMWR Morb Mortal Wkly Rep*. 2009;58(53):1–100.
 7. Centers for Disease Control and Prevention. Update: Measles—United States, January–July 2008. *MMWR Morb Mortal Wkly Rep*. 2008;57(33):893–896.
 8. Centers for Disease Control and Prevention. Trends in tuberculosis—United States, 2010. *MMWR Morb Mortal Wkly Rep*. 2011;60(11):333–337.
 9. Amorosa V, MacNeil A, McConnell R, et al. Imported Lassa fever, Pennsylvania, USA, 2010. *Emerg Infect Dis*. 2010;16(10):1598–1600.
 10. Centers for Disease Control and Prevention. Malaria imported from West Africa by flight crews—Florida and Pennsylvania, 2010. *MMWR Morb Mortal Wkly Rep*. 2010;59(43):1412.
 11. Centers for Disease Control and Prevention. Malaria acquired in Haiti—2010. *MMWR Morb Mortal Wkly Rep*. 2010;59(8):217–219.
 12. Centers for Disease Control and Prevention. Malaria surveillance—United States, 2009. *MMWR Morb Mortal Wkly Rep*. 2011;60(3):1–15.
 13. Centers for Disease Control and Prevention. Dengue virus infections among travelers returning from Haiti—Georgia and Nebraska, October 2010. *MMWR Morb Mortal Wkly Rep*. 2011;60(27):914–917.
 14. Centers for Disease Control and Prevention. Travel-associated dengue surveillance—United States, 2006–2008. *MMWR Morb Mortal Wkly Rep*. 2010;59(23):715–719.
 15. Centers for Disease Control and Prevention. Human rabies from exposure to a vampire bat in Mexico—Louisiana, 2010. *MMWR Morb Mortal Wkly Rep*. 2011;60(31):1050–1052.
 16. Centers for Disease Control and Prevention. Human rabies—Virginia, 2009. *MMWR Morb Mortal Wkly Rep*. 2010;59(38):1236–1238.
 17. Centers for Disease Control and Prevention. Rabies in a dog imported from Iraq—New Jersey, June 2008. *MMWR Morb Mortal Wkly Rep*. 2008;57(39):1076–1078.
 18. Centers for Disease Control and Prevention. Imported case of Marburg hemorrhagic fever—Colorado, 2008. *MMWR Morb Mortal Wkly Rep*. 2009;58(49):1377–1381.
 19. Centers for Disease Control and Prevention. Japanese encephalitis among three U.S. travelers returning from Asia, 2003–2008. *MMWR Morb Mortal Wkly Rep*. 2009;58(27):737–740.
 20. Centers for Disease Control and Prevention. Tick-borne encephalitis among U.S. travelers to Europe and Asia—2000–2009. *MMWR Morb Mortal Wkly Rep*. 2010;59(11):335–338.
 21. Centers for Disease Control and Prevention. HIV-2 infection surveillance—United States, 1987–2009. *MMWR Morb Mortal Wkly Rep*. 2011;60(29):985–988.
 22. Centers for Disease Control and Prevention. Update: Chikungunya fever diagnosed among international travelers—United States, 2006. *MMWR Morb Mortal Wkly Rep*. 2007;56(12):276–277.
 23. Bernard SM, Anderson SA. Qualitative assessment of risk for monkeypox associated with domestic trade in certain animal species, United States. *Emerg Infect Dis*. 2006;12(12):1827–1833.
 24. Centers for Disease Control and Prevention. Update: multistate outbreak of monkeypox—Illinois, Indiana, Kansas, Missouri, Ohio, and Wisconsin, 2003. *MMWR Morb Mortal Wkly Rep*. 2003;52(27):642–646.
 25. Centers for Disease Control and Prevention. Update: severe acute respiratory syndrome—worldwide and United States, 2003. *MMWR Morb Mortal Wkly Rep*. 2003;52(28):664–665.
 26. Centers for Disease Control and Prevention. Update: severe acute respiratory syndrome—United States, 2003. *MMWR Morb Mortal Wkly Rep*. 2003;52(26):616.
 27. Centers for Disease Control and Prevention. *Nationally Notifiable Infectious Conditions, United States*, 2011. Available at: http://www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis2011.htm. Accessed August 22, 2011.
 28. Centers for Disease Control and Prevention. *Investigation Update: Multistate Outbreak of Human Salmonella Agona Infections Linked to Whole, Fresh Imported Papayas; July 26, 2011*. Available at: <http://www.cdc.gov/salmonella/agona-papayas/072611/index.html>. Accessed August 22, 2011.
 29. Centers for Disease Control and Prevention. *Salmonella montevideo* infections associated with salami products made with contaminated imported black and red pepper—United States, July 2009–April 2010. *MMWR Morb Mortal Wkly Rep*. 2010;59(50):1647–1650.
 30. Aarestrup FM, Hendriksen RS, Lockett J, et al. International spread of multidrug-resistant *Salmonella schwarzengrund* in food products. *Emerg Infect Dis*. 2007;13(5):726–731.
 31. Heintz ML, Ruble RD, Wagner DE, Tatini SR. Incidence of *Salmonella* in fish and seafood. *J Food Prot*. 2000;63(5):579–592.
 32. Centers for Disease Control and Prevention. Surveillance for laboratory-confirmed sporadic cases of cyclosporiasis—United States, 1997–2008. *MMWR Surveill Summ*. 2011;60(2):1–11.
 33. Herwaldt BL. *Cyclospora cayentanensis*: a review, focusing on the outbreaks of *Cyclosporiasis* in the 1990s. *Clin Infect Dis*. 2000;31(4):1040–1057.
 34. Herwaldt BL, Beach MJ; Cyclospora Working Group. The return of *Cyclospora* in 1997: another outbreak of cyclosporiasis in North America associated with imported raspberries. *Ann Intern Med*. 1999;130(3):210–220.
 35. Herwaldt BL, Ackers ML; Cyclospora Working Group. An outbreak in 1996 of cyclosporiasis associated with imported raspberries. *N Engl J Med*. 1997;336(22):1548–1556.
 36. Timbo BB, Keys C, Klontz K. Characterization of *Listeria monocytogenes* recovered from imported cheese contributed to the National PulseNet Database by the U.S. Food and Drug Administration from 2001 to 2008. *J Food Prot*. 2010;73(8):1511–1514.
 37. Centers for Disease Control and Prevention. Scombroid fish poisoning associated with tuna steaks—Louisiana and Tennessee, 2006. *MMWR Morb Mortal Wkly Rep*. 2007;56(32):817–819.
 38. Centers for Disease Control and Prevention. Cost of vaccinating refugees overseas versus after arrival in the United States. *MMWR Morb Mortal Wkly Rep*. 2008;57(9):229–232.
 39. Miller JM, Boyd HA, Ostrowski SR, et al. Malaria, intestinal parasites, and schistosomiasis among Barawan Somali refugees resettling to the United States: a strategy to reduce morbidity and decrease the risk of imported infections. *Am J Trop Med Hyg*. 2000;62(1):115–121.
 40. White House. *The National Security Strategy of the United States of America*; March 2006. Available at: <http://www.dam.army.pentagon.mil/site/dig/documents/NationalSecurityStrategy-MAR06.pdf>. Accessed August 22, 2011.
 41. Pandemic and All-Hazards Preparedness Act. Pub L. No. 109–417. 109th Congress. (December 19, 2006).
 42. US Department of Health and Human Services. *National Health Security Strategy of the United States of America*; December 2009. Available at: <http://www.phe.gov/Preparedness/planning/authority/nhss/strategy/Documents/nhss-final.pdf>. Accessed August 22, 2011.
 43. White House. *National Security Strategy*; May 2010. Available at: http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf. Accessed August 22, 2011.
 44. White House. *Fact Sheet: U.S. Global Development Policy*; September 2010. Available at: <http://www.fas.org/irp/offdocs/ppd/global-dev.pdf>. Accessed August 30, 2011.
 45. White House. *The United States Global Health Initiative: Strategy Document*; May 2009. Available at: <http://www.pepfar.gov/documents/organization/136504.pdf>. Accessed August 30, 2011.
 46. World Health Organization. *International Health Regulations (2005)*, 2nd ed. Geneva, Switzerland; 2008. Available at: http://whqlibdoc.who.int/publications/2008/9789241580410_eng.pdf. Accessed April 21, 2011.
 47. World Health Organization. *The World Health Report 2007—A Safer Future: Global Health Security in the 21st Century*. Geneva, Switzerland; 2007. Available at: http://www.who.int/whr/2007/whr07_en.pdf. Accessed October 27, 2011.
 48. United Nations. *Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction: Report of the Meeting of Experts*. BWC/MSP/2009/MX/3. Geneva; October 16, 2009. Available at: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G09/641/59/PDF/G0964159.pdf?OpenElement>. Accessed November 2, 2011.
 49. United Nations. *Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction: Report of the Meeting of States Parties*. BWC/MSP/2009/5. Geneva; December 16, 2009. Available at: <http://www.unog.ch/80256EDD006B8954/%28httpAssets%29/096093374786DBDCC>

12576AC00595BC8/\$file/BWC_MSP_2009_05.pdf. Accessed November 2, 2011.

50. Bill and Melinda Gates Foundation. Determining the global health impact of improved diagnostic technologies for the developing world. *Nature*. 2006;S1:1–79.

51. Dausey DJ, Lurie N, Diamond A. Public health response to urgent case reports. *Health Aff (Millwood)*. 2005; (suppl web exclusives):W5–412–419.

52. Dausey DJ, Chandra A, Shaefer AG, et al. Measuring the performance of telephone-based disease surveillance systems in local health departments. *Am J Public Health*. 2008;98(9):1706–1711.

53. Centers for Disease Control and Prevention. *Public Health Preparedness: Strengthening the Nation's Emergency Response State by State—A Report on CDC-Funded Preparedness and Response Activities in 50 States, 4 Cities and 8 U.S. Insular Areas*; September 2010. Available at: http://www.bt.cdc.gov/publications/2010phprep/pdf/complete_PHPREP_report.pdf. Accessed November 8, 2011.

54. Moore M, Trujillo HR, Stearns BK, Basurto-Dávila R, Evans DK. Learning from exemplary practices in international disaster management: a fresh avenue to inform U.S. policy? *J. Homeland Security Emergency Management*. 2009;6(1):1–38.

55. World Health Organization. *The Global Burden of Disease: 2004 Update*. Geneva, Switzerland; 2008. Available at: http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf. Accessed November 9, 2011.

56. Pandemic and All-Hazards Reauthorization Act of 2011. HR 2405. 112th Congress. June 28, 2011. Available at: <http://www.govtrack.us/congress/billtext.xpd?bill=h112-2405>. Accessed November 2, 2011.