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# PUBLIC HEALTH PREPAREDNESS

# Response Capacity Improving, but Much Remains to Be Accomplished

Statement of Janet Heinrich
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GAO-04-458T

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# Highlights

Highlights of GAO-04-458T, a testimony before the Committee on Government Reform, House of Representatives

# PUBLIC HEALTH PREPAREDNESS

# Response Capacity Improving, but Much Remains to Be Accomplished

## Why GAO Did This Study

The anthrax incidents in the fall of 2001 and the severe acute respiratory syndrome (SARS) outbreak in 2002-2003 have raised concerns about the nation's ability to respond to a major public health threat, whether naturally occurring or the result of bioterrorism. The anthrax incidents strained the public health system, including laboratory and workforce capacities, at the state and local levels. The SARS outbreak highlighted the challenges of responding to new and emerging infectious disease. The current influenza season has heightened concerns about the nation's ability to handle a pandemic.

GAO was asked to examine improvements in state and local preparedness for responding to major public health threats and federal and state efforts to prepare for an influenza pandemic.

This testimony is based on GAO's recent report, *HHS Bioterrorism Preparedness Programs: States Reported Progress but Fell Short of Program Goals for 2002*, GAO-04-360R (Feb. 10, 2004). This testimony also updates information contained in GAO's report on federal and state planning for an influenza pandemic, *Influenza Pandemic: Plan Needed for Federal and State Response*, GAO-01-4 (Oct. 27, 2000).

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## What GAO Found

Although states have further developed many important aspects of public health preparedness, since April 2003, no state is fully prepared to respond to a major public health threat. States have improved their disease surveillance systems, laboratory capacity, communication capacity, and workforce needed to respond to public health threats, but gaps in each remain. Moreover, regional planning between states is lacking, and many states lack surge capacity—the capacity to evaluate, diagnose, and treat the large numbers of patients that would present during a public health emergency. Although states are developing plans for receiving and distributing medical supplies and material for mass vaccinations from the Strategic National Stockpile in the event of a public health emergency, most of these plans are not yet finalized.

HHS has not published the federal influenza pandemic plan, and most of the state plans have not been finalized. In 2000, GAO recommended that HHS complete the national plan for responding to an influenza pandemic, but according to HHS, the plan is still under review. Absent a federal plan, key questions about the federal role in the purchase, distribution, and administration of vaccines and antiviral drugs during a pandemic remain unanswered. HHS reports that most states continue to develop their state plans despite the lack of a federal plan.

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to be here today to discuss the work we have done pertaining to the nation's preparedness to manage major public health threats. The anthrax incidents in the fall of 2001, the SARS[1] outbreak in 2002-2003, and the recent incidents involving ricin have raised concerns about the nation's ability to respond to a major public health threat, whether naturally occurring or the result of bioterrorism. The anthrax incidents strained the public health system, including surveillance[2] and laboratory capacities as well as the workforce, at the state and local levels.[3] The SARS outbreak highlighted the challenges in responding to new and emerging infectious disease—especially when the ability to identify the disease and a vaccine for preventing it are lacking.[4] The current influenza season has heightened concerns about our nation's ability to handle a pandemic.[5] The Congress has recognized the need to strengthen the nation's ability to respond to such threats and has increased appropriations for federal, state, and local public health preparedness efforts. The Department of Health and Human Services (HHS) has been developing a national plan for responding to an influenza pandemic.

As you requested, to assist the Committee in its consideration of our nation's ability to respond to a major public health threat, whether naturally occurring or the result of bioterrorism, my remarks today will focus on (1) state and local preparedness for responding to major public health threats and (2) federal and state efforts to prepare for an influenza pandemic.

[1]SARS is the abbreviation for severe acute respiratory syndrome.

[2]Public health surveillance uses systems that provide for the ongoing collection, analysis, and dissemination of health-related data to identify, prevent, and control disease.

[3]See U.S. General Accounting Office, *Bioterrorism: Public Health Response to Anthrax Incidents of 2001*, GAO-04-152 (Washington, D.C.: Oct. 15, 2003).

[4]See U.S. General Accounting Office, *SARS Outbreak: Improvements to Public Health Capacity Are Needed for Responding to Bioterrorism and Emerging Infectious Diseases*, GAO-03-769T (Washington, D.C.: May 7, 2003).

[5]Pandemics are worldwide epidemics. Influenza pandemics can have successive "waves" of disease and last for up to 3 years. Three pandemics occurred in the 20th century: the "Spanish flu" of 1918, which killed at least 20 million people worldwide; the "Asian flu" of 1957; and the "Hong Kong flu" of 1968.

My testimony today updates testimony that we provided to you in April 2003[6] and is based largely on work we conducted for our recently released report on HHS's programs that support state and local preparedness for bioterrorism and other public health threats.[7] For that report, we reviewed each state's progress report[8] on the use of bioterrorism preparedness funding distributed in 2002 by HHS's Centers for Disease Control and Prevention (CDC) and Health Resources and Services Administration (HRSA). The progress reports covered the period through August 30, 2003, for CDC's program and through July 1, 2003, for HRSA's program. For that report we also interviewed officials from 10 states, 1 local health department within each of these states, and 2 major metropolitan areas directly funded by CDC and HRSA. My testimony today also updates information provided in our October 2000 report on federal and state planning for an influenza pandemic.[9] To update that information, in February 2004, we spoke with officials from CDC and HHS's National Vaccine Program Office. We conducted our work in accordance with generally accepted government auditing standards.

In summary, although states have further developed many important aspects of public health preparedness, since I testified before you in April 2003, no state is fully prepared to respond to a major public health threat. States have improved their disease surveillance systems, laboratory capacity, communication capacity, and workforce needed to respond to public health threats, but gaps in each remain. Moreover, regional planning between states is lacking, and many states lack surge capacity—the capacity to evaluate, diagnose, and treat the large numbers of patients that would present during a public health emergency. Although states are developing plans for receiving and distributing medical supplies and material for mass vaccinations from the Strategic National Stockpile in the event of a public, most of these plans are not yet finalized.

[6]U.S. General Accounting Office, *Infectious Disease Outbreaks: Bioterrorism Preparedness Efforts Have Improved Public Health Response Capacity, but Gaps Remain*, GAO-03-654T (Washington, D.C.: Apr. 9, 2003).

[7]U.S. General Accounting Office, *HHS Bioterrorism Preparedness Programs: States Reported Progress but Fell Short of Program Goals for 2002*, GAO-04-360R (Washington, D.C.: Feb. 10, 2004).

[8]The progress reports were for the 50 states, the District of Columbia, and the nation's three largest municipalities (New York City, Chicago, and Los Angeles County).

[9]U.S. General Accounting Office, *Influenza Pandemic: Plan Needed for Federal and State Response*, GAO-01-4 (Washington, D.C.: Oct. 27, 2000).

HHS has not published the federal influenza pandemic plan, and most of the state plans for influenza have not been finalized. In 2000, we recommended that HHS complete the national plan for responding to an influenza pandemic, but according to HHS, the plan is still under review. Absent a federal plan, key questions about the federal role in the purchase, distribution, and administration of vaccines and antiviral drugs during a pandemic remain unanswered. HHS reports that most states continue to develop their state plans despite the lack of a federal plan.

## Background

The initial response to a public health emergency—for instance an outbreak of an infectious disease—generally occurs at the local and state levels and could involve disease surveillance, laboratory testing, epidemiologic investigation,[10] communication, and health care treatment. As a public health emergency develops, each plays a critical role in an effective response. Local and state health departments collect and monitor data, such as reports from clinicians, for disease trends and evidence of an outbreak. Laboratory personnel test clinical and environmental samples for possible exposures and identification of illnesses. Epidemiologists in the health departments use disease surveillance systems to detect clusters of suspicious symptoms or diseases in order to facilitate early detection of disease and treatment of victims. Public health officials provide needed information to the clinical community, other responders, and the public and implement control measures to prevent additional cases from occurring. Health care providers treat patients and limit the spread of infectious disease. All these response activities require a workforce that is sufficiently skilled and adequate in number.

The federal government provides funding and resources to state and local entities to support preparedness and response efforts. For example, in fiscal year 2002 CDC's Public Health Preparedness and Response for Bioterrorism cooperative agreement[11] program provided approximately $918 million to states to improve bioterrorism preparedness and response as well as other public health emergency preparedness capacities. Similarly, HRSA's Bioterrorism Hospital Preparedness cooperative

[10]Epidemiology is the study of how disease is distributed in populations and the factors that influence or determine this distribution.

[11]A cooperative agreement is used as a mechanism to provide financial support for a particular activity when substantial interaction is expected between the executive agency and a state, local government, or other recipient carrying out the funded activity.

agreement program provided approximately $125 million to states in fiscal year 2002 to enhance the capacity of hospitals and associated health care entities to respond to bioterrorist attacks. HHS renewed these cooperative agreements for the period of August 31, 2003 through August 30, 2004. For these renewed agreements, CDC's program and HRSA's program distributed about $870 million and about $498 million, respectively. Among the other resources that the federal government provides is the Strategic National Stockpile, which contains pharmaceuticals and medical supplies that can be delivered to the site of a public health emergency anywhere in the United States within 12 hours of the decision to deploy them.

The federal government also supports preparedness efforts for an influenza pandemic. HHS's National Vaccine Program Office is responsible for the development of federal plans for vaccine and immunization activities and coordinating these efforts among federal agencies. To foster state and local planning, HHS issued interim planning guidance for the states in 1997 that outlined general federal and state responsibilities during an influenza pandemic. HHS expects that if a pandemic occurs, both the vaccines that are used to prevent influenza and the antiviral drugs that are used to treat influenza will be in short supply.[12] The guidance discussed certain key issues related to limited supplies of the influenza vaccine and antiviral drugs—for instance the amount of vaccine and antiviral drugs that will be purchased at the federal level; the division of responsibility between the public and private sectors for the purchase, distribution, and administration of these supplies during a pandemic; and priorities for vaccinating population groups, such as health workers and public health personnel involved in the pandemic response, and persons traditionally considered to be at increased risk of severe influenza illness and mortality.

[12]These shortages are expected because demand would exceed current rates of production and because manufacturers report that increasing the production capacity of antiviral drugs can take at least 6 to 9 months.

## States Have Further Developed Important Aspects of Public Health Preparedness, but Additional Work Is Needed

States reported that as of the summer of 2003 they have made improvements in their preparedness to respond to major public health threats, but no aspect of preparedness has been fully addressed by all of the states.[13] Specifically, although states have strengthened their disease surveillance systems, laboratory capacity, communications, workforce, surge capacity, regional coordination across state borders, and readiness to utilize the Strategic National Stockpile, all of these important aspects of preparedness require additional work.

### Disease Surveillance Systems

Although some states have made improvements to their disease surveillance systems, the nation's ability to detect and report a disease outbreak is not uniformly strong across all states. For example, about half of the states reported that their health departments are capable of receiving and evaluating urgent disease reports on a 24-hour-per-day, 7-day-per-week basis; however, few states reported having the ability to rapidly detect an outbreak of an influenza-like illness in the state. Similarly, few states reported efforts to strengthen links between their public health and animal surveillance systems[14] and the veterinary community in order to monitor diseases in animals that may be spread to humans, such as the West Nile virus.[15]

### Laboratory Capacity

States have increased their capacity to test and identify specimens and improve laboratory security, although laboratory capacity is not uniformly robust in all states. All states participate in CDC's Laboratory Response Network, a network of local, state, federal, and international laboratories that are equipped to respond to biological and chemical terrorism, emerging infectious diseases and other public health threats. However, only about half of the states reported that they have at least one public health laboratory within the state that has the appropriate instrumentation and appropriately trained staff to conduct certain tests for rapidly

[13]In this section, "state" refers to the 50 states, the District of Columbia, New York City, Chicago and Los Angeles County.

[14]Animal health surveillance involves the collection, evaluation, and interpretation of data to provide timely and accurate detection, diagnosis, prevention, and control of diseases in animals.

[15]For more information, see U.S. General Accounting Office, *West Nile Virus Outbreak: Lessons for Public Health Preparedness*, GAO/HEHS-00-180 (Washington, D.C.: Sept. 11, 2000).

detecting and correctly identifying biological agents. About half of the states reported that they had a facility with a biosafety level sufficient to handle such agents as anthrax.[16] About half the states also reported that laboratory security within the state is consistent with HHS guidelines, which include recommendations for protecting laboratory personnel and preventing the unauthorized removal of dangerous biologic agents from the laboratory.

## Communication

Although improving, communication, both among those involved in responding to a major public health threat—such as public health officials, health care providers, and emergency management agencies—and with the public, remains a challenge. CDC's Health Alert Network has been expanded—most of the states reported that the local health departments that cover at least 90 percent of their populations are involved in this network.[17] However, many states reported that they were still in the process of assessing their communication needs. Although about half the states have a plan for educating the public about the risks posed by bioterrorism and other public health threats, few states have mechanisms in place for communicating with the general public during an incident about such issues as when it is necessary to go to the hospital.

## Workforce

States have increased the number of personnel essential to public health preparedness, but concerns about workforce shortages remain. Most of the states reported that the bioterrorism preparedness funding from CDC allowed each to appoint an executive director of its bioterrorism preparedness and response program, to designate a response coordinator, and to hire at least one epidemiologist for each metropolitan area with a population greater than 500,000. However, most states continue to have staffing concerns. As we have reported previously,[18] some state and local health officials have had difficulty finding and hiring epidemiologists and

[16]Biosafety measures the degree of protection a laboratory offers to personnel, the environment, and the community.

[17]The Health Alert Network is a nationwide program designed to ensure communication capacity at all state and local health departments. This network enables local health departments to receive health alerts and other information from CDC and state health departments.

[18]U.S. General Accounting Office, *Bioterrorism: Preparedness Varied across State and Local Jurisdictions*, GAO-03-373 (Washington, D.C.: Apr. 7, 2003); GAO-04-360R; GAO-03-654T.

laboratory personnel. The ability to hire and retain personnel in these areas is still a concern for state and local health officials, who identify workforce shortages as a long-term challenge to their preparedness efforts.

## Surge Capacity

Most states lack surge capacity—that is, the capacity to respond to the large influx of patients that could occur during a public health emergency. For example, few states reported that they had the capacity to evaluate, diagnose, and treat 500 or more patients involved in a single incident. Furthermore, no state reported having protocols in place for augmenting personnel in response to large influxes of patients, and few states reported having plans for sharing clinical personnel among hospitals. In addition, few states reported having the capacity to rapidly establish clinics to immunize or provide treatment to large numbers of patients.

## Regional Planning

Few states have regional plans in place that would coordinate the response among states during a public health emergency, and state officials remain concerned about a lack of regional planning across state borders. Few states have completed regional response plans for incidents of bioterrorism and other public health threats and emergencies. Most of the states that do have such plans have not established training programs to support their plans or mechanisms to test their plans.

## Strategic National Stockpile

Most state plans for using the Strategic National Stockpile in the event of a public health emergency have not been fully developed. All states have prepared preliminary plans for the receipt and management of stockpile materials, but only about a third of the states have plans that outline how they would distribute antibiotics, chemical/nerve agent antidotes, and other materials to areas within the state.

## The Federal Influenza Plan Has Not Been Finalized, but State Planning and Other Efforts Continue

Federal officials have not finalized plans for responding to an influenza pandemic, and state influenza pandemic response plans are in various stages of completion.

As we have reported previously,[19] federal officials have drafted but not finalized the federal influenza pandemic plan. In 2000, we recommended that HHS complete the national plan for responding to an influenza pandemic, but HHS reported recently that the plan was still under review within HHS. However, HHS is taking other steps to prepare for an influenza pandemic. For example, CDC has increased the supply of ventilators and added an antiviral drug to the Strategic National Stockpile. HHS is also coordinating with other federal partners, such as the Department of Agriculture, to improve the nation's ability to respond to public health emergencies involving the veterinary and agricultural sectors.

Despite the absence of a finalized, federal response plan for an influenza pandemic, states are developing their own response plans. According to HHS officials, as of February 2004, 15 states have final or draft plans, and 34 states are actively working on plans. In these plans, states have had to make assumptions about what the federal role during an influenza pandemic will be. It is still unclear whether the private sector, the public sector, or both will have responsibility for purchasing and distributing vaccines and antiviral drugs. Some states have assumed that vaccine supply will be under the control of the federal government, while others have assumed that it will not. States have also made different assumptions about who will pay for vaccines, antiviral medications, and related supplies.

## Concluding Observations

States have taken many actions to improve their ability to respond to a major public health threat, but no state has reported being fully prepared. Federal plans for the purchase, distribution, and administration of vaccines and drugs in response to an influenza pandemic still have not been finalized, complicating the efforts of states to develop their state plans and heightening concern about our nation's ability to respond effectively to an influenza pandemic. States are more prepared now, but much remains to be accomplished.

[19] GAO-01-4; GAO-03-654T.

Mr. Chairman, this completes my prepared statement. I would be happy to respond to any questions you or other Members of the Committee may have at this time.

## Contact and Acknowledgments

For further information about this testimony, please contact Janet Heinrich at (202) 512-7119. Angela Choy, Maria Hewitt, Krister Friday, Nkeruka Okonmah, and Michele Orza also made key contributions to this statement.

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