



Testimony

Before the Committee on Government Reform, House of Representatives

For Release on Delivery  
Expected at 10:00 a.m.  
Wednesday, April 9, 2003

**INFECTIOUS DISEASE  
OUTBREAKS**

**Bioterrorism Preparedness  
Efforts Have Improved  
Public Health Response  
Capacity, but Gaps Remain**

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Highlights of [GAO-03-654T](#), a testimony before the Committee on Government Reform, House of Representatives

## Why GAO Did This Study

Following the bioterrorist events of the fall of 2001, there has been concern that the nation may not be prepared to respond to a major public health threat, such as the current outbreak of Severe Acute Respiratory Syndrome (SARS). Whether a disease outbreak occurs naturally or is due to the intentional release of a harmful biological agent by a terrorist, much of the initial response would occur at the local level, particularly hospitals and their emergency departments. Efforts to plan for worldwide influenza pandemics are useful for understanding public health preparedness for other large-scale outbreaks.

GAO was asked to examine (1) the preparedness of state and local public health agencies and organizations for responding to a large-scale infectious disease outbreak, (2) the preparedness of hospitals for responding to a large-scale infectious disease outbreak, and (3) federal and state efforts to prepare for an influenza pandemic.

This testimony is based on GAO's report, *Bioterrorism: Preparedness Varied across State and Local Jurisdictions*, [GAO-03-373](#) (Apr. 7, 2003), a survey of hospitals GAO conducted to assess their level of emergency preparedness, and information updating GAO's prior 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).

[www.gao.gov/cgi-bin/getrpt?GAO-03-654T](http://www.gao.gov/cgi-bin/getrpt?GAO-03-654T).

To view the full report, including the scope and methodology, click on the link above. For more information, contact Janet Heinrich at (202) 512-7119.

# INFECTIOUS DISEASE OUTBREAKS

## Bioterrorism Preparedness Efforts Have Improved Public Health Response Capacity, but Gaps Remain

### What GAO Found

The efforts of state and local public health agencies to prepare for a bioterrorist attack have improved the nation's capacity to respond to infectious disease outbreaks and other major public health threats, but gaps in preparedness remain. GAO found workforce shortages and gaps in disease surveillance and laboratory facilities. The level of preparedness varied across cities GAO visited. Jurisdictions that have had multiple prior experiences with public health emergencies were generally more prepared than others. GAO found that regional planning was generally lacking between states but that states were developing their own plans for receiving and distributing medical supplies for emergencies, as well as plans for mass vaccinations in the event of a public health emergency.

GAO found that many hospitals lack the capacity to respond to large-scale infectious disease outbreaks. Most hospitals across the country reported participating in basic planning activities for large-scale infectious disease outbreaks and training staff about biological agents. However, most hospitals lack adequate equipment, isolation facilities, and staff to treat a large increase in the number of patients that may result.

Federal and state officials have not finalized plans for responding to pandemic influenza. These plans do not consistently address problems related to the purchase, distribution, and administration of supplies of vaccines and antiviral drugs that may be needed during a pandemic.

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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 initial response to an outbreak of infectious disease would occur at the local level, with support from the state, whether the outbreak was naturally occurring or due to the intentional release of a harmful biological agent by a terrorist. Just as in a bioterrorist attack, a naturally occurring outbreak could involve public health officials in disease surveillance,<sup>1</sup> epidemiologic investigation,<sup>2</sup> health care delivery, and quarantine management. Because of prior worldwide influenza outbreaks—known as pandemics<sup>3</sup>—federal and state agencies have focused special attention on planning how to address such events, and these efforts are useful for understanding public health preparedness for other large-scale outbreaks. The outbreak of Severe Acute Respiratory Syndrome (SARS)<sup>4</sup> has not infected large numbers of individuals in the United States, but it has raised concerns about the nation's preparedness should it, or other infections, reach pandemic proportions.

Following the bioterrorist events of the fall of 2001, Congress expressed concern that the nation may not be prepared to respond to a major public health threat such as a large-scale outbreak of an infectious disease. State and local response agencies and organizations have recognized the need to strengthen their infrastructure and capacity to respond to a bioterrorist attack. The improvements they are making will also strengthen their ability to identify and respond to other major public health threats, including naturally occurring large-scale infectious disease outbreaks.

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<sup>1</sup>Disease surveillance uses systems that provide for the ongoing collection, analysis, and dissemination of health-related data to identify, prevent, and control disease.

<sup>2</sup>An epidemiologic investigation seeks to determine how a disease is distributed in a population and the factors that influence or determine this distribution.

<sup>3</sup>Influenza pandemics are worldwide influenza epidemics that can have successive "waves" of disease and last for up to 3 years. Three pandemics occurred in the twentieth 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.

<sup>4</sup>SARS is a respiratory illness that has recently been reported principally in Asia, Europe, and North America. As of April 7, 2003, there were an estimated 2,601 cases reported in 19 countries, including 141 suspected cases in the United States. There have been 98 deaths worldwide, none of which have been in the United States. Symptoms of the disease, which may be caused by a previously unrecognized coronavirus, can include a fever, chills, headache, other body aches, or a dry cough.

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Planning for a response to bioterrorism and influenza pandemics targets the public health resources essential for a response to other infectious diseases.

To assist the Committee in its consideration of our nation's capacity to respond to a major public health threat, my remarks today will focus on (1) the preparedness of state and local public health agencies for responding to a large-scale infectious disease outbreak, (2) the preparedness of hospitals for responding to a large-scale infectious disease outbreak, and (3) federal and state efforts to prepare for an influenza pandemic.

My testimony today is based largely on our recently released report on state and local preparedness for a bioterrorist attack.<sup>5</sup> For that report, we conducted site visits to seven cities and their respective state governments. We also reviewed each state's spring 2002 applications for bioterrorism preparedness funding distributed by the Department of Health and Human Services' (HHS) Centers for Disease Control and Prevention (CDC) and Health Resources and Services Administration (HRSA), and each state's fall 2002 progress report on the use of that funding. In addition, I will present some initial findings from a survey we conducted of hospitals to assess their level of emergency preparedness, which we will more fully report later, and from information updating our 2000 report on federal and state planning for an influenza pandemic.<sup>6</sup>

In summary, while the efforts of public health agencies and health care organizations to prepare for a bioterrorist attack have improved the nation's capacity to respond to infectious disease outbreaks and other major public health threats, gaps in preparedness remain. More specifically, we found that there are gaps in disease surveillance systems and laboratory facilities, and that there are workforce shortages. The level of preparedness varied across cities we visited, with jurisdictions that have had multiple prior experiences with public health emergencies being generally more prepared than others. We found that regional planning was lacking between states, but states were developing their own plans for receiving and distributing medical supplies for emergencies, and for mass

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<sup>5</sup>U.S. General Accounting Office, *Bioterrorism: Preparedness Varied across State and Local Jurisdictions*, [GAO-03-373](#) (Washington, D.C.: Apr. 7, 2003).

<sup>6</sup>U.S. General Accounting Office, *Influenza Pandemic: Plan Needed for Federal and State Response*, [GAO-01-4](#) (Washington, D.C.: Oct. 27, 2000).

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vaccinations in the event of a public health emergency. We found that many hospitals lack the capacity to respond to large-scale infectious disease outbreaks. Although most hospitals across the country report participating in basic planning activities for such outbreaks, few have adequate medical equipment, such as ventilators, needed to handle the large increases in the number of patients that may result. Federal and state influenza pandemic response plans, another component of public health preparedness, are in various stages of completion and do not consistently address the problems related to the purchase, distribution, and administration of supplies of vaccines and antiviral drugs during a pandemic.

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## Background

In order to be adequately prepared for a major public health threat, state and local public health agencies need to have several basic capabilities, whether they possess them directly or have access to them through regional agreements. Public health departments need to have disease surveillance systems and epidemiologists to detect clusters of suspicious symptoms or diseases in order to facilitate early detection of disease and treatment of victims. Laboratories need to have adequate capacity and necessary staff to test clinical and environmental samples in order to identify an agent promptly so that proper treatment can be started and infectious diseases prevented from spreading. All organizations involved in the response must be able to communicate easily with one another as events unfold and critical information is acquired, especially in a large-scale infectious disease outbreak. In addition, plans that describe how state and local officials would manage and coordinate an emergency response need to be in place and to have been tested in an exercise, both at the state and local levels as well as at the regional level.

Local health care organizations, including hospitals, are generally responsible for the initial response to a public health emergency, be it a bioterrorist attack or a naturally occurring infectious disease outbreak. In the event of a large-scale infectious disease outbreak, hospitals and their emergency departments would be on the front line, and their personnel would take on the role of first responders. Because hospital emergency departments are open 24 hours a day, 7 days a week, exposed individuals would be likely to seek treatment from the medical staff on duty. Staff would need to be able to recognize and report any illness patterns or diagnostic clues that might indicate an unusual infectious disease outbreak to their state or local health department. Hospitals would need to have the capacity and staff necessary to treat severely ill patients and limit the spread of infectious disease. In addition, hospitals would need

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adequate stores of equipment and supplies, including medications, personal protective equipment, quarantine and isolation facilities, and air handling and filtration equipment.

The federal government also has a role in preparedness for and response to major public health threats. It becomes involved in investigating the cause of the disease, as it is doing with SARS. In addition, the federal government provides funding and resources to state and local entities to support preparedness and response efforts. CDC's Public Health Preparedness and Response for Bioterrorism program provided funding through cooperative agreements in fiscal year 2002 totaling \$918 million to states and municipalities to improve bioterrorism preparedness and response, as well as other public health emergency preparedness activities. HRSA's Bioterrorism Hospital Preparedness Program provided funding through cooperative agreements in fiscal year 2002 of approximately \$125 million to states and municipalities to enhance the capacity of hospitals and associated health care entities to respond to bioterrorist attacks. Among the other public health emergency response resources that the federal government provides is the Strategic National Stockpile, which contains pharmaceuticals, antidotes, and medical supplies that can be delivered anywhere in the United States within 12 hours of the decision to deploy.

Officials view influenza vaccine as the cornerstone of efforts to prevent and control annual influenza outbreaks as well as pandemic influenza. Deciding which viral strains to include in the annual influenza vaccine depends on data collected from domestic and international surveillance systems that identify prevalent strains and characterize their effect on human health.<sup>7</sup> Antiviral drugs and vaccines against influenza are expected to be in short supply if a pandemic occurs. Antiviral drugs, which can be used against all forms of viral diseases, have been as effective as vaccines in preventing illness from influenza and have the advantage of being available now. HHS assumes shortages will occur in a pandemic because demand is expected to exceed current rates of production and increasing production capacity of antiviral drugs can take at least 6 to 9 months, according to manufacturers.

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<sup>7</sup>CDC participates in international disease and laboratory surveillance sponsored by the World Health Organization, which operates in 83 countries.

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## State and Local Officials Reported Varying Levels of Public Health Preparedness for Infectious Diseases Outbreaks

In the cities we visited, state and local officials reported varying levels of public health preparedness to respond to an infectious disease outbreak. They recognized gaps in preparedness elements such as communication and were beginning to address them. Gaps also remained in other preparedness elements that have been more difficult to address, including the response capacity of the workforce and the disease surveillance and laboratory systems. In addition, we found that the level of preparedness varied across the cities. Jurisdictions that had multiple prior experiences with public health emergencies were generally more prepared than those with little or no such experience prior to our site visits. We found that regional planning was lacking between states. States were working on their own plans for receiving and distributing the Strategic National Stockpile and for administering mass vaccinations.

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## Progress Has Been Made in Elements of Public Health Preparedness, But Gaps Remain

States and local areas were addressing gaps in public health preparedness elements, such as communication, but weaknesses remained in other preparedness elements, including the response capacity of the workforce and the disease surveillance and laboratory systems. Gaps in capacity often are not amenable to solution in the short term because either they require additional resources or the solution takes time to implement.

### Communication

We found that officials were beginning to address communication problems. For example, six of the seven cities we visited were examining how communication would take place in a public health emergency. Many cities had purchased communication systems that allow officials from different organizations to communicate with one another in real time. In addition, state and local health agencies were working with CDC to build the Health Alert Network (HAN), an information and communication system. The nationwide HAN program has provided funding to establish infrastructure at the local level to improve the collection and transmission of information related to public health preparedness, including preparedness for a bioterrorism incident. Goals of the HAN program include providing high-speed Internet connectivity, broadcast capacity for emergency communication, and distance-learning infrastructure for training.

### Surveillance Systems and Laboratory Facilities

State and local officials for the cities we visited recognized and were attempting to address inadequacies in their surveillance systems and laboratory facilities. Local officials were concerned that their surveillance

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systems were inadequate to detect a bioterrorist event and all of the states we visited were making efforts to improve their disease surveillance systems. Six of the cities we visited used a passive surveillance system<sup>8</sup> to detect infectious disease outbreaks.<sup>9</sup> However, passive systems may be inadequate to identify a rapidly spreading outbreak in its earliest and most manageable stage because, as officials in three states noted, there is chronic underreporting and a time lag between diagnosis of a condition and the health department's receipt of the report. To improve disease surveillance, six of the states and two of the cities we visited were developing surveillance systems using electronic databases. Several cities were also evaluating the use of nontraditional data sources, such as pharmacy sales, to conduct surveillance.<sup>10</sup> Three of the cities we visited were attempting to improve their surveillance capabilities by incorporating active surveillance components into their systems.

However, work to improve surveillance systems has proved challenging. For example, despite initiatives to develop active surveillance systems, the officials in one city considered event detection to be a weakness in their system, in part because they did not have authority to access hospital information systems. In addition, various local public health officials in other cities reported that they lacked the resources to sustain active surveillance.

Officials from all of the states we visited reported problems with their public health laboratory systems and said that they needed to be

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<sup>8</sup>Passive surveillance systems rely on laboratory and hospital staff, physicians, and other relevant sources to take the initiative to provide data on illnesses to the health department, where officials analyze and interpret the information as it arrives. In contrast, in an active disease surveillance system, public health officials contact sources, such as laboratories, hospitals, and physicians, to obtain information on conditions or diseases in order to identify cases. Active surveillance can provide more complete detection of disease patterns than a system that is wholly dependent on voluntary reporting.

<sup>9</sup>Officials in one city told us that although it had no local disease surveillance, its state maintained a passive disease surveillance system.

<sup>10</sup>This type of active surveillance system in which the public health department obtains information from such sources as hospitals and pharmacies and conducts ongoing analysis of the data to search for certain combinations of signs and symptoms, is sometimes referred to as a syndromic surveillance system. One federal official has stated that research examining the usefulness of syndromic surveillance needs to continue. See S. Lillibridge, *Disease Surveillance, Bioterrorism, and Homeland Security*, Conference Summary and Proceedings Prepared by the Annapolis Center for Science-Based Public Policy (Annapolis, Md.: U.S. Medicine Institute for Health Studies, Dec. 4, 2001).

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upgraded. All states were planning to purchase the equipment necessary for rapidly identifying a biological agent. State and local officials in most of the areas that we visited told us that the public health laboratory systems in their states were stressed, in some cases severely, by the sudden and significant increases in workload during the anthrax incidents in the fall 2001. During these incidents, the demand for laboratory testing was significant even in states where no anthrax was found and affected the ability of the laboratories to perform their routine public health functions. Following the incidents, over 70,000 suspected anthrax samples were tested in laboratories across the country.

Officials in the states we visited were working on other solutions to their laboratory problems. States were examining various ways to manage peak loads, including entering into agreements with other states to provide surge capacity, incorporating clinical laboratories into cooperative laboratory systems, and purchasing new equipment. One state was working to alleviate its laboratory problems by upgrading two local public health laboratories to enable them to process samples of more dangerous pathogens, and establishing agreements with other states to provide backup capacity. Another state reported that it was using the funding from CDC to increase the number of pathogens the state laboratory could diagnose. The state also reported that it has worked to identify laboratories in adjacent states that are capable of being reached within 3 hours over surface roads. In addition, all of the states reported that their laboratory response plans were revised to cover reporting and sharing laboratory results with local public health and law enforcement agencies.

## Workforce

At the time of our site visits, shortages in personnel existed in state and local public health departments and laboratories and were difficult to remedy. Officials from state and local health departments told us that staffing shortages were a major concern. Two of the states and cities that we visited were particularly concerned that they did not have enough epidemiologists to do the appropriate investigations in an emergency. One state department of public health we visited had lost approximately one-third of its staff because of budget cuts over the past decade. This department had been attempting to hire more epidemiologists. Barriers to finding and hiring epidemiologists included noncompetitive salaries and a general shortage of people with the necessary skills.

Shortages in laboratory personnel were also cited. Officials in one city noted that they had difficulty filling and maintaining laboratory positions. People that accepted the positions often left the health department for better-paying positions. Increased funding for hiring staff cannot

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necessarily solve these shortages in the near term because for many types of laboratory positions there are not enough trained individuals in the workforce. According to the Association of Public Health Laboratories, training laboratory personnel to provide them with the necessary skills will take time and require a strategy for building the needed workforce.<sup>11</sup>

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### Level of Preparedness Varied across Cities We Visited

We found that the overall level of public health preparedness varied by city. In the cities we visited, we observed that those cities that had recurring experience with public health emergencies, including those resulting from natural disasters, or with preparation for National Security Special Events, such as political conventions,<sup>12</sup> were generally more prepared than cities with little or no such experience. Cities that had dealt with multiple public health emergencies in the past might have been further along because they had learned which organizations and officials need to be involved in preparedness and response efforts and moved to include all pertinent parties in the efforts. Experience with natural disasters raised the awareness of local officials regarding the level of public health emergency preparedness in their cities and the kinds of preparedness problems they needed to address.

Even the cities that were better prepared were not strong in all elements. For example, one city reported that communications had been effective during public health emergencies and that the city had an active disease surveillance system. However, officials reported gaps in laboratory capacity. Another one of the better-prepared cities was connected to HAN and the Epidemic Information Exchange (Epi-X),<sup>13</sup> and all county emergency management agencies in the state were linked. However, the state did not have written agreements with its neighboring states for responding to a public health emergency.

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<sup>11</sup>Association of Public Health Laboratories, "State Public Health Laboratory Bioterrorism Capacity," *Public Health Laboratory Issues in Brief: Bioterrorism Capacity* (Washington, D.C.: October 2002).

<sup>12</sup>Presidential Decision Directive 62 created a category of special events called National Security Special Events, which are events of such significance that they warrant greater federal planning and protection than other special events. In addition to major political party conventions, such events include presidential inaugurations.

<sup>13</sup>Epi-X is a secure, Web-based exchange for public health officials to rapidly exchange information on disease outbreaks, exposures to environmental hazards, and other health events as they are identified and investigated.

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## Regional Planning Was Lacking between States

Response organization officials were concerned about a lack of planning for regional coordination between states of the public health response to an infectious disease outbreak. As called for by the guidance for the CDC and HRSA funding, all of the states we visited organized their planning on the basis of regions within their states, assigning local areas to particular regions for planning purposes. A concern for response organization officials was the lack of planning for regional coordination between states. A hospital official in one city we visited said that state lines presented a “real wall” for planning purposes. Hospital officials in one state reported that they had no agreements with other states to share physicians. However, one local official reported that he had been discussing these issues and had drafted mutual aid agreements for hospitals and emergency medical services. Public health officials from several states reported developing working relationships with officials from other states to provide backup laboratory capacity.

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## States Have Begun Planning for Receiving and Distributing the Strategic National Stockpile and for Administering Mass Vaccinations

States have begun planning for use of the Strategic National Stockpile. To determine eligibility for the CDC funding, applicants were required to develop interim plans to receive and manage items from the stockpile, including mass distribution of antibiotics, vaccines, and medical materiel. However, having plans for the acceptance of the deliveries from the stockpile is not enough. Plans have to include details about dividing the materials that are delivered in large pallets and distributing the medications and vaccines.

Of the seven states we visited, five states had completed plans for the receipt and distribution of the stockpile. One state that was working on its plan stated that it would be completed in January 2003. Only one state had conducted exercises of its stockpile distribution plan, while the other states were planning to conduct exercises or drills of their plans sometime in 2003.

In addition, five states reported on their plans for mass vaccinations and seven states reported on their plans for large-scale administration of smallpox vaccine in response to an outbreak. Some states we visited had completed plans for mass vaccinations, whereas other states were still developing their plans. The mass vaccination plans were generally closely tied to the plans for receiving and administering the stockpile. In addition, two states had completed smallpox response plans, which include administering mass smallpox vaccinations to the general population, whereas four of the other states were drafting plans. The remaining state

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was discussing such a plan. However, only one of the states we visited has tested in an exercise its plan for conducting mass smallpox vaccinations.

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## Most Hospitals Lack Response Capacity for Large-Scale Infectious Disease Outbreaks

Our recent work shows that progress in improving public health response capacity has lagged in hospitals. Although most hospitals across the country reported participating in basic planning activities for large-scale infectious disease outbreaks, few have acquired the medical equipment resources, such as ventilators, to handle large increases in the number of patients that may result from outbreaks of diseases such as SARS.

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## Most Hospitals Reported Planning and Training Efforts, but Fewer Than Half Have Participated in Drills or Exercises

At the time of our site visits, we found that hospitals were beginning to coordinate with other local response organizations and collaborate with each other in local planning efforts. Hospital officials in one city we visited told us that until September 11, 2001, hospitals were not seen as part of a response to a terrorist event but that the city had come to realize that the first responders to a bioterrorism incident could be a hospital's medical staff. Officials from the state began to emphasize the need for a local approach to hospital preparedness. They said, however, that it was difficult to impress the importance of cooperation on hospitals because hospitals had not seen themselves as part of a local response system. The local government officials were asking them to create plans that integrated the city's hospitals and addressed such issues as off-site triage of patients and off-site acute care.

According to our survey of over 2,000 hospitals,<sup>14</sup> 4 out of 5 hospitals reported having a written emergency response plan for large-scale infectious disease outbreaks. Of these hospitals with emergency response plans, most include a description of how to achieve surge capacity for obtaining additional pharmaceuticals, other supplies, and staff. Almost all

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<sup>14</sup>Between June and September 2002, we surveyed over 2,000 nonfederal, short-term, general, medical, adult and children's hospitals with emergency departments located in metropolitan statistical areas (see U.S. General Accounting Office, *Hospital Emergency Department: Crowded Conditions Vary among Hospitals and Communities*, GAO-03-460 (Washington, D.C.: Mar. 14, 2003) for information on the survey universe and development of the survey). The survey contained three parts, the third of which specifically addressed hospital preparedness for mass casualty incidents. We obtained responses from 1,482 hospitals for the third section of the survey addressing emergency preparedness, a response rate of about 73 percent.

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hospitals reported participating in community interagency disaster preparedness committees.

Our survey showed that hospitals have provided training to staff on biological agents, but fewer than half have participated in exercises. Most hospitals we surveyed reported providing training about identifying and diagnosing symptoms for the six biological agents identified by the CDC as most likely to be used in a bioterrorist attack. While at least 90 percent of hospitals reported providing training for smallpox and anthrax, approximately three-fourths of hospitals reported providing training about plague, botulism, tularemia, and hemorrhagic fever viruses. Fewer than half the hospitals reported participating in drills or exercises related to bioterrorism.

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### Most Hospitals Lack Adequate Equipment, Facilities, and Staff Required to Respond to a Large-Scale Infectious Disease Outbreak

Most hospitals lack adequate equipment, isolation facilities, and staff to treat a large increase in the number of patients for an infectious disease such as SARS. To prevent transmission of SARS in health care settings, CDC recommends that health care workers use personal protective equipment, including gowns, gloves, respirators, and protective eyewear.<sup>15</sup> SARS patients in the United States are being isolated until they are no longer infectious. CDC estimates that patients require mechanical ventilation in 10 to 20 percent of SARS cases.<sup>16</sup>

In the seven cities we visited, hospital, state, and local officials reported that hospitals needed additional equipment and capital improvements—including medical stockpiles, personal protective equipment, quarantine and isolation facilities, and air handling and filtering equipment—to enhance preparedness. Five of the states we visited reported shortages of hospital medical staff, including nurses and physicians, necessary to increase response capacity in an emergency. One of the states we visited reported that only 11 percent of its hospitals could readily increase their capacity for treating patients with infectious diseases requiring isolation, such as smallpox and SARS. Another state reported that most of its

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<sup>15</sup>CDC, *Interim Domestic Guidance for Management of Exposures to Severe Acute Respiratory Syndrome (SARS) for Healthcare and Other Institutional Settings* (Mar. 27, 2003), <http://www.cdc.gov/ncidod/sars/exposureguidance.htm> (downloaded Apr. 5, 2003).

<sup>16</sup>CDC, *SARS Frequently Asked Questions*, <http://www.cdc.gov/ncidod/sars/faq.htm> (downloaded Apr. 5, 2003).

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hospitals have little or no capacity for isolating patients diagnosed with or being tested for infectious diseases.

According to our hospital survey, availability of medical equipment varied greatly between hospitals, and few hospitals seemed to have adequate equipment and supplies to handle a large-scale infectious disease outbreak. While most hospitals had at least 1 ventilator per 100 staffed beds, 1 personal protective equipment suit per 100 staffed beds, or an isolation bed per 100 staffed beds, half of the hospitals had less than 6 ventilators per 100 staffed beds, 3 or fewer personal protective equipment suits per 100 staffed beds, and less than 4 isolation beds per 100 staffed beds.

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## Officials Have Been Slow to Finalize Plans for Federal and State Response to an Influenza Pandemic

Federal and state influenza pandemic response plans, another important component to public health preparedness, are in various stages of completion and do not consistently address the problems related to the purchase, distribution, and administration of supplies of vaccines and antiviral drugs during a pandemic. CDC has provided interim draft guidance to facilitate state plans, but final federal decisions necessary to mitigate the effects of potential shortages of vaccines and antiviral drugs have not been made. Until such decisions are made, the timeliness and adequacy of response efforts may be compromised.

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## Federal and State Pandemic Response Plans Are Not Finalized

Federal and state officials have not finalized plans for responding to pandemic influenza. To foster state and local pandemic planning and preparedness, CDC first issued interim planning guidance in draft form to all states in 1997, outlining general federal and state planning responsibilities. Thirty-four states are actively preparing a pandemic response plan, and many are integrating these plans with existing state plans to respond to natural or man-made disasters, such as floods or a bioterrorist attack. Although to a certain extent planning efforts for other emergencies can be used for pandemic response, additional planning is important to deal with specific aspects of a pandemic response. This includes developing plans to address the large-scale emergency needs of an entire population, including mass distribution and administration of limited vaccines and drugs, with an uncertain amount of available resources.

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## Key Federal Decisions Are Unresolved

In the most recent version of its pandemic influenza planning guidance for states, CDC lists several key federal decisions related to vaccines and antiviral drugs that have not been made. These decisions include determining the amount of vaccines 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 vaccines and drugs; and how population groups will be prioritized and targeted to receive limited supplies of vaccines and drugs. In each of these areas, until federal decisions are made, states will not be able to develop strategies consistent with federal action.

The interim draft guidance for state pandemic plans says that resources can be expected to be available through federal contracts to purchase influenza vaccine and some antiviral agents, but some state funding may be required. The amounts of antiviral drugs to be purchased and stockpiled are yet to be determined, even though these drugs are available and can theoretically be used for both treatment and prevention during a pandemic.

CDC has indicated in its interim draft guidance that the policies for purchasing, distributing, and administering vaccines and drugs by the private and public sector will change during a pandemic, but some decisions necessary to prepare for these expected changes have not been made. During a typical annual influenza response, influenza vaccine and antiviral drug distribution is primarily handled directly by manufacturers through private vendors and pharmacies to health care providers. During a pandemic, however, CDC interim draft guidance indicates that many of these private-sector responsibilities may be transferred to the public sector at the federal, state, or local levels, and priority groups within the population would need to be established for receiving limited supplies of vaccines and drugs.

State officials are particularly concerned that a national plan has not been issued with final recommendations for how population groups should be prioritized to receive vaccines and antiviral drugs. In its interim draft guidance, CDC lists eight population groups that should be considered in establishing priorities among groups for receiving vaccines and drugs during a pandemic. The list includes such groups as health care workers and public health personnel involved in the pandemic response, persons traditionally considered to be at increased risk of severe influenza illness and mortality, and preschool and school-aged children.

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Although state officials acknowledge the need for flexibility in planning because many aspects of a pandemic cannot be known in advance, the absence of more detail leaves them uncertain about how to plan for the use of limited supplies of vaccine and drugs. In our 2000 report on the influenza pandemic, we recommended that HHS determine the capability of the private and public sectors to produce, distribute, and administer vaccines and drugs and complete the national response plan.<sup>17</sup> To date, only limited progress has been made in addressing these recommendations.

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## Concluding Observations

Many actions taken at the state and local level to prepare for a bioterrorist event have enhanced the ability of state and local response agencies and organizations to manage a major public health threat, such as a large-scale infectious disease outbreak. However, there are significant gaps in public health surveillance systems and laboratory capacity, and the number of personnel trained for disease detection is insufficient. Hospitals have begun planning and training efforts to respond to large-scale infectious disease outbreaks, but lack adequate equipment, medical stockpiles, personal protective equipment, and quarantine and isolation facilities. Federal and state plans for the purchase, distribution, and administration of supplies of vaccines and drugs in response to an influenza pandemic have still not been finalized. The lack of these final plans has serious implications for efforts to mobilize the distribution of vaccines and drugs for other infectious disease outbreaks.

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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.

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## Contact and Staff Acknowledgments

For further information about this testimony, please contact me at (202) 512-7119. Jennifer Cohen, Robert Copeland, Marcia Crosse, Martin T. Gahart, Deborah Miller, Roseanne Price, and Ann Tynan also made key contributions to this statement.

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<sup>17</sup>[GAO-01-4](#).