Public Health Preparedness:

Mobilizing State by State

A CDC Report on the
Public Health Emergency Preparedness
Cooperative Agreement

February 2008

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Executive Summary

Public health threats are inevitable. Being prepared for these threats can save lives and protect the health and safety of the public and emergency responders. The Centers for Disease Control and Prevention (CDC) works to support public health preparedness for all hazards, including natural, biological, chemical, radiological, and nuclear events. This work falls under one of the agency's overarching health protection goals: "People prepared for emerging health threats - people in all communities will be protected from infectious, occupational, environmental, and terrorist threats." CDC has established nine preparedness goals to strategically direct resources towards achieving this overarching goal.

The events of September 11, 2001, and the subsequent anthrax attacks both highlighted the importance of public health during emergencies and showed weaknesses in public health's ability to respond during a potential crisis. In 2002, Congress authorized funding for the Public Health Emergency Preparedness cooperative agreement (hereafter referred to as the cooperative agreement) to support preparedness nationwide in state, local, tribal, and territorial public health departments. As of 2007, the cooperative agreement has provided more than $5 billion to these public health departments.

CDC administers the cooperative agreement and provides technical assistance to public health departments. This report outlines progress and challenges. It also describes how CDC and its partners are working to address these challenges.

Progress continues. With support from the cooperative agreement, public health departments have improved their ability to respond to emergencies.

Public health departments can better detect and investigate diseases because of improvements in the public health workforce and in data collection and reporting systems.

- The number of epidemiologists in public health departments working in emergency response has doubled from 115 in 2001 to 232 in 2006.* Epidemiologists detect and investigate health threats and disease patterns and work to minimize the negative effects of a health threat in a community.
- The number of users for the Epidemic Information Exchange *(Epi-X)*, a secure CDC-based communications system that helps track disease outbreaks, has increased to 4,646 in 2006, up from 890 in 2001. Users are primarily from state and local health departments (75%).
- All state public health departments now can receive and evaluate reports of urgent health threats 24/7/365, whereas in 1999 only 12 could do so. Previously, it was often difficult for clinicians to reach a public health professional after normal work hours.

* For 38 states and the District of Columbia (DC) responding to Council of State and Territorial Epidemiologists (CSTE) surveys.

Public health laboratories have increased capability to test for biological and chemical threats and to communicate information.

- The number of state and local public health laboratories able to detect biological agents has increased to 110 in 2007, from 83 in 2002.
- The number of state and local public health laboratories able to detect chemical agents has increased to 47, from 0 in 2001.
- All states now have public health laboratories that can quickly communicate with clinical laboratories. In 2001, only 20 states reported having public health laboratories with this capability. Once a threat is confirmed in one laboratory, other laboratories need to be quickly alerted since they might receive related case samples (indicating that the threat is spreading).
- More than twice the number of state public health laboratories are conducting exercises to test their ability to handle, confirm, and report results for chemical agents (from 16 in 2003 to 38 in 2006).

Public health departments have developed response plans, implemented a formalized command structure, and conducted exercises. Such activities were rare prior to 2001.

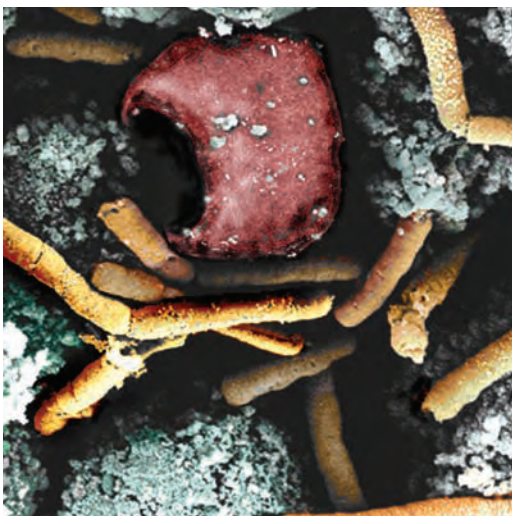
- All states now have plans to receive, store, and distribute the Strategic National Stockpile (SNS), a national repository of antibiotics, other life-saving medications, and medical supplies.
- Seventy-three percent of states reviewed have satisfactorily documented their SNS planning efforts.
- In 2005, public health departments in 50 states and DC trained public health professionals about their roles and responsibilities during an emergency as outlined by the Incident Command System, while in 1999 only 14 did so.
- All states now participate in the Health Alert Network, which allows for the rapid exchange of critical public health information.

Challenges remain. Building on progress in public health preparedness will require ongoing commitment.

- Public health departments report difficulties in recruiting and retaining qualified epidemiologists, according to a 2006 CSTE survey.
- Disease surveillance systems need to be strengthened. In 2007, 16 states did not report any plans to electronically exchange health data with regional health information organizations (networks of healthcare provider organizations that allow the electronic sharing of health information among members).
- To facilitate surveillance, public health departments need to ensure an appropriate legal framework before a disaster occurs; otherwise, states may be unable to share critical public health information with other jurisdictions.

- The public health laboratory workforce needs improvement. Thirty-one state public health laboratories reported difficulty recruiting qualified laboratory scientists, and 39 state public health laboratories reported needing additional staff to perform polymerase chain reaction, a rapid DNA testing technique to quickly identify bioterrorism agents, according to a 2007 Association of Public Health Laboratories survey.
- Public health laboratories need to increase the use of advanced technology and broaden testing abilities, including radiological testing. Currently, no state public health laboratory can rapidly identify priority radioactive materials in clinical samples.
- Public health departments need to sustain a system of all-hazards planning, training, exercising, and improving. This system should be ready to help at-risk populations, such as the elderly and others who may need help controlling chronic diseases.
- Public health and other response agencies need interoperable emergency communication systems. In 2007, the Department of Homeland Security reported that many cities and metropolitan areas have established multi-agency communications, but more progress is needed to expand interoperable communication across jurisdictions and levels of government.

Moving forward. CDC is working with state and local public health departments on initiatives that include:



- Increasing the use of electronic health data for preparedness and response by networking surveillance systems and using real-time data;
- Expanding laboratory testing;
- Establishing commercial partnerships to supply needed medicines to at-risk populations during an emergency;
- Developing and evaluating a core curriculum for preparedness through the Centers for Public Health Preparedness, a national network of academic institutions with a common focus on public health preparedness;
- Improving legal preparedness by helping states and other jurisdictions implement public health mutual aid agreements, which enable sharing of supplies, equipment, personnel, and information during emergencies;
- Exercising public health systems to continuously improve capability and demonstrate readiness; and
- Collaborating with partners to develop accreditation programs for state and local public health preparedness.

Achieving the overarching goal, "people prepared for emerging health threats," is critical to the health and safety of our communities. This report represents CDC's commitment to sharing information on a program that contributes to this goal.

> "When people ask me what's the biggest challenge in public health, I have an easy answer. For large-scale disasters and more routine threats to health, the major problem we face in public health is complacency. We've made a lot of progress in our preparedness efforts, but we're not done yet. We need long-term investment to really get us where we want to be."
>
> — Dr. Julie Gerberding, CDC Director

Background

Public health threats are inevitable. Being prepared can save lives and protect the health and safety of the public and emergency responders during disasters. A prepared public health system involves continual improvement of the system's ability to prevent, protect against, respond to, and recover from the consequences of emergencies.

The Centers for Disease Control and Prevention (CDC) works to support public health preparedness for all hazards, including natural, biological, chemical, radiological, and nuclear events. This work falls under one of the agency's overarching health protection goals: "People prepared for emerging health threats - people in all communities will be protected from infectious, occupational, environmental, and terrorist threats." CDC has established nine preparedness goals to strategically direct resources towards achieving this overarching goal. These goals are associated with six public health preparedness activities: prevent, detect and report, investigate, control, recover, and improve (Table 1).

The events of September 11, 2001, and the subsequent anthrax attacks both highlighted the importance of public health during emergencies and showed weaknesses in public health's ability to respond during a potential crisis. According to a 2002 Institute of Medicine report, the public health infrastructure suffered from "vulnerable and outdated health information systems and technologies, an insufficient and inadequately trained public health workforce, antiquated laboratory capacity, a lack of real-time surveillance and epidemiological systems, ineffective and fragmented communications networks, incomplete domestic preparedness and emergency response capabilities, and communities without access to essential public health services."[1]

[1] Institute of Medicine, *The Future of the Public's Health in the 21st Century*; 2002

In 2002, Congress authorized funding for the Public Health Emergency Preparedness cooperative agreement (hereafter referred to as the cooperative agreement) to support preparedness nationwide in public health departments.[2,3] Within each funded jurisdiction, public health departments at the state, local, tribal, and/or territorial levels work together to improve preparedness.

CDC administers the cooperative agreement and provides technical assistance to state, territorial, and major metropolitan public health departments. This technical assistance leverages CDC expertise in disease detection and investigation, public health laboratories, and response, including crisis communication. CDC's longstanding working relationships with public health departments are critical to the success of this program.

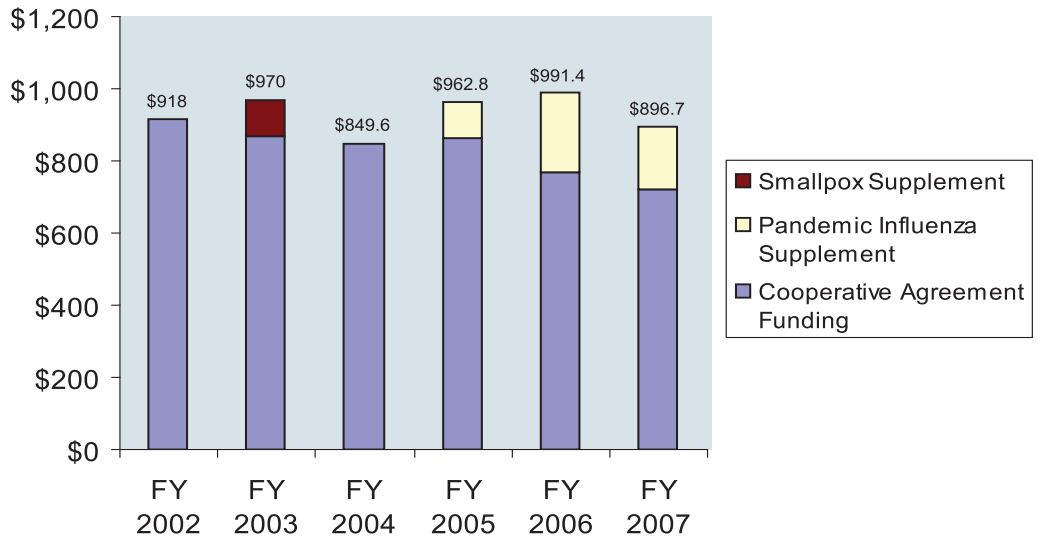
Table 1: CDC Preparedness Goals

Pre-Event	Prevent	
	Goal 1	Increase the use and development of interventions known to prevent human illness from chemical, biological, radiological agents, and naturally occurring health threats.
Event	Detect and Report	
	Goal 2	Decrease the time needed to classify health events as terrorism or naturally occurring in partnership with other agencies.
	Goal 3	Decrease the time needed to detect and report chemical, biological, radiological agents in tissue, food or environmental samples that cause threats to the public's health.
	Goal 4	Improve the timeliness and accuracy of communications regarding threats to the public's health.
	Investigate	
	Goal 5	Decrease the time to identify causes, risk factors, and appropriate interventions for those affected by threats to the public's health.
	Control	
	Goal 6	Decrease the time needed to provide countermeasures and health guidance to those affected by threats to the public's health.
Post-Event	Recover	
	Goal 7	Decrease the time needed to restore health services and environmental safety to pre-event levels.
	Goal 8	Improve the long-term follow-up provided to those affected by threats to the public's health.
	Improve	
	Goal 9	Decrease the time needed to implement recommendations from after-action reports following threats to the public's health.

[2] The cooperative agreement funds 50 states, four metropolitan areas (Chicago, Los Angeles County, New York City, and Washington, DC), five territories (Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, and the U.S. Virgin Islands), and three freely associated states (the Federated States of Micronesia, Palau, and the Marshall Islands).

[3] CDC began funding selected public health departments in 1999, but the cooperative agreement's support of 62 jurisdictions did not begin until 2002.

Figure 1: Cooperative Agreement Allocated Funding, Fiscal Year 2002-2007 (in millions)



Source: HHS Press Releases; 2002-2007 – data for all 62 funded jurisdictions

As of 2007, the cooperative agreement has provided more than $5 billion to public health departments (Figure 1). Appendix 1 presents historical cooperative agreement funding levels for each funded public health department.

The cooperative agreement supports:

- Collaboration among state, local, tribal, and territorial public health departments, research universities, and other responder agencies;
- Rapid identification of biological and chemical agents by public health laboratories across the country;
- Quick and accurate communication across local, state, and federal levels;
- Ongoing enhancement of state and local public health programs through a cycle of planning, exercising, and improvement plans;
- Protecting the health of the community and first responders during an emergency; and
- Helping communities recover from emergencies.

Collaborating for preparedness. Local response agencies, including public health departments, are usually the first to respond during an

Quick and Effective Collaboration – Minnesota Bridge Collapse

When the Interstate 35W bridge collapsed in Minneapolis in 2007, public health professionals were ready. According to the Minnesota Department of Health, cooperative agreement funding allowed public health to expand, strengthen, and exercise systems that contributed to a fast and effective response.

Within 10 minutes of the incident, state public health staff, hospitals, and emergency medical services began monitoring real-time information on the number of patients, their condition, and available hospital space. Local, state, and federal agencies worked together to determine if harmful substances were released into the environment and initiated measures to protect public health during the cleanup. State and local public health staff coordinated behavioral health and grief support services using a network of registered and credentialed volunteers.

emergency. For multi-state or severe emergencies, CDC may be asked to provide additional public health resources and coordinate response efforts across multiple jurisdictions. CDC monitors and often responds to major events that are potential nationwide health threats (Figure 2).

The National Preparedness Guidelines, published by the Department of Homeland Security (DHS), establish a vision, capabilities, and priorities for national preparedness. CDC preparedness goals support the target capabilities outlined in the National Preparedness Guidelines in areas such as detecting threats, public health laboratory testing, and communications. See Appendix 2 for more information on the National Preparedness Guidelines and DHS preparedness priorities.

CDC works under the strategic leadership of the Assistant Secretary for Preparedness and Response (ASPR) in the Department of Health and Human Services (HHS). Under the National Response Framework, HHS is responsible for coordinating federal assistance to supplement state, local, and tribal resources in response to public health and medical care needs for potential or actual emergencies. To achieve this, HHS works with other federal departments, including DHS, the U.S. Department of Agriculture (USDA), the Department of Defense, the Department of Veterans Affairs, the Department of Justice, and the Department of State. Appendices 3 and 4 detail how CDC and ASPR offices are currently working towards improving preparedness.

CDC Field Deployments

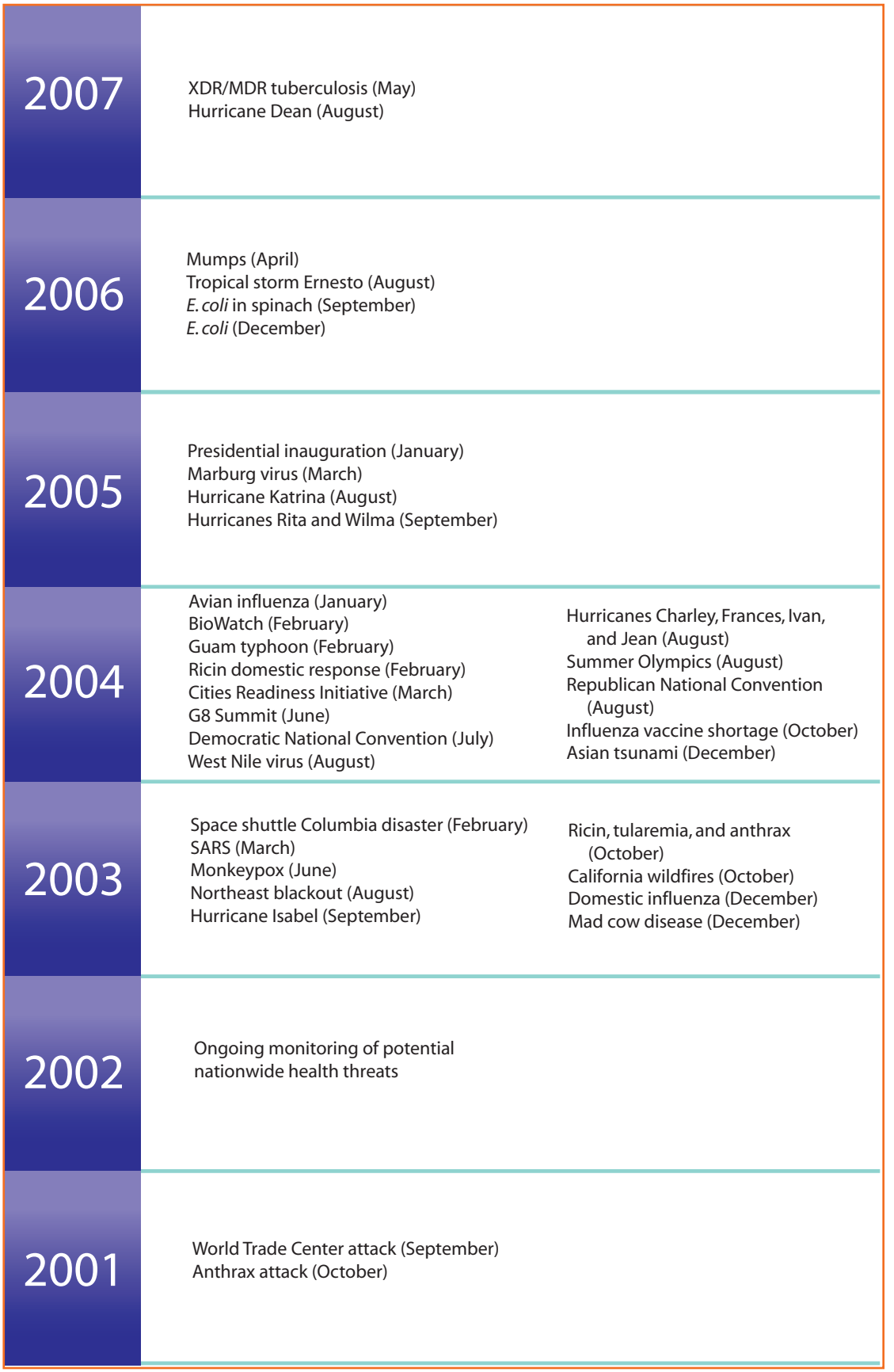
From October 2006 through September 2007, CDC deployed more than 170 staff to 31 states to assist public health department investigations. The health problems included an unexplained cluster of patients with neurologic disease, tuberculosis, and hurricane-related health threats.[4]

CDC and pubic health department partners include the American Public Health Association, the Association of Public Health Laboratories (APHL), the Association of Schools of Public Health, the Association of State and Territorial Health Officials, the Council of State and Territorial Epidemiologists (CSTE), and the National Association of County and City Health Officials (NACCHO). These organizations share best practices and lessons learned, conduct research, and provide training to public health professionals.

[4] CDC, Division of Emergency Operations (DEO) Epi-Aid data; 2007

Local, state, and federal agencies must collaborate to effectively prepare for and respond to emergencies.

Figure 2: Timeline of CDC Emergency Responses



Source: CDC, DEO data; 2001-2007

Methods

This report presents existing information on selected state and local public health preparedness activities and describes how the cooperative agreement and other CDC programs support these preparedness efforts. Data presented in this report come from CDC (i.e., data reported by states as part of the cooperative agreement and data from other CDC programs), APHL, CSTE, and others. More detailed information on each data source and methods is presented in Appendix 5.

This report is specific to the Public Health Emergency Preparedness cooperative agreement and does not directly address other preparedness grant programs, including those administered by ASPR, which assists hospitals in preparing for emergencies, and by DHS, which focuses more broadly on supporting all emergency responders, including law enforcement and firefighters. Public health departments may have used a combination of federal and state funding to improve public health preparedness.

The report addresses areas of public health that are critical to preparedness, including disease detection and investigation, public health laboratories, and response. Disease detection and investigation and public health laboratories help confirm the presence of health threats. During a response, public health professionals and other first responders use this information to lessen the public health effects of an emergency.

Section 1 of this report contains aggregate national information on progress and challenges in public health preparedness and how CDC is working to address these challenges. Section 1 focuses on the 50 states and DC. These data reflect collaborative efforts of federal, state, local, tribal, and territorial public health.

Section 2 presents snapshots with response or exercise examples and data for the 50 states, DC, Chicago, Los Angeles County, and New York City. Information on funded territories and freely associated states is not presented because most of the existing data sources did not include them.

This report is a first step in presenting a more complete picture of public health preparedness. It does not represent all progress and challenges or comprehensively assess federal, state, and local preparedness.

CDC, ASPR, and their partners continue working to define public health preparedness and collect data to better characterize preparedness. Measuring preparedness is critical to evaluate progress.

Section 1: Public Health Preparedness in the States and DC

Section 1 presents data on disease detection and investigation, public health laboratories, and response. These essential activities support all nine CDC preparedness goals. Table 2 describes some of the key improvements compared to 2001.

Table 2: Progress in Public Health Preparedness, 2001-2007

	Then (2001)[1]	Now (2007)[2]
Disease Detection and Investigation	Some state public health departments did not have enough epidemiologists to investigate the suspected disease cases and had to borrow untrained staff from other programs.	The cooperative agreement supports additional staff in every state to monitor and investigate diseases and respond to emergencies. Other public health professionals have also been trained to provide support when preparedness staff are overwhelmed.
Laboratory Testing	Some state public health laboratories could not perform rapid tests for anthrax because they lacked equipment, supplies, or trained staff.	Every state has at least one public health laboratory that can perform rapid tests for anthrax and other bioterrorism agents, and 47 public health laboratories can test for a variety of chemical agents.
Response: Relationships with First Responders	State and local public health departments had not fully anticipated the extent of coordination needed among first responders.	Public health departments in every state have established relationships and conducted exercises with emergency management and other key players.
Response: Coordination	An ad-hoc center at CDC helped coordinate state and local response efforts.	Emergency operations centers are in place at CDC and almost all state public health departments to coordinate response activities, and roles and responsibilities are defined across multiple agencies and jurisdictions.
Response: Communication	Public health professionals did not have a system in place to communicate effectively with physicians during a crisis.	All state public health departments have systems to communicate rapidly with physicians and the public.
Response: Intervention	Major metropolitan areas did not have the ability to provide medicine to large portions of their population in the case of a bioterrorist event.	Major metropolitan areas are working to provide medicines to 100% of their population within 48 hours.

[1] Government Accountability Office, *Public Health Response to Anthrax Incidents of 2001* (GAO-04-152); 2003; [2] CDC data; 2007

Disease Detection and Investigation:

Improving the Public Health Workforce and Disease Surveillance

The sooner public health professionals can detect the source and spread of diseases or other health threats and investigate their effects in the community, the more quickly they can protect the public. Progress in disease detection and investigation supports CDC preparedness goals in the areas of prevention, detection and reporting, investigation, and recovery.

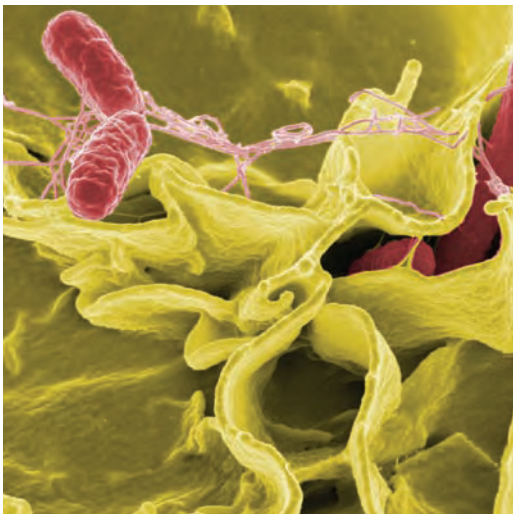
Using cooperative agreement funds, public health departments have improved their abilities to detect and investigate diseases by enhancing the public health workforce and disease surveillance systems.

Increased Workforce Capacity

In 2006, the cooperative agreement funded 531 epidemiologists. The majority of these epidemiologists specialized either in emergency response (291) or infectious diseases (199).[5]

A skilled public health workforce.
Epidemiologists, or "disease detectives," detect and investigate health threats and disease patterns. They might identify contaminated food causing illness, assess the number of people injured and types of injuries resulting from a disaster, or determine causes of a sudden onset of fever in a community. They also work to minimize the negative effects of a health threat in a community.

According to a 2006 CSTE survey, the total number of epidemiologists in state public health departments working in emergency response has doubled since 2001 (Table 3).



A connected public health workforce.
The increase in the users of the Epidemic Information Exchange *(Epi-X)*, a secure CDC-based communications system that helps track disease outbreaks, suggests that public health professionals are more connected (Table 3). *Epi-X* users represent state health departments (38%), local health departments (37%), CDC and other federal agencies (22%), and other organizations, such as poison control centers (3%).[6]

Through *Epi-X,* these users report outbreaks and other public health events to CDC and receive notifications about developing health threats through daily electronic summaries. When a report is of special importance, users receive immediate e-mails or emergency notification (i.e., pager, "land line" phone, or cell phone).

Enhancing disease surveillance systems.
Epidemiologists need health-related data to detect disease patterns, estimate effects, and determine the spread of illness. Surveillance—the ongoing and systematic collection, analysis, and interpretation of data—is critical to detect disease

Table 3: Public Health Workforce for Disease Detection and Investigation, 2001-2006

Indicator	Then (2001)	Now (2006)	Percent Increase
Epidemiologists in public health departments working in emergency response[1]	115	232	102%
Epi-X users[2]	890	4,646	422%

[1] CSTE, ECA; 2006 - data for 38 states and DC; [2] CDC *Epi-X* data; 2006

[5] CSTE, *Epidemiological Capacity Assessment* (ECA); 2006 – data for 50 states, DC, and 4 territories

[6] CDC, *Epi-X* data; 2007

outbreaks as early as possible and to ensure that public health professionals are aware of the number and geographic distribution of illness.

To help detect disease patterns, all state public health departments now can receive urgent disease reports 24/7/365 (Table 4). Previously, it was often difficult for clinicians to reach a public health professional after regular work hours.

In addition, CDC, state and local public health departments, and other partners are developing flexible and innovative surveillance systems for a wide range of emergencies, including disease outbreaks, bioterrorism, and natural disasters. In 2007, 44 states reported evaluating health data to detect unusual patterns that could be associated with health threats.[7]

The CDC Early Aberration Reporting System (EARS) is one surveillance system state and local health departments use to monitor notifiable diseases and detect unusual spikes indicating disease outbreaks. EARS tracks data from sources such as hospital emergency departments, 911 emergency calls, and school absenteeism. In 2007, EARS was used in approximately 100 state and local public health departments and international sites. It has been used during hurricane seasons and at several national events.[8]

Another surveillance system that CDC administers is BioSense, which provides local, state, and federal public health and healthcare organizations with access to the same data, at the same time. In other words, if an emergency occurs, every level of public health will be able to see healthcare data from their community in near real-time. This can decrease delays in recognition of a problem and enhance emergency response. As of November 2007, BioSense had 423 hospitals transmitting real-time data, covering 38 states and 71 major metropolitan areas. Over 1,500 federal military and veterans' outpatient facilities also transmitted data.[9]

In preparation for a possible influenza pandemic, states are also improving systems to monitor seasonal influenza. In 2006, 28 states reported conducting surveillance for seasonal influenza throughout the year, while in 2007, all states and DC reported doing so.[10, 11] Routine surveillance of influenza viruses can characterize circulating strains to help experts develop annual vaccines and identify strains with pandemic potential.

Challenges for Disease Detection and Investigation

Several challenges continue to hinder public health departments' ability to collect and effectively use information.

Shortages in the epidemiology workforce. Public health departments still face barriers in recruiting and retaining qualified epidemiologists. According to the 2006 CSTE survey, most state and local public health departments reported difficulty in hiring epidemiologists. Although the number of epidemiologists has increased since 2001, in 2006, state public health departments reported needing 34% more epidemiologists than they had to provide full capacity nationwide.[12]

Other public health professionals, such as information technology specialists, are also needed to support emerging data sharing and communication initiatives. The aging public health workforce, high retirement rates, barriers to recruitment and retention, and the need to train the existing workforce in new methods and technology are all issues needing continuous attention.

Table 4: Public Health Disease Reporting Systems, 50 States and DC, 1999-2005

Indicator	Then (1999)	Now (2005)	Percent Increase
Public health departments that can receive urgent disease reports 24/7/365	12[1]	51[2]	325%

[1] HHS, Office of the Inspector General (OIG), *Status of State 24/7 Urgent Disease and Public Health Emergency Reporting Systems;* published February 2005; 1999 data; [2]CDC, DSLR data; 2005

[7] CDC, DSLR Mid-Year Report Review data; 2007
[8] CDC, Division of Bioterrorism Preparedness and Response (DBPR) EARS data; 2007
[9] CDC, Division of Integrated Surveillance Systems and Services BioSense data; 2007
[10] CDC, Pandemic Influenza State Self-Assessments data; 2006 - data presented for 49 states
[11] HHS OIG, *Memorandum Report—Laboratory Preparedness for Pandemic Influenza*; published October 2007
[12] CSTE, *ECA*; 2006

Networking disease surveillance systems. During emergencies, public health professionals need to alert both clinicians and the public quickly. A unified network of surveillance systems from hospital organizations, physician practices, public health departments, and other data sources can provide public health professionals with the best available information to protect community health.

Although public health departments have made progress in disease surveillance, more work needs to be done to integrate these systems. In 2007, 16 states did not report any plans to electronically exchange health data with regional health information organizations (networks of healthcare provider organizations that allow the electronic sharing of health information among members).[13]

In addition, quickly sharing public health information across jurisdictions is important during emergencies, such as when displaced individuals need care out-of-state. Without ensuring an appropriate legal framework before a disaster occurs, states may be unable to provide critical public health information to other jurisdictions.

Epidemiologists and other public health professionals help protect population health after a chlorine spill.

South Carolina Public Health Effectively Responds to a Chlorine Spill

In January 2005, a freight train transporting chlorine and other chemicals collided with a parked train in downtown Graniteville, South Carolina. The rupture of one car released about 63 tons of liquid chlorine near residential and commercial districts. This accident caused nine deaths and forced at least 529 people to seek medical treatment. Local public health and emergency management officials investigated the damage. Since chlorine exposure was a serious public health threat, area residents were evacuated. Schools and businesses were closed.

Public health professionals coordinated emergency medical services, monitored hospital care, assessed the number of casualties, and supported disaster mortuary services. Through interviews and medical chart reviews, epidemiologists collected data on symptoms, exposures, and demographics. With this information, public health professionals could track and alleviate the long-term effects.

This accident was the worst chemical train wreck in the United States since 1978. Established response plans and partnerships helped South Carolina public health professionals respond quickly and effectively. The cooperative agreement helped fund activities that improved response. Because many nuclear and industrial facilities and rail lines were in the area, local public health and emergency management departments had taken an all-hazards approach to emergency response planning, with a focus on hazardous materials training. Coordination among agencies was also a priority.

Please refer to Section 2 for response examples for each state and directly funded locality.

[13] CDC, DSLR Mid-Year Progress Report Review data; 2007

Public Health Laboratories:

Improving Laboratory Testing for Biological and Chemical Threats, Communication, and Training

Public health laboratories are critical in identifying disease agents, toxins, and other health threats found in tissue, food, or other substances. They also play a large role in alerting others about emerging health threats, and training and supporting clinical laboratories. The cooperative agreement has funded public health laboratories to hire and train staff, and acquire equipment. This supports CDC preparedness goals in the areas of prevention, and detection and reporting.

Expanding testing. Public health laboratories have expanded their ability to perform rapid tests for biological and chemical agents. Previously, many state and local public health laboratories had to ship samples to CDC in Atlanta, Georgia, for testing.

Now, as shown in Table 5, identification of biological agents (e.g., anthrax or plague) and chemical agents is possible through the Laboratory Response Network (LRN). The LRN is a national network of local, state, and federal public health laboratories; military, international, agricultural, and veterinary diagnostic laboratories; and food and environmental testing laboratories.

Table 5: Laboratory Testing Capabilities, 2001-2007

Indicator	Then	Now (2007)	Percent Increase
State and local public health laboratories that can detect biological agents	83 (2002)	110	33%
Public health laboratories that can test for and/or handle toxic chemical agents:			
Level 1 laboratories*	0 (2001)	10	—
Level 2 laboratories	0 (2001)	37	—
Level 3 laboratories	0 (2001)	15	—

Source: CDC, DBPR LRN data; 2001-2007

* Level 1 laboratories serve as surge capacity laboratories for CDC and can test for an expanded number of chemical agents, including nerve agents, mustard agents, and toxic industrial chemicals. Level 2 laboratories are also surge capacity laboratories but can test for a more limited panel of agents. Level 3 laboratories work with hospitals and other first responders within their jurisdiction to maintain competency in clinical specimen collection, storage, and shipment.

Laboratory Response Network

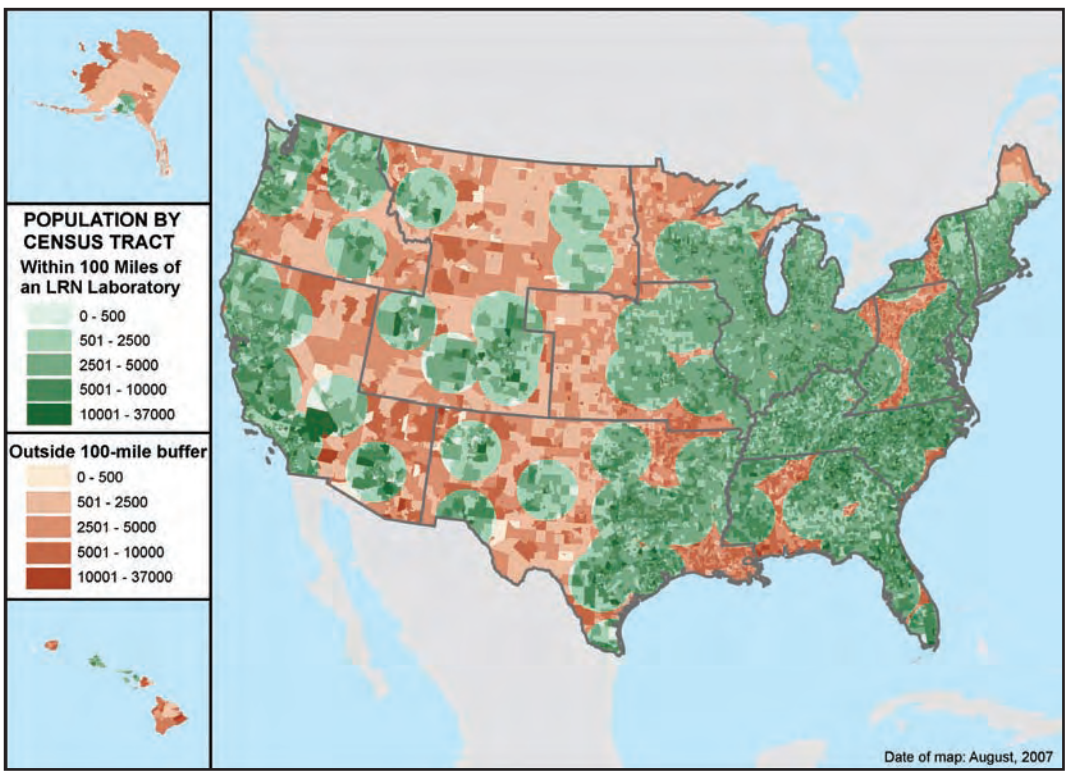
Some of the ways CDC supports LRN member laboratories include:

- Sharing tests used to confirm biological and chemical agents;
- Enabling secure communications on emerging and emergency issues;
- Developing training curricula;
- Implementing a quality assurance program; and
- Providing vaccines to protect laboratory workers from dangerous agents.

This network supports the laboratory facilities and trained staff to respond to biological and chemical terrorism and other public health emergencies. In 2007, the LRN had 163 member laboratories capable of detecting biological agents (of which 110 are state and local public health laboratories). In addition, 62 LRN laboratories can test for and/or handle chemical agents. As shown in Figure 3, 90% of the U.S. population lived within 100 miles of a LRN laboratory in 2007.[14]

Improving communication among laboratories. Once a threat is confirmed in one laboratory, other laboratories need to be quickly alerted since they might receive related case samples (indicating that the threat is spreading). To enable this communication, CDC manages a secure communication system among LRN member laboratories. In addition, public health laboratories need to communicate with the thousands of clinical and commercial laboratories

Figure 3: U.S. Population within 100 Miles of a LRN Laboratory, 50 States and DC, 2007



Source: CDC, DBPR LRN data; 2007

[14] CDC, DBPR LRN data; 2007

Communication among laboratories and public health departments is key, as outbreaks identified in one location can also be present in others.

Table 6: Laboratory Communications, 2001-2006

Indicator	Then (2001)	Now (2006)	Percent Increase
States with public health laboratories that could communicate with clinical and commercial laboratories (through email or fax to multiple recipients)	20[1]	51[2]	155%

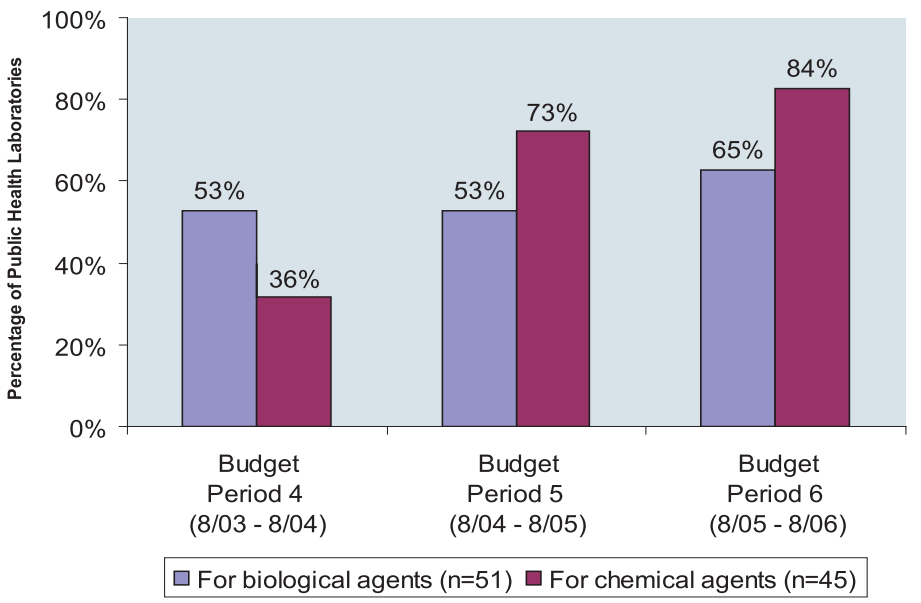
[1] APHL, *Public Health Laboratory Issues in Brief: Bioterrorism Capacity;* published October 2002 - data for 46 states and DC
[2] APHL, *Public Health Laboratory Issues in Brief: Bioterrorism Capacity;* published May 2007 - data for 50 states and DC

monitoring health through routine testing. These laboratories serve as early alert systems and can be the first to confirm a potential health threat. All states now have public health laboratories that can communicate rapidly with these laboratories (Table 6).

Training laboratory staff. Expanding training for clinical laboratory workers is key because they are often the first to confirm diseases leading to public health threats. In 2002, state public health laboratories offered 65 classes to fewer than 3,000 clinical laboratory scientists on testing for biological agents; while in 2006, states offered 500 classes to more than 8,000 laboratory scientists.[15]

Public health laboratories also need to conduct exercises to practice emergency response protocols. Figure 4 shows the increasing number of state public health laboratories conducting exercises to handle Category A biological agents (high-priority agents that pose a risk to national security) and chemical agents (toxic substances such as cyanide-based compounds, heavy metals, and nerve agents). Refer to Appendix 6 for a list of Category A and B biological agents.

Figure 4: Public Health Laboratories Conducting at Least One Exercise for Biological and Chemical Agents, 2003-2006



Source: CDC, DSLR data; 2003-2006
Note: Data for chemical terrorism agent exercises were collected for Level 1 and Level 2 laboratories.

[15] APHL, unpublished data; 2002 and 2006

Coordinated Public Health Response Rapidly Identifies the Source of *E. Coli* Outbreak

The public health response to a 2006 outbreak of *E. coli* infections showed how cooperative agreement funding has improved states' ability to respond. The response to the outbreak highlighted the importance of collaboration and communication among public health professionals in the 26 affected states.

In September 2006, state public health departments began investigating an outbreak of infections caused by *E. coli* O157:H7, a dangerous foodborne bacterium, to determine who the outbreak was affecting and how patients had contracted the infection. Public health professionals interviewed both ill and unaffected individuals to identify the source of the outbreak and determined that pre-packaged fresh spinach was the likely cause.

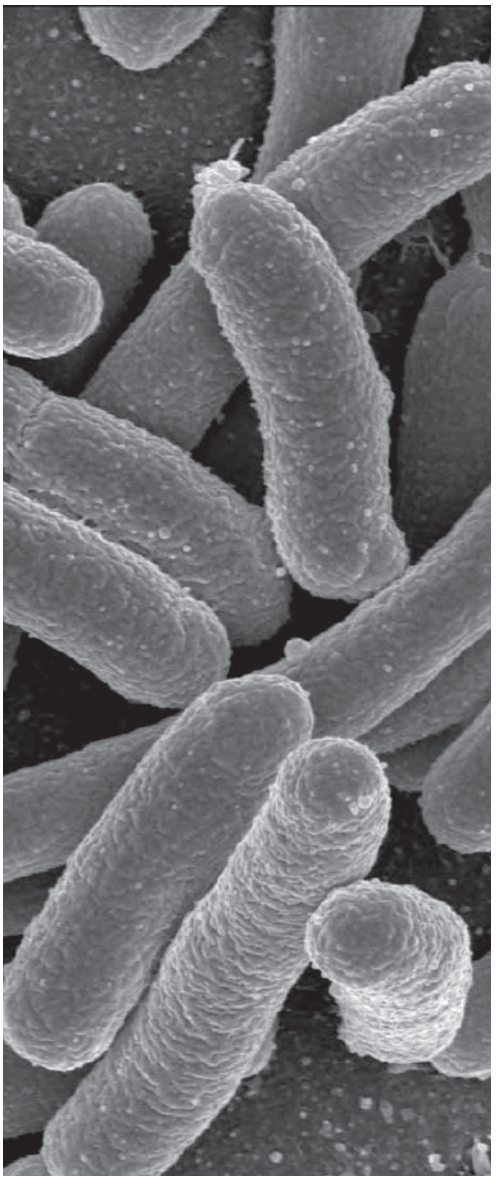
The Food and Drug Administration (FDA) advised consumers not to eat fresh spinach, and CDC sent messages out to the public health community via the Health Alert Network (HAN) and *Epi-X* to alert them of a nationwide outbreak. Federal and affected state health public information officers quickly disseminated and updated critical health information about the outbreak to public health partners, clinicians, and the news media.

Meanwhile, state public health laboratories performed DNA "fingerprinting" tests, or pulsed-field gel electrophoresis (PFGE), to distinguish strains of *E. coli.* Laboratories submitted information about these strains to PulseNet, a national network of laboratories coordinated by CDC that consists of state and local public health departments and federal agencies (CDC, FDA, and USDA). Through PulseNet, public health professionals across the country could compare the DNA fingerprints to determine if their state had cases of *E. coli* related to the outbreak. PulseNet confirmed the outbreak in multiple states.

Public health departments and laboratories in 10 states isolated *E. coli* strains from bags of spinach retrieved from patient households and performed tests to match these to *E. coli* strains isolated from patients. Local, state, and federal health officials collaborated to identify and report cases, communicate with consumers, and identify the source of the outbreak. A joint team of CDC, FDA, USDA, and California public health professionals visited selected farms, tracing the bacteria to the source.

Rapid identification of the bacterium causing the outbreak and tracking to the food source resulted in a nationwide recall of fresh spinach products. Joint laboratory and epidemiology investigations were critical for this rapid response.

Please refer to Section 2 for response examples for each state and directly funded locality.



Joint laboratory and epidemiology investigations are critical for a rapid response to disease outbreaks.

Challenges for Public Health Laboratories

Boosting the laboratory scientist workforce to ensure rapid and accurate testing. In a 2007 APHL survey, 31 state public health laboratories reported difficulties recruiting qualified laboratory scientists. Moreover, 39 reported needing additional staff to perform polymerase chain reaction, a rapid DNA testing technique to quickly identify bioterrorism agents.[16] This reflects a nationwide shortage of highly skilled laboratory workers to confirm potential health threats.

Ensuring secure electronic communication. Although 44 state public health laboratories have Laboratory Information Management Systems supporting laboratory functions, 19 of those laboratories cannot send or receive electronic messages that meet CDC standards for exchanging, communicating, and protecting data.[17] Without such electronic communication, it is impossible to rapidly monitor and integrate laboratory test results at the national level during an emergency.

Broadening the range of laboratory testing. States vary in the extent to which they can test for biological and chemical agents. For instance, all states have at least one laboratory that can test for the biological agents that cause anthrax, bubonic plague, tularemia, and brucellosis, but eight are not able to test for the highly infectious agent that causes Q fever.[18] For chemical agents, 9 states can test for blistering agents (such as mustard gas); 13 states for volatile organic compounds (chemicals such as benzenes, which can have short- and long-term health effects); 28 states for nerve agents (including manmade chemical warfare agents such as sarin or VX nerve agent); and 30 states for blood metals (such as mercury and lead).[19]

Although state public health laboratories can test for biological and chemical agents in blood or urine, they cannot test for chemical agents outside of these human clinical samples, such as in an unknown white powder. Laboratories are also limited in their ability to rapidly test large quantities of samples for chemical agents.

Another challenge is that no state public health laboratory can rapidly identify priority radioactive materials in clinical samples.[20] This could delay medical treatment decisions when a possible radiological exposure has occurred.

[16] APHL, *Public Health Laboratory Issues in Brief: Bioterrorism Capacity;* published in May 2007 - data for 50 states and DC
[17] APHL, *Public Health Laboratory Issues in Brief: Bioterrorism Capacity;* published in May 2007 - data for 50 states and DC
[18] CDC, DBPR LRN data; 2007
[19] CDC, National Center for Environmental Health (NCEH) data; 2007
[20] CDC, NCEH data; 2007

Response:

Improving Communication Systems and Increasing Planning, Training, and Exercising

Public health professionals are on the front lines during an emergency. Establishing emergency response plans was an initial focus of the cooperative agreement. Now, CDC is emphasizing exercises that test systems and validate training to ensure that plans will work during a real event. These activities support CDC preparedness goals in the areas of prevention, detection and reporting, investigation, control, recovery, and improvement.

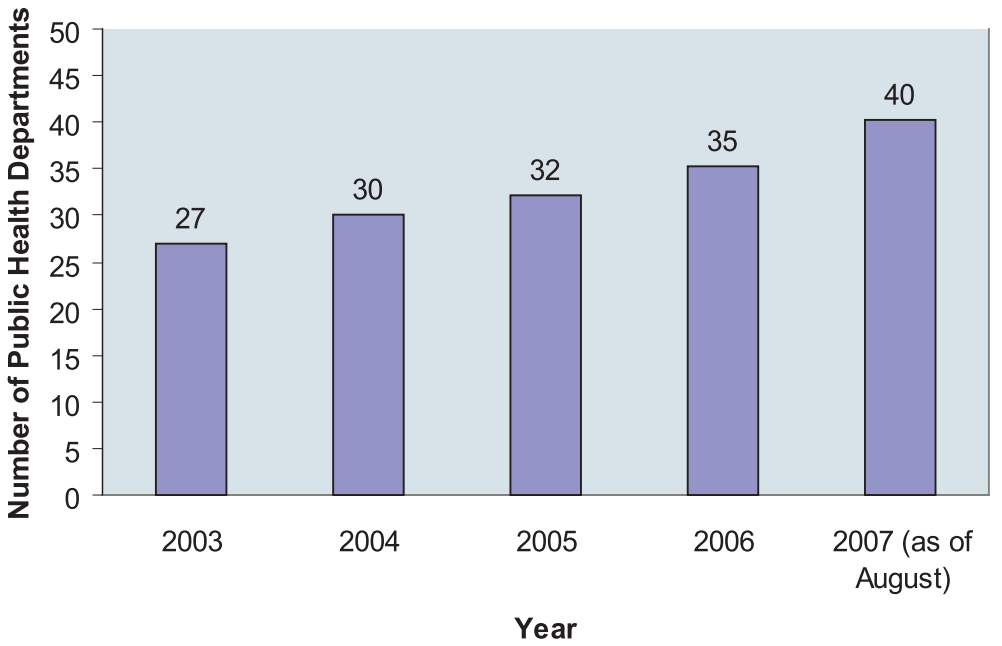
Quickly communicating up-to-date information. During an emergency, communication from public health professionals must be fast and accurate. In 2007, all states had plans for crisis communication with first responders and healthcare providers during an emergency.[21]

In addition, CDC's Health Alert Network (HAN) and state-level HANs provide a mechanism for users, including state and local public health departments, hospitals, and physicians, to rapidly exchange critical public health information. The number of states responding to a test HAN message from CDC in 30 minutes or less has increased by 48% since 2003 (Figure 5).[22]

Public Health Information Network

As part of the Public Health Information Network (PHIN), CDC has established standards for exchanging, communicating, and protecting electronic information both among public health departments and with healthcare, environmental, homeland defense, and other partners. To assist with implementing PHIN standards, CDC works with each state or local public health department funded through the cooperative agreement. CDC provides assistance with gap analyses, self-assessments, project plans, and sharing promising practices.

Figure 5: Public Health Departments Responding to Test HAN Messages in 30 Minutes or Less, 50 States and DC, 2003-2007



Source: CDC, HAN data; 2003-2007

[21] CDC, DSLR Mid-Year Progress Report Review data; 2007

[22] CDC, HAN data; 2003-2007

Emergency response planning helps responders from different jurisdictions and disciplines work together.

Developing emergency response plans. As of 2006, all state public health departments reported having public health emergency response plans. A key element of these plans is detailing roles, responsibilities, and responses to an emergency using the Incident Command System (ICS).[23]

CHEMPACK

CDC's CHEMPACK program has placed over 1,600 containers of nerve agent antidotes. Locations are determined by state and local agencies to help ensure a rapid response to emergencies involving chemical releases. Thirty-nine states already have containers, and seven additional states are in the process of obtaining them.

Distributing the Strategic National Stockpile (SNS). CDC manages the SNS, a national repository of antibiotics, other life-saving medications, and medical supplies, to help public health departments respond to emergencies. The SNS is positioned across the country. In 2001, few states had up-to-date, written plans for receiving, staging, and distributing SNS assets. In contrast, today all states have such plans. Nevertheless, states vary in the sophistication and maturity of the coordination and exercising of those plans.

CDC works closely with state, local, and tribal agencies to help identify and fix SNS planning gaps. CDC reviews the plans annually on a scale from a low of 0 to a high of 100. The reviews include the public health department's coordination with traditional and nontraditional community partners; receiving, staging, and distributing medical materiel; state legal statutes to aid in the rapid dispensing of medications; and the type and frequency of training, exercising, and evaluation of response plans. In 2006-2007, 73% of the states reviewed satisfactorily documented their planning efforts, which is reflected in a review score of 69 or higher (Table 7).

Planning for pandemic influenza. Since 2006, the cooperative agreement has provided specific funding to public health departments to prepare for pandemic influenza. As part of this effort, every state developed a pandemic influenza response plan. Previously, most states did not have completed plans addressing areas such as enhancing surveillance and laboratory capacity, managing vaccines and antivirals, and implementing community containment measures to reduce influenza transmission.[24] In addition, states held summits bringing together partners from state and local public health departments, businesses, schools, hospitals, and other organizations to plan for a potential pandemic.

Training to enhance public health preparedness. An increasing number of staff is now trained to support preparedness and response activities (Figure 6). Subjects covered in the training courses included ICS, risk communication, quarantine and isolation, mental health services during and after emergencies, and working with at-risk populations.[25]

In addition, following the anthrax attacks of 2001, CDC developed the "Forensic

Table 7: CDC Reviews of State Strategic National Stockpile Plans, 50 States, 2006-2007

Review Score	Number of States
69-100	36
0-68	13
Review in progress*	1

Source: CDC Division of Strategic National Stockpile (DSNS) data; 2006-2007

*CDC has not completed reviewing all states using a new numerical technical assistance review tool.

[23] The Incident Command System (ICS) is the organizational structure for managing incidents that require response from different jurisdictions and disciplines. ICS lays out standard roles and responsibilities for the incident commander and staff.

[24] CDC, Pandemic Influenza State Self-Assessments data; 2006

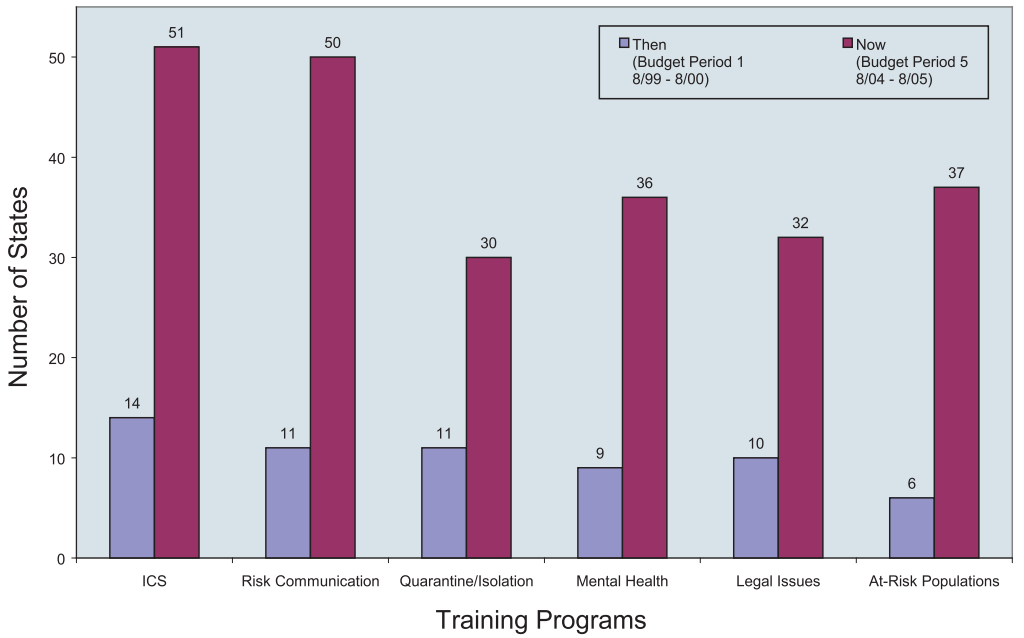
Exercises Test Public Health Systems and Foster Partnerships

In November 2006, a mass vaccine dispensing exercise was coordinated by the Navajo Area Indian Health Services and the Navajo Division of Health. The exercise provided almost 24,000 seasonal influenza vaccines at 15 different sites around the Navajo Nation (about 25,000 square miles). The exercise simulated a response to a pandemic influenza outbreak. The exercise also tested risk communication and the SNS delivery systems. Several dispensing sites vaccinated as many as 1,000 people per hour during peak times.

The Navajo public health system is large and complex, consisting of tribal and federal health agencies as well as agencies from three states and multiple counties. During the exercise, these health agencies worked with the Navajo Police, the National Guard, the National Park Service, and others using ICS. The cooperation demonstrated by these different agencies during the exercise will contribute to future successful emergency responses.

Please refer to Section 2 for response examples for each state and directly funded locality.

Figure 6: States Offering Training Courses to State and Local Public Health Professionals, 50 States and DC, 1999-2005



Source: CDC, DSLR data; 1999-2005

[25] At-risk or vulnerable population groups may have additional needs before, during, and after an incident in one or more of the following functional areas: maintaining independence, communication, transportation, supervision, and medical care. Individuals in need of additional response assistance may include those who have disabilities; who live in institutionalized settings; who are elderly; who are children; who are from diverse cultures, who have limited English proficiency, or who are non-English speaking; or who are transportation disadvantaged.

Exercises test plans, validate training, and build relationships so people know their roles and responsibilities during an emergency.

Epidemiology" course as a tool for state and local public health departments and law enforcement agencies to improve joint investigations of terrorism. As of 2004, over 14,000 public health and law enforcement professionals had participated in this course, and staff are continuing to be trained.

Exercising emergency response plans and validating training. Exercises test emergency response plans with personnel from across agencies and organizations.[26] Exercises can provide valuable experience and knowledge because people, technology, and equipment are put into action to test their ability to respond.

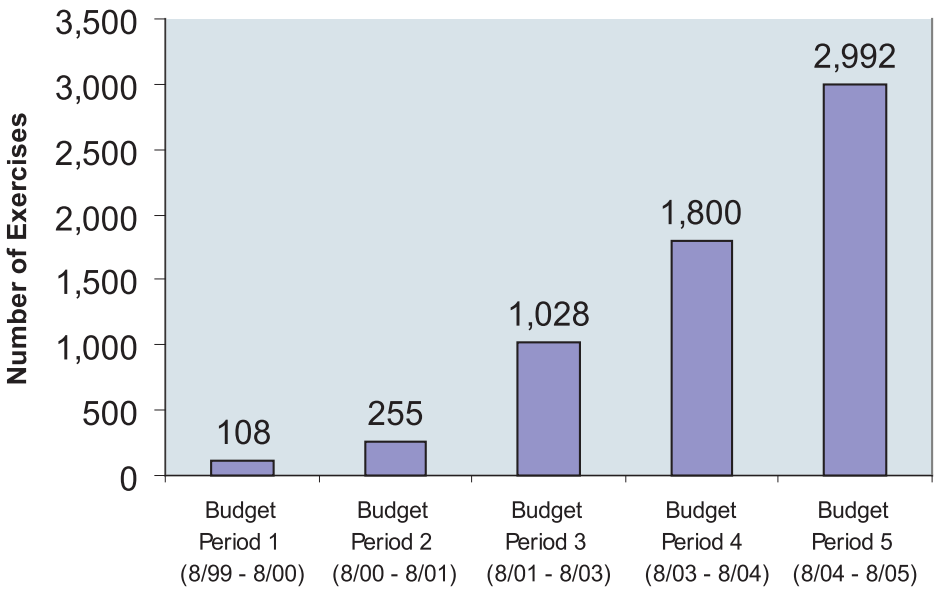
Figure 7 illustrates a steadily increasing number of exercises conducted by public health departments in the 50 states and DC. In addition, public health departments routinely evaluate exercises or real events and identify needed improvements.

CDC specifically coordinates exercises with state and local public health departments to test plans for the receipt and distribution of the contents of the SNS. The number of CDC-coordinated SNS exercises has increased from 0 in 2001 to 18 in 2006 (Figure 8).

Cities Readiness Initiative

The cooperative agreement funds cities to distribute medications to their entire population within 48 hours. The Cities Readiness Initiative began with 21 cities in 2004 and has expanded to 72 cities. This includes more than 500 counties, covering 56% of the U.S. population.[27] Because of the complexity of providing medicine to so many people, the program involves ongoing planning and exercises. For instance, in a June 2007 exercise, Philadelphia postal workers delivered more than 50,000 mock packages of emergency medication to people in their homes, exercising a novel delivery method. Similar exercises occurred in Boston and Seattle.

Figure 7: Public Health Preparedness Exercises, 50 States and DC, 1999-2005



Source: CDC, DSLR data; 1999-2005

[26] Exercises provide opportunities to test capabilities and improve performance in a risk-free environment. The three types of exercises include tabletop exercises, which involve discussing responses to emergency scenarios and focus on training and problem solving; functional exercises, which test and evaluate capabilities and functions in responding to a simulated emergency, such as a disease outbreak; and full-scale exercises, which test and evaluate multi-agency, multi-jurisdictional coordinated response to an actual deployment of resources under crisis conditions as if a real incident had occurred.

[27] CDC, DSNS Cities Readiness Initiative data; 2007

Challenges for Response

Ensuring public health uses an "all-hazards" approach to preparedness. Because of the many competing priorities for public health departments' resources, being prepared to respond to a wide variety of emergencies remains a challenge. In 2006, all states and DC reported having plans covering biological agents, but fewer reported having plans covering radiation (43) or nerve agents (27).[28]

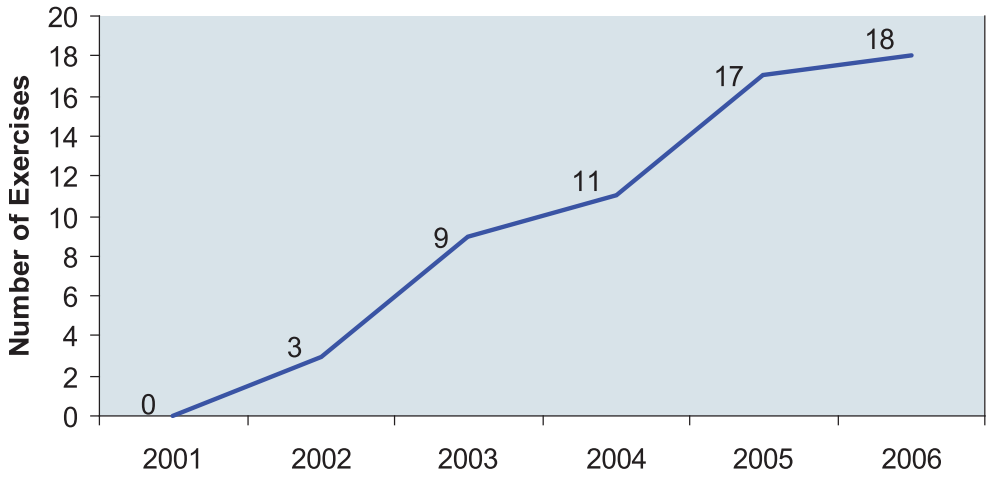
Retaining experienced public health response personnel. Ensuring that public health departments retain qualified response personnel is an ongoing challenge. A number of state and local agencies have difficulties retaining SNS coordinators.

Building and maintaining relationships. To build and maintain relationships with response partners, public health professionals need to continue planning and exercising with other government agencies and the community. Building these relationships requires other responders to recognize the importance of public health in emergency response. In 2006, most states and DC reported having developed ICS

roles and responsibilities with hospitals (90%) and local/regional emergency management agencies (92%), but fewer (73%) had developed them with federal emergency management agencies.[29]

Developing interoperable communication systems. Multiple agencies can work together more effectively during an emergency if all communication systems can "talk" to each other. In 2007, DHS reported that many cities and metropolitan areas have established multi-agency communications, but more progress is needed to expand interoperable communication across jurisdictions and levels of government.[30]

Figure 8: Annual Number of Joint SNS Exercises to Test Response Plans, 50 States and DC, 2001-2006



Source: CDC, DSNS data; 2001-2006

Note: Figure 8 only includes joint state/CDC exercises. States also conduct exercises independently that are not included in these numbers.

[28] CDC, DSLR data; 2006

[29] CDC, DSLR data; 2006

[30] DHS, *Tactical Interoperable Communications Scorecards: Summary Report and Findings*; 2007

Exercises Prepared Public Health Response to a Meningitis Outbreak

When a meningococcal meningitis outbreak occurred at a local high school in Los Angeles, California, in 2006, the local public health department responded.

The public health department was ready because vaccination exercises had been conducted before the outbreak. The exercises provided public health department staff experience in working directly with the local and county law enforcement agencies, fire departments, and emergency medical services. This was valuable during the meningitis outbreak because collaboration resulted in effective site security, traffic control, and emergency medical technician response at the high school.

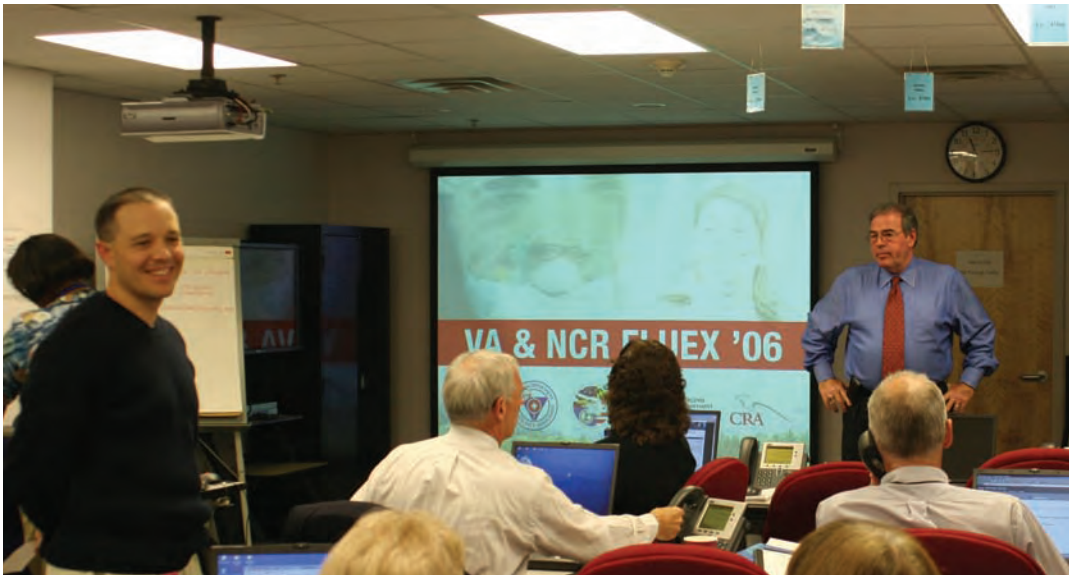
The County of Los Angeles Department of Public Health reported that "before, the setup and response to a disease outbreak took far longer, sometimes an entire day or more; site organization and management was often overwhelming, and at times chaotic." A timely response reassured students and their parents that they were being well taken care of by the Department of Public Health during this outbreak.

Please refer to Section 2 for response examples for each state and directly funded locality.

Moreover, the report noted that some of the communications planning and exercises among response agencies did not include public health departments.

Monitoring environmental health. Environmental effects from an emergency, such as a chemical spill, need to be monitored over extended periods to track potential long-term health outcomes. In 2007, 11 states did not report any activities related to having systems that can track environmental exposures and adverse events over the long term.[31]

Helping at-risk populations during emergencies. CDC's experience responding to Hurricanes Katrina and Rita showed that CDC and state public health departments must address the needs of at-risk populations in an emergency. For example, the elderly and others with chronic diseases need help to control diseases such as diabetes and heart conditions when health systems are not available.



[31] CDC, DSLR Mid-Year Progress Report Review data; 2007

Moving Forward:

CDC and Public Health Departments Are Working to Address Challenges

Public health professionals need to continually train and exercise to improve performance. Laboratory and other equipment must be maintained to work well during an emergency. Response plans must be updated to address emerging health threats. Accordingly, an ongoing national commitment to public health preparedness will allow state, local, tribal, and territorial public health departments to maintain their current abilities and take the next steps necessary to improve emergency response.

Public health departments still face many challenges in improving preparedness. Appendices 3 and 4 present information on CDC and ASPR activities to strengthen preparedness. Examples of CDC initiatives are presented below.

- **Electronic data for preparedness.** CDC is establishing standards and providing technical assistance to allow the exchange of electronic health data across organizational and jurisdictional boundaries.

- **Laboratory testing.** CDC is working with state public health laboratories to expand their biological and chemical testing abilities. For radiological testing, CDC is developing rapid laboratory methods to analyze radioactive materials in clinical samples and build capacity in state or federal laboratories to measure radioactive contaminants in these samples.

- **At-risk populations.** CDC has established commercial partnerships to supply needed medicines to at-risk populations during an emergency. With these partnerships, CDC can quickly supply childhood vaccines, medications for a variety of chronic diseases, or other medicines.

- **Public health workforce and training.** CDC and its partners developed the Meta-Leadership Summit for Preparedness, a nationwide program that trains business, government, and non-profit leaders to act effectively during times of crisis. In addition, the Centers for Public Health Preparedness, a national network of academic institutions with a common focus on public health preparedness, are developing a national preparedness core curriculum.

- **Legal preparedness.** CDC's initiatives include enhancing training courses on legal preparedness for public health professionals and other first responders. In addition, CDC is helping states and other jurisdictions implement public health mutual aid agreements, which enable sharing of supplies, equipment, personnel, and information during emergencies.

- **Technical assistance to public health departments.** CDC provides ongoing technical assistance to public health departments to help address preparedness challenges. The technical assistance includes sharing CDC public health expertise, identifying promising practices, providing guidance for exercises, and developing performance goals.

- **Exercising public health systems.** CDC joins other federal agencies in requiring that public health departments and other response agencies receiving federal funds exercise capabilities using Homeland Security Exercise and Evaluation Program principles. Exercises range from discussion-based tabletop exercises used to discern gaps in emergency response plans to full-scale operations-based exercises that test communication and coordination within the community's entire response system.

- **Standards for preparedness.** CDC and NACCHO are collaborating on Project Public Health Ready to develop standards for local public health preparedness. CDC is also working with partners to develop a voluntary accreditation program for state and local public health departments.

- **Measuring public health preparedness.** CDC is expanding and improving preparedness data to present a clearer picture of the status of public health preparedness in the United States and to promote accountability, as reinforced by the Pandemic and All-Hazards Preparedness Act, signed in December 2006. These data will assist CDC and public health departments in identifying specific areas for improvement. CDC is committed to developing appropriate, specific, measurable, and validated performance measures to foster improvement in public health preparedness.

Achieving the overarching goal, "people prepared for emerging health threats," is critical to the health and safety of our communities. This report represents CDC's commitment to sharing information on a program that contributes to this goal. Future reports will show the extent to which CDC and public health departments are making progress towards achieving preparedness goals.

Section 2: Snapshots of Public Health Preparedness in States and Directly Funded Localities

The purpose of these snapshots is to provide information on public health preparedness activities in the 50 states, DC, and the directly funded localities of Chicago, New York City, and Los Angeles County.

The snapshots present data from CDC and partner publications that were available at the time of reporting and do not cover all preparedness activities that state and local public health departments have conducted. However, this effort represents a first step in presenting a more comprehensive picture of public health preparedness. For more information on current state preparedness activities, please contact the state public information officer (see directory at http://www.nphic.org/regions.asp).

Each snapshot provides an example of a real-life response or exercise that was enhanced by the cooperative agreement, narrative from the state or locality describing how the cooperative agreement has improved public health preparedness, and data on specific preparedness activities. The data are organized under one of three key public health preparedness areas: disease detection and investigation, public health laboratories, and response. The preparedness activities support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event.

The following table summarizes the snapshots on select public health preparedness activities conducted by the 50 states and 4 directly funded localities. For data points that do not cover all states and localities, the number responding is noted (some data sources did not collect information on the localities or did not have a 100% response rate).

The Big Picture for All States and Directly Funded Localities

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	100%
	Primary method for receiving urgent disease reports*[2]	
	- Telephone	81%
	- Electronic reporting	13%
	- Fax	6%
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	100%
	Conducted year-round surveillance for seasonal influenza[4] [50 states and DC]	100%

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of laboratories in the Laboratory Response Network*[1]	155
	Number receiving *E. coli* O157:H7 samples (partial year, 9/06 – 2/07)[2] [50 states]	46
	- Mean percentage of test results submitted to CDC database within 4 days	79%
	Number receiving *Listeria monocytogenes* samples (partial year, 9/06 – 2/07)[2] [50 states]	26
	- Mean percentage of test results submitted to CDC database within 4 days	67%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06) [50 states and DC]	86%
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	57%
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06) [50 states and DC]	100%
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	67%
	Conducted exercise to test chemical readiness that met CDC criteria†[4] (8/05 – 8/06) [46 states]	85%

*This number only includes LRN laboratories in the 50 states. There are a total of 163 LRN laboratories.

† Data for chemical terorism agent exercises were collected for Level 1 and 2 laboratories

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	100%
	State plan to receive and distribute SNS assets reviewed by CDC[2] [50 states]	98%
	- Mean score on CDC technical assistance review (1-100)	79
	Total number of cities in the Cities Readiness Initiative[3]	72
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	91%
	- Local/regional emergency management agencies	93%
	- Federal emergency management agencies	70%
	Public health department staff participated in training to support cooperative agreement activities[4]	100%
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06) [46 states and DC]	70%
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	67%
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	43%
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	98%

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Alabama

http://www.adph.org/aldph.asp

Alabama Responds to Severe Tornadoes

Prepared public health professionals protect community health during emergencies.

In March 2007, numerous tornadoes swept across the state of Alabama. Two of these tornadoes seriously affected residents, particularly in the towns of Enterprise and Miller's Ferry which reported fatalities. Hundreds of homes were destroyed or suffered major damage. The Governor activated the state emergency operations center and declared a state of emergency. The Alabama Department of Public Health (ADPH) put its 24 emergency response teams on alert for statewide deployment. Public health nurses and social workers assisted in shelters managed by the American Red Cross. In addition, surveillance nurses investigated emergency room visits made by first responders and tornado victims who presented with burns because of exposure to an unknown chemical at a school.

Throughout the response, ADPH coordinated with local public health departments, emergency management agencies, non-profit organizations, and others to mitigate health threats across Alabama. ADPH provided a mobile unit for those residents who needed tetanus shots, first aid, and masks. ADPH arranged for commercial pharmacies to provide medications to people who had lost theirs in the tornado. Walking teams of public health nurses and social workers also visited badly-hit neighborhoods to assess for unmet needs. ADPH also issued press releases to warn citizens of the dangers that often follow disasters, including carbon monoxide poisoning when using gasoline powered generators and poor water quality in homes with private wells. Cooperative agreement funds allowed ADPH to provide these critical services to Alabama residents.

According to the Alabama Department of Public Health, the cooperative agreement is valuable because health departments have a greater capacity to respond to emergencies than they did prior to the cooperative agreement. The cooperative agreement has provided training to prepare staff to deal with many types of events, equipment such as communication gear, computers, and state-of-the-art tools to detect biological agents, and additional staff that have led ADPH's response to numerous emergencies.

Snapshot of Public Health Preparedness

Below are activities conducted by Alabama in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Alabama

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Alabama laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	1
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Alabama SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	92
	Number of Alabama cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No response
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Alaska

http://www.hss.state.ak.us/dph/dphpp/default.cfm

Alaska Exercises Pandemic Influenza Plan during a Real Outbreak

Exercising response plans during real events improves preparation for future large-scale events.

The Alaska Division of Public Health (DPH) seized an opportunity in 2007 to exercise response to an outbreak that was similar to an influenza pandemic scenario, which could potentially overwhelm public health, emergency response, and health care systems. In late January, a northern Alaskan hospital in the town of Barrow started receiving pediatric patients suffering with respiratory syncytial virus (RSV), the most common cause of respiratory tract infection among children younger than 1 year old. Within one month, the town had already seen triple their annual number of RSV cases. With cases occurring across Alaska, patients quickly filled all of the available pediatric intensive care units in the state and necessitated the use of adult ICU beds for overflow. DPH activated its Emergency Operations Center (EOC) and coordinated an inter-agency teleconference to share outbreak information with all partner agencies and to address the immediate needs of medical communities in affected cities. The teleconference included representatives from public health and emergency response agencies at the local and state levels, hospitals, and the Alaska Native Tribal Health Consortium.

In addition, epidemiologists started a statewide program to track the spread of RSV and other respiratory illnesses. The EOC used this information to track possible hot spots in an attempt to stem any other outbreaks similar in size and scope to the one in Barrow. The EOC was able to train DPH staff in their roles in an emergency and engage partner agencies in their expected roles during a large-scale event. The public information team was able to practice developing and disseminating risk communication and public education materials for a statewide event.

According to the Alaska Division of Public Health, the cooperative agreement is valuable because funds have been critical in connecting important stakeholders for an all-hazards approach to preparedness. Bringing together hospitals, environmental health organizations, tribal health organizations, homeland security, local emergency management, and first responders is crucial in all-hazards preparedness.

Snapshot of Public Health Preparedness

Below are activities conducted by Alaska in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Alaska

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Alaska laboratories in the Laboratory Response Network[1]	2
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	2
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Alaska SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	80
	Number of Alaska cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Arizona Responds to an Influx of Hurricane Katrina Evacuees

Partnerships play key roles in comprehensive emergency response.

Phoenix, Arizona received 576 evacuees by plane from New Orleans within one week of Hurricane Katrina's landfall in 2005. Because of cooperative agreement funding, the Arizona Department of Health Services had the resources to coordinate the sheltering of evacuees, conduct effective infection control and health screening, and implement an on-site clinic at the shelter. Local organizations and the medical community also contributed resources to assist the evacuees over the two weeks of public health and medical operations.

Public health activities included the administration of vaccines, tuberculosis screening, laboratory analyses of patient samples, pharmacy services, emergency medical services transports, hospital referrals, behavioral health services, food safety inspections, and comprehensive infection control and sanitation services.

The clinic served both evacuees housed at the shelter and other evacuees who arrived independently. Medical and epidemiological data were collected at the clinic, and other data also were obtained from various organizations providing health services to evacuees. In total, 826 patients were seen at the clinic, for a total of 1,427 visits. Because of the comprehensive infection control measures taken at the shelter throughout the operation no outbreaks were detected, although many patients reported symptoms related to infectious diseases.

According to the Arizona Department of Health Services, the cooperative agreement is valuable because funds have supported all required planning, development, implementation, monitoring activities, and resources to improve Arizona's capability to respond to a public health emergency. Five years prior to the cooperative agreement, no one program was solely dedicated to public health emergency preparedness and response. Since then, the state has consolidated its two public health preparedness and response offices into a single Bureau of Emergency Preparedness and Response.

Snapshot of Public Health Preparedness

Below are activities conducted by Arizona in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Arizona

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Arizona laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	22
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	77%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	3
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	67%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Arizona SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	86
	Number of Arizona cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Arkansas Assists Hurricane Katrina Evacuees

Coordination of government programs improves public health in the wake of devastating emergencies.

In September 2005, the Arkansas Department of Health (DOH) activated and fully staffed its Emergency Operations Center (EOC) as reports began coming in that thousands of Katrina evacuees were on their way by plane, car, and bus to Arkansas. The state's greatest concern was how to house and feed the evacuees while simultaneously preventing the spread of disease in mass shelters.

DOH accomplished hundreds of logistical tasks during this mass evacuation, including processing thousands of applications for services ranging from medical assistance and social services to temporary employment assistance (TEA). During the months of September and October, more than 12,000 applications were processed. Benefits authorizing food stamps amounted to $2.3 million. Arkansas Medicaid applications were approved for 1,315 people and TEA benefits totaled $78,871.

In the end, approximately 31,000 evacuees were processed through the Arkansas system. In addition, coordination with CDC allowed for an epidemiological team to assess the health status of the evacuees. Rapid needs assessments and evaluations of the impact on environmental services systems allowed for a more efficient response to Hurricane Katrina. The Arkansas Public Health Laboratory also conducted drinking water analysis for several months following Hurricane Katrina. Increased laboratory infrastructure provided through preparedness initiatives was essential to manage increased workloads.

According to the Arkansas Department of Health, the cooperative agreement is valuable because Arkansas has been able to convert from statewide telephone line and modem communications systems to a real-time high speed 24/7 intranet system. In addition, the cooperative agreement has had immeasurable effects on the state public health laboratory, especially in the clinical microbiology, molecular diagnostics, and virology testing units. Arkansas has moved from traditional time-consuming methods to modern methods that can identify most Category A agents in a fraction of the time.

Snapshot of Public Health Preparedness

Below are activities conducted by Arkansas in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Arkansas

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Arkansas laboratories in the Laboratory Response Network[1]	2
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	21
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Arkansas SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	83
	Number of Arkansas cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

California's Response to Life-Threatening High Temperatures

Strong emergency operation capacity maintains high-level response for extended emergencies.

July 2006 was the hottest July on record for California. When temperatures climbed well above 100 degrees and stayed there for weeks, the health and safety of the public was threatened. At least 100 deaths were attributed to extreme heat.

Many of the early heat-related fatalities were elderly people or those living alone. To target this high-risk group, California Department of Health Services (CDHS) staff contacted all long-term care facilities in the state to check temperatures inside the facilities and provide advice to those without air conditioning. Local health department workers contacted single-room occupancy hotels to inquire about frail and elderly residents who needed assistance. Seventy-five cooling centers were opened at fairgrounds and other locations to provide safe shelter for residents without access to air conditioning. Information on how to avoid heat-related illnesses was disseminated through news conferences and releases and posted on state agency websites.

To coordinate these activities, the CDHS activated its Joint Emergency Operations Center (JEOC). Unlike some emergency events, heat waves last for extended periods of time. The activation of the JEOC allowed CDHS to successfully coordinate intra- and interagency response activities for the duration of the heat wave. Both the physical structure of the JEOC and previous staff training ensured that a consistent high-level response was maintained. Following the summer heat wave, a task force of state and local partners convened and developed an interim contingency plan for future heat emergencies.

According to the California Department of Health Services, the cooperative agreement is valuable because funding has provided resources for training in the Standard Emergency Management System (SEMS) and other aspects of emergency preparedness. California has been able to upgrade biological and chemical laboratories, develop a new emergency operations center, and develop protocols compliant with SEMS and NIMS. The state has greatly improved its preparedness capability at both the state and local levels to address potential public health threats.

Snapshot of Public Health Preparedness

Below are activities conducted by California in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

California

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of California laboratories in the Laboratory Response Network[1]	21
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	257
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	91%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	3
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	33%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	California SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	97
	Number of California cities in the Cities Readiness Initiative[3]	7
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Chicago

http://egov.cityofchicago.org

Chicago Responds to Salmonella Outbreak at a Citywide Food Festival

Robust public health capabilities are needed to respond to multiple emergencies.

The 20th annual "Taste of Chicago" festival was held in 2007 and drew an estimated 3.5 million people. Many hailed from the tri-state area, while others traveled from across the United States as well as overseas. However, for the first time in the event's history, the festival was marred by a salmonella outbreak that affected almost 800 people. Compared to the typical salmonella case count of only 300 per year in the Chicago area, this outbreak was unprecedented in both number and scope and tested the city's ability to respond effectively to contain the outbreak and inform the public.

The Chicago Department of Public Health called upon many resources in order to contact patients and conduct interviews as part of the epidemiological investigation. Staff were able to investigate and trace the source of salmonella back to a single dish from a single vendor. During the outbreak investigation, the department's resources were stretched thin by other concurrent health-related incidents. Some of these incidents included the discovery of imported counterfeit toothpaste, continued monitoring of West Nile Virus activity, and the citywide response to the health-endangering heat wave. The response to all of these events required a well-organized and trained organization capable of carrying out multi-faceted tasks and adapting to rapidly-evolving situations.

According to the Chicago Department of Health, the cooperative agreement is valuable because previously, it would have been difficult to have the surge capacity to respond to large-scale or multiple events as the public health infrastructure and resources became depleted. Chicago has been able to hire staff with relevant expertise in preparedness. Additional resources have also enabled the city to increase competencies and response capabilities of its staff.

Snapshot of Public Health Preparedness

Below are activities conducted by Chicago in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza†[4]	—

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

† Localities were not asked to respond to this question.

Chicago

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Chicago laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Had a laboratory information management system that could create, send, and receive messages*[3] (8/05 – 8/06)	—
	- System complied with CDC information technology standards (PHIN)*[3] (8/05 – 8/06)	—
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens*[3] (8/05 – 8/06)	—
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

*Localities were not asked to respond to this question.

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Chicago SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	88
	Participated in the Cities Readiness Initiative[2]	Yes
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[3]	Yes
	Public health laboratories conducted training for first responders*[4] (8/05 – 8/06)	—
	Activated public health emergency operations center as part of a drill, exercise, or real event†‡[5] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable‡[5] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event‡[5] (partial year, 9/06 – 2/07)	Yes

*Localities were not asked to respond to this question.

† Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

‡ Localities were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS CRI; 2007; [3] CDC, DSLR; 1999-2005; [4] APHL, Chemical Terrorism Preparedness; May 2007; [5] CDC, DSLR; 2007

Colorado

http://www.cdphe.state.co.us/epr

Colorado Responds to Major Winter Storms

Public health has an important role in every kind of emergency.

In the last weeks of December 2006, two major winter storms hit Colorado. The first storm brought the Denver metropolitan area to a standstill; the second storm, which caused relatively minor problems in Denver, moved east and paralyzed the rest of the state with up to 4 feet of snow and drifts as high as 10 feet.

The Colorado Department of Public Health and Environment (DPHE) began monitoring the situation as soon as the state's Division of Emergency Management activated several state agencies. Although DPHE was not initially activated with the other agencies, it soon became apparent that DPHE needed to respond when reports came in that thousands of families were without power for 3 days or more. Without power for an extended time, food safety, sanitation, extreme cold, and transportation became serious public health concerns. Among other activities, public health workers rapidly assessed disrupted health sectors, monitored pharmaceutical supplies, located and assisted at-risk populations, and developed public health messages for the public.

Public health involvement is critical to help coordinate response and ensure continued access to needed care. Persistent efforts of Colorado public health officials during this incident made clear the important role of public health in emergency planning and response.

According to the Colorado Department of Public Health and Environment, the cooperative agreement is valuable because funding has allowed Colorado to set rigorous public health preparedness goals and devise a framework to achieve them. Without the cooperative agreement, no state funding would have been available for these public health efforts, and progress in emergency preparedness and response would not have been possible.

Snapshot of Public Health Preparedness

Below are activities conducted by Colorado in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Colorado

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Colorado laboratories in the Laboratory Response Network[1]	7
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	80
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	35%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	5
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	0%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Colorado SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	87
	Number of Colorado cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Connecticut's Statewide Exercise to Distribute Emergency Medications

Exercises are critical to ensure successful federal-state-local interactions during an emergency.

In April 2006, the Connecticut Department of Public Health (DPH) conducted a full-scale seven-day exercise to test the state's ability to order, receive, and distribute medications from the CDC Strategic National Stockpile (SNS) in the event of a public health emergency. An outbreak of a deadly infectious disease was simulated in which the local pharmaceutical supply ran out. The cooperation of federal, state and local government agencies, hospitals, municipalities, and schools was critical to the success of this exercise.

The exercise involved a mock receipt, storage, and staging of medical assets from the SNS and the distribution of assets to seven local public health departments and four hospitals across the state that acted as local points of dispensing (POD) and treatment centers, respectively. DPH delivered simulated medications to distribution points throughout the state within 24 hours of receipt. Local public health officials then worked to dispense 1,000 regimens per hour to residents and hospitals.

DPH collaborated with the Department of Emergency Management and Homeland Security (DEMHS) to plan this exercise according to Federal Homeland Security Exercise and Evaluation Program guidelines. Local public health departments that did not host a POD provided planning and operational support. DPH, DEMHS, and participating localities and hospitals activated their respective emergency operations centers and used the Incident Command System throughout the response. As a result, PODs distributed medication to a total of 1,539 volunteer "patients" across the state. This was the first time dispensing throughput had been documented in great detail, and the data will serve as a baseline on which to improve mass dispensing.

According to the Connecticut Department of Public Health, the cooperative agreement is valuable because the state has been able to build several key preparedness components and bring authority and legitimacy to planning for emergencies that might never have happened without the cooperative agreement. Newly hired staff for planning have also been critical for exercising, improved communications, and standardization of planning activities.

Snapshot of Public Health Preparedness

Below are activities conducted by Connecticut in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Connecticut

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Connecticut laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	17
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Connecticut SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	69
	Number of Connecticut cities in the Cities Readiness Initiative[3]	2
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Delaware

http://www.dhss.delaware.gov/dhss/dph

Delaware Ensures Preparedness Efforts for All Residents

Addressing the needs of at-risk populations helps public health departments serve all residents.

Delaware's Division of Public Health (DPH) was concerned that its public health response and recovery plans did not meet the needs of all people, especially at-risk populations (identified as children, disabled, homeless, economically disadvantaged, medically fragile, institutionalized, or persons temporarily injured). Emergency planning for at-risk populations includes making provisions and developing systems that meet the needs of all individuals.

Over the last 3 years, DPH has completed substantial work to reach and plan for these populations. Response plans and exercises incorporated at-risk population groups, such as individuals with visual impairments in a 2004 large-scale, functional exercise, and also 319 people with special needs added to the 911 registry during a 2007 call center exercise. DPH provided tips for helping at-risk populations to all first responders in the state and also developed a guide for emergency planners to help address the needs of at-risk populations. DPH also distributed almost 6,000 specialized publications for at-risk populations regarding actions to take in a disaster (developed in Braille, Spanish, large print, and audio). These activities support emergency response capabilities that can reach and protect the health of all Delaware residents.

According to the Delaware Division of Public Health, the cooperative agreement is valuable because funding has provided several critical components for building a strong preparedness response plan. Delaware has been able to hire the staff needed to operate daily and emergency operations, purchase and stockpile equipment and supplies to support mass prophylaxis of the population during public health emergencies, and purchase electronic systems that were not in place prior to the cooperative agreement.

Snapshot of Public Health Preparedness

Below are activities conducted by Delaware in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Delaware

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Delaware laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	8
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	75%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	No

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Delaware SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	94
	Number of Delaware cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

District of Columbia

http://bioterrorism.doh.dc.gov/biot/site

District of Columbia Responds to a Chemical Incident

Cross-jurisdictional collaboration plays a key role in emergency response.

One morning in July 2007, an alarming number of dead birds, accompanied by an unknown powder, were reported at multiple transit stations across the District of Columbia. Transit officials who had not been notified of any planned pest control activities became suspicious of a chemical terrorism threat.

Public health officials and animal specialists monitored the situation both on site and remotely with regional and federal emergency response coordination. The fire department and emergency responders were able to immediately investigate the chemical on-site, and the Federal Bureau of Investigation also became involved due to the potential for this incident to have a nexus to terrorism. Within hours the chemical agent was identified as a skin and eye irritant and an ingredient commonly found in laundry detergents and rat poison. In total, between 70 and 90 birds died across seven transit stations. Humans were not harmed.

Local emergency response was able to successfully contain this situation within 5 hours because of effective collaboration among local, regional, and federal partners in public health, law enforcement, and public safety; on-site and remote emergency response coordination and operations at both regional and federal levels; and the ability of emergency responders to immediately conduct environmental tests.

According to the District of Columbia Department of Health, the cooperative agreement is valuable because it has allowed the District of Columbia to build capabilities and expand capacity in a wide variety of public health emergency preparedness areas. These have included syndromic and disease surveillance, interoperable communications, planning, preparedness and response, chemical and biological laboratory testing, mass prophylaxis/vaccination, and other key initiatives to build a District that is stronger, more resilient, and better prepared to handle natural, manmade, or technological disasters.

Snapshot of Public Health Preparedness

Below are activities conducted by District of Columbia in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Electronic Reporting
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

District of Columbia

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of District of Columbia laboratories in the Laboratory Response Network[1]	3
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

*Localities were not asked to respond to this question.

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	District of Columbia SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	91
	Participated in the Cities Readiness Initiative[2]	Yes
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[3]	Yes
	Public health laboratories conducted training for first responders[4] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*†[5] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable†[5] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event†[5] (partial year, 9/06 – 2/07)	Yes

*Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† Localities were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS CRI; 2007; [3] CDC, DSLR; 1999-2005; [4] APHL, Chemical Terrorism Preparedness; May 2007; [5] CDC, DSLR; 2007

Florida

http://www.doh.state.fl.us/demo

Florida Responds to a Measles Outbreak

Epidemiological investigations are critical for effective surveillance in public health emergencies.

In May 2007, a university student went to the student health service center with a rash-like illness that was diagnosed as measles and later confirmed through subsequent testing. It had been over 20 years since the last case of measles in Alachua County. The student was a member of a religious group that, while not prohibiting vaccination, did not actively receive immunizations. Investigations proved that several other members of this religious group had been ill, with one potential case having returned from a major festival in India. Because of the highly contagious nature of measles, the public health department needed to respond quickly and conduct ongoing monitoring.

The Alachua County Health Department established a basic Incident Command System (ICS) structure for the measles outbreak. While all of the staff involved had been trained in ICS and most had used it in major hurricane deployments, this was their first use of the system in a biological event. Public health workers are now convinced that this training and the system itself provided a better framework to identify activities and outcomes, track completion of assignments, and allow for proper accounting of the associated costs.

Public health workers responded by conducting surveillance of the entire primary care medical community for new cases, looking back for unreported cases (four were found), setting up immunization clinics at the religious group's headquarters, school sites, and satellite clinics, and establishing an ongoing "rash room" entrance for diagnosis and prevention of potential new cases from entering the general population. As a result, no further cases occurred, and the incident was closed in June, only one month after the first diagnosis.

According to the Florida Department of Health, the cooperative agreement is valuable because funds have allowed the state to hire dedicated preparedness personnel to coordinate and facilitate planning, training, and exercising of public health and response partners. Florida also has been able to provide ICS training that has drastically increased the state's ability to respond, eliminate duplication of efforts, and maximize the use of resources.

Snapshot of Public Health Preparedness

Below are activities conducted by Florida in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Florida

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Florida laboratories in the Laboratory Response Network[1]	5
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	17
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	82%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Florida SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	86
	Number of Florida cities in the Cities Readiness Initiative[3]	3
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Georgia

http://health.state.ga.us/programs/emerprep

Georgia Responds to Wildfires

Better communication increases comprehensive and coordinated emergency response.

When severe wildfires struck southeast Georgia in spring 2007, the public health district office, which covers 16 counties and 17 local public health departments, opened its district operations center. From there, the district staff coordinated with local health departments to respond to the fire and deal with the smoky conditions which had increased the public health risk for respiratory problems. The district also helped health department staff give protective masks and tetanus shots to first responders working in wooded areas.

The district public information officer informed the community, media, and local emergency response agencies about the wildfires through numerous public service announcements, press releases, and the district's website. Nurse managers and staff went door-to-door to provide information about the smoke to residents living in more remote areas. Local "hangouts" were used to get information out to the public and the emergency management agency set up a hotline to address community questions and concerns. Town hall meetings also were held to inform the public and allow for questions.

Since 2001, communication between local agencies (first responders and others) and public health has increased significantly. Today, public health is included in emergency planning and response. As a result of increased partnership and communication, the counties affected by the wildfires have not seen an increase in respiratory problems. In addition, first responders are now protected from tetanus infection for future emergency response situations outdoors.

According to the Georgia Division of Public Health, the cooperative agreement is valuable because funding has built a strong, statewide foundation for preparedness through extensive planning and training efforts combined with procurement of critical assets necessary in a response. This infrastructure has benefits in daily operations and has proven itself in several actual emergency incident responses.

Snapshot of Public Health Preparedness

Below are activities conducted by Georgia in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Electronic Reporting
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Georgia

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Georgia laboratories in the Laboratory Response Network[1]	7
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	13
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	85%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	8
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	25%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	No

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Georgia SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	24
	Number of Georgia cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

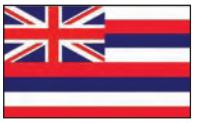
* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Hawaii Exercises the Biohazard Detection System with the Postal Service

Full-scale exercises involving multiple agencies ensure a coordinated response to public health incidents.



In June 2007, the Hawaii Department of Health (HDOH), along with the United States Postal Service (USPS), conducted a full-scale exercise of the Biohazard Detection System (BDS). This exercise, called the *Maka'ala II* exercise, was developed to test a multi-agency response to the detection of anthrax spores in the USPS mail sorting facility located near the Honolulu International Airport. The exercise planning team was composed of multiple agencies from the federal (USPS, Federal Fire Department), state (HDOH, state civil defense, Sheriff's Department, Department of Transportation), and local (Department of Emergency Management, Honolulu Police, Honolulu Fire, and Honolulu Emergency Medical Services) levels.

Maka'ala II tested response team members and their roles and actions during an activation and alert of the BDS at the mail sorting facility. HDOH participation was part of the USPS overall response plan to a BDS alarm. HDOH partnered with USPS to establish a dispensing clinic for USPS-purchased medications. The purpose of the clinic was to screen postal employees and dispense medication to protect against anthrax as needed. After proceeding through a decontamination area, the USPS employees came to the dispensing clinic and were quickly processed and issued medication.

According to the Hawaii Department of Health, the cooperative agreement is valuable because funds have provided the state with the opportunity to make much progress in preparedness that otherwise would have been impossible. The state has been able to increase personnel, purchase software, build an information technology infrastructure, produce public information materials, and hold workshops and exercises.

Snapshot of Public Health Preparedness

Below are activities conducted by Hawaii in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Hawaii

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Hawaii laboratories in the Laboratory Response Network[1]	3
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	9
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	78%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	1
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Hawaii SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	72
	Number of Hawaii cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Idaho Conducts Full-Scale Exercise of the Strategic National Stockpile

Exercising operational plans highlights areas of improvement for a more effective response.

In June 2006, the Idaho Department of Health and Welfare (IDHW), in partnership with the seven district health departments (DHDs) and the Idaho Bureau of Homeland Security, conducted a full-scale exercise involving the CDC Strategic National Stockpile (SNS). This exercise covered over 46 different locations, involving over 5,800 state and local public health personnel, emergency responders, and volunteers, representing 52 agencies overall.

State officials requested the deployment of SNS from federal partners, and DHDs prepared to receive and distribute SNS materials. DHDs also practiced providing preventive medicines on a mass scale to the public. DHDs noted the importance of robust volunteer participation to allow them the opportunity to better plan their distribution operations and understand how to adjust their plans to maximize effectiveness. Overall, the objectives of the exercise were met, including practicing roles and responsibilities under the Incident Command System and providing coordinated and accurate information to the public. Opportunities for improvement were identified and subsequently addressed. These included the need for continual training and refinement of plans and the recognized need to involve state and local health departments within the multi-agency coordination system at the state emergency operations center.

According to the Idaho Department of Health and Welfare, the cooperative agreement is valuable because public health has become an active partner in statewide response efforts and has developed many relationships with state agency response partners, including border states and Canadian partners. Cooperative agreement funding has provided an opportunity to improve Idaho's public health preparedness and response infrastructure by both state and local public health entities.

Snapshot of Public Health Preparedness

Below are activities conducted by Idaho in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Idaho

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Idaho laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	26
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	35%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Idaho SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	90
	Number of Idaho cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	No
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Illinois

http://www.idph.state.il.us/Bioterrorism/default.htm

Illinois Develops a Public Health Mutual Aid System

Innovative system helps deploy local public health resources across the state during an emergency.

The Illinois Public Health Mutual Aid System (IPHMAS) program is a state and local partnership that provides mutual aid between all local health departments during emergencies. Local health departments provide program management and resources, and the state health department provides communication and administrative coordination. This innovative system allows local health departments to respond to emergencies more quickly and effectively. The work of IPHMAS and its developers was recognized nationally by the American Public Health Association with the 2007 Milton and Ruth Roemer Prize for Creative Local Public Health Work.

The program is routinely exercised and was successfully used in two recent incidents. In 2007, the Kane County Health Department used IPHMAS to request nurses to assist in providing over 1,700 immunoglobulin vaccinations to people exposed to Hepatitis A through an infected food handler. Over 15 local health departments in Illinois responded to this request for assistance. In addition, in 2006, after several severe storms resulted in power outages for several days, the East Side Health District in East St. Louis requested additional staff. The St. Clair County Health Department was able to provide shortly after the request was made.

According to the Illinois Department of Public Health, the cooperative agreement is valuable because funding has enabled the Department to focus on public health preparedness and response, identify gaps, and take corrective actions to improve the state's emergency response capabilities. Illinois can be more prepared for public health threats by providing the necessary resources of staff, equipment, training, and supplies; enhancing cooperation and coordination between multiple layers of state and local government; and creating a new preparedness "culture" in the Illinois public health system.

Snapshot of Public Health Preparedness

Below are activities conducted by Illinois in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Illinois

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Illinois laboratories in the Laboratory Response Network[1]	3
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	72
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	43%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	17
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	47%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Illinois SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	91
	Number of Illinois cities in the Cities Readiness Initiative[3]	2
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Indiana

http://www.in.gov/isdh/bioterrorism

Indiana Responds to a Nationwide Botulism Outbreak

Well-trained staff and established communications systems are critical for effective emergency response.

During a 2007 nationwide outbreak of botulism from contaminated commercial food products, the Indiana State Department of Health (ISDH) investigated cases, monitored recall efforts, and relayed information to health care providers, local health departments, and the public.

The work of epidemiologists, public health coordinators, and communications specialists was crucial. Field epidemiologists facilitated communication between the local and state health departments and increased investigative capacity. Central office epidemiologists tracked cases, assisted local health departments with case investigations, and coordinated with other ISDH program areas and CDC. In addition, the Public Health Emergency Surveillance System allowed near real-time evaluation of chief complaint data from 73 hospitals statewide. Chief complaints that suggested botulism infection were immediately forwarded to an ISDH epidemiologist for investigation.

District public health coordinators assisted the ISDH Food Protection Program in contacting local health departments to determine the effectiveness of the recall.

Field public information officers prepared news releases, answered media inquiries, and staffed media interviews, including a news conference with the State Health Commissioner. State-of-the-art personal communications systems with wireless handheld devices and statewide networks were essential to providing timely, seamless communication. The Indiana Health Alert Network was used to rapidly communicate with large numbers of people in different disciplines and locations throughout the response.

According to the Indiana State Department of Health, the cooperative agreement is valuable because funds have greatly improved personnel and infrastructure for public health preparedness. Without this funding source, having state and local personnel devoted to preparedness, the health alert system, and increased syndromic surveillance activities would not have been possible, and continued maintenance would not occur.

Snapshot of Public Health Preparedness

Below are activities conducted by Indiana in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Fax
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Indiana

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Indiana laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	22
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Indiana SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	91
	Number of Indiana cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Iowa Responds to the Largest Mumps Outbreak in 20 Years

Epidemiologists can investigate outbreaks and target interventions to protect the population.

In 2006, Iowa was the center of a national mumps epidemic, accounting for nearly 2,000 of the 2,600 cases nationwide. Iowa typically experiences only five cases of mumps per year. Based on an outbreak investigation by epidemiologists from the Iowa Department of Public Health (IDPH), Iowa quickly determined that 18 to 25 year olds were most at risk. IDPH launched a vaccination program targeting this population. Local public health departments set up vaccination clinics based on CDC Strategic National Stockpile exercises to administer the vaccines. Within a month of beginning the vaccination campaign, the number of reported mumps cases decreased by 65%. Within 2 months, the mumps epidemic was stopped.

Prior to the recent investment in public health preparedness and infrastructure, the department lacked trained epidemiologists and other staff necessary for an effective response. In addition, this response allowed IDPH to utilize plans and procedures that were in place and allowed them to improve response for future public health emergencies.

According to the Iowa Department of Public Health, the cooperative agreement is valuable because prior to the cooperative agreement, public health had a limited role in responding to emergencies at the state or local level. Without this funding, Iowa would have been unable to address or complete the tasks to develop a public health preparedness system and continue to support future system enhancements.

Snapshot of Public Health Preparedness

Below are activities conducted by Iowa in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Iowa

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Iowa laboratories in the Laboratory Response Network[1]	3
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	39
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	77%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	6
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	33%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Iowa SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	88
	Number of Iowa cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	No
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Kansas Responds to Multiple Weather Emergencies

A strong public health system allows for successful response to multiple disasters.

The summer of 2007 brought multiple weather disasters to Kansas. In early May, tornadoes struck the southwest portion of the state, followed by massive flooding that affected over one third of the counties in Kansas. The city of Greensburg in Kiowa County was almost destroyed by one of the largest tornadoes ever recorded by the National Weather Service, and a state of disaster emergency was declared.

The Kansas Response Plan was activated and the Division of Emergency Management opened the State Emergency Operations Center (SEOC). The Kansas Department of Health and Environment (KDHE) played several roles in the response efforts, and public health preparedness staff assisted in the coordination of public health functions at the SEOC. Additional services provided by KDHE included the monitoring of air quality, debris disposal, and the restoration of the public water system in the city of Greensburg. KDHE also was able to rapidly disseminate fact sheets on health hazards related to mold to the public. KDHE served as the lead for the public health response efforts within the SEOC and helped staff the center, coordinate health and medical activities, and secure health and medical supplies and equipment to support local response.

According to the Kansas Department of Health and Environment, the cooperative agreement is valuable because it has funded additional staff and updated technologies, training, exercising, surveillance capabilities, risk communications, laboratory capacity, and overall preparedness planning. Approximately half of the funding has been provided to local health departments for local preparedness activities.

Snapshot of Public Health Preparedness

Below are activities conducted by Kansas in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Fax
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Kansas

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Kansas laboratories in the Laboratory Response Network[1]	2
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	6
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	50%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Kansas SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	93
	Number of Kansas cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Kentucky Deploys Public Health Teams to Support Hurricane Recovery

Local investments in public health preparedness can support nationwide response efforts.

In September 2005, the Kentucky Department for Public Health (KDPH) deployed public health workers to assist the Mississippi Department for Public Health in Hurricane Katrina recovery efforts. Through improvements in infrastructure and training using funds from the cooperative agreement, KDPH strike teams were ready for deployment to a disaster region. Continuing partnerships with emergency management, sanitation, and hospitals allowed KDPH to send six teams over a three-month period through the Emergency Management Assistance Compact system. Teams consisted of public health environmentalists, nurses, pharmacists, and public health preparedness planners from both state and local public health departments. They assisted with food safety, food salvage and disposal, food- and water-related illness, water sampling, clean water sources, special needs shelters, and distribution of medications.

During this critical time, KDPH used newly implemented information technology, such as interactive video conferencing, to allow public health officials to communicate "face-to-face" with response partners across the state and assist in planning for the 6,000 evacuees that were coming to Kentucky. Constant collaboration between state agencies helped connect displaced people with medical and social services. The web-based Health Alert Network and satellite radios were used to share information throughout the response. The online Kentucky Health Emergency Listing of Professionals for Surge was used to register volunteers for assistance, as well as evacuees coming into Kentucky. A toll-free phone center in the newly equipped KDPH Operations Center received calls from evacuees and volunteers.

According to the Kentucky Department for Public Health, the cooperative agreement is valuable because funds have addressed critical needs in Kentucky's capacity to respond to the growing magnitude of public health threats and emergencies. The majority of funds have been placed at the local level since response to disasters occurs first at the local level. In addition, the necessary staff have been available to carry out projects and purchase new technologies.

Snapshot of Public Health Preparedness

Below are activities conducted by Kentucky in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Electronic Reporting
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Kentucky

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Kentucky laboratories in the Laboratory Response Network[1]	3
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	36
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	92%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	No
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	N/A
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Kentucky SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	85
	Number of Kentucky cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No Response
	Activated public health emergency operations center as part of a drill, exercise, or real event*†[6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable†[6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event†[6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Los Angeles County

http://www.labt.org

Los Angeles County Collaborates with the Federal Bureau of Investigation

Cross-jurisdictional investigation protocols promote timely and coordinated response.

In the event of public health incidents of suspicious and possibly criminal origin, public health and law enforcement agencies must coordinate their investigations closely to reach shared objectives (e.g., determining where, when, and how the incident occurred). In an effort to promote close collaboration, the Los Angeles County Department of Public Health (LACDPH) developed and signed a memorandum of understanding (MOU) with the Federal Bureau of Investigation (FBI) that guides the course of joint investigations. Under the MOU, LACDPH developed written protocols for sharing public health information with FBI and protocols for FBI to share threat intelligence information with LACDPH.

LACDPH and FBI conducted a nationally unprecedented day-long, full-scale joint investigation exercise in March 2007 to test the recently developed joint investigation protocols with over 100 LACDPH and FBI personnel. The exercise tested the ability of the two agencies to conduct a joint investigation of a covert bioterrorism event; conduct joint patient interviews with field staff from both agencies following established protocols at multiple sites; and exchange mission critical information in a timely manner. LACDPH and FBI activated their respective operations centers, deployed representatives at each agency's operations center, exchanged situational analysis information, and tested their ability to jointly manage the event following Incident Command System standards.

According to the Los Angeles County Department of Public Health, the cooperative agreement is valuable because it has enriched public health infrastructure across the board and has contributed to improvements in staff, equipment, and systems. More than 165 new positions have been added to work on preparedness efforts, and needed equipment and technologies have been purchased. Finally, the funding has allowed the county to improve detection and response to local emergencies, such as disease outbreaks and wildfires, which have served to prepare the department for addressing larger scale emergencies.

Snapshot of Public Health Preparedness

Below are activities conducted by Los Angeles County in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza†[4]	—

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

† Localities were not asked to respond to this question.

Los Angeles County

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Los Angeles County laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Had a laboratory information management system that could create, send, and receive messages*[3] (8/05 – 8/06)	—
	- System complied with CDC information technology standards (PHIN)*[3] (8/05 - 8/06)	—
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens*[3] (8/05 – 8/06)	—
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

*Localities were not asked to respond to this question.

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Los Angeles County SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	87
	Participated in the Cities Readiness Initiative[2]	Yes
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[3]	Yes
	Public health laboratories conducted training for first responders*[4] (8/05 – 8/06)	—
	Activated public health emergency operations center as part of a drill, exercise, or real event†‡[5] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable‡[5] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event‡[5] (partial year, 9/06 – 2/07)	Yes

*Localities were not asked to respond to this question.

† Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

‡ Localities were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS CRI; 2007; [3] CDC, DSLR; 1999-2005; [4] APHL, Chemical Terrorism Preparedness; May 2007; [5] CDC, DSLR; 2007

Louisiana

http://www.dhh.louisiana.gov/office/?ID=276

Louisiana Deploys Staff Statewide during Operation Prepare

Community outreach is critical in addressing the needs of at-risk populations.

The second annual *Operation Prepare* field deployment exercise occurred throughout Louisiana during the summer of 2007. Participating agencies included the Louisiana Department of Health and Hospitals, the Office of Public Health (OPH), and the Center for Community Preparedness. This community outreach effort focused on educating Hurricane Katrina- and Rita-affected communities and at-risk populations through crisis literature and surveys about preparation for evacuation and disasters. The event also tested the ability of public health agencies and partners to reach at-risk populations during an emergency, their knowledge and ability to operate within the National Incident Management System, and their communications plans and equipment. OPH teams also used the opportunity to provide free health screenings (with blood pressure checks, immunizations, and mental health consultations) via mobile clinics.

The exercise was conducted in phases across the state. Educational efforts targeted housing development residents, the Vietnamese population of the New Orleans area, displaced Hurricane Katrina residents living in Baton Rouge, rural residents in low-lying marsh areas, and elderly residents in areas affected by Hurricane Rita. Dozens of emergency response and public health agencies, businesses, non-profit organizations, and churches partnered with OPH to make *Operation Prepare* a success.

According to the Louisiana Office of Public Health, the cooperative agreement is valuable because without the funding, the state would not have been able to coordinate emergency response activities, hire additional staff to coordinate emergency response activities, or provide proper training for its staff. The cooperative agreement also has provided for new equipment and supplies that have improved Louisiana emergency response.

Snapshot of Public Health Preparedness

Below are activities conducted by Louisiana in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Louisiana

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Louisiana laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	No
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	N/A
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	No

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Louisiana SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	82
	Number of Louisiana cities in the Cities Readiness Initiative[3]	2
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	No

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Maine

http://www.maine.gov/dhhs/boh

Maine's Partnership for Pandemic Influenza Increases Preparedness

Comprehensive planning prepares communities before an actual emergency.

The Maine Center for Disease Control and Prevention, Office of Public Health Emergency Preparedness (OPHEP), in coordination with key partners, has established a partnership for state pandemic influenza preparedness planning. The focus is in establishing practical, statewide, and community-based procedures that could prevent or delay the spread of pandemic influenza and help reduce the burden of illness communities would experience during an outbreak.

Rather than the classic model of multiple sub-state departments, Maine's public health infrastructure consists of a combination of state, community, and private agencies that have collaboratively established a public health network. Therefore, the development of county-level plans was determined to be the most practical and operational approach to local planning. The planning networks merged community, emergency, and medical response while also employing comprehensive groups of local constituents.

Challenges and significant successes have been realized from the development of planning networks representing formerly divergent and culturally different professions. A statewide operational plan for Maine has been developed and will be updated by April 2008. The cooperation of the community, emergency, and medical response was contingent upon the success of this planning process.

According to the Maine Department of Health and Human Services, the cooperative agreement is valuable because funds have improved Maine's ability to detect, treat, and prevent injuries and diseases that threaten the health of its citizens as a result of natural or manmade events. In partnership with federal, state, and local agencies, a coordinated system will address natural disasters (e.g., floods and disease outbreaks), as well as terrorist acts (e.g., the release of biological, chemical, or nuclear agents).

Snapshot of Public Health Preparedness

Below are activities conducted by Maine in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Maine

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Maine laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	11
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	18%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Maine SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	51
	Number of Maine cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Maryland Responds to Letters Containing White Powder

State and local surveillance helps identify emergencies at the national level.

The daily work of epidemiologists in public health departments involves routine data collection about disease patterns and trends. However, in 2005 a field epidemiologist at the Maryland Department of Health and Mental Hygiene (DHMH) emphasized the need for immediate response to potential health threats. In March, DHMH received a report from Maryland's eastern shore about a letter containing white powder. The epidemiologist immediately initiated the DHMH white powder protocol and communication network, which had been established after the anthrax letter threats of 2001. Within hours, another letter with white powder was reported from the far western region of the state. Again, the epidemiologist initiated the white powder protocol, with the additional recommendation that the situations across the state be linked and investigated further.

DHMH leadership followed this recommendation and moved quickly to involve law enforcement officials in Maryland. Ultimately, the Federal Bureau of Investigation became involved due to related letters found in Kentucky and as far away as Alaska. Subsequent laboratory testing determined that the white powder was not anthrax. Further investigations led to one man as the source of all of the threatening letters and supported a criminal conviction. This response demonstrates the importance of having well-trained staff, relationships with law enforcement, and plans in place before a potential event occurs.

According to the Maryland Department of Health and Mental Hygiene, the cooperative agreement is valuable because funds have allowed Maryland to hire and train staff, purchase needed equipment, and conduct exercises. Public health preparedness accomplishments have included developing emergency plans, conducting drills to prepare for mass vaccinations, and implementing an around-the-clock call system to make experts available during emergencies.

Snapshot of Public Health Preparedness

Below are activities conducted by Maryland in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Maryland

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Maryland laboratories in the Laboratory Response Network[1]	9
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	22
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	91%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	12
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	75%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Maryland SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	64
	Number of Maryland cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Massachusetts Responds to a Measles Outbreak

Global travel may introduce new or unfamiliar diseases and increase the risk of disease outbreaks.

When measles broke out in Boston in 2006, the disease had not had a large-scale presence in the United States for over 5 years. The first case in this outbreak was an unvaccinated man from India who had arrived in Boston and was confirmed to have measles 2 weeks after his arrival. Boston Public Health Commission (BPHC) and Massachusetts Department of Public Health (MDPH) officials were immediately concerned about the potential of a larger outbreak.

BPHC and MDPH identified people exposed to measles, located immunization histories, and determined the need for quarantine. BPHC used its syndromic surveillance system to help detect measles in emergency rooms. BPHC alerted healthcare providers via factsheets and podcasts and also interacted with the media to educate the public (in multiple languages) about symptoms, prevention strategies, and vaccination. BPHC also used the Incident Command System (ICS) to manage the response and share information throughout the outbreak. By the end of the outbreak, more than 2,500 doses of vaccines were administered. Over 800 doses of vaccines were administered by BPHC directly, and the remaining were administered through emergency preparedness partnerships with local health centers, occupational health providers, and other healthcare providers. These partnerships for vaccinations were created with support from the Cities Readiness Initiative (funded by the cooperative agreement).

According to the Massachusetts Department of Public Health, the cooperative agreement is valuable because prior to receiving cooperative agreement funding, the Department did not carry out initiatives to improve preparedness. These funds are critical for an enhanced state laboratory, disease surveillance capabilities, response capacity, and information technology.

Snapshot of Public Health Preparedness

Below are activities conducted by Massachusetts in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Massachusetts

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Massachusetts laboratories in the Laboratory Response Network[1]	2
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	22
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	64%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	6
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	0%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Massachusetts SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	63
	Number of Massachusetts cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Michigan Creates a Network to Rapidly Deliver Medications and Supplies

Innovative programs at the state level can become models for other states to follow.

In 2004, the Michigan Department of Community Health (MDCH) created the Michigan Emergency Drug Delivery and Resource Utilization Network (MEDDRUN) to bridge the gap between available medical resources through caches of medications, such as nerve agent antidotes and supplies pre-deployed around the state. These caches are strategically placed within immediate reach of helicopters and ground transportation for the rapid delivery of supplies to hospitals and other health care facilities during a disaster.

By approaching this project using multi-disciplinary planning that included emergency management, law enforcement, public health, health care, and emergency medical services, MDCH created an innovative network. MEDDRUN received national recognition from the ASH Institute for Democratic Governance and Innovation at Harvard University's John F. Kennedy School of Government, receiving second place out of a pool of other innovative, homeland security-based programs. By drawing on resources from both the cooperative agreement and the HHS hospital preparedness program, MDCH promoted collaboration and coordination at all levels of government and the private sector to protect Michigan residents.

According to the Michigan Department of Community Health, the cooperative agreement is valuable because it has been critical to facilitate all public health and health care related activities. Significant upgrades to a previously deteriorating public health infrastructure have benefited the public's health in many ways. Funding also has enhanced Michigan's state and local ability to respond to non-bioterrorism related emergencies, such as influenza vaccine shortages and disease outbreaks.

Snapshot of Public Health Preparedness

Below are activities conducted by Michigan in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Michigan

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Michigan laboratories in the Laboratory Response Network[1]	9
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	33
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	5
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Michigan SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	88
	Number of Michigan cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Minnesota Responds to Interstate Bridge Collapse

Information sharing is critical to effective emergency response.

In August 2007, the Interstate 35W bridge across the Mississippi River in Minneapolis, Minnesota collapsed, leaving 13 people dead and nearly 100 injured. Hospitals, emergency medical services, and state public health staff were alerted within minutes of the incident and began monitoring real-time information on the patients, where they were transported, their condition, and the status of hospital availability. Within hours of the incident, most patients had been rescued, triaged, and transported to hospitals.

After the initial collapse, the Minnesota Department of Health and other state and federal agencies assisted the City of Minneapolis to find potentially harmful substances as a result of the bridge collapse, and also initiated public health protection measures during the cleanup and demolition that followed. Air, water, and bridge materials were sampled or monitored and no public health hazards were detected, providing critical information to responders and the surrounding community.

Multiple communication strategies led to effective information sharing among public health departments, the media, and the public. Local and state public health staff coordinated behavioral health and grief support services using the Medical Reserve Corps and a statewide network of registered and credentialed volunteers. In coordination with the American Red Cross, public health professionals supported families through the recovery phase and planned for long-term support. Prior regional planning and coordination had clarified specific responsibilities and means of communication during an emergency.

According to the Minnesota Department of Health, the cooperative agreement is valuable because it has allowed the state to implement systems and foster partnerships that otherwise would not have been possible. The dedicated funding has allowed Minnesota to develop additional emergency response and preparedness activities and programs.

Snapshot of Public Health Preparedness

Below are activities conducted by Minnesota in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Minnesota

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Minnesota laboratories in the Laboratory Response Network[1]	3
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	87
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	94%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	15
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	93%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Minnesota SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	81
	Number of Minnesota cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	No
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Mississippi Improves Communication and Surge Capacity

Identifying and filling gaps in the public health system improves emergency response.

Mississippi used cooperative agreement funding to improve preparedness, specifically for communication and medical care for displaced individuals. Recently, the Mississippi State Department of Health (MSDH) used the Mississippi Health Alert Network (HAN) to notify the state's healthcare system of a serious outbreak of pertussis (whooping cough). HAN allowed one person to notify every participating physician, every hospital, and many other medical providers (over 5,000 contacts) in about 6 hours, with a verified delivery rate approaching 90%. Previously, this process was very labor intensive, taking a minimum of 12 to 14 hours with a 50% success rate.

In addition, following Hurricane Katrina, MSDH realized that it did not have the medical surge capacity to care for the thousands of individuals with special medical needs displaced by the storm. The cooperative agreement is funding medical surge capacity enhancement that utilizes Mississippi's community college system. Buildings on selected campuses are being equipped to act as special medical needs shelters for use in the event of storms, a pandemic outbreak, or other natural or man-made disaster. Enough hospital-grade equipment, medical supplies, and pharmaceuticals are being purchased to enable each surge capacity site to care for at least 100 patients and 100 caregivers, plus staff. MSDH is also upgrading electrical power systems to enable climate control and life support systems to function in the event of power loss. Showers and bathrooms are being retrofitted for use by physically challenged individuals and to meet the Americans with Disabilities Act requirements. During the next disaster, Mississippi will be more prepared to care for displaced people who need ongoing medical care.

According to the Mississippi State Department of Health, the cooperative agreement is valuable because it has covered salaries for bioterrorism surveillance nurses in each of the nine public health districts. Mississippi also has been able to add a testing area with enhanced security within their main laboratory that allows for routine and overflow testing.

Snapshot of Public Health Preparedness

Below are activities conducted by Mississippi in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Mississippi

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Mississippi laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	3
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	33%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Mississippi SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	96
	Number of Mississippi cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Missouri

http://www.dhss.mo.gov/BT_Response

Missouri Responds to Multi-State *E. Coli* Outbreak

Laboratory and epidemiologic investigations are crucial to rapidly identify the source of disease outbreaks.

Missouri contributed to the laboratory response in the 2006 *E. coli* outbreak in spinach, the largest foodborne disease outbreak in the United States since 1993. Prior to the cooperative agreement, the Missouri State Public Health Laboratory (MSPHL) did not have adequate staff, equipment, or communication systems to rapidly respond to an event the size of the 2006 outbreak. Now, MSPHL provides a wide variety of testing 365 days per year.

During the outbreak, trained staff were able to rapidly confirm the strain type of all *E. coli* specimens sent to the laboratory, determine if they matched the strains associated with the national spinach *E. coli* investigation, and establish that the *E. coli* strains in Missouri were not part of the national outbreak. MSPHL also received specimens quickly because of the new statewide courier service. Parallel laboratory and epidemiologic investigations were crucial in identifying the source of this outbreak. Concurrent collection of case information by epidemiologists in affected states and sharing of data between states and CDC led to rapid identification of the suspected food source and targeted public health action.

According to the Missouri Department of Health and Senior Services, the cooperative agreement is valuable because it has allowed the state to hire staff, purchase new equipment, draft guidances, and prepare training and educational opportunities for its workforce. Missouri has been able to create the Center for Emergency Response and Terrorism to work on issues related to preparedness caused by natural or deliberate events. Its staff have received invaluable training in disaster response that was put to great use during the response to Hurricane Katrina.

Snapshot of Public Health Preparedness

Below are activities conducted by Missouri in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Missouri

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Missouri laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	29
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	93%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	No
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	N/A
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Missouri SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	85
	Number of Missouri cities in the Cities Readiness Initiative[3]	2
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Montana

http://www.dphhs.mt.gov/PHSD

Montana Responds to a Case of Multi-Drug Resistant Tuberculosis

Clear isolation and quarantine statutes contribute to a more timely and authoritative response.

When Montana state and local health departments learned of a multi-drug resistant tuberculosis (MDR TB) case in 2006, urban and rural counties worked seamlessly with the state health department TB program to prevent the spread of the disease. First, the local health department issued an isolation order restricting the infected patient's travel. Because the infected patient had planned to travel internationally from an airport located in an adjacent, urban county, that county's public health department also issued an order restricting flight from that airport. To restrict air travel from any other city, the regional CDC quarantine office and airline were notified. The infected patient was permitted to travel, within specified parameters, to a hospital for treatment. When no longer contagious, the patient was allowed to return home. After-hours communication and relationships among state and local laboratories facilitated the exchange of clinical testing results. In addition, a communicable disease nurse was dedicated to manage the complex public health and medical issues related to this case.

Cooperative agreement funds contributed to the successful response. Local health authorities could rapidly issue a county isolation order because Montana had reviewed and updated its public health statutes, including isolation and quarantine authorities, and local public health departments adopted and updated their protocols. Montana also updated its high-level biosafety laboratory with the infrastructure needed to protect staff from highly infectious samples, such as MDR TB.

According to the Montana Department of Public Health and Human Services, the cooperative agreement is valuable because without funding, the completion of state, local, and tribal public health workforce assessments, as well as public health worker training in risk communication and other topics related to preparedness, would not have been possible. The cooperative agreement also has enabled the state to provide Incident Command System training at the state, local, and tribal levels.

Snapshot of Public Health Preparedness

Below are activities conducted by Montana in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Montana

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Montana laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	5
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Montana SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	80
	Number of Montana cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Nebraska

http://www.dhhs.ne.gov/emergency_preparedness

Nebraska Responds to a Major Winter Storm

Multi-agency coordination and public health expertise improves emergency response.

In early January 2007, a major winter storm hit central Nebraska. Power lines failed and left parts or all of 59 counties without power. As part of the response and recovery efforts, the Nebraska Department of Health and Human Services (DHHS) activated the DHHS situation room and coordinated response actions. It also staffed the public health component of Nebraska Emergency Management Agency's (NEMA) Emergency Operations Center and coordinated resources with local public health departments. DHHS provided field kits and supplies to NEMA and supported public information efforts from the period immediately following the disaster throughout initial recovery. Furthermore, DHHS issued news releases to the media and provided web content on relevant public health and safety topics.

At the local level, DHHS assisted local water employees by providing support and copies of emergency plans and information about seasonal influenza to local public health departments. In addition, DHHS participated in weekly teleconferences with volunteer organizations that addressed issues such as food stamps and behavioral health needs. As a result, DHHS established additional food stamp assistance, arranged for behavioral health assistance to state and local employees, and promoted a crisis counseling hotline.

According to the Nebraska Department of Health and Human Services, the cooperative agreement is valuable because it has greatly strengthened state, regional, and local preparedness and response capacities by providing financial support for activities that were previously not possible.

Snapshot of Public Health Preparedness

Below are activities conducted by Nebraska in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Electronic Reporting
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Nebraska

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Nebraska laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	28
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	54%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Nebraska SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	66
	Number of Nebraska cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Nevada Exercises its Unified Command Structure

Operational coordinating centers organize activities during the course of an emergency.

The Public Health Coordinating Center (PHCC) is the operational coordinating center for the Nevada State Health Division (NSHD) and includes the Health Emergency Operations Center. Public health emergencies occurring in Nevada may require NSHD to assist local public health authorities, other state and federal agencies, multiple jurisdictions, and border states in coordinating public health actions. To coordinate these activities, PHCC is compliant with the National Incident Management System and compatible with the Incident Command System (ICS) that is used by state and local responders in a unified command structure.

The PHCC can receive, analyze, and display information about a specific incident to enable timely decision-making and coordinate resources. NSHD has exercised the PHCC following the guidelines of the Homeland Security Exercise and Evaluation Program, which utilizes a cycle of progressively complex exercises. The most recent exercise involved a pandemic influenza scenario that quickly overwhelmed the resources of local medical facilities. ICS was practiced as each functional group (finance, logistics, operations and planning) was given the opportunity to share information about how their roles and their decisions during this type of public health emergency affect other areas of command.

According to the Nevada State Health Division, the cooperative agreement is valuable because the state has developed a critical statewide infrastructure that allowed for the purchase of essential systems and equipment. For example, redundant communication systems have been developed through the purchase of a network system in Las Vegas. Funding has also covered personnel costs at both the state and local levels to hire and maintain staff to complete preparedness activities.

Snapshot of Public Health Preparedness

Below are activities conducted by Nevada in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Electronic Reporting
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Nevada

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Nevada laboratories in the Laboratory Response Network[1]	2
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	7
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	86%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	No
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	N/A
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Nevada SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	34
	Number of Nevada cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No Response
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

New Hampshire

http://www.dhhs.state.nh.us/dhhs/cdcs/ppcc.htm

Regional All-Hazards Planning and Exercising Implemented

A regional approach to preparedness increases the response capacity of all communities.

Over the past 4 years, the New Hampshire Department of Health and Human Services, Division of Public Health Services (DPHS) and the New Hampshire Department of Safety, Homeland Security and Emergency Management (HSEM) have worked together on a daily basis in an all-hazards approach to prepare New Hampshire for potential public health emergencies. Some specific areas of focus include disaster behavioral health response, Strategic National Stockpile coordination, hospital preparedness, volunteer coordination, and pandemic planning, training, and exercises.

A pandemic would require a coordinated regional approach to response. Therefore, 19 All-Health Hazards Regions (AHHR) were formed to include all 234 New Hampshire communities. As of late summer 2007, 14 AHHRs had completed a pandemic influenza supplement to their all-hazards public health plan, with the remaining five in progress. All 19 AHHRs have conducted tabletop exercises of their all-health hazards plan for public health response. Pandemic influenza funds from the cooperative agreement were distributed to AHHRs to support enhanced regional response plans, including community medical surge. These efforts have increased the capacities of the public health and health care systems within these regions to respond to public health emergencies.

According to the New Hampshire Department of Health and Human Services, the cooperative agreement is valuable because it led to a functional partnership between DPHS and Homeland Security and Emergency Management. Through this partnership the state has been able to develop a strong public health emergency planning and response team, develop the appropriate plans, and create a regional, community partnership preparedness mentality that will be key to a successful response and recovery. Success stories have included the development of a chemistry lab, the All-Health Hazard Regions, and statewide sites for medical supply dispensing.

Snapshot of Public Health Preparedness

Below are activities conducted by New Hampshire in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

New Hampshire

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of New Hampshire laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	8
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	50%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	1
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	0%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	No
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	N/A
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	New Hampshire SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	69
	Number of New Hampshire cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	No
	- Local/regional emergency management agencies	No
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

New Jersey Conducts the First Anthrax Drill on the East Coast

Multi-agency exercises strengthen a locality's ability to respond to a public health emergency.

In June 2006, the Middlesex County Public Health Department in New Jersey, in cooperation with the United States Postal Service (USPS) in Edison, New Jersey, conducted a multi-agency emergency public health exercise with an alarm activation of a postal facility's Biohazard Detection System (BDS) for the presence of anthrax spores within the mail handling machinery. Planning began for this exercise in December 2005 and involved a number of tabletop exercises that brought together federal, state, and local agencies. The plans emphasized agency goal coordination, role assignment among the agencies, and multi-agency task assignment along a single timeline. This exercise was the first of its type conducted on the east coast and the second conducted nationwide.

Several major strengths were identified during the exercise. Each of the participating agencies understood its mission and executed their respective responsibilities. Incident Command System (ICS) roles and responsibilities were quickly established and executed. The participating USPS employees yielded positive feedback to the exercise. Lessons learned from this exercise will be used in future planning for BDS exercises nationwide. Areas which need improvement were also identified. More planning is needed for a long-term response as these efforts will likely take place over several days, if not longer. The hospital emergency response personnel required additional training in the ICS and National Incident Management System.

According to the New Jersey Department of Health and Senior Services, the cooperative agreement is valuable because it has enabled New Jersey to increase the capability of public health and environmental laboratories to rapidly and accurately screen for and confirm biological and chemical agents; establish an electronic Communicable Disease Reporting & Surveillance System; enhance real-time reporting and investigation relationships among state and local partners; create a state Health Alert Network system for emergency notification and alerting; develop a statewide capability to receive, distribute, and manage the Strategic National Stockpile; develop a statewide public health emergency planner corps; and provide emergency preparedness workforce education.

Snapshot of Public Health Preparedness

Below are activities conducted by New Jersey in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

New Jersey

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of New Jersey laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	83
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	96%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	No

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	New Jersey SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	92
	Number of New Jersey cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	No
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

New Mexico

http://www.health.state.nm.us/ohem

New Mexico Responds to an Imported Measles Case

Epidemiological investigations and public information campaigns are key to disease outbreak response.

An international participant at a 2007 science and engineering fair in New Mexico was hospitalized with symptoms of measles, later confirmed by the state public health laboratory. Measles, though eradicated in the United States and other countries, still exists in many parts of the world. The teenage girl was likely infectious while traveling and at the science and engineering fair. Since the teenage girl had traveled from India to Atlanta and then to Albuquerque, the New Mexico Department of Health (NMDOH) was concerned about possible exposure at airports, hotels where the teenage girl stayed, and at the science and engineering fair which had approximately 5,000 attendees and 1,200 judges.

NMDOH immediately began working with CDC to identify people who might have been exposed during plane flights or at airports. NMDOH also held a vaccination clinic for fair attendees and a separate clinic for other members of the public who thought they might have been exposed. Effective risk communication managed the public perception of the measles case, educated the public about the disease, and encouraged people to get vaccinated. These rapid responses by state public health officials and epidemiologists and the use of quick communication strategies helped reduce the chance that measles would spread in the communities.

According to the New Mexico Department of Public Health, the cooperative agreement is valuable because it has contributed to overall improvements in New Mexico's public health system by allowing the state to increase its planning and exercise capabilities as well as reach out to local populations.

Snapshot of Public Health Preparedness

Below are activities conducted by New Mexico in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

New Mexico

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of New Mexico laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	9
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	0%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	No
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	N/A
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	New Mexico SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	67
	Number of New Mexico cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

New York City

http://www.nyc.gov/html/doh/html/bt/bt.shtml

New York City Responds to a Case of Inhalation Anthrax

Coordinated recovery efforts help communities return to normal after an emergency.

In February 2006, the New York City Department of Health and Mental Hygiene (NYC DOHMH) investigated a case of naturally occurring inhalation anthrax, the first case in the United States in 30 years. A New York City resident, a dancer and drummer, collapsed after a performance in Pennsylvania, and Pennsylvania authorities contacted New York City officials. Through telephone interviews and laboratory testing, NYC DOHMH epidemiologists confirmed that the inhalation anthrax case was contracted while the man was working with untreated animal hides used to make drums.

NYC DOHMH immediately contacted all potentially exposed individuals to determine if others were at risk for inhalation anthrax, arranged for preventive medication as necessary, conducted laboratory tests on collected samples, and collaborated with local, state, and federal agencies to design initial sampling plans. NYC DOHMH proactively alerted hospitals through its Health Alert Network and automated mass notification software. In addition, NYC DOHMH hosted citywide hospital teleconferences to address questions and concerns from providers. In collaboration with the Environmental Protection Agency and other agencies, NYC DOHMH coordinated efforts to examine and clear residences, workplaces, and vehicles associated with the anthrax case for re-occupancy.

NYC DOHMH also helped to effectively communicate public messages to schools and residents through community meetings, fact sheets, and media updates. Crisis counseling was available at all community meetings and provided to those who received preventive treatment. During this response, NYC DOHMH demonstrated its ability to coordinate response across regional and agency lines.

According to the New York City Department of Health and Mental Hygiene, the cooperative agreement is valuable because it has provided the city with resources to fund staff, equipment, and supplies (or contracts with vendors) to perform its preparedness activities. This funding stream has been critical in allowing every part of the agency to improve its emergency response role.

Snapshot of Public Health Preparedness

Below are activities conducted by New York City in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza†[4]	—

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

† Localities were not asked to respond to this question.

New York City

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of New York City laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):*[2]	
	Had a laboratory information management system that could create, send, and receive messages*[3] (8/05 – 8/06)	—
	-System complied with CDC information technology standards (PHIN)*[3] (8/05 – 8/06)	—
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens*[3] (8/05 – 8/06)	—
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

*Localities were not asked to respond to this question.

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	New York City SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	97
	Participated in the Cities Readiness Initiative[2]	Yes
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[3]	Yes
	Public health laboratories conducted training for first responders*[4] (8/05 – 8/06)	—
	Activated public health emergency operations center as part of a drill, exercise, or real event†‡[5] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable‡[5] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event‡[5] (partial year, 9/06 – 2/07)	Yes

*Localities were not asked to respond to this question.

† Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

‡ Localities were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS CRI; 2007; [3] CDC, DSLR; 1999-2005; [4] APHL, Chemical Terrorism Preparedness; May 2007; [5] CDC, DSLR; 2007

New York

http://www.health.state.ny.us/environmental/emergency

New York Responds to an Outbreak of Gastrointestinal Illness

Clear and coordinated communication is critical for timely and comprehensive response.

When dozens of people in two neighboring counties began reporting symptoms of gastrointestinal illness in August 2005, the New York State Department of Health (DOH) and local public health departments quickly mounted an outbreak investigation. Case findings soon suggested the source of illness to be an upstate New York water spray park. Tests by the state public health laboratory quickly identified the cause as *Cryptosporidium*, a microscopic parasite which may cause profuse diarrhea, anorexia, and vomiting. The spray park voluntarily closed after tests confirmed the presence of the microorganism in the park's recirculating water system.

Statewide notification to health care providers and a coordinated public information campaign resulted in over 2,300 reported cases from 36 counties. The timely and comprehensive response prevented further spread of the infection into the community. The investigation also resulted in many public health improvements, including "healthy swimming" public awareness campaigns, training of spray park operators to reduce the risk of future outbreaks, and new regulations requiring spray parks to use proper sterilization and health promotion measures.

This case illustrates how good public health emergency planning can enhance disease surveillance, laboratory testing, risk communication, and environmental mitigation. Thorough evaluation and follow-up to identify an outbreak improves response and reduces the effect that a communicable disease can have on a community.

According to the New York State Department of Health, the cooperative agreement is valuable because it has contributed greatly in advancing the state's readiness to respond to health emergencies. The state has been able to build a system and structure to develop, maintain, and manage capacities that support health emergency preparedness and response activities. Resources have been placed into existing systems at state and local public health departments and with key partners.

Snapshot of Public Health Preparedness

Below are activities conducted by New York in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

New York

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of New York laboratories in the Laboratory Response Network[1]	5
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	71
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	83%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	40
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	85%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	New York SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	95
	Number of New York cities in the Cities Readiness Initiative[3]	3
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

North Carolina

http://www.epi.state.nc.us/epi/phpr

North Carolina Develops Regional Surveillance Teams

Highly trained public health responders support preparedness functions across the state.

The most significant innovation to enhance North Carolina's response ability to public health crises was the creation of the seven Public Health Regional Surveillance Teams (PHRSTs). These regional offices cover all 100 counties across the state to give the North Carolina Office of Public Health Preparedness and Response the capability to work closely with local public health departments and first responders in all aspects of preparedness planning, training, and exercise. In addition, these seven regional teams act as highly trained and organized epidemiology strike teams.

Each PHRST team includes an epidemiologist, an industrial hygienist, a nurse consultant, a pharmacist, a veterinarian, and an administrative support technician. These teams are essential in providing training to state and local health care providers, responding to hurricanes, supporting disease investigations, and assisting local health directors in public health emergencies. Together these teams provide a layered, scaleable response for local, regional, state, and national resources to protect and serve the residents of North Carolina.

According to the North Carolina Office of Public Health Preparedness and Response, the cooperative agreement is valuable because it has supported local and regional public health laboratory capacities, epidemiological capacity, and education and training of public health responders locally, regionally, and at the state level. Funding from the cooperative agreement also has allowed North Carolina to form a dedicated Office of Public Health Preparedness and Response.

Snapshot of Public Health Preparedness

Below are activities conducted by North Carolina in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

North Carolina

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of North Carolina laboratories in the Laboratory Response Network[1]	5
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	24
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	96%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	2
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	50%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	North Carolina SNS plan reviewed by CDC[2]	In Progress
	- Score on CDC technical assistance review (1-100)	N/A
	Number of North Carolina cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

North Dakota

http://www.ndhealth.gov/epr

North Dakota Responds to Northwood Tornado

Incident Command System ensures a well-coordinated and effective response.

In August 2007, the town of Northwood, North Dakota was hit by a tornado with sustained winds ranging from 165 to 200 miles per hour. Nearly every building was damaged in the town of about 1,000 people. The tornado's path was five miles long and nearly one mile in width. One person was killed and eighteen others were injured.

In the early morning after the tornado struck, the North Dakota Department of Health (NDDoH) emergency operations center (EOC) was activated and in contact with both the state EOC and Grand Forks Public Health Department. Throughout the week, the NDDoH responded to requests for assistance from the city of Northwood, Grand Forks Public Health Departments, and the North Dakota Division of Emergency Services. One system that proved useful during the response was the WebEOC, which linked local and state EOCs and allowed others to keep abreast of the latest activities.

The utilization of the Incident Command System (ICS) to organize public health and medical response under state emergency operations procedures allowed for a coordinated and effective response. Many divisions and NDDoH employees contributed to the response efforts. The ICS enabled multiple agencies and individuals to participate in the coordinated efforts at state and local levels.

According to the North Dakota Department of Health, the cooperative agreement is valuable because it has enabled North Dakota to build a substantial public health and preparedness response capacity that would not have existed through any other means. A public health response system has been built at state and local levels and consists of many major components.

Snapshot of Public Health Preparedness

Below are activities conducted by North Dakota in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Electronic Reporting
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

North Dakota

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of North Dakota laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	7
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	North Dakota SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	77
	Number of North Dakota cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Ohio Develops Robust Plans for Public Health Emergency Preparedness

Strong all-hazards plans enable greater response capabilities.

Since 2001, the Ohio Department of Health (ODH) has conducted, observed, or participated in more than three dozen exercises testing plans for pandemic influenza, bioterrorism response, nuclear power plant events, joint information center operation, and multi-agency emergency response. Leveraging existing approaches across Ohio, ODH operates a regional strategy for seven areas in the state. This method ensures everyone from a small township to a major metropolitan area have the baseline ability to respond to a public health emergency. The strategy also promotes cost-effective surge and systems reliability for communities within each region.

Using federal guidance, ODH and its partners are developing recommendations for medical standards of care during an emergency. The goal of these protocols is to save the greatest number of lives when resources are scarce. While planning is directly connected to preparing for an influenza pandemic, the protocols are applicable to other significant public health emergencies. Another important component being utilized by ODH is the Incident Command System (ICS). ODH has used ICS for public health emergencies since 1997. ICS operates with a strategy to ensure adequate and redundant staffing during a prolonged event. Several thousand key staff from state and local public health agencies have been trained and their agencies attained National Incident Management System compliance. ODH continues to provide or fund training in ICS.

According to the Ohio Department of Health, the cooperative agreement is valuable because it has allowed Ohio to build a critical planning and response personnel infrastructure for most preparedness initiatives. A robust and redundant communication system which is interoperable with other state response partners, hospitals, and local health departments has been implemented due entirely to funding from the cooperative agreement.

Snapshot of Public Health Preparedness

Below are activities conducted by Ohio in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Ohio

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Ohio laboratories in the Laboratory Response Network[1]	2
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	99
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	95%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	12
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	92%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Ohio SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	94
	Number of Ohio cities in the Cities Readiness Initiative[3]	3
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	No
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Oklahoma Responds to Statewide Ice Storms

All-hazards emergency response planning promotes effective use of resources and infrastructure.

The ice storms that swept across Oklahoma in early 2007 provided a real-world test of public health and medical emergency preparedness. Leadership of the Oklahoma State Department of Health (OSDH) fully activated the OSDH Situation Room and established an Incident Command System (ICS) to coordinate the agency's statewide response activities.

The Oklahoma Health Alert Network and EMSystem, a real-time communications and resource management tool, provided emergency communications to hospital and medical system partners. Emergency radio networks also were used for messaging, particularly to those areas where no electricity was available. In addition, during the ice storms, the Commissioner of Health mandated carbon monoxide exposure/poisoning to be a reportable condition and urged rapid distribution of flyers and written warnings about the dangers of carbon monoxide poisoning in affected communities.

The OSDH chose to build upon the state's existing, well-established all-hazards emergency management backbone rather than develop new, stand-alone programs for preparedness and response. Public health emergencies are now routinely handled through the establishment of ICS. OSDH is recognized by other lead response organizations, such as the Oklahoma Department of Emergency Management and the Oklahoma Office of Homeland Security, as a key partner in statewide initiatives that ensure coordinated and effective planning for all types of emergency responses.

According to the Oklahoma State Department of Health, the cooperative agreement is valuable because it has been fundamental to developing and sustaining the enhanced infrastructure that did not previously exist. Funding has allowed for additional personnel who have dedicated their efforts to the program and have successfully completed training pursuant to cooperative agreement guidelines. The funding has also helped build local and community collaboration and capability.

Snapshot of Public Health Preparedness

Below are activities conducted by Oklahoma in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Electronic Reporting
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Oklahoma

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Oklahoma laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	9
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	1
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Oklahoma SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	91
	Number of Oklahoma cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No Response
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Oregon Completes Pandemic Influenza Full-Scale Exercise

Exercises allow states and localities to test their abilities to respond to potential disasters.

In 2006, the Oregon Public Health Division (OPHD) completed the *PandORa* (Pandemic Oregon Activity) full-scale exercise. The exercise involved the scenario of a widespread outbreak of a new influenza virus that resulted in hundreds of victims falling ill in communities throughout the state. Participating organizations included OPHD, more than 30 local public health departments, 50 hospitals, two tribal health departments, the Oregon Board of Pharmacy, Oregon National Guard, and state agencies of emergency management, administrative services, education, transportation, and the fire marshal.

Key successes and best practices identified during the exercise included collaboration between the Joint Information Center and the Operations Section, teamwork among staff experts in epidemiology and immunizations, strong knowledge and practical application of the Incident Command System, and frequent monitoring and correction of inaccurate media reports. OPHD also identified key opportunities for improvement that are essential to successfully managing the pandemic influenza threat and apply directly to other potential disasters. These improvements included the need for a larger agency operations center, clarification of the public health-based resource request and filing process between public health and the State Emergency Coordination Center, incorporation of a formal documentation management system, and additional training in emergency management software applications. The lessons learned from this exercise will help OPHD improve response to future emergencies.

According to the Oregon Public Health Division, the cooperative agreement is valuable because it has dramatically increased the capacity, expertise, and integration of public health with emergency response agencies within the state. The state has been able to hire and train staff in areas of communicable diseases, epidemiology, and information systems, and they have proven critical for local public health departments during this time of increased scarcity of public funds.

Snapshot of Public Health Preparedness

Below are activities conducted by Oregon in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Oregon

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Oregon laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	12
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	N/A
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Oregon SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	68
	Number of Oregon cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Pennsylvania Responds to a Case of Anthrax

Joint investigation capacity promotes rapid and coordinated emergency response.

In February 2006, a New York City resident fell seriously ill while visiting Pennsylvania and was quickly rushed to a hospital. When the bioterrorism agent *Bacillus anthracis*, or anthrax, was suspected, the hospital laboratory contacted public health officials to transport a blood sample to the Pennsylvania Department of Health (PA DoH) laboratory that confirmed the presence of anthrax bacteria. Despite the fact that it was a holiday, the PA DoH lab quickly tested the specimen and provided the necessary information to the appropriate officials, including officials in New York City and at the Federal Bureau of Investigation.

This response benefited from cooperative agreement funding because it allowed for additional epidemiologic and laboratory capacity at the PA DoH. In addition, forensic epidemiology training developed and promoted by CDC and the U.S. Department of Justice enhanced the joint forensic epidemiological investigation effort between public health and law enforcement partners. To respond to the incident, PA DoH used handheld communication devices and employed the Health Alert Network to advise health care providers of emergencies, strengthen relationships with law enforcement officials and other responders in different jurisdictions, and risk communications.

According to the Pennsylvania Department of Health, the cooperative agreement is valuable because it has provided critically needed funding to purchase equipment and services such as the Learning Management System, personal protective equipment, as well as funded space renovations and equipment for an expanded high security laboratory and training laboratory.

Snapshot of Public Health Preparedness

Below are activities conducted by Pennsylvania in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Pennsylvania

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Pennsylvania laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	60
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	83%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	4
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Pennsylvania SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	60
	Number of Pennsylvania cities in the Cities Readiness Initiative[3]	2
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Rhode Island

http://www.health.state.ri.us/environment/biot

Rhode Island Responds to a Mycoplasma Outbreak

Community involvement and outreach are critical for successful public health emergency response.

In December 2006, an elementary school student died from encephalitis, an inflammation of the brain. When two additional cases in school-aged children followed, a cooperative epidemiologic investigation between CDC and the Rhode Island Department of Health (RIDOH) determined that all three cases were linked to the bacteria *Mycoplasma pneumoniae*. School districts were reporting higher than normal rates of absenteeism because of respiratory illness and pneumonia, the most common result of *M. pneumoniae* infection. The state emergency operations center was activated at the request of RIDOH. In addition, RIDOH activated a unified command structure, which included RIDOH, the Rhode Island Department of Education (RIDE), and the Rhode Island Emergency Management Agency.

RIDOH communicated the risk of infection to healthcare providers, elected officials, and the public. RIDOH also distributed hand sanitizers and educational materials related to hand hygiene and cough etiquette to all schools in the state. A 3-day antibiotic distribution clinic with voluntary laboratory testing was established at one elementary school, and school nurses helped to institute a short-term active surveillance system for possible cases of pneumonia. RIDOH also worked with RIDE to draft and implement school policies and recommend school closures where appropriate. As a result, in the elementary school community in which two cases of neurological illness occurred, 100% of the community members were offered protective antibiotics and 97% accepted them. This was accomplished over the New Year's holiday weekend. A significant portion of the affected families participated in testing for *M. pneumoniae* in collaboration with CDC epidemiologists, who helped track infections. A prospective surveillance system also was instituted to monitor for possible clusters of *M. pneumoniae* and its serious complications.

According to the Rhode Island Department of Health, the cooperative agreement is valuable because it has enabled Rhode Island to hire staff, purchase laboratory instruments and field monitoring equipment, build an information technology infrastructure, and enhance communication systems among state and local partners.

Snapshot of Public Health Preparedness

Below are activities conducted by Rhode Island in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Rhode Island

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Rhode Island laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	5
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	80%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Rhode Island SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	83
	Number of Rhode Island cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

*Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

[†] States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

South Carolina Responds to a Train Collision and Toxic Spill

All-hazard approach in planning improves preparedness for emergencies.

In January 2005, an industrial freight train collision resulted in a release of 63 tons of liquid chlorine near residential, commercial and industrial districts in the small town of Graniteville, South Carolina. Nearly 5,500 residents were forced to evacuate. More than 500 people needed medical attention for possible chlorine exposure, which can result in corrosive damage to the eyes, skin, and lungs and lead to eventual respiratory failure and even death.

Diverse response teams were critical to address the wide range of needs for a successful response. Responders conducted environmental testing in homes, schools and factories and decontaminated the area for safe return. Public health workers coordinated emergency medical services, monitored hospital care, assessed the number of casualties, and supported disaster mortuary services. Epidemiologists and environmental health scientists monitored the chemical exposures and their long-term effects on the residents.

Funding from the cooperative agreement had helped to develop South Carolina's preparedness plans. Local emergency management and public health departments already had an all-hazard response plan in place because of the nuclear facilities, industrial facilities, and numerous rail lines in the area. Coordination among agencies was also a priority in planning. These established emergency response plans and partnerships helped South Carolina respond quickly and effectively to this incident.

According to the South Carolina Department of Health and Environmental Control, the cooperative agreement is valuable because with this funding, the department has been able to begin an ambitious program to strengthen the public health infrastructure. South Carolina has been able to make tremendous progress in improving public health and community preparedness for responding to bioterrorism, weapons of mass destruction, disease outbreaks, natural and technological hazards, and other threats to the public's health.

Snapshot of Public Health Preparedness

Below are activities conducted by South Carolina in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Fax
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

South Carolina

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of South Carolina laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	5
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	80%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	4
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	0%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	South Carolina SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	58
	Number of South Carolina cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

*Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

[†] States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

South Dakota

http://www.doh.sd.gov

South Dakota Learns from a Pandemic Influenza Exercise

Exercising prepares states to effectively manage partners' responses during an emergency.

The South Dakota pandemic influenza tabletop exercise was held in November 2006. The primary purpose of the exercise was to test the execution of the state's pandemic influenza plan during all phases of a simulated pandemic influenza event. Fifty participants and observers represented South Dakota state public health, emergency management, transportation, education, human services, and information agencies. The exercise scenario simulated the spread of avian influenza virus from Southeast Asia to North American cities and, eventually, to the state of South Dakota.

Participants reviewed state and local plans for isolation and quarantine, laboratory capacity to identify influenza virus types, means to distribute resources, communication plans with the public and between state and local emergency operations, and the state unified command structure. Key findings from this exercise identified both areas in which South Dakota was well-prepared for this type of public health emergency and improvements that could be made in preparation for future events. Improvements or clarification could be made in resource allocation/tracking, definition of state/local roles, policies for personnel, school closures, antiviral release, and travel restriction.

According to the South Dakota Department of Health, the cooperative agreement is valuable because the state has been able to develop relationships and expertise that have enabled the development of planning and response to emerging health threats in a much more coordinated and effective manner. Cooperative agreement funding has also enabled South Dakota to increase activities related to planning, training, and building effective and mutually beneficial relationships.

Snapshot of Public Health Preparedness

Below are activities conducted by South Dakota in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

South Dakota

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of South Dakota laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	22
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	86%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	No

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	South Dakota SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	52
	Number of South Dakota cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Tennessee Responds to a Rabies Exposure at a Mass Gathering

Broad range communications networks are critical to inform the public about disease risks.

In August 2006, approximately 150,000 people attended the Tennessee Walking Horse National Celebration in Shelbyville, Tennessee. One of the horses was confirmed to have rabies. Because horses may transmit the rabies virus to people, the Tennessee Department of Health (TDH) responded rapidly to assess public health risks for rabies among people who reportedly had contact with the horse.

Coordination with local, regional, state, and federal public health officials contributed to quick notification of the public regarding rabies transmission risk. TDH immediately initiated an extensive public messaging campaign via print and television to communicate the risks associated with attending the event and contact with the rabid horse. The Tennessee Health Alert Network, CDC Health Alert Network, and Epi-X were used to quickly correspond with regional and local public health departments, emergency departments, and CDC about assessment and treatment for people exposed to the horse.

In addition to media communications, 4,200 attendees were contacted by letter. TDH consulted with 53 people who were exposed to the rabid horse and recommended boosters or post-exposure treatment as appropriate. The cooperative agreement supported TDH's preparedness infrastructure to effectively mobilize communication networks, including the Public Information Line and the Public Health Emergency Preparedness Program Universal Call Distribution Support Line to handle high call volume.

According to the Tennessee Department of Health, the cooperative agreement is valuable because it has funded salaries, travel, trainings, equipment, and exercises to support public health preparedness. Had Hurricanes Katrina and Rita occurred prior to the cooperative agreement, certain safeguards would not have been in place to aid in those particular responses. Preparedness for threats and emergencies has been enhanced through awareness, training, knowledge, and establishment of a laboratory dedicated to responding to chemical/biological emergencies.

Snapshot of Public Health Preparedness

Below are activities conducted by Tennessee in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Tennessee

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Tennessee laboratories in the Laboratory Response Network[1]	4
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	16
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	81%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	7
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	86%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Tennessee SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	85
	Number of Tennessee cities in the Cities Readiness Initiative[3]	2
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Texas

http://www.dshs.state.tx.us/preparedness

Texas Responds to an Influx of Hurricane Katrina Evacuees

Community partnerships are critical during public health emergencies.

Over 425,000 evacuees came to Texas within days of Hurricane Katrina's landfall, in need of help and services from federal, state, and local agencies. Many areas throughout the state provided shelter to approximately 140,000 people who had no place to live. The city of San Antonio alone provided shelter for 37,500 at an old factory, shopping mall, and KellyUSA, a civilian business park and former military base.

Public health staff were on hand to help with evacuees' immediate medical needs. The San Antonio Metropolitan Health District coordinated counseling services and suppliers for the most common medications for diabetes, hypertension, and heart disease. Pharmacists filled 3,000 prescriptions for evacuees at KellyUSA alone, and those with more urgent needs were transported to area hospitals. A network of agencies and professionals set up a 24-hour mental health clinic at KellyUSA to identify and treat people who needed psychiatric medications. The Texas Health and Human Service Commission also extended office hours to help people access benefits for Medicaid, food stamps, and prescriptions.

San Antonio community partners, including nonprofits, businesses, the faith community, and the public, all contributed greatly to the community's response. For example, businesses provided food and discounted hotel rates for evacuees and also provided communications services and equipment for shelters. Public health professionals in cooperation with these and other partners worked to ensure a coordinated response that protected the health of thousands of evacuees.

According to the Texas Department of State Health Services, the cooperative agreement is valuable because it has strengthened the state's ability to conduct public health surveillance and epidemiological studies through Epidemiology Response Teams. Funding has allowed Texas to hire and train staff and purchase needed communication systems, computers, and other equipment. Texas's response to Hurricanes Katrina and Rita showed the readiness level achieved through cooperative agreement funding.

Snapshot of Public Health Preparedness

Below are activities conducted by Texas in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Texas

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Texas laboratories in the Laboratory Response Network[1]	16
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	32
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	94%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	16
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	69%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Texas SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	97
	Number of Texas cities in the Cities Readiness Initiative[3]	3
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Utah Responds to Potential Smallpox Case

Localized laboratory testing capabilities ensure the rapid confirmation of potential diseases.

In 2006, a long-haul truck driver who had just arrived in Salt Lake City, Utah, from Seattle, Washington, showed up at an emergency room with skin lesions and a fever. The attending physician in the emergency room determined that the appearance of the lesions was compatible with the symptoms of smallpox infection. Immediately recognizing the complexity of the situation, the physician notified the Salt Lake Valley Health Department. The emergency room was immediately closed and anyone present at the time the truck driver arrived was not allowed to leave. After consulting with the Utah Department of Health (UDOH) and CDC, a sample was taken to the UDOH laboratory for testing. It was quickly determined that the man fortunately did not have smallpox, but instead had atypical chicken pox.

Quick response and resolution occurred because individuals involved in this response were trained to communicate with both the local and state public health departments. The state laboratory was equipped with the technology to quickly confirm whether the truck driver had smallpox. Utah has the capability to complete rapid testing, which takes only a matter of hours, whereas before the cooperative agreement, the sample would have required transportation to CDC in Atlanta, Georgia, for confirmation. All select bioterrorism agents can now be tested within the state. Also, local public health departments have working relationships with the hospitals in their area, which were fostered due to cooperative agreement funds.

According to the Utah Department of Health, the cooperative agreement is valuable because it has allowed Utah to develop an all-hazard response plan, implement systems for surveillance and detection, enhance laboratories, and increase capabilities in communications.

Snapshot of Public Health Preparedness

Below are activities conducted by Utah in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Utah

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Utah laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	35
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	94%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	4
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	No Response

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Utah SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	66
	Number of Utah cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Vermont

http://healthvermont.gov/e_ready.aspx

Vermont's Full-scale Exercise of *Operation Pandemic Influenza*

Extensive exercising is important to test the readiness of all components of an emergency response plan.

Vermont conducted *Operation Pandemic Influenza*, a full-scale, 2-week exercise in July 2007, to evaluate a multi-faceted, statewide response to a pandemic avian influenza outbreak. The emergency scenario included the discovery of avian influenza on a poultry farm in southern Vermont and the quarantine of students at two Vermont colleges.

The exercise provided an opportunity for state departments of health and agriculture, hospitals, universities, emergency management, and the National Guard to practice critical skills required should the state need to activate public health emergency plans. Partners tested disease surveillance, epidemiologic investigation, and response to detect and control the spread of pandemic influenza, as well as laboratory capacity to test and confirm clinical samples. The exercise also simulated the request, receipt, storage, and dispensation of Strategic National Stockpile assets from CDC. Delivery of influenza vaccine by community clinics and the system to monitor distribution and use of influenza vaccine were also tested.

The Health Alert Network was tested to rapidly exchange information among health professionals. The state emergency operations centers also were activated. The new emergency management system, DisasterLAN, was effectively used to keep key state support roles updated on critical information. Information also was provided to the public through activation of the Crisis and Emergency Risk Communication plan.

According to the Vermont Department of Health, the cooperative agreement is valuable because the state now has a dedicated Office of Public Health Preparedness & Emergency Medical Services that coordinates all work in this area. Laboratory abilities to test numerous chemical and biological agents have increased substantially, and the necessary staff are in place in times of emergency.

Snapshot of Public Health Preparedness

Below are activities conducted by Vermont in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Vermont

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Vermont laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	3
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	No

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Vermont SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	90
	Number of Vermont cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	No
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	No
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Virginia Responds to the Shootings at Virginia Tech

Partnerships are critical for cohesive response to mass casualty incidents.

In April 2007, a mass shooting occurred on the college campus of Virginia Polytechnic Institute and State University, commonly known as Virginia Tech. The shooting left 34 people dead and 26 others injured. The collaborative effort of regional hospitals, emergency medical services, and state and local public health departments resulted in a quick response.

Before the shootings, the events of September 11 had increased attention to mass casualty preparedness and response, and federal funding helped establish a regional health system model ready for such a response. For example, regional collaborative planning, training, and exercising resulted in increased experience, improved communications, and closer relationships among responders. During the Virginia Tech shootings, the close relationship between state and local public health and the Virginia healthcare system led to improved communications and a better response overall. The low overall mortality rate of victims, despite limitations given the rural health care system, was evidence of a successful response.

A key lesson learned was that mass casualty situations can occur anywhere, including rural areas with limited to no access to trauma centers. Organization and leadership, possible alterations in care standards, education, communications, transportation, triage and legal issues all emerged as important issues. Lessons learned from the Virginia Tech incident will assist Virginia healthcare and public health systems to improve planning for future emergencies.

According to the Virginia Department of Health, the cooperative agreement is valuable because it has allowed for many improvements that contribute to the state's overall emergency and preparedness response capabilities, including additional staff at local, regional, and state levels within the health department and state laboratory. In addition, Virginia has been able to build an incident and unified command structure that did not exist before 2002, as well as build redundant communications systems within public health and healthcare systems statewide.

Snapshot of Public Health Preparedness

Below are activities conducted by Virginia in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Virginia

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Virginia laboratories in the Laboratory Response Network[1]	2
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	29
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	86%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	6
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Virginia SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	97
	Number of Virginia cities in the Cities Readiness Initiative[3]	2
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Washington Co-Sponsors Public Health Initiatives

Cross-border collaboration bolsters disease surveillance and response during an emergency.

The Washington State Department of Health co-sponsored the fourth annual Pacific Northwest Cross Border Workshop with the British Columbia Ministry of Health in May 2007. Partnerships among the border states have led to successful responses to incidents such as SARS and a *Salmonella* pet food outbreak. Over 200 public health and emergency management professionals represented the Canadian western provinces, the northwest United States, the Native American and First Nations tribes, and the two federal governments.

Expert presentations and group discussions were conducted on epidemiology, surveillance, public health laboratories, emergency management, communications, and public health law. The meeting also covered special topics in cross-border initiatives, tribal preparedness, pandemic influenza planning, and similarities and differences in planning betweefn the United States and Canada.

Effective cross-border response in a public health emergency will require planned, coordinated activities by multiple agencies. Barriers to effectiveness include lack of familiarity with the roles and identities of appropriate responders, lack of established lines of intra- and interagency communications and data sharing, lack of planning and agreements for sharing scarce resources, and failure to address legal or jurisdictional issues that may restrict international cooperation. The workshops have been successful in identifying areas in which cooperation can be strengthened as well as partners' ability to respond to both national and international public health emergencies.

According to the Washington State Department of Health, the cooperative agreement is valuable because state and local public health jurisdictions have been able to build critical programs and infrastructure to support preparedness and response activities. Funds have been used to hire staff in all program areas, purchase vital equipment and software, and support training, planning, and exercise efforts.

Snapshot of Public Health Preparedness

Below are activities conducted by Washington in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Washington

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Washington laboratories in the Laboratory Response Network[1]	6
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	101
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	97%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	10
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Washington SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	90
	Number of Washington cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

West Virginia

http://www.wvdhhr.org/healthprep

West Virginia Responds to Hurricane Katrina – *Operation Safe Haven*

Capability of unaffected states enables strong support for national incidents.

In September 2005, the Governor of West Virginia requested that the state receive, temporarily house, and support Hurricane Katrina evacuees. Within 24 hours, state agencies and their partners developed and implemented a plan for the anticipated arrival of the evacuees. The state received approximately 300 Hurricane Katrina evacuees from New Orleans at the Charleston, West Virginia airport, where registration, clothing, food, and initial medical screening and treatment were provided. Evacuees then were moved to an Army National Guard base as part of *Operation Safe Haven*, where they were housed, linked to both short- and long-term service needs, and reconnected with friends and family. This month-long operation was managed by the West Virginia Department of Health and Human Resources (WVDHHR).

Operation Safe Haven was a multi-agency operation that coordinated activities through the National Incident Management System. The WVDHHR provided command and control for the overall operation in addition to coordinating medical care, providing behavioral health services, public health services, social services, case management, and community communications. The American Red Cross coordinated the provision of food and staffed housing units. The National Guard provided facility support, transportation, staff support, and security. Universities and the private sector generously provided resources otherwise not available to support the operation. Coordination and partnership among state agencies, private sector agencies, and the volunteer community demonstrated that preparedness in unaffected states enables rapid response to incidents in neighboring states and nationwide.

According to the West Virginia Department of Health and Human Resources, the cooperative agreement is valuable because it has allowed for the development of an All-Hazard Public Health Emergency Response Plan and increased communication capabilities statewide. Almost no comparison can be made between the previous system and what is in place today.

Snapshot of Public Health Preparedness

Below are activities conducted by West Virginia in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

West Virginia

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of West Virginia laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	Yes
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	West Virginia SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	61
	Number of West Virginia cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Wisconsin

http://dhfs.wisconsin.gov/preparedness

Wisconsin Identifies *E. coli* in Spinach during 2006 Nationwide Outbreak

Laboratory and epidemiology capacity is critical for rapid response to national disease outbreaks.

In September 2006, Wisconsin public health officials reported a cluster of *E. coli* O157:H7 infections to CDC. Through the use of an advanced "DNA fingerprinting" technique called pulsed-field gel electrophoresis (PFGE), staff at the Wisconsin State Laboratory of Hygiene (WSLH) were the first in the nation to identify the bacterial strain that sickened hundreds and caused three deaths in the spinach *E. coli* O157:H7 outbreak. By comparing PFGE patterns, or "DNA fingerprints," in the Pulsenet national database, CDC determined that within 1 month, 183 people across 26 states had been infected by the same strain. Joint epidemiology and laboratory investigations were critical in identifying the source of this outbreak.

The WSLH staff received the 2007 PulseNet PulseStar award from CDC and the Association of Public Health Laboratories for their efforts. Funding from the cooperative agreement was critical in providing WSLH with the laboratory capacity to successfully identify the bacterial strain that swept across the nation. Both the bacterial strain and outbreak source were identified rapidly, and public health communications regarding food safety, *E. coli* infection, and product recall were quickly developed to protect people from further spread of infection. Individual states can have a significant role in stemming nationwide disease outbreaks through well-equipped and staffed laboratories and epidemiology divisions.

According to the Wisconsin Department of Health and Family Services, the cooperative agreement is valuable because it has led to a dramatic increase in Wisconsin's capacity to conduct disease surveillance, epidemiological investigations, laboratory testing, and rapid/secure communications through the Health Alert Network. The state also has established and operated 12 local public health departments and tribal preparedness consortia to maximize funding, resources, personnel, and planning.

Snapshot of Public Health Preparedness

Below are activities conducted by Wisconsin in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Wisconsin

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Wisconsin laboratories in the Laboratory Response Network[1]	3
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	117
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	89%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	8
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	88%
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	Yes
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	No
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	Yes
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	Yes

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Wisconsin SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	86
	Number of Wisconsin cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	Yes
	- Federal emergency management agencies	Yes
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	No
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	No
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Wyoming

http://wdh.state.wy.us/sho/hazards

Wyoming Participates in a Multi-state Pandemic Influenza Exercise

Exercises highlight strengths and enhance response during a real incident.

In 2006, Wyoming participated in a multi-state pandemic influenza tabletop exercise, *Operation Wide Open Spaces*, that focused on strategies to mitigate the spread of disease and to assess the availability of local resources should a pandemic occur. Video conferencing technology brought together 31 bordering counties in Wyoming, Colorado, Kansas, and Nebraska, covering a population size of approximately 850,000. The exercise included representatives from four state, six regional, and ten local public health departments; the Indian Health Service; and other state and local agencies.

The exercise scenario involved avian influenza cases identified in airline passengers arriving in the United States from Asia. Participants discussed effective and timely cross-border and public communication strategies, cross-jurisdictional and multi-level information sharing, isolation and quarantine measures, and use of non-traditional partnerships. The Incident Command System was also exercised, enabling people from different agencies and jurisdictions to work together. In addition, the Wyoming Department of Health conducted drills leading up to and during the exercise to test communication systems, such as the Health Alert Network, the new emergency communication management system, two-way radios, satellite phones, and remote video/teleconferencing. Wyoming identified areas of strength which served the state well during this tabletop exercise, as well as areas for improvement. This allowed the state to strengthen its response capabilities should a real influenza pandemic occur in the future.

According to the Wyoming Department of Health, the cooperative agreement is valuable because it has allowed the department to hire staff to improve disease surveillance and laboratory testing, working relationships with the Eastern Shoshone and Northern Arapaho tribes, and preparedness at the county level; enhance laboratory capabilities by implementing rapid testing methods, training clinical laboratory staff, and establishing a courier system to rapidly transport samples to public health laboratories; and implement a communication system to rapidly disseminate health alerts.

Snapshot of Public Health Preparedness

Below are activities conducted by Wyoming in the area of public health preparedness. They support CDC preparedness goals in the areas of detection and reporting, control, and improvement; crosscutting activities help prepare for all stages of an event. These data are not comprehensive and do not cover all preparedness activities.

Disease Detection and Investigation

The sooner public health professionals can detect diseases or other health threats and investigate their causes and effects in the community, the more quickly they can minimize population exposure.

Detect & Report	Could receive and investigate urgent disease reports 24/7/365[1]	Yes
	- Primary method for receiving urgent disease reports*[2]	Telephone
	Linked state and local health personnel to share information about disease outbreaks across state lines (through the CDC *Epi-X* system)[3]	Yes
	Conducted year-round surveillance for seasonal influenza[4]	Yes

*Telephone, fax, and electronic reporting are all viable options for urgent disease reporting, as long as the public health department has someone assigned to receive the reports 24/7/365.

[1] CDC, DSLR; 2005; [2] CDC, DSLR; 2006; [3] CDC, *Epi-X*; 2007; [4] HHS, OIG; 2007

Wyoming

Public Health Laboratories

Public health laboratories test and confirm agents that can threaten health. For example, advanced DNA "fingerprinting" techniques and subsequent reporting to the CDC database (PulseNet) are critical to recognize nationwide outbreaks from bacteria that can cause severe illness, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

Detect & Report	Number of Wyoming laboratories in the Laboratory Response Network[1]	1
	Rapidly identified *E. coli* O157:H7 using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	4
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	100%
	Rapidly identified *Listeria monocytogenes* using advanced DNA "fingerprinting" techniques (PFGE):[2]	
	- Number of samples received (partial year, 9/06 – 2/07)	None
	- Percentage of test results submitted to CDC database (PulseNet) within 4 days	N/A
	Had a laboratory information management system that could create, send, and receive messages[3] (8/05 – 8/06)	No
	- System complied with CDC information technology standards (PHIN)[3] (8/05 – 8/06)	N/A
	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens[3] (8/05 – 8/06)	Yes
Crosscutting	Conducted bioterrorism exercise that met CDC criteria[4] (8/05 – 8/06)	No
	Conducted exercise to test chemical readiness that met CDC criteria[4] (8/05 – 8/06)	N/A

[1] CDC, DBPR; 2007; [2] CDC, DSLR; 2007; [3] APHL, Public Health Laboratory Issues in Brief: Bioterrorism Capacity; May 2007; [4] CDC, DSLR; 2006

Response

Planning provides a framework for how a public health department will respond during an emergency. The plans can be tested through external reviews, exercises, and real events. After-action reports assess what worked well during an exercise or real event and how the department can improve.

Control	Developed a public health response plan, including pandemic influenza response, crisis and emergency risk communication, and Strategic National Stockpile (SNS)[1, 2]	Yes
	Wyoming SNS plan reviewed by CDC[2]	Yes
	- Score on CDC technical assistance review (1-100)	72
	Number of Wyoming cities in the Cities Readiness Initiative[3]	1
Crosscutting	Developed roles and responsibilities for a multi-jurisdictional response (ICS) with:[1] (8/05 – 8/06)	
	- Hospitals	Yes
	- Local/regional emergency management agencies	No
	- Federal emergency management agencies	No
	Public health department staff participated in training to support cooperative agreement activities[4]	Yes
	Public health laboratories conducted training for first responders[5] (8/05 – 8/06)	Yes
	Activated public health emergency operations center as part of a drill, exercise, or real event*[†6] (partial year, 9/06 – 2/07)	Yes
	Conducted a drill or exercise for key response partners to test communications when power and land lines were unavailable[†6] (partial year, 9/06 – 2/07)	Yes
Improve	Finalized at least one after-action report with an improvement plan following an exercise or real event[†6] (partial year, 9/06 – 2/07)	Yes

* Activation means rapidly staffing all eight core ICS functional roles in the public health emergency operations center with one person per position. This capability is critical to maintain in case of large-scale or complex incidents, even though not every incident requires full staffing of the ICS.

† States were expected to perform these activities from 9/1/2006 to 8/30/2007. These data represent results from the first half of this period only.

[1] CDC, DSLR; 2006; [2] CDC, DSNS; 2007; [3] CDC, DSNS CRI; 2007; [4] CDC, DSLR; 1999-2005; [5] APHL, Chemical Terrorism Preparedness; May 2007; [6] CDC, DSLR; 2007

Appendix 1

Cooperative Agreement Funding

Table 1 presents cooperative agreement funding for states, localities, territories, and freely associated states from FY 2002–2007.

Table 1: Cooperative Agreement Funding Allocation, FY 2002-2007

Jurisdiction	FY 2002[1]	FY 2003*[1]	FY 2004[2]	FY 2005†[2]	FY 2006‡[2]	FY 2007§[2]	Total FY 2002-2007
Alabama	$14,900,443	$15,598,792	$12,910,651	$14,405,196	$14,813,276	$12,951,863	$85,580,221
Alaska	$6,395,720	$6,502,762	$5,205,459	$5,868,019	$6,110,696	$5,838,752	$35,921,408
American Samoa	$544,481	$576,463	$444,499	$561,855	$621,074	$547,830	$3,296,202
Arizona	$16,422,170	$17,586,381	$16,470,314	$18,924,112	$19,853,184	$17,681,799	$106,937,960
Arkansas	$10,951,709	$11,390,938	$9,339,265	$10,465,767	$10,831,516	$9,389,729	$62,368,924
California	$60,816,245	$64,203,968	$59,319,441	$68,062,495	$72,029,121	$65,303,030	$389,734,300
Chicago	$11,447,312	$11,378,246	$12,563,491	$14,014,304	$14,057,525	$15,703,041	$79,163,919
Colorado	$14,575,766	$15,508,850	$13,654,314	$15,543,448	$15,894,493	$14,009,943	$89,186,814
Connecticut	$12,581,705	$13,145,748	$10,828,647	$12,149,799	$12,668,280	$11,324,491	$72,698,670
Delaware	$6,744,505	$6,889,271	$5,518,506	$6,295,104	$6,563,586	$5,911,495	$37,922,467
District of Columbia	$11,273,558	$11,360,917	$11,985,069	$12,566,917	$7,562,416	$9,898,128	$64,647,005
Florida	$40,581,081	$43,832,162	$37,583,527	$43,854,875	$47,080,106	$42,467,776	$255,399,527
Georgia	$23,225,251	$24,935,506	$21,575,121	$24,931,530	$25,990,548	$23,156,267	$143,814,223
Guam	$777,788	$679,585	$515,976	$690,478	$868,854	$771,758	$4,304,439
Hawaii	$7,697,208	$7,910,098	$6,384,925	$7,184,997	$7,464,696	$6,418,428	$43,060,352
Idaho	$7,880,688	$8,131,994	$6,588,258	$7,462,364	$7,824,227	$6,637,005	$44,524,536
Illinois	$26,201,381	$28,315,621	$23,718,971	$26,922,367	$27,588,405	$24,575,584	$157,322,329
Indiana	$18,536,799	$19,530,623	$16,262,765	$18,468,758	$19,103,844	$16,965,990	$108,868,779
Iowa	$11,514,786	$11,953,663	$9,816,873	$10,940,911	$11,250,544	$9,779,223	$65,256,000
Kansas	$10,985,143	$11,408,553	$9,354,215	$10,459,139	$11,019,457	$9,548,745	$62,775,252
Kentucky	$13,998,067	$14,649,896	$12,105,282	$13,549,995	$14,090,005	$12,441,275	$80,834,520
Los Angeles County	$24,591,171	$27,856,971	$27,069,695	$30,833,561	$31,178,436	$30,712,150	$172,241,984
Louisiana	$14,949,145	$15,602,245	$12,913,581	$14,382,879	$14,936,760	$13,243,220	$86,027,830
Maine	$7,838,322	$8,046,341	$6,600,682	$7,424,912	$7,685,678	$6,526,615	$44,122,550
Marshall Islands	$306,025	$561,544	$434,158	$560,134	$623,738	$550,238	$3,035,837

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Jurisdiction	FY 2002[1]	FY 2003*[1]	FY 2004[2]	FY 2005†[2]	FY 2006‡[2]	FY 2007§[2]	Total FY 2002-2007
Maryland	$16,791,405	$17,774,011	$14,756,853	$17,131,387	$18,133,509	$16,047,435	$100,634,600
Massachusetts	$19,134,801	$20,181,459	$17,640,158	$19,933,739	$20,197,272	$18,039,563	$115,126,992
Michigan	$27,125,655	$28,731,577	$26,896,854	$30,057,553	$30,340,068	$26,992,552	$170,144,259
Micronesia	$446,522	$653,415	$497,837	$623,034	$733,508	$649,441	$3,603,757
Minnesota	$15,952,086	$16,821,680	$14,701,780	$16,735,319	$16,990,908	$15,591,574	$96,793,347
Mississippi	$11,332,975	$11,782,347	$9,671,470	$10,809,190	$11,149,255	$9,722,248	$64,467,485
Missouri	$17,456,448	$18,369,845	$15,952,563	$18,212,581	$18,695,498	$16,566,343	$105,253,278
Montana	$7,008,529	$7,147,269	$5,775,627	$6,475,076	$6,728,463	$5,982,933	$39,117,897
Nebraska	$8,809,733	$9,079,368	$7,377,335	$8,269,079	$8,547,285	$7,324,390	$49,407,190
Nevada	$9,448,659	$9,975,108	$8,927,588	$10,312,883	$10,740,080	$9,340,451	$58,744,769
New Hampshire	$7,751,193	$7,986,786	$6,465,014	$7,340,273	$7,609,049	$6,447,504	$43,599,819
New Jersey	$23,732,611	$25,185,572	$21,047,364	$24,554,977	$25,095,585	$22,337,726	$141,953,835
New Mexico	$9,049,687	$9,342,376	$8,803,295	$9,767,256	$10,112,893	$8,690,645	$55,766,152
New York	$29,418,122	$31,675,790	$28,493,781	$31,499,224	$32,201,357	$28,874,622	$182,162,896
New York City	$22,828,585	$23,586,023	$25,864,757	$28,535,849	$28,742,088	$28,822,589	$158,379,891
North Carolina	$22,919,940	$24,462,186	$20,433,395	$23,094,942	$24,056,483	$21,306,097	$136,273,043
North Dakota	$6,429,710	$6,509,688	$5,223,458	$5,847,548	$6,063,487	$5,839,560	$35,913,451
Northern Marianas Islands	$314,371	$585,043	$450,446	$584,096	$671,401	$593,312	$3,198,669
Ohio	$30,275,149	$32,012,830	$27,626,951	$31,183,708	$32,187,334	$28,837,726	$182,123,698
Oklahoma	$12,682,086	$13,228,697	$10,899,049	$12,193,074	$12,552,423	$11,101,950	$72,657,279
Oregon	$12,616,956	$13,237,862	$10,906,827	$12,521,422	$13,132,689	$11,468,821	$73,884,577
Palau	$192,061	$521,761	$406,583	$515,482	$536,951	$471,804	$2,644,642
Pennsylvania	$32,340,936	$34,178,922	$30,735,407	$34,485,058	$34,864,545	$31,306,870	$197,911,738
Puerto Rico	$13,478,640	$14,103,331	$11,641,389	$13,016,943	$13,167,668	$11,445,404	$76,853,375
Rhode Island	$7,333,840	$7,513,164	$6,048,030	$7,001,977	$7,185,100	$6,073,925	$41,156,036
South Carolina	$13,931,820	$14,634,027	$12,091,813	$13,617,772	$14,135,585	$12,548,500	$80,959,517
South Dakota	$6,680,506	$6,798,496	$5,441,461	$6,111,718	$6,347,032	$5,878,521	$37,257,734

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Jurisdiction	FY 2002[1]	FY 2003*[1]	FY 2004[2]	FY 2005†[2]	FY 2006‡[2]	FY 2007§[2]	Total FY 2002-2007
Tennessee	$17,665,877	$18,635,684	$15,488,192	$17,380,881	$18,158,899	$16,418,187	$103,747,720
Texas	$51,421,771	$55,684,954	$51,803,533	$59,464,754	$62,045,438	$56,222,601	$336,643,051
Utah	$9,971,636	$10,404,357	$8,501,910	$9,632,487	$10,138,504	$8,878,797	$57,527,691
Vermont	$6,355,413	$6,453,782	$5,198,685	$5,837,490	$6,052,340	$5,843,658	$35,741,368
Virgin Islands (US)	$419,235	$639,297	$488,051	$623,850	$734,858	$650,661	$3,555,952
Virginia	$20,758,682	$22,068,328	$19,924,893	$22,766,355	$23,915,622	$21,300,739	$130,734,619
Washington	$18,121,902	$19,214,353	$16,978,969	$19,341,607	$19,965,603	$17,735,544	$111,357,978
West Virginia	$9,025,861	$9,271,321	$7,540,254	$8,439,010	$8,683,141	$7,412,363	$50,371,950
Wisconsin	$16,940,986	$17,821,131	$14,811,846	$16,806,704	$17,367,490	$15,868,646	$99,616,803
Wyoming	$6,099,142	$6,171,022	$4,908,897	$5,528,786	$5,750,124	$5,748,448	$34,206,419
TOTAL	$918,000,000	$970,000,000	$849,586,000	$962,777,000	$991,440,000	$896,736,525	$5,588,539,525

* Includes $100 million Smallpox Supplement

† Includes $100 million Pandemic Influenza Supplement

‡ Includes $225 million Pandemic Influenza Supplement

§ Includes $175 million Pandemic Influenza Supplement

[1] CDC [2] HHS Press Releases

Appendix 2

DHS National Preparedness Guidelines and Priorities

DHS established the National Preparedness Guidelines (formerly the National Preparedness Goal) in September 2007. The guidelines include a series of national priorities to guide preparedness efforts that meet the nation's most urgent needs. The priorities reflect major themes and recurring issues identified in national strategies, presidential directives, State and Urban Area Homeland Security Strategies, the Hurricane Katrina Reports, and other lessons-learned reports. The priorities will be updated or refined over time as the nation implements the National Preparedness Guidelines or encounters changes in the homeland security strategic environment. These priorities are also applicable to public health preparedness.

The Guidelines provide three planning tools to help government officials achieve these priorities: the National Planning Scenarios, the Target Capabilities List (TCL), and the Universal Task List (UTL). The National Planning Scenarios are designed to identify the broad spectrum of tasks and capabilities needed for all-hazards preparedness. The TCL is a comprehensive catalog of capabilities to perform homeland security missions, including performance measures and metrics for common tasks. The UTL is a library and hierarchy of tasks by homeland security mission area. For more information, see www.fema.gov/pdf/government/npg.pdf.

National Preparedness Priorities

- Expand Regional Collaboration
- Implement the National Incident Management System and National Response Plan
- Implement the National Infrastructure Protection Plan
- Strengthen Information Sharing and Collaboration Capabilities
- Strengthen Interoperable Communications Capabilities
- Strengthen Chemical, Biological, Radiological, Nuclear, and Explosive Detection, Response, and Decontamination Capabilities
- Strengthen Medical Surge and Mass Prophylaxis Capabilities
- Strengthen Planning and Citizen Preparedness Capabilities

Appendix 3

Overview of CDC Preparedness Activities

The mission of CDC's terrorism preparedness and emergency response activities is to prevent death, disability, disease, and injury associated with urgent health threats by improving preparedness of the public health system, the healthcare delivery system, and the public. CDC has made all-hazards preparedness and emergency response a priority and is building and enhancing systems at the local, state, and federal levels. For more information, see http://emergency.cdc.gov/.

Coordinating Office for Terrorism Preparedness and Emergency Response (COTPER)

COTPER coordinates terrorism preparedness and emergency response activities across CDC and strategically distributes funds to other CDC centers and offices. COTPER is comprised of the following divisions:

- The **Division of State and Local Readiness (DSLR)** administers the Public Health Emergency Preparedness cooperative agreement, which funds state and local efforts to build and strengthen their infrastructure and capabilities to respond to and recover from a public health emergency and provides consultation and technical assistance to promote these efforts. DSLR also manages the Centers for Public Health Preparedness program, located in 27 universities across the country, and supports eight Advanced Practice Centers, which are local public health departments that develop cutting-edge tools and resources that help other local public health departments prepare for, respond to, and recover from emergencies.
- The **Division of Strategic National Stockpile (DSNS)** supports and maintains the Strategic National Stockpile (SNS), a national repository of antibiotics, antiviral drugs, chemical antidotes, antitoxins, life-support medications, intravenous administration equipment, airway maintenance supplies, and medical/surgical items. During a public health emergency, state and local public health systems and resources may become overwhelmed. The SNS is designed to supplement and re-supply state and local public health departments in the event of such an emergency. DSNS also provides technical assistance to local officials to help ensure that local, state, and federal agencies can work together to receive, stage, store, and distribute SNS assets.
- The **Division of Emergency Operations (DEO)** is CDC's command center for the coordination of emergency response to domestic and international public health threats and is staffed 24/7/365. The Director's Emergency Operations Center (DEOC) is equipped with state-of-the-art communications technologies to support information pipelines with state, federal, and international partners. The DEOC is the CDC contact for state public health departments for reporting potential public health threats.
- The **Division of Select Agents and Toxins (DSAT)** regulates the possession, use, and transfer of biological agents and toxins (select agents) that could pose a severe threat to public health and safety.
- The **Office of the Director (OD)** manages strategy, goals setting, budget formulation, communication, and science for terrorism preparedness and emergency response activities. In addition, OD manages the Career Epidemiology Field Officer program, which recruits and supports skilled epidemiologists in state and local public health

departments. Public health departments can choose to spend cooperative agreement funds to support a field officer in their public health department.

Other centers within CDC also contribute to public health preparedness and are described below in alphabetical order.

Coordinating Center for Environmental Health and Injury Prevention (CCEHIP)

CCEHIP plans, directs, and coordinates public health research, programs, and laboratory sciences that improve health and eliminate illness, disability, and/or death caused by injuries or environmental exposures. The following highlights public health preparedness activities within national centers of CCEHIP:

- The **National Center for Environmental Health/Agency for Toxic Substances and Disease Registry (NCEH/ATSDR)** conducts ongoing projects to improve surveillance systems, laboratory capacity, and emergency response. NCEH/ATSDR is improving various surveillance systems for chemical exposures, hazardous substance spills, and morbidity following disasters. Upgrades of CDC laboratories enhance their capacity to respond to chemical and radiological terrorism and to analyze toxins via improved analytical methods. NCEH/ATSDR is also working with state and local public health departments to improve response to chemical, nuclear, and radiological terrorism.
- The **National Center for Injury Prevention and Control (NCIPC)** links to the injury care community to decrease morbidity and mortality from injuries caused by explosions. NCIPC is moving towards this goal through curriculum development for health care providers, the development of clinical guidelines in blast injury management, improvement of field triage for large-scale blast injuries, and translation of lessons learned from international and U.S. military experience.

Coordinating Center for Health Information and Service (CCHIS)

CCHIS provides leadership and promotes innovation in public health informatics, health statistics, health marketing, and scientific communications. The following describe the many ways in which the national centers within CCHIS are enhancing communications to help detect and respond to emergencies.

- The **National Center for Health Marketing (NCHM)** strengthens health communications networks across federal, state, and local levels with such projects as *Epi-X*, the Public Health Training Network, and the National Public Health Radio Network. NCHM's Emergency Communication Branch provides leadership for cross-agency emergency risk communication during emergencies, and ensures that CDC coordinates with state and local public health departments in providing critical health protection information to the public, clinicians, emergency responders, and other stakeholders. The emergency response component of the CDC-INFO Contact Center and Translation Services for Emergency Information enhances dissemination of emergency information to the public by translating emergency requests in up to 150 different languages.

- The **National Center for Public Health Informatics (NCPHI)** coordinates BioSense, the near real-time biosurveillance system that provides health situational awareness using existing data from healthcare organizations across the country. Through PHIN, NCPHI provides technical assistance and guidance to state and local partners to implement interoperable public health information systems allowing for the exchange of data across organizational and jurisdictional boundaries. The LRN Real Time Laboratory Information Exchange also equips LRN labs to securely share data in real time according to industry standards.
- The **National Center for Health Statistics (NCHS)** develops and conducts data collection activities to monitor the nation's health and provides expertise in data collection and analysis to state and local partners through collaborative efforts. Examples of such efforts include the California Health Interview Survey and New York City's Community Health and Nutrition Examination Survey, work with state vital statistics offices to improve state data collection activities, and assisting states in data collection needs related to disasters such as Hurricane Katrina. NCHS also provides leadership in developing classification standards for reporting morbidity and mortality and in monitoring adoption of electronic health records by health providers.

Coordinating Center for Health Promotion (CoCHP)

CoCHP seeks to increase the potential for full, satisfying, and productive living across the lifespan for all people, in all communities. CoCHP preparedness activities include providing technical expertise in epidemiology, surveillance and communications for populations with physical and development disabilities and chronic diseases, pregnant and lactating women, reproductive-age women, infants, the elderly, and school-age children in emergencies. Additional activities include:

- The **National Center on Birth Defects and Developmental Disabilities (NCBDDD)** is conducting ongoing projects to develop and strengthen intramural research and surveillance capacity related to emergency preparedness for at-risk populations. In particular, NCBDDD is investigating the states of pre-event and post-event readiness among at-risk populations affected by Hurricanes Katrina and Rita.
- The **National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)** has a number of publications addressing the burden and needs surrounding persons with chronic diseases following natural disasters. Activities include strengthening emergency response surveillance efforts through rapid telephone surveys administered through the Behavioral Risk Factor Surveillance System; collaborating in the review of mental health response cards following Hurricane Katrina; examining agricultural issues to assist in achieving the goal of a safer, healthier, secure, and equitable food supply (e.g., food security, influences on economics and food production, food access); examining provisions for oral health following Hurricane Katrina; and developing conceptual models, analytic reports, guidance, and incident response plans for pregnant, postpartum, or lactating women and infants.

Coordinating Center for Infectious Diseases (CCID)

CCID strives to protect health related to infectious diseases. The following highlights CCID's ongoing public health preparedness activities, including developing vaccines, enhancing diagnostic methods of select bioterrorism agents, and improving the LRN.

- The **Influenza Coordination Unit (ICU)** is ensuring that the diverse activities related to pandemic or seasonal influenza preparedness and response activities are coordinated, effective, and efficient. ICU works with other CDC divisions and offices to continuously improve the CDC Pandemic Influenza Operations Plan, plan and participate in agency-wide exercises, and manage portfolios of related pandemic influenza projects.
- The **National Center for Immunization and Respiratory Diseases (NCIRD)**, as part of the Anthrax Vaccine Research Program, is conducting a large-scale human clinical trial of the anthrax vaccine, as well as further immunological studies in animals. NCIRD is also developing an anthrax immune globulin for eventual storage in the SNS.
- The **National Center for Zoonotic, Vector-Borne, and Enteric Diseases (NCZVED)** is working to improve surveillance, diagnostic and molecular methods, and laboratory capacities for a number of select bioterrorism agents, including smallpox, botulism and plague. NCZVED also seeks to quicken the detection and response to bioterrorism agents in water and food.
- The **National Center for Preparedness, Detection, and Control of Infectious Diseases (NCPDCID)** manages the LRN, the global consortium of reference and national laboratories whose goal is to decrease the time needed to detect biological and chemical agents that can harm the public and respond to these events with detection and identification capacities and surveillance support. The Division of Bioterrorism Preparedness and Response (DBPR) is primarily responsible for managing the LRN and preparedness activities within CCID. In addition, NCPDCID tests for the continuing effectiveness of existing drugs against bioterrorism agents and prepares U.S. ports of entry to reduce the risk of natural or intentional introduction of infectious diseases into the country.

Coordinating Office for Global Health (COGH)

COGH provides leadership and works with global partners to increase life expectancy and years of quality of life, and also to increase global preparedness to prevent and control natural and manmade threats to health.

- The Global Terrorism Preparedness and Emergency Response program is developing and implementing a pre-event strategy for CDC's external engagements with international public health partners in terrorism preparedness and emergency response.
- COGH also coordinates international response with the Director's Emergency Operations Center during international emergency response events and serves as the principal CDC point-of-contact for CDC programs, federal agencies, foreign governments, and other organizations concerned with international terrorism preparedness and response.

National Institute for Occupational Safety and Health (NIOSH)

NIOSH provides leadership to prevent work-related illness, injury and death through information gathering, scientific research, and translation of knowledge gained into products and services. The NIOSH Emergency Preparedness and Response Office takes primary responsibility to serve as the focal point of technical expertise; facilitate rapid and specific on-site support; and advance research and collaboration to enhance preparedness and response efforts.

- NIOSH is a cooperating agency in the Worker Safety and Health Support Annex of the National Response Plan. In the aftermath of disasters, NIOSH provides assistance on occupational exposure assessments, provides guidance on personal protective equipment, and develops and disseminates guidelines to integrate worker safety and health into site operations. NIOSH works with multidisciplinary teams to develop procedures for follow-up evaluations of worker injuries, conducts health hazards evaluations, and provides technical assistance to local, state, and federal governmental agencies to assess potential health effects from workers' exposures in the recovery zone.
- In addition, NIOSH has developed an aggressive research portfolio to address a wide range of research needs in the emergency response community. For example, NIOSH conducts research to address the critical need for effective personal protective technologies, such as respirators, chemical-resistant clothing, hearing protectors, and safety goggles and glasses that provide a barrier between the worker and an occupational safety or health risk.

Office of the Director (OD)

OD manages and directs the activities of CDC and coordinates the CDC response to emergencies. Public health preparedness activities within the OD include security, legal preparedness, and workforce training. OD also coordinates the placement of Senior Management Officials (SMOs), who function as the chief CDC representatives within selected states. SMOs oversee CDC resources, provide technical assistance, and serve as a point of contact during emergencies. In 2007, 11 states and DC had permanent SMOs, and 5 states and 2 territories had SMOs who provide support only during an emergency. The following offices participate in CDC preparedness activities:

- The **Office of the Chief Operating Officer (OCOO)** ensures that federal assets and critical infrastructure are safeguarded by providing security for CDC facilities and the SNS. OCOO also manages secure intelligence communication systems and HealthImpact.net (an internal CDC system) to support terrorism preparedness projects.
- The **Office of Chief of Public Health Practice (OCPHP)** develops the legal preparedness of CDC programs, front-line public health practitioners, policy makers, and partners in related sectors (e.g., emergency management, law enforcement, judiciary, and health care) to effectively address terrorism, other public health emergencies, and additional national public health priorities. OCPHP focuses on improving all four core elements of public health legal preparedness: laws and legal authorities; the competency of multi-sector practitioners to apply those laws effectively; coordinated implementation of laws across sectors and jurisdictions; and actionable information on best practices in legal preparedness. In addition, OCPHP is implementing the Social Distancing Law Project to assess 18 states' capacity to implement quarantine and other non-pharmaceutical interventions during an influenza pandemic or other threat.

- The **Office of Enterprise Communication (OEC)** promotes effective and efficient communication networks both within CDC and with external partners. During an emergency situation that requires a CDC response, OEC provides information and communication support within the Joint Information Center. OEC developed the CDC *Employee Guide for Influenza Pandemic Preparedness* and conducted pandemic influenza crisis and emergency risk communication training in collaboration with HHS.
- The **Office of Workforce and Career Development (OWCD)** plans, directs and manages workforce training programs for public health preparedness. The Epidemic Intelligence Service (EIS) program trains high-level epidemiologists for placement in state and local public health departments. The management and staff of LRN reference laboratories are also trained in preparedness, implementation of the Select Agent Program, and testing protocols. In addition, OWCD provides targeted preparedness training for emergency responders.

Appendix 4

Overview of ASPR Preparedness Activities

CDC works under the strategic leadership of ASPR, the principal advisor to HHS on issues related to bioterrorism and other public health emergencies that affect the civilian population. ASPR coordinates and integrates public health emergency preparedness activities among federal, state, and local officials. ASPR has also been a lead partner in the development of a U.S. government-wide pandemic influenza strategic plan and coordinated subsidies for states to stockpile antiviral drugs to help respond in case of an influenza pandemic. The planning, coordination, and operational functions of ASPR are conducted by four offices:

Office of the Biomedical Advanced Research and Development Authority (BARDA)

BARDA is responsible for providing coordination and expert advice regarding the development and procurement of public health medical countermeasures, or pharmaceuticals (e.g., vaccines, antitoxins, and preventive and therapeutic drugs) that protect against health threats during emergencies. Through the Public Health Emergency Medical Countermeasures Enterprise—an interagency effort that also includes CDC, FDA, and the National Institutes of Health—BARDA coordinates efforts to define and prioritize requirements for public health emergency medical countermeasures, product development and procurement, and related research. BARDA is also responsible for setting strategies for the deployment and use of medical countermeasures stored in the SNS.

Office of Preparedness and Emergency Operations (OPEO)

OPEO is responsible for developing operational plans, analytical products, and training exercises to ensure the preparedness of ASPR, HHS, the federal government, and the public to respond to public health and medical threats and emergencies, both domestically and internationally. OPEO is also responsible for ensuring that ASPR has the systems, logistical support, and procedures necessary to coordinate HHS operational response to acts of terrorism and other public health and medical threats and emergencies. The following programs are administered within OPEO:

- The **Hospital Preparedness Program (HPP)** helps hospitals and health care systems to prepare for and respond to public health emergencies. Current program priority areas include interoperable communication systems, bed tracking, personnel management, fatality management planning and hospital evacuation planning. During the past 5 years, HPP funds have also improved bed and personnel surge capacity, decontamination capabilities, isolation capacity, pharmaceutical supplies, training, education, drills, and exercises. Hospitals, outpatient facilities, health centers, poison control centers, emergency medical services, and other healthcare partners work with the appropriate state or local health departments to acquire funding and develop healthcare system preparedness through this program. Funding is distributed directly to the health department of the state or political subdivision of a state (i.e., cities and counties).
- The **National Disaster Medical System (NDMS)** is a federally coordinated system that augments the nation's medical response capability. The overall purpose of the NDMS is to establish a single integrated national medical response capability for assisting state and local authorities in dealing with the medical impacts of major peacetime disasters and to provide

support to the military and the Department of Veterans Affairs medical systems in caring for casualties evacuated back to the U.S. from overseas armed conventional conflicts.

- The **Healthcare and Public Health Sector Critical Infrastructure Protection Program** leads a unique public and private sector partnership in protecting the essential goods, services, and functions of healthcare and public health that, if destroyed or compromised, would negatively affect the nation's ability to respond to emergencies and care for its citizens.

Office of Medicine, Science, and Public Health (OMSPH)

OMSPH is responsible for providing expert medical, scientific, and public health advice on domestic and international medical preparedness policies, programs, initiatives, and activities. OMSPH serves as the ASPR liaison to health and science professional organizations for domestic and international issues.

Office of Policy and Strategic Planning (OPSP)

OPSP is responsible for policy formulation and coordination for preparedness and response strategic planning. In coordination with other ASPR and HHS offices, OPSP analyzes proposed policies and presidential directives and regulations, and develops short- and long-term policy and strategic objectives.

Appendix 5

Data Sources and Methods

Data presented in Sections 1 and 2 of this report come from a variety of sources. Footnotes in the report provide information on the specific source and timeframe for each data point. The purpose of the information below is to provide additional details about data sources. Listed alphabetically below are the specific sources of data, the time frame in which the data were collected, and any additional information needed to understand the data.

APHL

APHL, *Public Health Laboratory Issues in Brief: Bioterrorism Capacity;* October 2002: APHL conducted the first survey in this series to establish a baseline status of state public health laboratories regarding bioterrorism preparedness as of December 31, 2001. Self-reported data were collected about personnel, facilities/biosecurity, clinical laboratory connectivity, equipment/supplies, transportation/courier service, integrated data management, and training from 46 states, 1 territory, and DC, for a 92% response rate.

APHL, *Public Health Laboratory Issues in Brief: Bioterrorism Capacity;* May 2007: APHL conducted the fifth survey in this series to assess the effects of preparedness funding on state public health laboratory readiness for bioterrorism. Self-reported data were collected about funding, workforce, laboratory connectivity and integration, sample intake and laboratory testing, and reporting capabilities during the period from August 31, 2005 to August 30, 2006. All 50 states, DC, and Puerto Rico responded, for a total sample size of 52 with a 100% response rate. Puerto Rico's responses were not included in the data presented.

APHL, *Chemical Terrorism Preparedness: In the Nation's State Public Health Laboratories;* May 2007: APHL conducted its third annual Chemical Terrorism Laboratory Preparedness Survey of public health laboratories to assess their capacity and capability to respond to chemical terrorism from August 31, 2005 to August 30, 2006. Self-reported data were collected on funding, testing capability and capacity, workforce, coordination and response planning, and all-hazards receipt and testing. Responses were received from 46 states and DC, for a response rate of 90%.

APHL, unpublished data provided for 2006 and 2002: APHL provided unpublished survey data for the number of clinical laboratorians that participated in state-sponsored training to perform rule-out testing for biological agents. The training covered rule-out testing, packing and shipping, and biosafety guidelines.

CDC

CDC, DBPR EARS data; 2007: Data about EARS consist of program information from DBPR in CCID.

CDC, DBPR LRN data; 2007: Data about the LRN consist of program information from DBPR in CCID. More details about LRN data follow.

- *Percentage of population within 100 miles of a LRN laboratory:* DBPR used census data for the year 2000 to determine the proportion of the U.S. population within 100 miles of a laboratory participating in the LRN. Analysis for this report was conducted in August 2007.
- *Number of laboratories within the LRN:* This report represents the number of LRN laboratories as of November 2007.
- *Laboratory testing for biological and chemical agents:* State and local laboratories in the LRN are subject to routine proficiency testing to confirm accuracy of testing for a range of biological and chemical agents. These proficiency tests are conducted throughout the year, and the data were updated as of September 2007.

CDC, DEO data; 2007: DEO tracks major events that may have public health consequences. CDC monitors and often responds to these major events.

CDC, DEO Epi-Aid data; 2007: These data consist of program information from Epi-Aid, a program of CDC assistance in epidemiologic field investigations on request from states, localities, and abroad. DEO coordinates these regular deployments of field teams throughout the year and records the number, type, length, and locations of field investigations.

CDC, Division of Integrated Surveillance Systems and Services BioSense data; 2007: Data about BioSense consist of program information from the Division of Integrated Surveillance Systems and Services in NCPHI.

CDC, DSLR data; 1999-2005: DSLR requested information from states regarding the progress made in preparedness from 1999 through August 30, 2005, at the end of the first five budget periods of the cooperative agreement.

CDC, DSLR data; 2003-2006: States were required to submit information annually on their preparedness activities during the reporting period from August 31 through August 30.

CDC, DSLR data; 2007: DSLR collected performance measure data from states, territories, and localities for budget period 7 of the cooperative agreement. Data presented in this report reflect the partial year period from September 1, 2006 through February 28, 2007. States will submit additional data for the latter half of the year.

CDC, DSLR Mid-Year Progress Report Review data; 2007: DSLR reviewed state public health departments' status in various areas of preparedness through narrative information reported as part of the cooperative agreement. DSLR uses the reviews to develop consultation plans and regional workshops to work on areas identified as needing improvement.

CDC, DSNS data; 2001-2007: CDC annually reviews state plans to receive, stage, store, and distribute pharmaceutical and medical supplies during an emergency. The review tool is based on a 100-point scale and covers 13 functional areas. Program consultants rate the plans based on the evidence provided and their professional judgment and experience. CDC uses review scores to help identify areas needing further improvement in planning and training. Scores were

presented for states with completed reviews from September 2006 through December 2007. One state did not have a complete review as of January 2007. DSNS also tracks the number of joint state and CDC SNS exercises, and data are presented for 2001-2006.

CDC, DSNS Cities Readiness Initiative (CRI) data; 2007: These data consist of program information from the CRI.

CDC, *Epi-X* data; 2007: These data consist of program information from *Epi-X*, a CDC communications system that helps track disease outbreaks. CDC's CCHIS maintains an active registry of qualified and trained users of the *Epi-X* system. The report presents figures based on end-of-calendar-year numbers of registered *Epi-X* users.

CDC, HAN data; 2003-2007: CDC's CCHIS tests states and localities' ability to respond to a test message within 30 minutes or less. The report presents data from 2003 through 2007.

CDC, NCEH data; 2007: Data consist of NCEH program information. NCEH works with state and local public health departments to improve response to chemical, nuclear, and radiological terrorism.

CDC, Pandemic Influenza State Self-Assessments data; 2006: As part of the cooperative agreement pandemic influenza supplemental funding, states and localities completed a pandemic influenza self-assessment in April 2006. Progress was reported in a number of key activities as "completed," "in progress," or "not started." Data were reported for 49 states.

CSTE

CSTE, *Epidemiological Capacity Assessment* (ECA); 2006: CSTE surveyed state and territorial public health departments in 2006 to determine the current status of core epidemiologic capacity, competence-specific training needs, and barriers to recruitment and retention of epidemiologists. The 50 states, DC, American Samoa, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands responded, for a 93% response rate. The 2006 ECA summarized 2006 data and changes in epidemiologic and surveillance capacity since 2001 and 2004 for the 39 public health departments that participated in assessments all 3 years.

HHS

HHS Press Releases; 2002-2007: HHS publishes press releases on the amount of funding allocated to state, local, and territorial public health departments through the cooperative agreement.

HHS OIG, *Status of State 24/7 Urgent Disease and Public Health Emergency Reporting Systems;* February 2005: OIG reviewed public health departments' 24/7 urgent disease and public health emergency reporting systems and reported that 12 states and Los Angeles County had these systems in place prior to cooperative agreement funding in 1999.

HHS OIG, *Memorandum Report—Laboratory Preparedness for Pandemic Influenza;* October 2007: OIG surveyed public health laboratory officials in the states and DC concerning their ability to conduct year-round influenza surveillance, among other critical tasks related to pandemic influenza.

Methods for Developing Section 2 Snapshots

State and local public health preparedness officials reviewed data presented in their respective snapshots. Corrections to the data during the specific time frames were accepted.
To develop text boxes on why public health departments value the cooperative agreement, CDC reviewed narrative submitted by grantees summarizing progress from 1999 – 2005. The text box was adapted from this information and reviewed by the relevant state or local public health department. Their changes were incorporated.

To develop examples of public health department responses or exercises, CDC reviewed documentation from partner organizations and grantee progress reports to identify a topic. These topics were then confirmed with the appropriate officials, and supporting materials were requested from state and local public health departments. CDC staff developed the examples based on these materials and submitted the content to the relevant state or local public health department for review. Their changes and recommendations were incorporated.

Most examples were developed using public health department documents. Sources for the examples outside of these documents are listed below.

Multiple States

ASTHO. State Public Health Successful Response Stories [online]. [cited 2007 Jul 30]. Available from URL: *http://www.astho.org/pubs/SuccessStoriesMainPage.htm*. Used to support examples for: Arkansas, Georgia, Missouri, Nebraska, Pennsylvania, Rhode Island, and Tennessee.

California

ASTHO. Public Health Preparedness: California – Heat Wave [online]. 2007. [cited 2007 Jul 30]. Available from URL: *http://www.astho.org/pubs/2007HillSuccessCA.pdf*

Massachusetts

Smith S. Outbreak stopped: Facing a potential measles epidemic, health workers employed high-tech alerts, old-fashioned quarantines [online]. The Boston Globe 2006 Jul 31 [cited 2007 Jul 31].

New York City

Chan S. New York City man has inhalation anthrax, officials say [online]. The New York Times 2006 Feb 23 [cited 2007 Aug 27]

South Carolina

- Nieratko J. Train derailment highlights public health preparedness [online]. ASTHO Report 2005;13:1. Available from URL: *http://www.astho.org/pubs/FallASTHOReport2005.pdf*
- Hinshaw D. At least 220 treated at area hospitals. The State 2005 Feb 7; Sect. A-1 (col. 3)
- O'Connor J. Training, resources made response to leak smooth; much of S.C. ill-equipped for such a crisis. The State 2005 Jan 9; Sect. A-1 (col. 1)

Utah

Testimony of A. Richard Melton, DrPH, deputy director, Utah Department of Health: Hearing before the Subcomm. On Bioterrorism and Public Health Preparedness of the Senate Comm. On Health, Education, Labor, and Pensions, 109th Cong., 2nd Sess. (2006). Available from URL: *http://www.astho.org/pubs/03-16-06MeltonTestimony.pdf*

Appendix 6

Category A and B Biological Agents

Category A Agents

The U.S. public health system and primary healthcare providers must be prepared to address various biological agents, including pathogens that are rarely seen in the United States. High-priority agents include organisms that pose a risk to national security because they can be easily disseminated or transmitted from person to person; result in high mortality rates and have the potential for major public health impact; might cause public panic and social disruption; and require special action for public health preparedness. Category A agents are listed below:

- Anthrax (*Bacillus anthracis*)
- Botulism (*Clostridium botulinum* toxin)
- Plague (*Yersinia pestis*)
- Smallpox (variola major)
- Tularemia (*Francisella tularensis*)
- Viral hemorrhagic fevers (filoviruses [e.g., Ebola, Marburg] and arenaviruses [e.g., Lassa, Machupo])

Category B Agents

The second-highest priority agents include those that are moderately easy to disseminate; result in moderate morbidity rates and low mortality rates; and require specific enhancements of CDC's diagnostic capacity and enhanced disease surveillance. Category B agents are listed below:

- Brucellosis (*Brucella* species)
- Epsilon toxin of *Clostridium perfringens*
- Food safety threats (e.g., *Salmonella* species, *Escherichia coli* O157:H7, *Shigella*)
- Glanders (*Burkholderia mallei*)
- Melioidosis (*Burkholderia pseudomallei*)
- Psittacosis (*Chlamydia psittaci*)
- Q fever (*Coxiella burnetii*)
- Ricin toxin from *Ricinus communis* (castor beans)
- Staphylococcal enterotoxin B
- Typhus fever (*Rickettsia prowazekii*)
- Viral encephalitis (alphaviruses [e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis])
- Water safety threats (e.g., *Vibrio cholerae*, *Cryptosporidium parvum*)

Photo Credits

Page 4 (from top)
Federal Emergency Management Agency. Photographer: Jocelyn Augustino. Flooding damage in New Orleans after Hurricane Katrina.

CDC Public Health Information Library. Photographer: James Gathany. Feeding mosquito.

Page 5 (from top)
Indiana State Department of Health. Strategic National Stockpile exercise, public health working with emergency management.

National Institutes of Health Biodefense Image Library. Photographer: Arthur Friedlander. Anthrax bacteria in monkey tissue.

Page 6
CDC Public Health Information Library. Photographer: James Gathany. CDC Tom Harkin Global Communications Center.

Page 9
Arkansas Department of Health. Buses arriving with Hurricane Katrina evacuees.

Page 11
Oregon Department of Human Services, Public Health Division. Public health staff during an exercise.

Page 13
National Institutes of Health Biodefense Image Library. Credit: Rocky Mountain Laboratories. Salmonella in lettuce.

Page 15
South Carolina Department of Health and Environmental Control. Graniteville train derailment.

Page 16
Missouri Department of Health and Senior Services, Missouri State Public Health Laboratory. Public health laboratory scientist working to identify enteric pathogens such as salmonella.

Page 19
National Institutes of Health Biodefense Image Library. Credit: Rocky Mountain Laboratories. *E. coli*.

Page 20
Pennsylvania Department of Health, Bureau of Laboratories. Microbiologist testing samples in a negative pressure glove box.

Page 23
Navajo Area Indian Health Services. Mass vaccination exercise coordinated by the Navajo Area Indian Health Services and the Navajo Division of Health.

Page 25
Indiana State Department of Health. Strategic National Stockpile exercise.

Page 26
Virginia Department of Health. Pandemic influenza exercise in the public health Emergency Coordination Center.

Page 27
Michigan Department of Community Health. Resources from the Michigan Emergency Drug Delivery and Resource Utilization Network (MEDDRUN).

Page 28
Wisconsin Department of Health and Family Services. Photographer: Del Brown. Public health staff reviewing laboratory test results during the 2006 *E. coli* outbreak in spinach.

Acronyms

Agency for Toxic Substances and Disease Registry . . . . . ATSDR
Assistant Secretary for Preparedness and Response . . . . . ASPR
Association of Public Health Laboratories . . . . . APHL
Association of State and Territorial Health Officials . . . . . ASTHO
Centers for Disease Control and Prevention . . . . . CDC
Coordinating Center for Environmental Health and Injury Prevention . . . . . CCEHIP
Coordinating Center for Health Information and Service. . . . . CCHIS
Coordinating Center for Health Promotion . . . . . CoCHP
Coordinating Center for Infectious Diseases . . . . . CCID
Coordinating Office for Global Health. . . . . COGH
Coordinating Office for Terrorism Preparedness and Emergency Response. . . . . COTPER
Council of State and Territorial Epidemiologists . . . . . CSTE
District of Columbia . . . . . DC
Division of Bioterrorism Preparedness and Response . . . . . DBPR
Division of Emergency Operations . . . . . DEO
Division of Select Agents and Toxins . . . . . DSAT
Division of State and Local Readiness . . . . . DSLR
Division of Strategic National Stockpile . . . . . DSNS
Early Aberration Reporting System . . . . . EARS
Epidemic Information Exchange . . . . . *Epi-X*
Epidemiological Capacity Assessment. . . . . ECA
Fiscal Year. . . . . FY
Food and Drug Administration . . . . . FDA
Health Alert Network . . . . . HAN
Hospital Preparedness Program . . . . . HPP
Incident Command System . . . . . ICS
Influenza Coordination Unit . . . . . ICU
Laboratory Response Network . . . . . LRN
National Center for Environmental Health . . . . . NCEH
National Center for Immunization and Respiratory Diseases . . . . . NCIRD
National Center for Injury Prevention and Control . . . . . NCIPC
National Center for Preparedness, Detection, and Control of Infectious Diseases . . . . . NCPDCID
National Center for Health Marketing . . . . . NCHM
National Center for Health Statistics . . . . . NCHS
National Center for Public Health Informatics. . . . . NCPHI
National Center for Zoonotic, Vector-Borne, and Enteric Diseases . . . . . NCZVED
National Disaster Medical System . . . . . NDMS
National Institute for Occupational Safety and Health . . . . . NIOSH
Office of Biomedical Advanced Research and Development Authority . . . . . BARDA
Office of the Chief Operating Officer. . . . . OCOO
Office of Chief of Public Health Practice . . . . . OCPHP
Office of Enterprise Communication . . . . . OEC
Office of the Director. . . . . OD
Office of Inspector General . . . . . OIG
Office of Medicine, Science, and Public Health . . . . . OMSPH
Office of Policy and Strategic Planning. . . . . OPSP
Office of Preparedness and Emergency Operations. . . . . OPEO
Office of Workforce and Career Development . . . . . OWCD
Public Health Information Network . . . . . PHIN
Pulsed-field gel electrophoresis . . . . . PFGE
Senior Management Official. . . . . SMO
Strategic National Stockpile . . . . . SNS
U.S. Department of Agriculture . . . . . USDA
U.S. Department of Health and Human Services . . . . . HHS
U.S. Department of Homeland Security . . . . . DHS

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Special thanks to
Association of Schools of Public Health
Association of State and Territorial Health Officials
Association of Public Health Laboratories
Council of State and Territorial Epidemiologists
National Association of County and City Health Officials
Subject matter experts from across CDC

This report is also available at
http://emergency.cdc.gov/publications/feb08phprep

CS112456