Key Findings from

Public Health Preparedness: Mobilizing State by State

A CDC Report on the Public Health Emergency Preparedness Cooperative Agreement

February 2008

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

CDC

SAFER · HEALTHIER · PEOPLE

Public health threats are inevitable

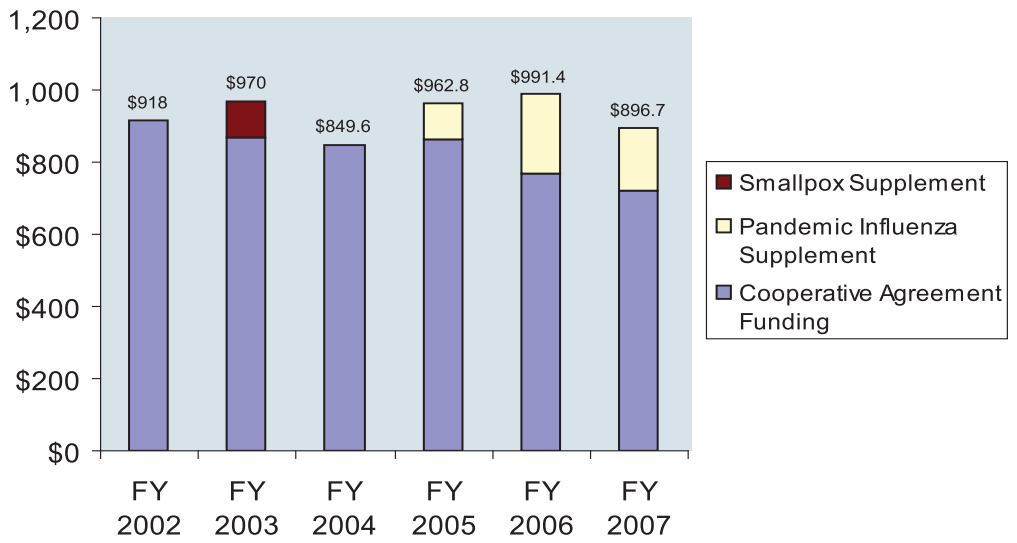
Being prepared for these threats can save lives and protect the health and safety of the public and emergency responders. The Centers for Disease Control and Prevention (CDC) works to support public health preparedness for all hazards, including natural, biological, chemical, radiological, and nuclear 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 toward 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.

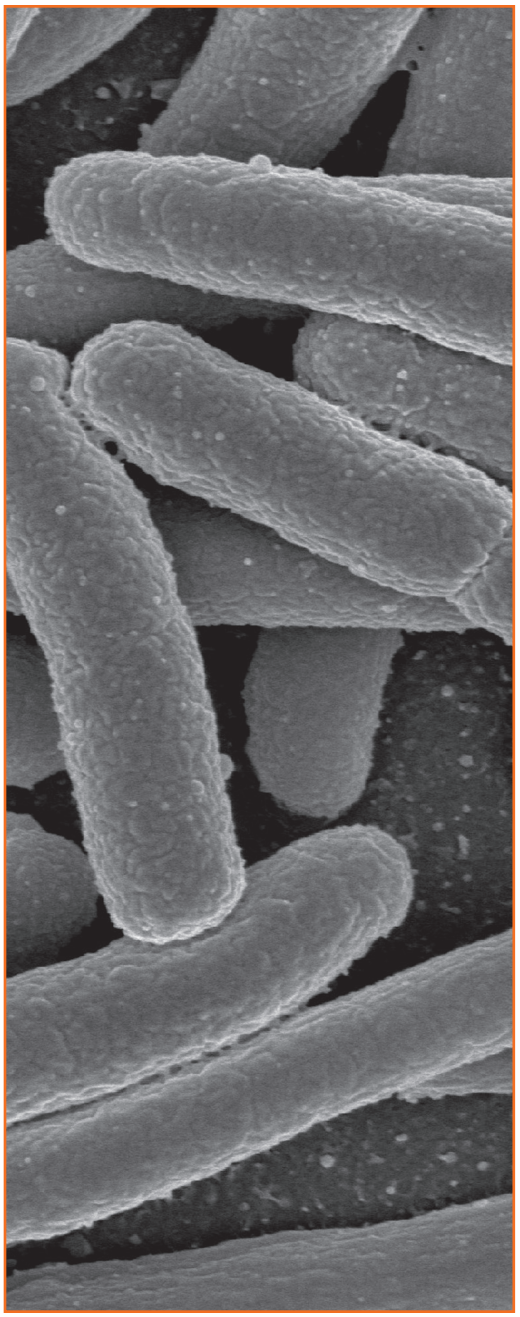
As of 2007, the cooperative agreement has provided more than $5 billion to these public health departments (Figure 1). CDC administers the cooperative agreement and provides technical assistance to public health departments.

The report, *Public Health Preparedness: Mobilizing State by State*, outlines progress and challenges. Presented here are key findings from the full report.

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



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



Improving preparedness

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

Detecting and investigating diseases

Public health departments have increased their ability to 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 increased. Epidemiologists detect and investigate health threats and disease patterns and work to minimize the negative effects of a health threat in a community (Table 1).
- 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 (Table 1). 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.

Table 1: 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, Epidemiological Capacity Assessment (ECA); 2006 - data for 38 states and DC; [2] CDC *Epi-X* data; 2006

Enhancing laboratory capabilities

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 and chemical agents has increased (Table 2).
- 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 states in 2003 to 38 in 2006).

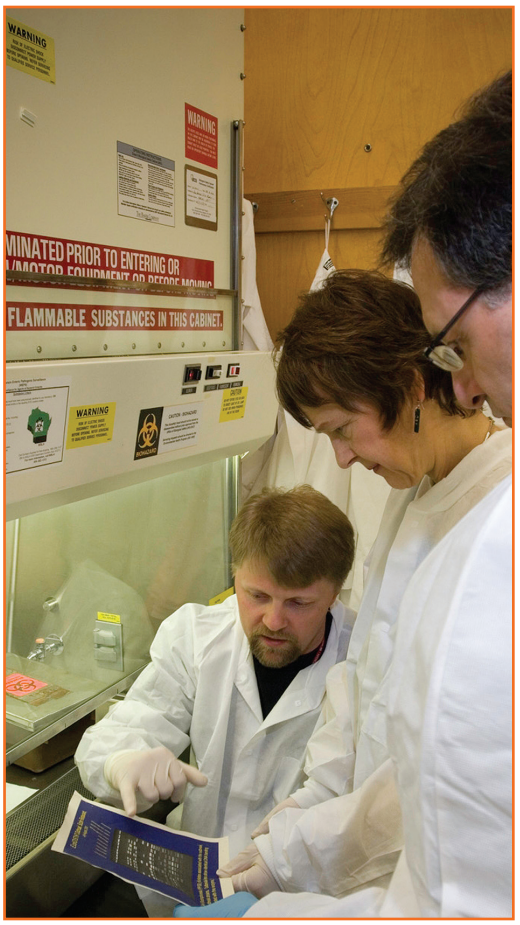


Table 2: Public Health Laboratory Testing Capabilities, 2001-2007

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, Laboratory Response Network (LRN) data; 2001-2007

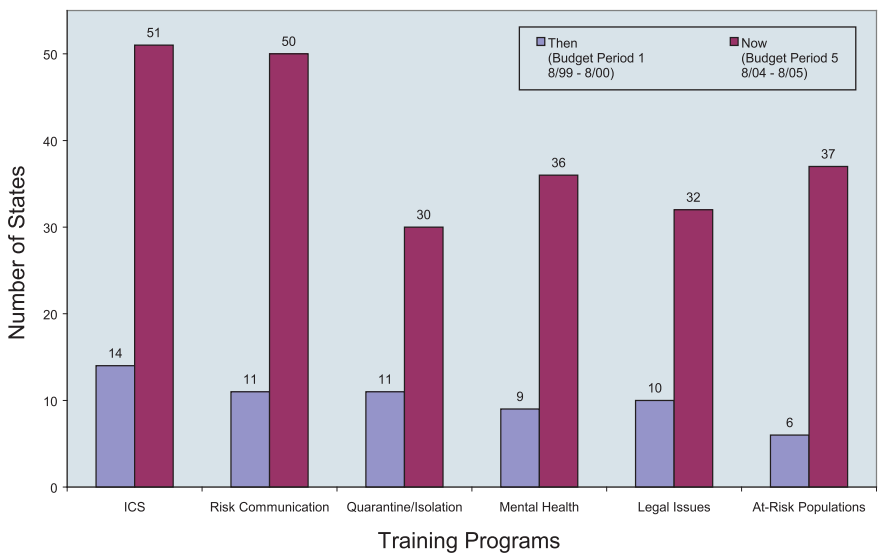
* Level 1 laboratories serve as surge capacity laboratories for CDC and can test for an expanded number of chemical agents, including nerve agents, mustard agents, and toxic industrial chemicals. Level 2 laboratories are also surge capacity laboratories but can test for a more limited panel of agents.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

Ready to respond

Response capabilities in public health departments have improved because they have developed response plans, implemented formalized command structures, and conducted exercises. Such activities were rare prior to 2001.

- All states now have plans to receive, store, and distribute the Strategic National Stockpile, a national repository of antibiotics, other life-saving medications, and medical supplies.
- Seventy-three percent of states reviewed have satisfactorily documented their Strategic National Stockpile planning efforts.
- States have increased training in key preparedness areas (Figure 2).
- All states now participate in the Health Alert Network, which allows for the rapid exchange of critical public health information.

Figure 2: States Offering Training Courses to State and Local Public Health Professionals, 50 States and DC, 1999-2005

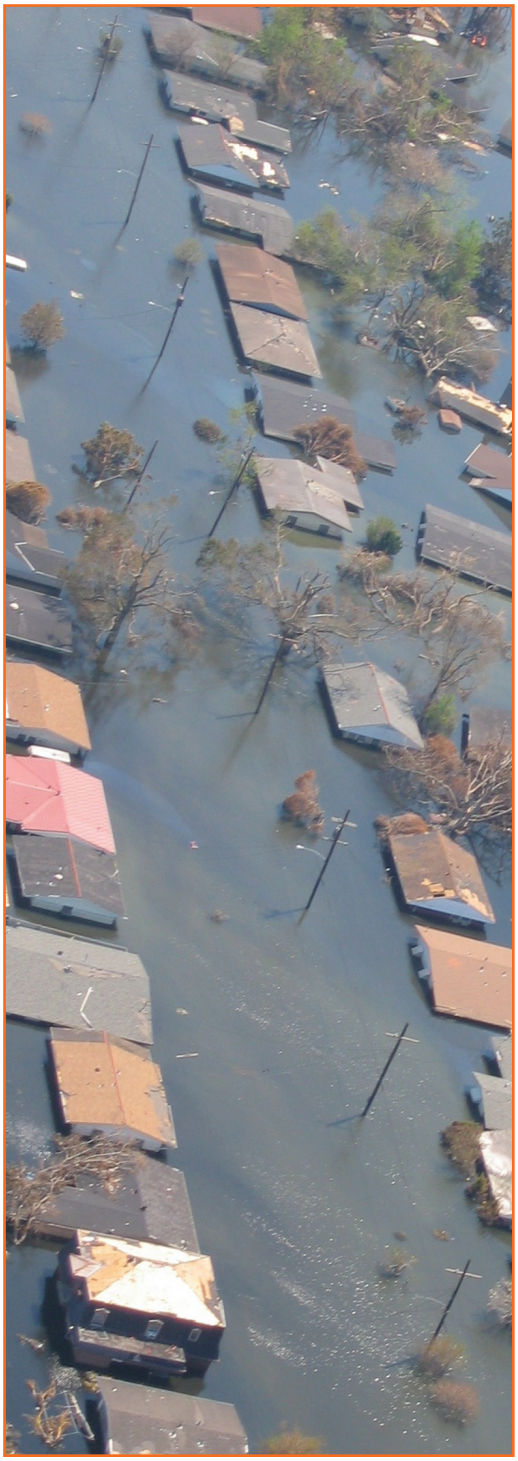


Source: CDC, DSLR data; 1999-2005

Focusing on challenges

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 Council of State and Territorial Epidemiologists (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.



- 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.

Investing in the future

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 emergencies;
- 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 of "people prepared for emerging health threats" is critical to the health and safety of our communities. The report *Public Health Preparedness: Mobilizing State by State* represents CDC's commitment to sharing information on a program that contributes to this goal.

For more information

The full report, *Public Health Preparedness: Mobilizing State by State*, presents 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 the report come from CDC programs and partner publications. The full report also includes specific information for the 50 states, Washington, DC, Chicago, Los Angeles County, and New York City, and related background information.

For more information on current state preparedness and how to prepare for an emergency, go to http://emergency.cdc.gov.

For more information on current state preparedness activities, please contact the state public information officer (see directory at www.nphic.org/regions.asp).

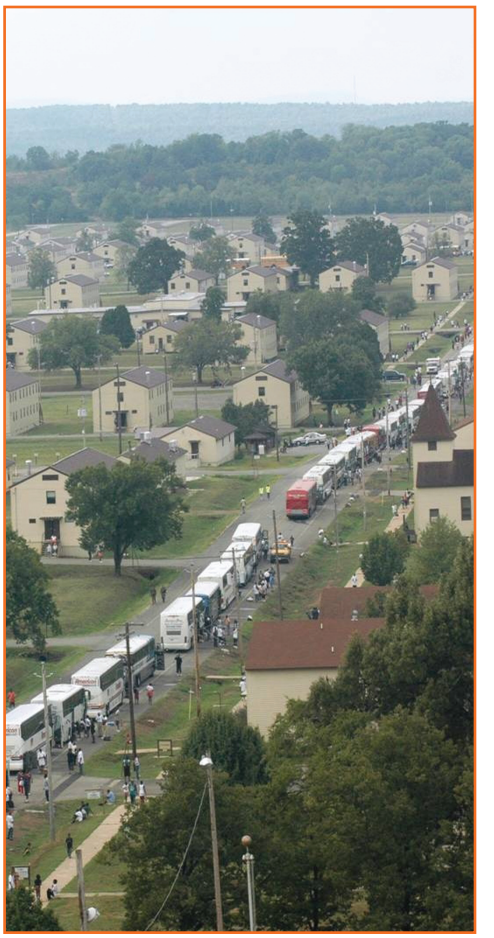


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Photo Credits

Page 1: Indiana State Department of Health. Strategic National Stockpile exercise, public health working with emergency management.

Page 2: National Institutes of Health Biodefense Image Library. Credit: Rocky Mountain Laboratories. *E. coli*.

Page 3: 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.

Page 4: Oregon Department of Human Services, Public Health Division. Public health staff during an exercise.

Page 5: Federal Emergency Management Agency. Photographer: Jocelyn Augustino. Flooding damage in New Orleans after Hurricane Katrina.

Page 6: Michigan Department of Community Health. Resources from the Michigan Emergency Drug Delivery and Resource Utilization Network (MEDDRUN).

Back cover: Arkansas Department of Health. Buses arriving with Hurricane Katrina evacuees.