

Issue Brief

Findings from HSC



HAS BIOTERRORISM PREPAREDNESS IMPROVED PUBLIC HEALTH?

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In anticipation of future terrorist attacks, the nation has been focused on emergency preparedness,¹ including threats to public health and the ability of communities to respond to them. The Center for Studying Health System Change's (HSC) recent site visits to 12 nationally representative communities found early benefits to public health due to heightened attention to bioterrorism preparedness: more visibility and credibility for public health, stronger public health infrastructure and improved communication and coordination across sectors. Modest negative effects included staff diversions and delays in some program implementation. As the site visits continued from fall 2002 into 2003, concerns grew that the federal smallpox vaccination program was diverting resources from such traditional public health activities as routine immunizations, health promotion and screening.

National Focus on Public Health Preparedness

Since the terrorist attacks of Sept. 11, 2001, and the subsequent anthrax incidents, strengthening the ability of public health to respond to bioterrorism emergencies has been at the forefront of national health policy. On Jan. 10, 2002, President Bush signed a bill that directed more than \$1 billion to states to improve public health preparedness.²

The majority of funds is being awarded based on state and local plans that target areas identified by the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA). The CDC focus areas include preparedness planning and readiness assessment, surveillance and epidemiology capacity, laboratory capacity, health alert network/communications, risk communication

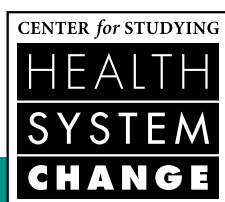
and health information dissemination and education and training.³ HRSA guidelines focus on improved hospital readiness for bioterrorism. Continued federal funding for 2003 totals \$1.4 billion for states and localities for smallpox vaccination efforts as well as other preparedness activities.^{4,5}

During site visits to 12 nationally representative metropolitan communities⁶ in 2002-03 as part of HSC's Community Tracking Study (CTS), researchers interviewed state and local health department officials, first responders,⁷ hospital executives and others about bioterrorism preparedness efforts and the effects on core public health activities. These activities include traditional functions performed by local health departments

such as health promotion, routine immunizations and infectious disease investigations. Generally, respondents indicated that national priorities of bioterrorism preparedness have enhanced public health preparedness, with positive effects on core public health functions, through early improvements to basic infrastructure.

Early Benefits

The national focus on bioterrorism preparedness, combined with the distribution of federal funds, has had positive effects on local public health systems. For the most part, federal priorities match long-standing objectives for strengthening public health capacity.



The new funding enables communities to develop the building blocks needed to respond to varied disaster scenarios, including bioterrorism. Community leaders said the infrastructure for bioterrorism preparedness will have multiple uses that benefit broader public health activities, especially those related to infectious disease control.

The four key areas strengthened by bioterrorism preparedness efforts at the local level include: 1) increased awareness of the importance of public health; 2) improved relationships across communities and federal, state and local agencies; 3) development and upgrade of public health infrastructure; and 4) enhanced readiness planning and assessment (see Table 1).

Prominence of Public Health.

Heightened attention on bioterrorism preparedness has put public health in the spotlight, increasing awareness of its importance in communities. Senior public health officials are now taking leading roles in disaster response in contrast to their more tangential role in the past. A Seattle health official said increased visibility of public health would allow the city to engage the community in other public health concerns, including West Nile virus, diabetes and obesity. A Florida official believed that the increased attention to bioterrorism preparedness has enhanced the state's work, allowing it to hire more epidemiologists and work with partners on routine immunizations. Other communities reported more visibility of public health in the media and greater awareness in the state legislature.

Collaboration. Bioterrorism preparedness efforts have led to improved collaboration between local organizations and government agencies that extends to broader public health and safety functions, including infectious disease control and response to food-borne illness, hazardous waste spills and natural disasters. Before Sept. 11, public health agencies often had limited contact with other community entities, such as emergency management, law enforcement, fire departments, hospitals and physicians.

The attacks highlighted the need for much closer communication and coordination across all sectors. Differences in organizational cultures, terminology and approaches to emergency response have been

Table 1
Positive Effects of Bioterrorism Preparedness

POSITIVE EFFECTS	EXAMPLES
<i>Prominence of Public Health</i>	<ul style="list-style-type: none"> • <i>Seattle: greater visibility will help engage the community in other public health concerns</i> • <i>Miami: increased attention has helped Florida in hiring epidemiologists and working with partners on routine immunizations</i>
<i>Collaboration</i>	<ul style="list-style-type: none"> • <i>Lansing, Mich.: competing hospitals have pulled together through local emergency planning commission</i> • <i>Greenville, S.C.: relationships improved among federal, state and local agencies, the medical community and public safety</i>
<i>Infrastructure</i>	<ul style="list-style-type: none"> • <i>Northern New Jersey: hospitals received special radios for emergency communications</i> • <i>Boston: city implemented an automated system to track daily volume of acute care cases in hospitals</i>
<i>Readiness Planning and Assessment</i>	<ul style="list-style-type: none"> • <i>Little Rock, Ark.: state tested response to smallpox by administering flu shots on a single day</i> • <i>Indianapolis: city held disaster simulation at football stadium</i>

barriers to effective interagency collaboration, but the imperatives of bioterrorism preparedness required these agencies to understand each others' roles and capabilities in the case of a disaster. As a result, stronger personal relationships have developed between public health officials and their counterparts in medical care and public safety. For example, in Lansing, the local emergency planning commission that coordinates preparedness planning now includes community-wide representatives and has created new linkages with the medical community.

Relationships among federal, state and local agencies also have improved. In addition to the CDC and HRSA, state and local interactions increased with other federal agencies, such as the Federal Bureau of Investigation. Many local health officials say their state counterparts have provided valuable resources and expertise. A number of states have established regions through which local organizations work together. Local officials also noted the importance of states' roles in allocating federal funds, although some complained about the process for distributing funds to local agencies. For example, the Seattle public health department disagreed with the state of Washington's decision to distribute new federal funds evenly across 10 regions. City officials argued for a greater proportion because of the perceived higher threat level

and because more than one-third of the state's employed population works in Seattle.

Infrastructure. Infrastructure upgrades were widespread across the 12 sites. Communities significantly improved communication technologies, with local officials frequently touting the importance of creating highly reliable and redundant telephone and radio systems. For example, in Orange County, Calif., paramedic radios have been upgraded to connect ambulance, fire, police and hospitals. In northern New Jersey, all hospitals received special radios for emergency communications. In general, upgrades in communication systems are expected to improve responses to terrorist events and other public health emergencies, such as floods or earthquakes.

Most communities are building information and disease reporting systems that will enhance surveillance and provide rapid communications with the medical community. For example, the Miami-Dade County Health Department is developing a Web-based data system, in which hospitals will participate, that will speed tracking of communicable diseases. Improvements in disease reporting and surveillance systems strengthen the response to naturally occurring disease outbreaks, such as severe acute respiratory syndrome (SARS).

Some markets began preparation before Sept. 11. In planning for the World Trade

Organization protests in 1999, Seattle placed a syndromic surveillance system in hospitals that tracks sudden increases in the incidence of symptoms in a population that might signal a bioterrorist or natural public health emergency, without identifying a particular pathogen.⁸ Similarly, using federal funds received before Sept. 11, Boston implemented a volume-based reporting system—an automated system that tracks the daily volume of acute care cases in hospitals across the city and compares them to historical averages—and is now working to upgrade to a syndromic system.

Efforts to improve public laboratory capacity are underway in several communities. For example, in Little Rock, the state is building a new lab and has upgraded another facility to be able to identify and handle a wider array of pathogens. In response to a previous anthrax scare, the Marion County Health Department in Indianapolis invested its own funds to improve laboratory capacity in 2001. Greater capacity will allow for more rapid identification of disease agents, thereby improving overall public health.

Readiness Planning and Assessment.

Across the 12 communities, local leaders reported improved readiness to respond to different kinds of disasters, including public health threats. Some communities were further ahead in emergency preparedness efforts than others, due to previous experience in planning for adverse events or natural disasters. Cities that commonly host large events, such as the Indy 500, or have nuclear power plants or similar potentially high-risk facilities nearby reported a higher level of preparation. Most sites have held training sessions and simulated disasters to test their emergency response. For example, the Arkansas Department of Health collaborated with a local community to test its response to smallpox by administering flu shots on a single day. Training public health officials, physicians and hospitals in epidemiology and detection of common bioterrorist agents has also increased. In general, however, education of the workforce across all sectors was viewed as a continuing challenge. Most recently, the threat of SARS has provided a real test of readiness. One Massachusetts official reported that the state mounted a more efficient response to SARS as a result of its preparedness efforts.

Budget Cuts Hit Core Public Health Activities

Independent of preparedness efforts, state and local budget cuts were viewed in most sites as a major threat to core public health activities. Most states faced budget gaps for fiscal year 2003, with an even bleaker outlook for fiscal year 2004. In Cleveland, a local health official reported state budget cuts in direct treatment, immunizations and case management. Respondents in Syracuse, Boston and Seattle expressed concern that proposed budget cuts would impair local health department activities such as tuberculosis and West Nile virus prevention, cancer screening and childhood immunizations. In fact, in King County, where Seattle is located, public health spending per person has dropped 33 percent, from \$21.34 six years ago to \$14.35 today.¹⁰ While new federal bioterrorism preparedness funds are allowing states and localities to build up public health capacity for disease surveillance and response, these funds cannot supplant other state or local expenditures, leaving more traditional public health programs, like sexually transmitted disease clinics, in jeopardy.

Modest Negative Effects but Increasing Anxiety

Responses to questions about the effects of bioterrorism preparedness on core public health activities changed over the period of HSC's site visits. In late 2002, the most common complaint from local health departments and hospitals was the diversion of staff to work on preparedness planning and to attend meetings and training sessions. Staff reallocations were frequent, and some concern was expressed that agency staff were being stretched thin. One local health department reported that implementation of an obesity and diabetes prevention initiative was delayed due to the focus on preparedness planning, but overall core public health activities had not yet suffered.

By early 2003, however, concern grew over the ability to maintain core public health services while focusing on bioterrorism preparedness as it evolved from general infrastructure development to specific threat response. More complaints were heard about the burden of implementing a federal smallpox vaccination program without sufficient funding.

The federal government authorized states to begin the first phase of the smallpox vaccination program—planning for and inoculating health workers—in late January 2003. According to a survey by the National Association of County and City Health Officials, 79 percent of local health departments reported that smallpox vaccination planning had negatively affected other bioterrorism preparedness activities.⁹

Also, about half had deferred, delayed or canceled other core public health programs.

Before January 2003, few respondents in CTS communities mentioned the effects of smallpox planning on other public health activities. Some local officials in Lansing and Greenville described smallpox planning as a distraction, but it had not directly undermined other programs. Instead, impending state budget cuts were the foremost concern of local officials across markets (see box).

By spring 2003, local officials said they expected the smallpox vaccination program to divert critical resources from core public health activities. For example, in Orange County, if nurses weren't giving vaccinations, they would be working in clinics or making home visits. Similarly, public health nurses in Boston and Syracuse were being shifted to smallpox efforts, detracting from disease prevention programs. In addition to the costs in lost staff time, respondents reported the expense of training health care workers and screening candidates for smallpox vaccination as a growing problem. In several sites, insufficient funding resulted in the diversion of resources targeted for infrastructure and other public health programs to smallpox vaccination planning. In May 2003, the federal government announced the release of \$100 million to help states with smallpox preparedness, but it is too early to see if this will provide sufficient relief.

Outlook for Public Health

The first wave of federal guidance and funding for bioterrorism preparedness



**Given the likelihood
that bioterrorism will
remain a high-profile
issue, states and
localities will likely need
ongoing dedicated
funds to build and
maintain bioterrorism
preparedness capacity.**

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appears to have strengthened such basic public health building blocks as disease surveillance, laboratory capacity and communication systems while also strengthening working relationships across local agencies and organizations. As a result, public health agencies in the 12 CTS communities were able to decide how best to approach the federal focus areas and invest new resources to improve their ability to respond to emergencies of any kind, including terrorism.

In contrast, the federal smallpox program is much more restrictive and targeted, focusing on a single biological agent and a federally defined response (i.e., inoculating health workers). The program caused local health officials to express concern that the highly specific smallpox activities are less likely to strengthen overall public health capacity and—especially if funding is inadequate—are more likely to detract from ongoing public health preparedness and traditional prevention efforts.

Given the likelihood that bioterrorism will remain a high-profile issue, states and localities will likely need ongoing dedicated funds to build and maintain bioterrorism preparedness capacity. Without continuing support, activities that require more than a one-time investment, such as training the health care workforce and upgrading information technology, will fall short.

With the wide range of potential threats to public health, respondents indicated that funding and guidelines for preparedness efforts should focus on broad infrastructure changes that support multiple activities, without detracting from traditional public health prevention and promotion efforts. Federal policy makers appear to reflect this perspective as the most recent CDC guidance asks states and localities to better integrate smallpox planning into ongoing preparedness efforts.¹¹ Future policy decisions regarding bioterrorism preparedness will have to address the consequences of targeted mandates on states and localities and their effects on core public health functions, especially as budget crises threaten other public health funding. ●

Notes

1. “Emergency preparedness” refers to a community’s efforts to prepare for emergencies of any type, natural or intentional. “Public health preparedness” refers to the part of emergency

preparedness focused on public health threats. “Bioterrorism preparedness” refers to a community’s efforts to prepare for terrorist events, including biological, chemical or nuclear.

2. U.S. Department of Health and Human Services, press release, “Federal Funds for Public Health Infrastructure Begin to Flow to States” (Jan. 25, 2002).
3. Centers for Disease Control and Prevention, Guidance for Fiscal Year 2002 Supplemental Funds for Public Health Preparedness and Response for Bioterrorism, Announcement Number 99051-Emergency Supplemental (Feb. 15, 2002).
4. U.S. Department of Health and Human Services, news release, “HHS Announces Bioterrorism Aid for States, Including Special Opportunity for Advance Funding” (March 20, 2003).
5. Additional funding for emergency and public health preparedness originated before Sept. 11, such as the federal Metropolitan Medical Response System and Turning Point, an initiative of The Robert Wood Johnson Foundation and the W. K. Kellogg Foundation.
6. HSC interviews community leaders about how the health care system is changing in the following 12 metropolitan areas with populations over 200,000: Boston; Cleveland; Greenville, S.C.; Indianapolis; Lansing, Mich.; Little Rock, Ark.; Miami; northern New Jersey; Orange County, Calif.; Phoenix; Seattle; and Syracuse, N.Y.
7. First responders include fire officials, police, emergency medical services and others that respond to emergencies.
8. Salinsky, Eileen, *Will the Nation Be Ready for the Next Bioterrorism Attack? Mending Gaps in the Public Health Infrastructure*, National Health Policy Forum, Issue Brief No. 776 (June 12, 2002).
9. National Association of County and City Health Officials, *Impact of Smallpox Vaccination Program on Local Public Health Services*, Research Brief No. 9 (February 2003).
10. Cook, Rebecca, “Cuts Imperil Health, Officials Say,” *Seattle Times* (March 12, 2003).
11. Centers for Disease Control and Prevention, Continuation Guidance for Cooperative Agreement on Public Health Preparedness and Response for Bioterrorism—Budget Year Four, Program Announcement 99051 (May 2, 2003).