

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 <i>Epi-X</i> 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 <i>E. coli</i> 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 <i>Listeria monocytogenes</i> 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
Crosscutting	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens ³ (8/05 – 8/06)	Yes
	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