

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 <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



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 <i>E. coli</i> 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 <i>Listeria monocytogenes</i> 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* ¹⁶ (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 ¹⁶ (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 ¹⁶ (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