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