

Chicago Responds to Salmonella Outbreak at a Citywide Food Festival

Robust public health capabilities are needed to respond to multiple emergencies.



The 20th annual “Taste of Chicago” festival was held in 2007 and drew an estimated 3.5 million people.

Many hailed from the tri-state area, while others traveled from across the United States as well as overseas. However, for the first time in the event’s history, the festival was marred by a salmonella outbreak that affected almost 800 people. Compared to the typical salmonella case count of only 300 per year in the Chicago area, this outbreak was unprecedented in both number and scope and tested the city’s ability to respond effectively to contain the outbreak and inform the public.

The Chicago Department of Public Health called upon many resources in order to contact patients and conduct interviews as part of the epidemiological investigation. Staff were able to investigate and trace the source of salmonella back to a single dish from a single vendor. During the outbreak investigation, the department’s resources were stretched thin by other concurrent health-related incidents. Some of these incidents included the discovery of imported counterfeit toothpaste,

continued monitoring of West Nile Virus activity, and the citywide response to the health-endangering heat wave. The response to all of these events required a well-organized and trained organization capable of carrying out multi-faceted tasks and adapting to rapidly-evolving situations.

According to the Chicago Department of Health, the cooperative agreement is valuable because previously, it would have been difficult to have the surge capacity to respond to large-scale or multiple events as the public health infrastructure and resources became depleted. Chicago has been able to hire staff with relevant expertise in preparedness. Additional resources have also enabled the city to increase competencies and response capabilities of its staff.

Snapshot of Public Health Preparedness

Below are activities conducted by Chicago 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	—

^{*}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.

[†]Localities were not asked to respond to this question.



Chicago



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 Chicago laboratories in the Laboratory Response Network ¹	1
	Rapidly identified <i>E. coli</i> O157:H7 using advanced DNA “fingerprinting” techniques (PFGE):* ²	
	Rapidly identified <i>Listeria monocytogenes</i> using advanced DNA “fingerprinting” techniques (PFGE):* ²	
	Had a laboratory information management system that could create, send, and receive messages* ³ (8/05 – 8/06)	—
	-System complied with CDC information technology standards (PHIN)* ³ (8/05 – 8/06)	—
Crosscutting	Had a rapid method to send urgent messages to frontline laboratories that perform initial screening of clinical specimens* ³ (8/05 – 8/06)	—
	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)	N/A

* Localities were not asked to respond to this question.

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
	Chicago SNS plan reviewed by CDC ²	Yes
	- Score on CDC technical assistance review (1-100)	88
	Participated in the Cities Readiness Initiative ²	Yes
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	No
	Public health department staff participated in training to support cooperative agreement activities ³	Yes
	Public health laboratories conducted training for first responders* ⁴ (8/05 – 8/06)	—
Improve	Activated public health emergency operations center as part of a drill, exercise, or real event ^{†5} (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 ^{‡5} (partial year, 9/06 – 2/07)	No
	Finalized at least one after-action report with an improvement plan following an exercise or real event ^{‡5} (partial year, 9/06 – 2/07)	Yes

* Localities were not asked to respond to this question.

[†] 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.

[‡] Localities 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 CRI; 2007; ³ CDC, DSLR; 1999-2005; ⁴ APHL, Chemical Terrorism Preparedness; May 2007; ⁵ CDC, DSLR; 2007