



SHELBY COUNTY HEALTH DEPARTMENT

Legionella Infections Associated with Severe Rain and Flooding in Shelby County, May 2010



Public Health
Prevent. Promote. Protect.

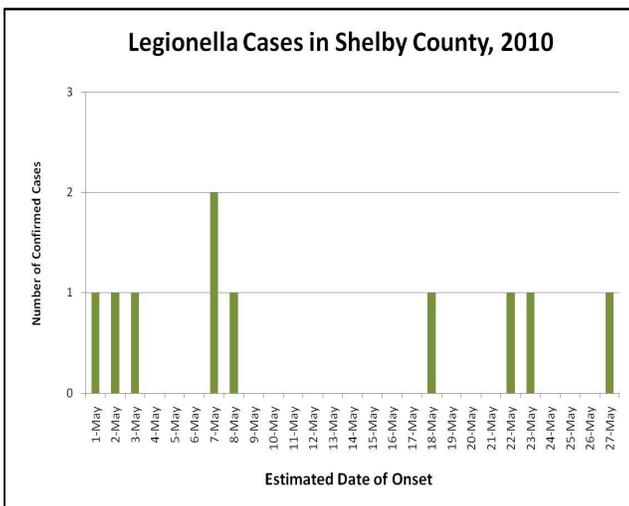
Problem Statement

Legionellosis is an infection caused by *Legionella pneumophila* and is characterized by either a mild illness (Pontiac fever) or a more severe illness (Legionnaires disease). Legionella organisms can be found in many water system; however, the bacteria thrive and reproduce in warm stagnant water (90-105 F), such as those found in plumbing system and hot water tanks, cooling towers and evaporative condensers of large conditioning systems, and whirlpool spas. Legionnaires' disease is important to diagnose and to report because its identification implies the presence of an environmental source to which other susceptible individuals are likely to be exposed.

Year	Number of Confirmed Legionella Cases in Shelby County	Number of Confirmed Legionella Cases in TN
2000	0	14
2001	0	30
2002	0	17
2003	2	32
2004	0	43
2005	2	40
2006	3	48
2007	6	38
2008	5	45
2009	7	65
2010	11 (up to date)	

Legionella in Shelby County and the Tennessee

According to data collected over the years, there have been low incidence of legionellosis infection in Shelby County. Before 2007, Shelby County recorded less than 5 legionellosis infection cases yearly. The number of reported legionellosis cases increased from 2007 to 2010. Eight of the total cases of legionella in 2010 were reported within two weeks in March and May.



The incidence of legionellosis infection increased notably in 2010, specifically in March and May. Authorities were prompted to investigate the increased incidence of legionellosis infection following severe rainfall and flooding in May.

As shown in the map below, all of the cases of legionella reported in May with temporal relation to the heavy rains, occurred in Memphis.

2010 Case Summary

- 12 legionella cases identified in Shelby County for 2010.
- 10 cases temporally associated with the flood.
- 1 case was not resident of Shelby County.
- 1 case reported flood exposure.
- 9 of 10 cases reported other substantial water exposures.
- 3 of the 10 cases were associated with travel.

Public Health Message

Causation was impossible to assess, though all of the cases were temporally related to the flood.

Timely report of cases from different healthcare facilities is required to support a full epidemiologic investigation and a public health response.

The Shelby County Health Department recommends proper protective gear when responding to floods or cleaning areas affected by flood or compromised water systems.

