Infectious Disease Epidemiology Report

Legionellosis, 2012

Background

Legionellosis is caused by a type of bacteria called *Legionella*. The bacteria was named in 1976, when many people who went to a Philadelphia convention of the American Legion suffered from an outbreak of this disease. Legionellosis is spread when people breathe in small droplets of water in the air that are contaminated with the bacteria. The bacteria are not spread from one person to another person.

Legionellosis is associated with two clinically and epidemiologically distinct illnesses: Legionnaires' disease, which is characterized by fever, myalgia, cough, and clinical or radiographic pneumonia; and Pontiac fever, a milder illness without pneumonia.

Outbreaks of legionellosis can occur when there is a contaminated water source that is aerosolized, such as at a pool or spa, hospital, or with an air conditioner.

Methods

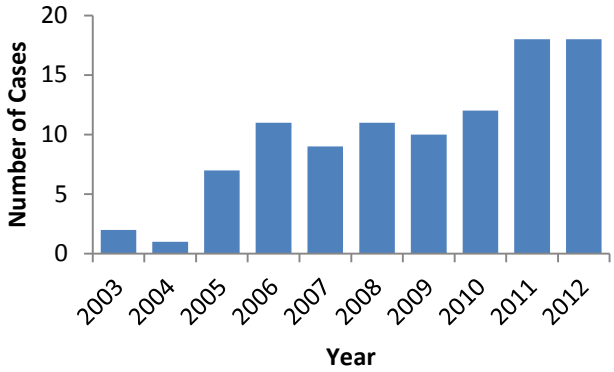
Legionellosis is a reportable disease in Maine. Maine CDC investigates all reports of disease and completes standardized case report forms. Risk factor information on travel history, dental work and potential hospital exposures is collected.

Legionella is most often confirmed by urine antigen tests, but can also be confirmed by culture or seroconversion (fourfold or greater rise in specific serum antibody titer). The most common serogroup in the United States is *L. pneumophila* serogroup 1, and this is the only serogroup the urine antigen test detects. Other serogroups can be identified by culture or specific serology.

Results

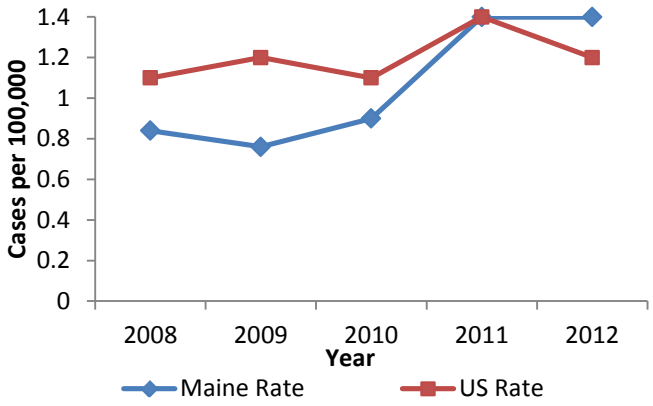
A total of 18 confirmed cases of legionellosis were reported in 2012, the same as in 2011 (Figure 1). All 2012 cases were sporadic and no outbreaks were identified.

Figure 1. Legionella Cases in Maine, 2003-2012



The rate of legionellosis in Maine in 2012 was 1.4 cases per 100,000 population (Figure 2). The majority of legionellosis cases occurred among males (83%). The median age of cases was 59 years (range 34-85 years).

Figure 2: Legionella in Maine and US, 2008-2012



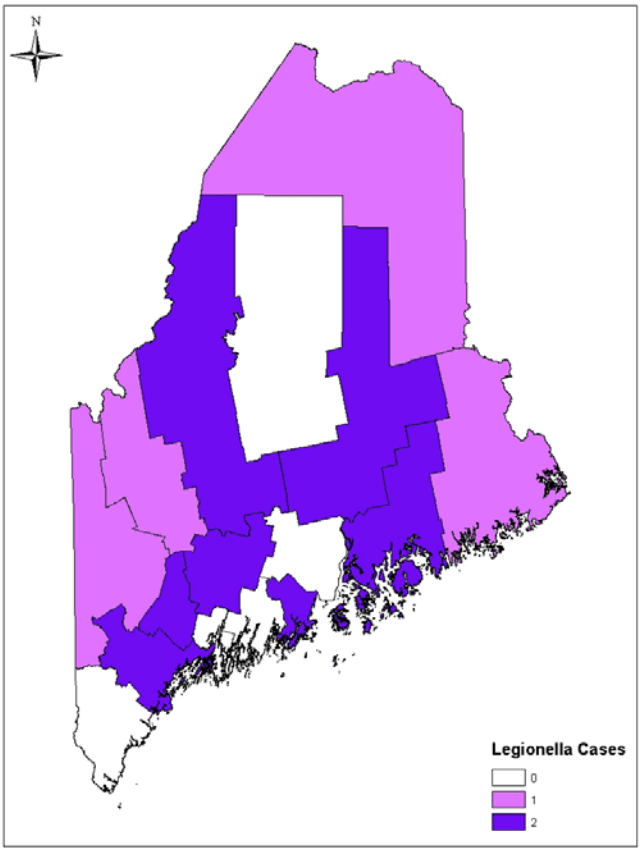
All 18 cases were clinically diagnosed as Legionnaires' disease. Eighteen (100%) were hospitalized as a result of their infection and 17 (94%) recovered. Laboratory findings classified 17 cases as *L. pneumophila* serogroup-1 by urine antigen and 1 case as *L. dumoffii* by culture.

Six (33%) of 18 legionellosis cases reported overnight travel in the two weeks before onset of symptoms; all but one traveled within the United States. Two cases met the criteria for possibly

being nosocomial (health care associated) infections, meaning they were hospitalized 2-9 days before onset of *Legionella* infection. No source or apparent association was found in any of the possible nosocomial cases.

Legionellosis was identified among residents of eleven Maine counties in 2012 (Figure 3).

Figure 3: Legionellosis by County – Maine, 2012



Discussion

Because legionellosis can be very serious and can also be treated successfully with antibiotics, early identification of infections will improve patient outcomes.

Some people may be at greater risk for legionellosis including:

- People older than 50 years
- Current or former smokers
- People with chronic lung disease (e.g. emphysema)
- People with a weak immune system due to underlying conditions or drug therapy
- People with recent travel with an overnight stay outside the home
- People with exposure to whirlpool spas
- People with recent repairs or maintenance work on domestic plumbing

All cases of legionellosis in Maine must be reported by calling 1-800-821-5821 or by faxing reports to 1-800-293-7534.

For more information on legionellosis

- Maine CDC website: http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/legionellosis.shtml

- Federal CDC website: http://www.cdc.gov/legionella/index.htm

Prepared by Sara Robinson, MPH
9/11/2013