



Infectious Disease Epidemiology Report

Legionellosis, 2013



Background

Legionellosis is an illness caused by a type of bacteria called *Legionella*. Legionellosis was first identified in 1976 when attendees at an American Legion convention in Philadelphia 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 person to 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

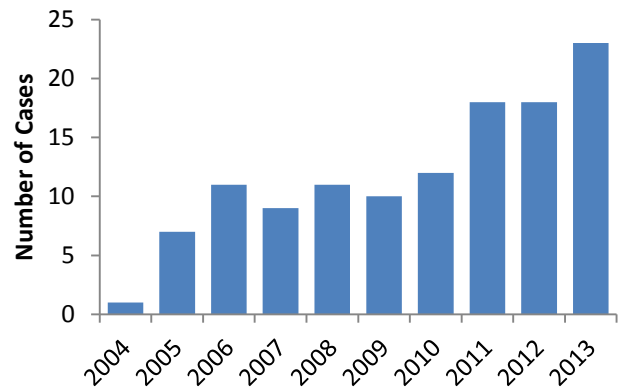
Legionellosis is a reportable disease in Maine. Maine CDC investigates all reports of disease and completes standardized case report forms. Risk factor information on travel history, dental work, and potential hospital exposures is collected.

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

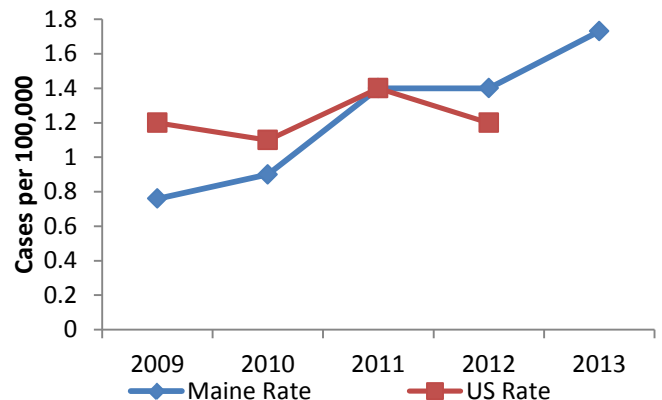
A total of 23 confirmed cases of legionellosis were reported in 2013, an increase from 18 in 2012 (Figure 1). All 2013 cases were sporadic and no outbreaks were identified.

Figure 1. Legionella Cases in Maine, 2004-2013



The rate of legionellosis in Maine in 2012 was 1.7 cases per 100,000 population (Figure 2). The majority of legionellosis cases occurred among males (65%). The median age of cases was 57 years (range 42-82 years).

Figure 2: Legionella in Maine and US, 2009-2013



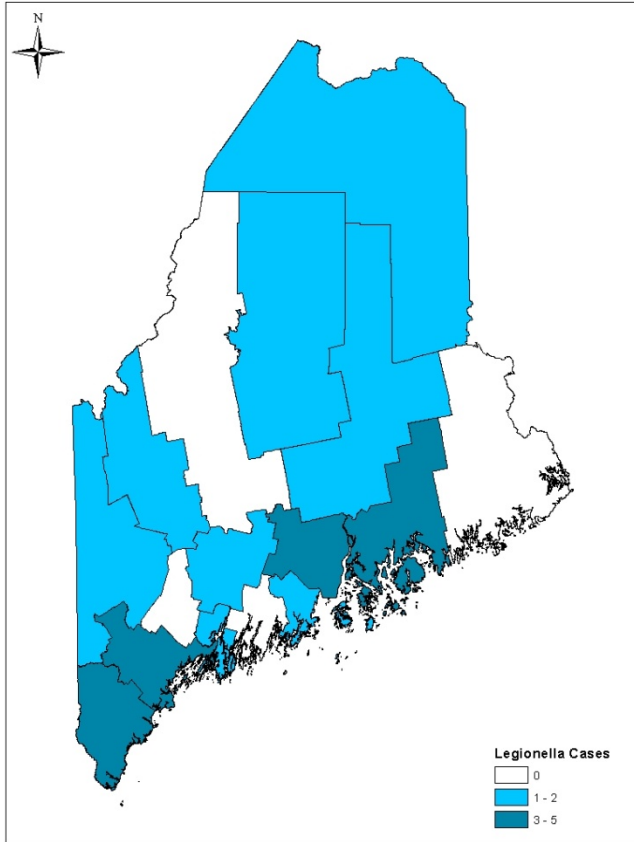
All 23 cases were clinically diagnosed as Legionnaires' disease. Twenty-two (96%) were hospitalized as a result of their infection and two (9%) died. Laboratory findings classified 22 cases as *L. pneumophila* serogroup-1 by urine antigen and one case as *L. pneumophila* by culture.

Thirteen (57%) of 23 legionellosis cases reported staying overnight away from home in the two weeks before onset of symptoms. Six cases met the criteria for possibly being nosocomial (health care associated). One was a confirmed nosocomial

infection, meaning they were hospitalized at least two days before the onset of *Legionella* infection. No source or apparent association was found in any of the potential nosocomial cases.

Legionellosis was identified among residents of twelve Maine counties in 2013 (Figure 3).

Figure 3: Legionellosis by County – Maine, 2013



Discussion

Legionellosis cases are on the rise in Maine, although we do not have a definitive reason why. Some explanations may include increased community exposures, and increased usage of air conditioners.

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/INewegionella/index.html>