

## **Legionellosis**

Agent: *Legionella* species (bacteria); most infections in the United States are caused by *Legionella pneumophila*

Mode of Transmission: Inhalation of contaminated aerosolized water (e.g., sprays, mists).

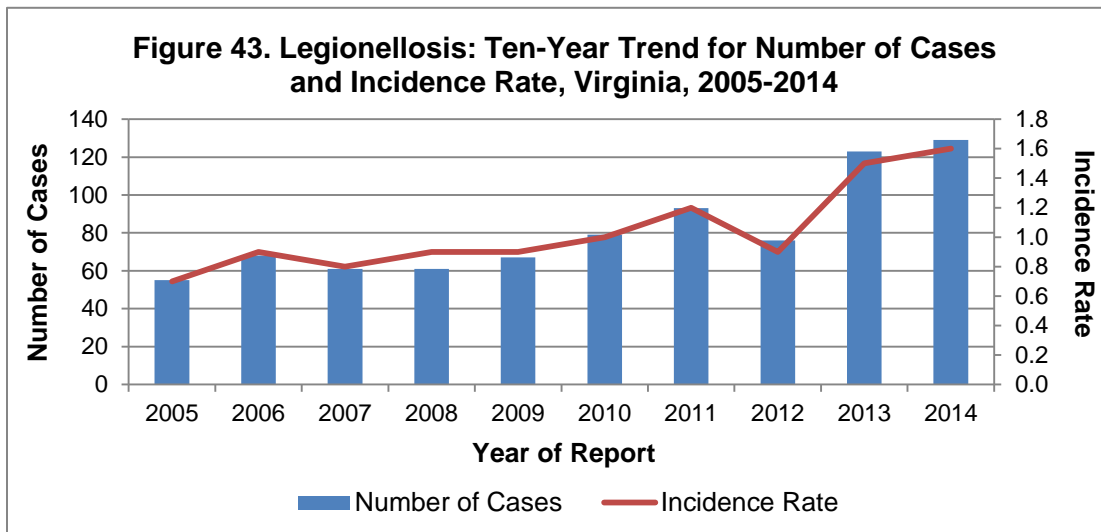
Signs/Symptoms: Infection with *L. pneumophila* causes two distinct illnesses: Legionnaires' disease, characterized by fever, muscle aches, headaches, malaise, cough, and pneumonia with progressive respiratory distress; and Pontiac fever, a milder influenza-like illness without pneumonia characterized by quick onset. Pontiac fever and Legionnaires' disease are referred to as "legionellosis", separately or together.

Prevention: For outbreaks, control measures include disinfection of contaminated water sources by chlorination or superheating of water from 160° to 170°F, and appropriate mechanical cleaning.

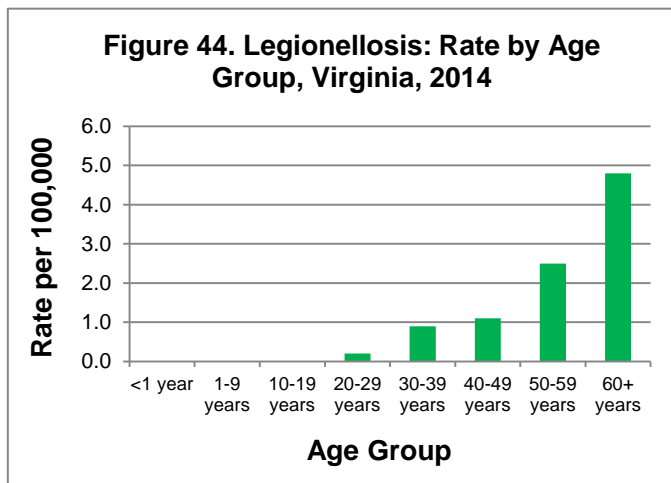
Other Important Information: Legionellosis is more common among people who are elderly, are immunocompromised, or have underlying lung disease. Virginia has experienced a pattern, also seen nationally, in which there was an increase in legionellosis cases in 2003, followed by a higher incidence in the post-2003 period than in the pre-2003 period. The cause of this increase is not clearly understood. Factors that may have contributed to the higher number of cases in 2003 and later include an increasing population of older persons and persons at high risk for infection, as well as improved diagnosis and reporting of the condition. Additional factors may include CDC's call for more active and timely surveillance of travel-associated legionellosis and changing weather patterns.

<b>Legionellosis: 2014 Data Summary</b>	
Number of Cases:	129
5-Year Average Number of Cases:	87.6
% Change from 5-Year Average:	+47%
Incidence Rate per 100,000:	1.6

In 2014, 129 cases of legionellosis were reported in Virginia, which is the highest number of cases reported in the state during a reporting year. This represents a 5% increase from the 123 cases reported in 2013, and 47% increase from the five-year average of 87.6 cases per year (Figure 43). National data from the CDC indicate that several other states in the U.S. have seen a similar increase in legionellosis cases, especially in the mid-Atlantic region. One reason for this rise in incidence could be the unusually warm and humid weather experienced during the summer by many states throughout the country, as there is some evidence that legionellosis incidence may be influenced by certain weather conditions.



Legionellosis incidence rates were closely associated with age. In 2014, the highest incidence occurred in the 60 year and older age group (4.8 per 100,000), followed by the 50-59 year age group (2.5 per 100,000) (Figure 44). Race was not reported for 39% of cases. Among those with a known race, incidence was higher in the black population compared to the white population (1.4 and 0.9 per 100,000, respectively). Additionally, incidence was higher among males than females (2.0 and 1.1 per 100,000, respectively).



Incidence rates were highest in the central region (2.6 per 100,000), followed closely by the southwest region (2.4 per 100,000). Incidence

ranged from 0.7 to 1.5 per 100,000 among the remaining regions. Geographically, cases were dispersed among localities throughout Virginia (refer to map below). While cases occurred throughout the year, a marked seasonality existed with 41% of cases occurring in the third quarter of the year.

Information on overnight travel was obtained for 103 (80%) cases reported in 2014. Of those, 28 (27%) reported spending at least one night away from home in the 10 days prior to symptom onset, including 16 staying in a hotel. Information on exposure to a healthcare setting was obtained for 101 (78%) cases. Of those, 22 (22%) reported spending time in a healthcare setting in the 10 days prior to symptom onset. Healthcare settings include hospitals, long-term care facilities, clinics, or other healthcare settings. Individuals with possible exposure include inpatients, outpatients, visitors, volunteers, or employees of a healthcare setting. Among those reporting a healthcare exposure, 19 (86%) were considered possible exposures, defined as healthcare exposure for only a portion of the 10 days prior to symptoms, and 3 (14%) were definite exposures, defined as being an inpatient (hospital or

long-term care facility) during the entire 10 days prior to symptom onset. All three definite healthcare exposure cases occurred in residents at three different long-term care facilities.

Eight deaths (6%) were attributed to legionellosis in 2014. All of the deaths occurred in males ranging from 29 to 82 years of age. One outbreak was attributed to *Legionella pneumophila* during 2014. The outbreak involved two persons in a private home setting and resulted from inhalational exposure to a treated recreational water source.

## Legionellosis Incidence Rate by Locality Virginia, 2014

