Legionellosis

Legionellosis is usually an acute respiratory tract infection that begins two to 14 days after exposure to *Legionella* spp. Signs of the disease can include a high fever, chills and cough, in addition to headache and muscle aches. Symptoms are similar to those seen in other forms of pneumonia, so the diagnosis is rarely obvious and can be difficult to make. Available confirmatory diagnostic tests include urine antigen detection, direct fluorescent antibody staining and culture.

"Pontiac fever," a milder illness associated with *Legionella* bacteria, is characterized by fever and muscle aches without pneumonia. It typically occurs a few hours to two days after exposure.

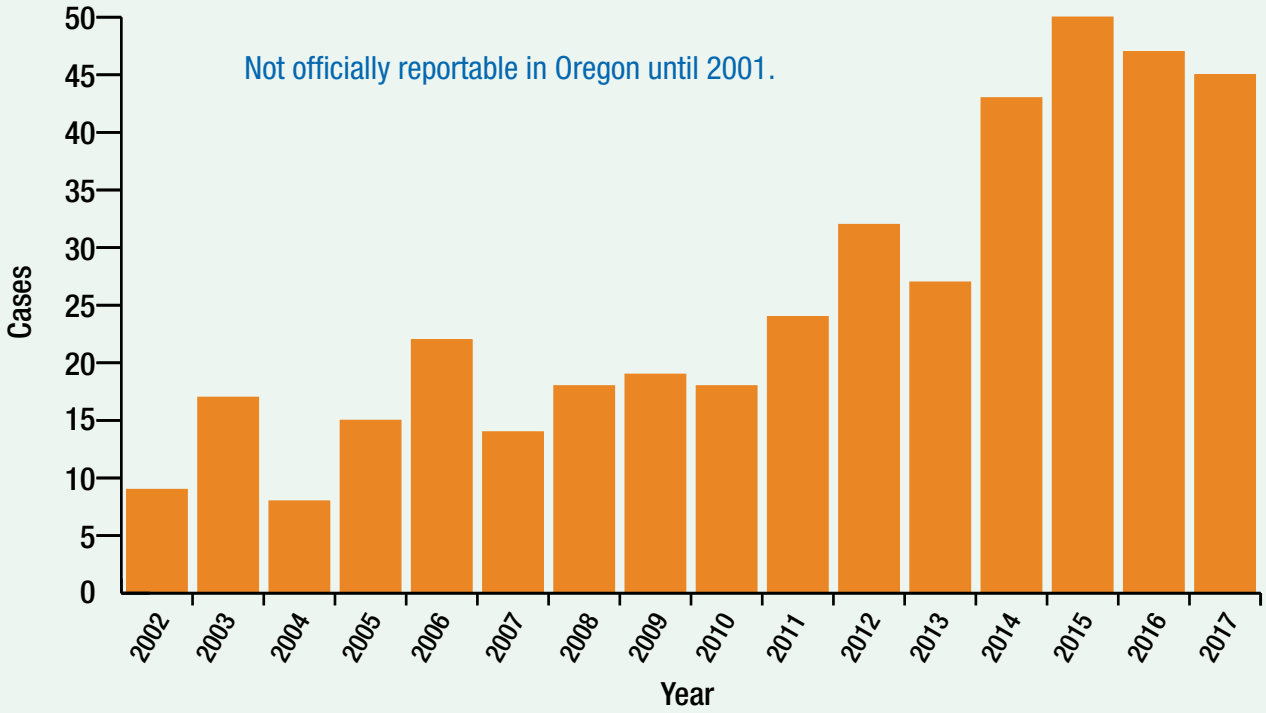
Legionella bacteria are found naturally in the environment, usually in water, and grow best in warm conditions such as hot tubs, cooling towers, hot-water tanks, large plumbing systems or the air-conditioning systems of large buildings. They are transmitted by inhalation of aerosolized water or soil infected with the bacteria. Person-to-person transmission does not occur.

Risks for infection include older age, smoking, chronic lung disease (e.g., emphysema), renal insufficiency, diabetes and immune deficiency. Death occurs in 10%–15% of cases; a substantially higher proportion of fatal cases occur during outbreaks in hospitals or other health care facilities. Infections are treated with antibiotics.

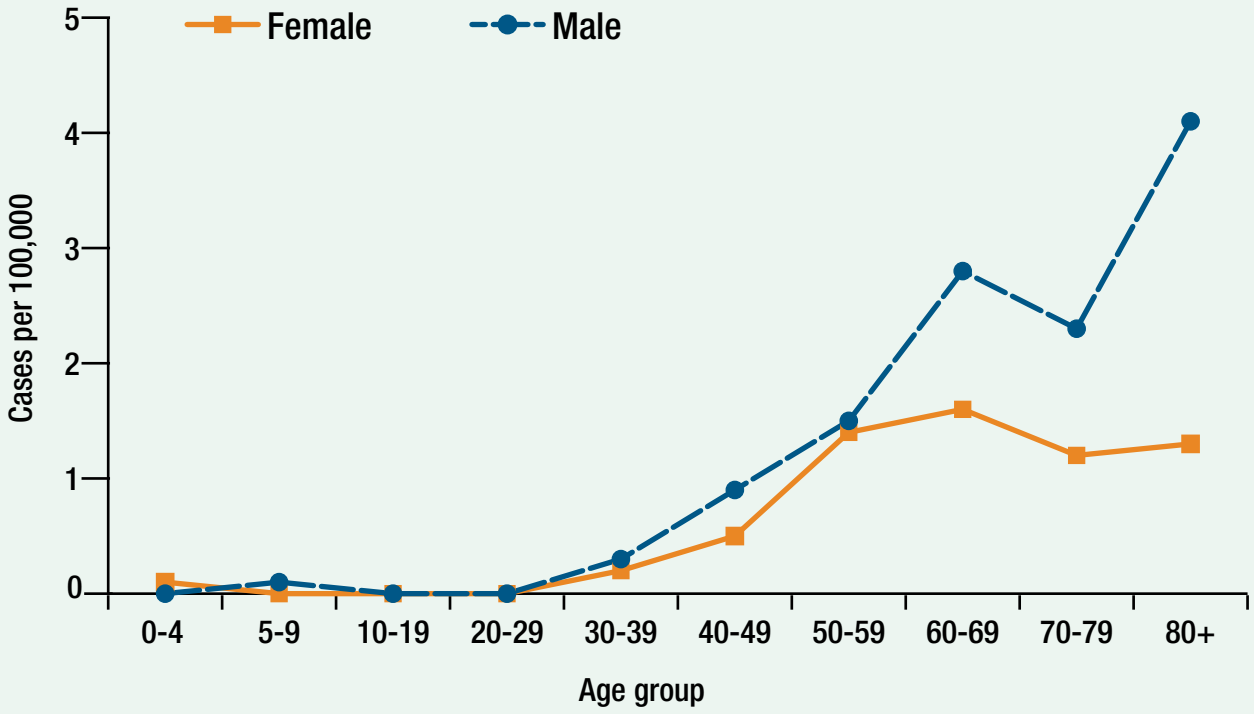
Legionellosis became officially reportable in Oregon in 2001 and nationally in 2009. Rates of reported illness have increased each year, both in Oregon and nationally. The cause of the rise is unknown; however, increases in older persons and those with underlying disease, aging plumbing infrastructure, and increased detection and reporting may have played a role.

In 2017, 45 cases of legionellosis occurred among Oregonians; 98% were hospitalized, and five died. While outbreaks occurred in several cities in the United States, no outbreaks were reported in Oregon. Due to an increasing number of cases in recent years, the CDC has developed a water management toolkit for building owners and managers. Facilities receiving Medicare/Medicaid funds must now have a water management plan. Effective water and infrastructure management and better testing protocols can prevent *Legionella* outbreaks.

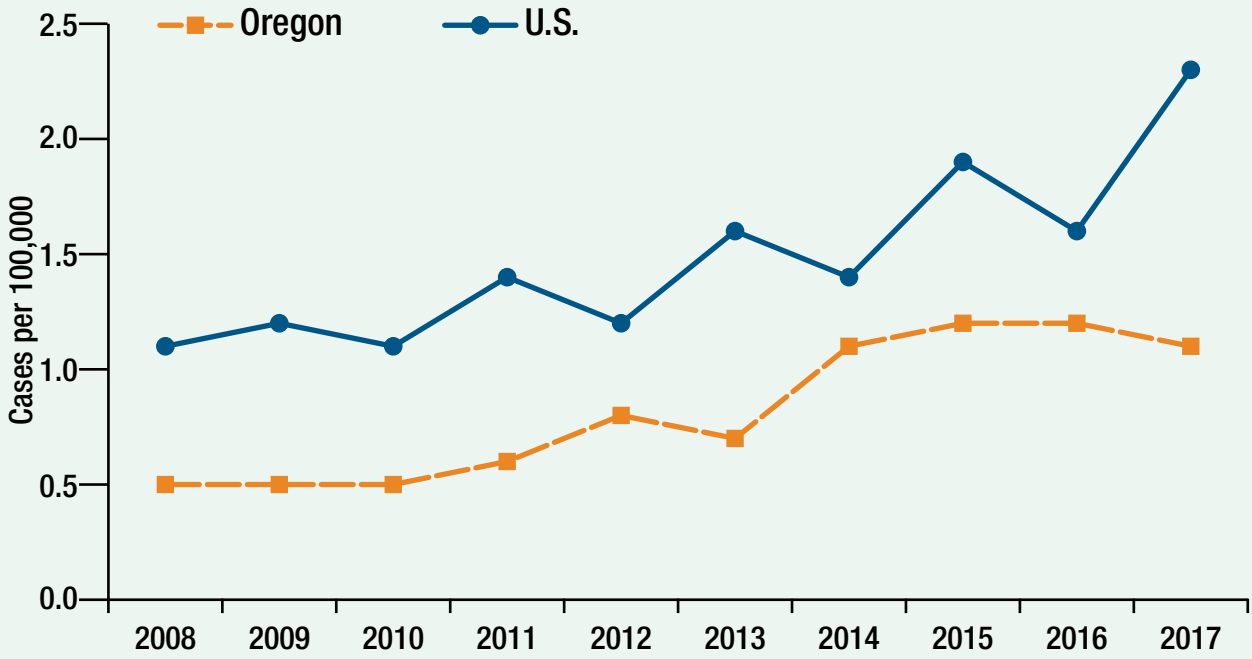
Legionellosis by year: Oregon, 2002–2017



Incidence of legionellosis by age and sex: Oregon, 2008–2017

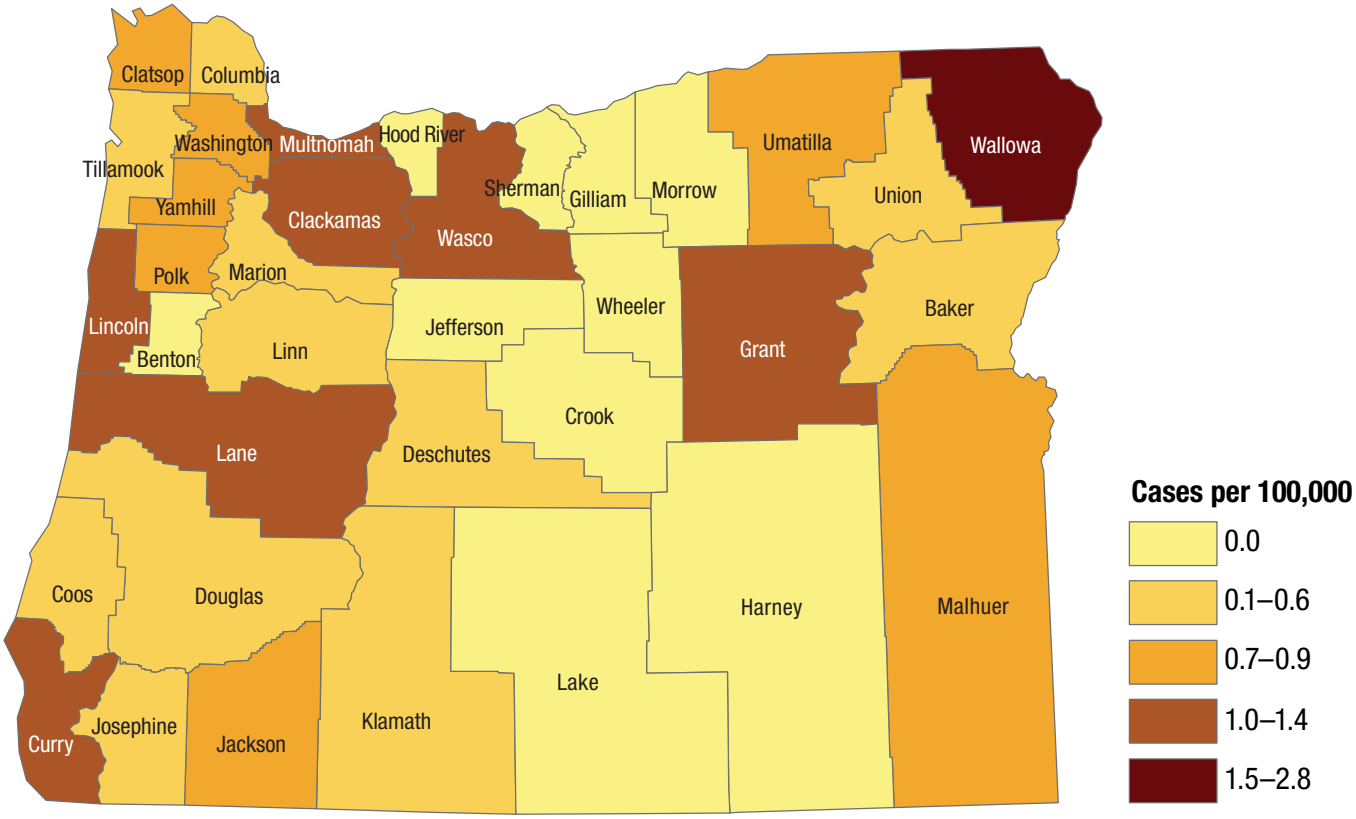


Incidence of legionellosis: Oregon vs. nationwide: 2008–2017



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Oregon	0.5	0.5	0.5	0.6	0.8	0.7	1.1	1.2	1.2	1.1
U.S.	1.1	1.2	1.1	1.4	1.2	1.6	1.4	1.9	1.6	2.3

Incidence of legionellosis by county of residence: Oregon, 2008–2017



Prevention

- Not smoking can lower your chances of developing Legionnaires' disease if you are exposed to *Legionella* bacteria.
- Persons at increased risk of infection may choose to avoid high-risk exposures, such as being in or near a hot tub.
- Prevent water conditions that allow *Legionella* to grow by doing the following:
  - › Maintain and clean cooling towers and evaporative condensers twice yearly, and periodically use chlorine.
  - › Maintain domestic water heaters at 60°C (140°F) and water temperature at 50°C (122°F) or higher at the faucet.
  - › Don't allow water to stagnate. Large water-storage tanks exposed to sunlight can produce warm conditions favorable to growth of *Legionella*. Flushing infrequently used water lines will help alleviate stagnation.