

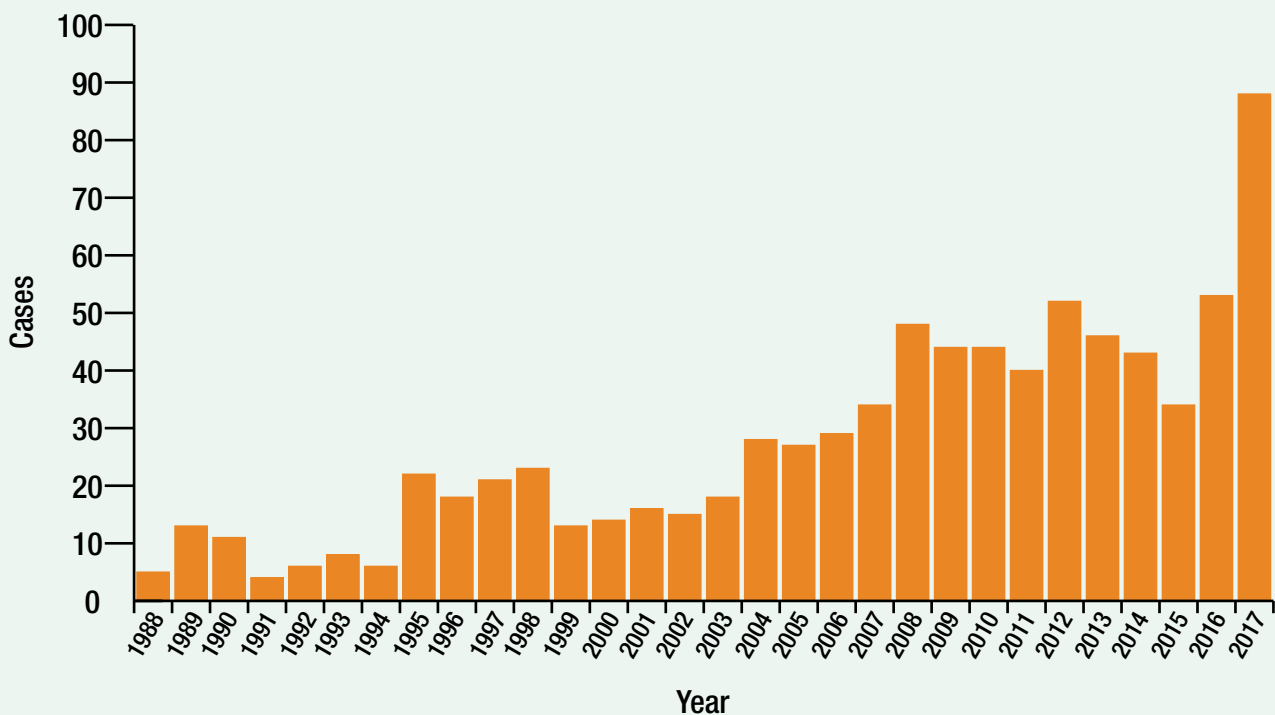
# Lyme disease

Lyme disease is a tick-borne zoonotic disease caused by the spirochete *Borrelia burgdorferi*. The first manifestation in approximately 60% of patients appears as a red spot or bump that expands slowly with clearing in the middle, forming a ring or “target,” or a bull’s eye sometimes with multiple similar lesions. This distinctive skin lesion is called “erythema migrans.” In most cases, the tick must be attached for 36–48 hours or more before the Lyme disease bacterium can be transmitted. Most humans are infected through the bites of immature ticks called nymphs. Nymphs are tiny (less than 2 mm) and difficult to see, which is why they may be attached for many hours without being detected. Nymphs feed during the spring and summer months. The incubation period for Lyme disease (LD) ranges from three to 30 days after tick exposure; however, the early stages of the illness may be asymptomatic, and the patient may later develop systemic symptoms and joint, neurologic or cardiac problems in varying combinations during a period of months to years. Infections are treated with antibiotics.

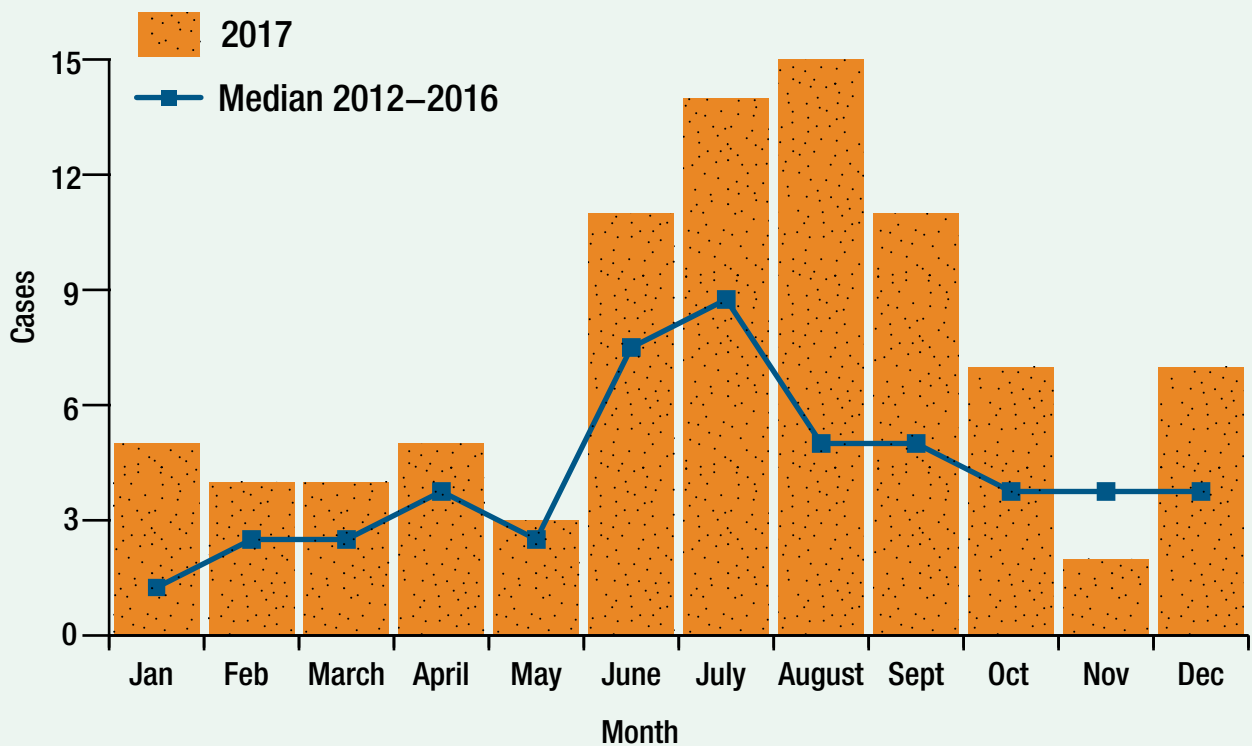
Currently, increasing recognition of the disease is redefining areas where ticks may carry *B. burgdorferi*; Lyme disease cases have been reported in 47 states, and in Ontario and British Columbia, Canada. Related borrelioses have been found in Europe, the former Soviet Union, China and Japan. In 1997–1998, the CDC and the Oregon Public Health Division collected and identified ticks and tested them for *Borrelia burgdorferi* in Deschutes, Josephine and Jackson counties. No ticks from Deschutes County were identified as carrying *Borrelia* in this study.

The organism was isolated in 3.5% of *Ixodes pacificus* ticks tested. During 2017, 89 cases of LD were reported in Oregon. The median age was 42 years of age. Sixty (67%) cases were female. The highest number of reported cases by residence (16) was in Clackamas County. Since 2015, we have identified an upward trend in the number of cases reported with LD. This could be related to greater local interaction with ticks in the environment as well as acquiring the infections from out-of-state areas where LD is more prevalent.

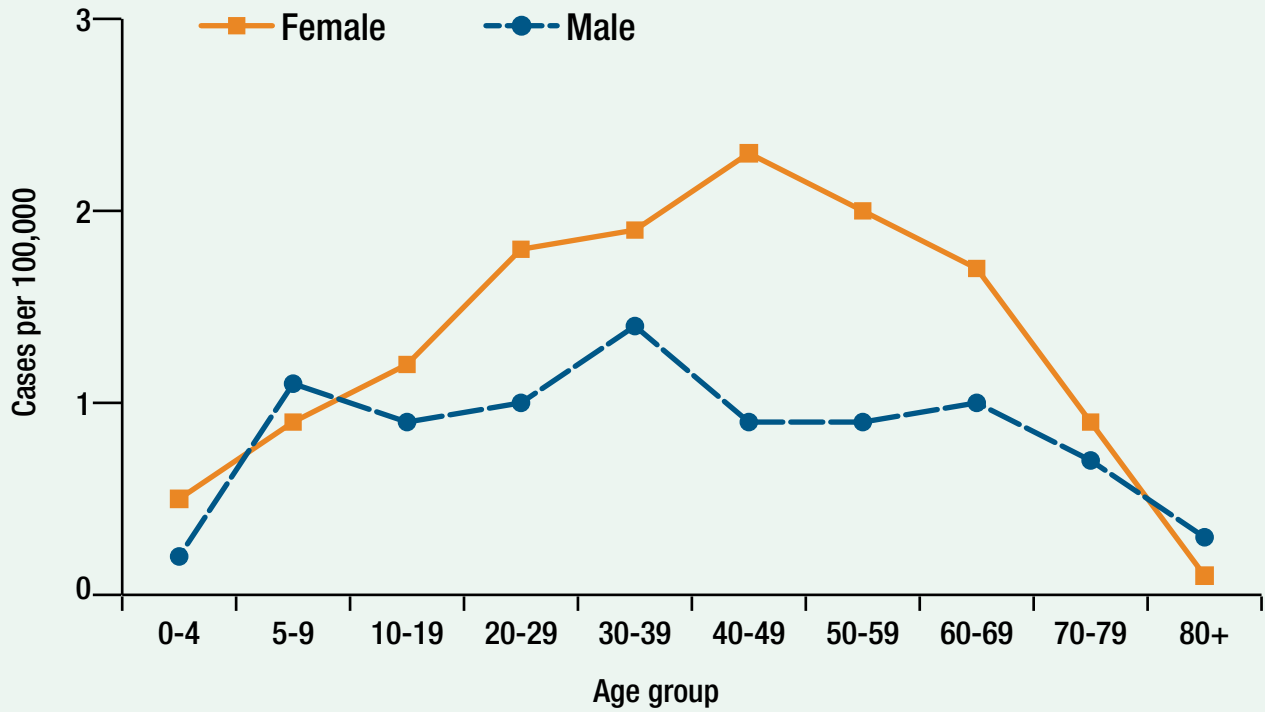
### Lyme disease by year: Oregon, 1988–2017



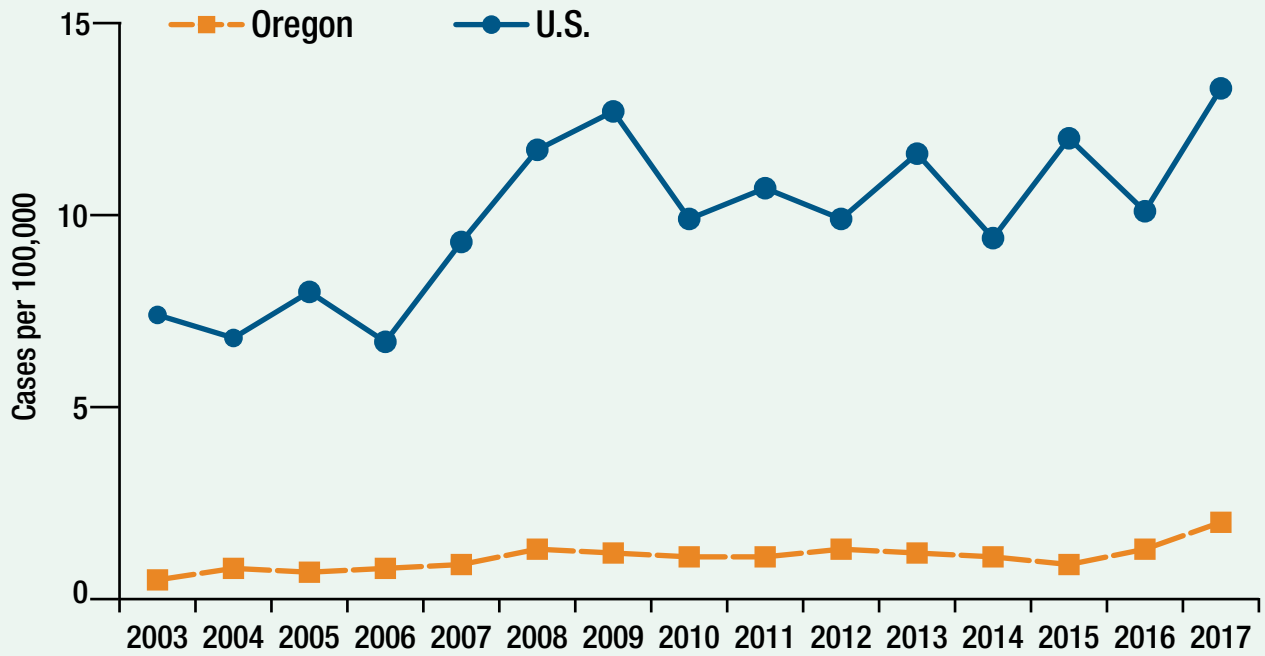
### Lyme disease by onset month: Oregon, 2017



### Incidence of Lyme disease by age and sex: Oregon, 2008–2017

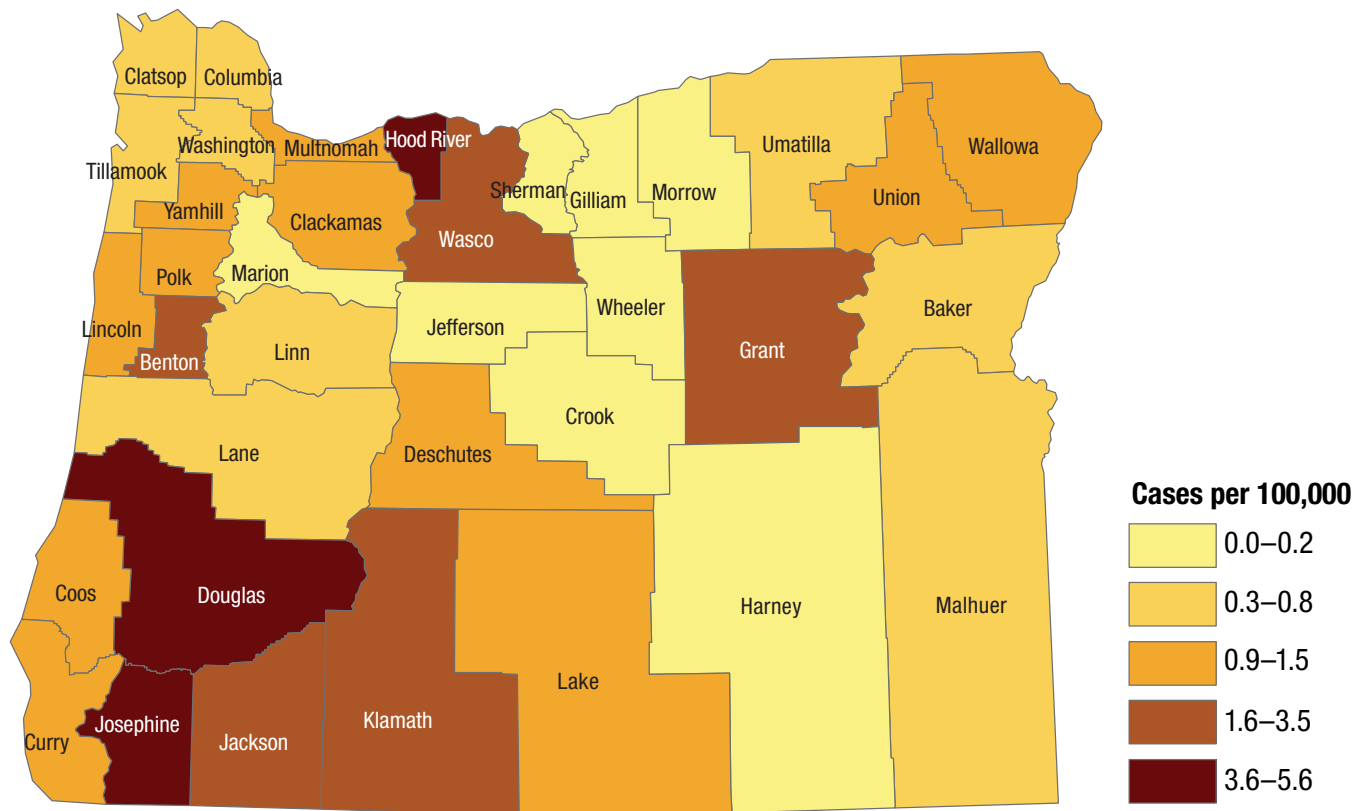


### Incidence of Lyme disease: Oregon vs. nationwide, 2003–2017



Oregon	0.5	0.8	0.7	0.8	0.9	1.3	1.2	1.1	1.1	1.3	1.2	1.1	0.9	1.3	2.0
U.S.	7.4	6.8	8.0	6.7	9.3	11.7	12.7	9.9	10.7	9.9	11.6	9.4	12.0	10.1	13.3

## Incidence of Lyme disease by county of residence:\* Oregon, 2007–2017



\*Not necessarily county of acquisition

### Prevention

- Avoid exposure to ticks. Wear long sleeves, long pants and socks when outdoors.
- Check yourself, your children and your pets for ticks. Be especially vigilant after spending time in wooded or grassy areas. Remove a tick as soon as possible with tweezers. Gently grasp the tick near its head or mouth. Don't squeeze or crush the tick but pull carefully and steadily.
- Use insect repellents when you go outdoors. Repellents containing DEET, picaridin, IR3535, and some oil of lemon eucalyptus and para-menthane, 2-undecanone products provide longer-lasting protection. To optimize safety and effectiveness, use repellents according to the label instructions.
- For more information about these products, please visit <https://www.epa.gov/insect-repellents/find-repellent-right-you>
- Do your best to tick-proof your yard. Clear brush and leaves where ticks live. Keep woodpiles in sunny areas.