

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,” 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 so many hours without being detected; they feed during the spring and summer months. The incubation period for Lyme disease 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 over a

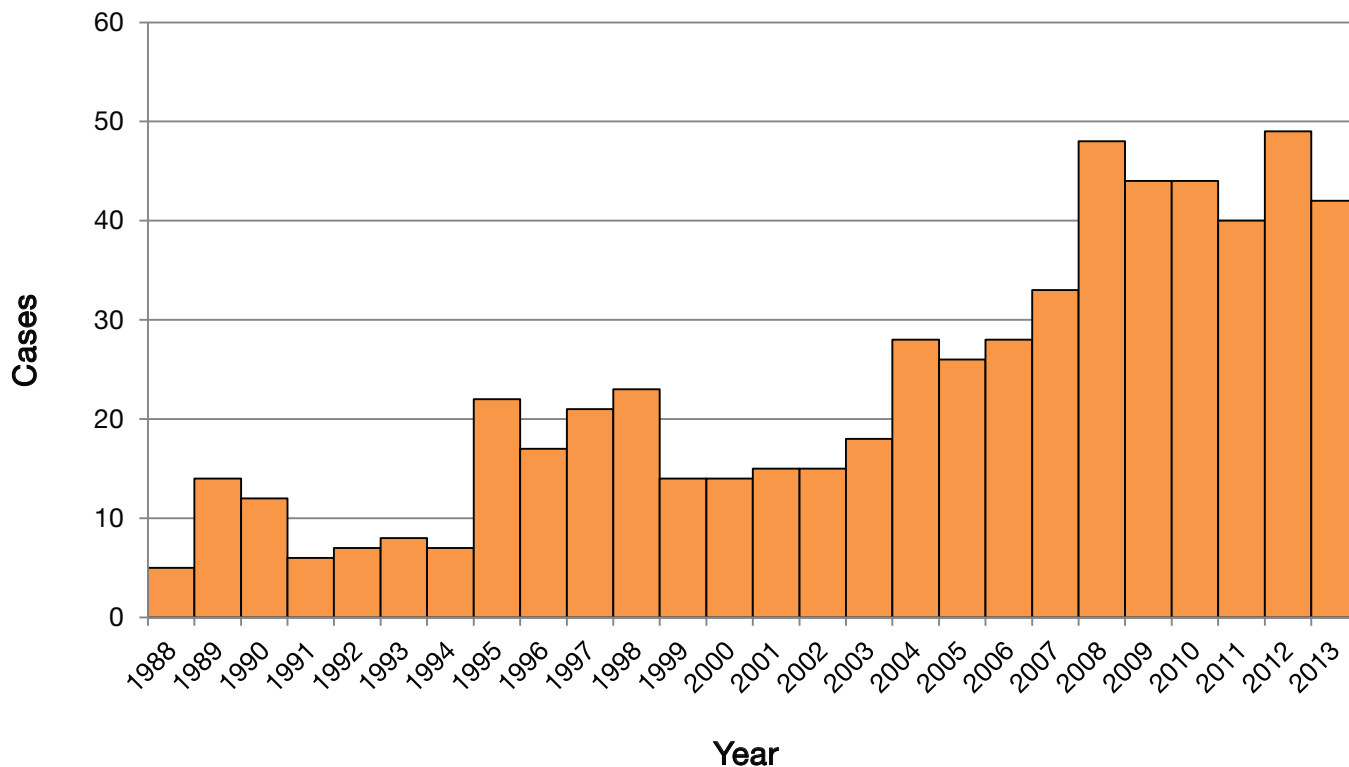
period of months to years. Infections are treated with antibiotics.

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.

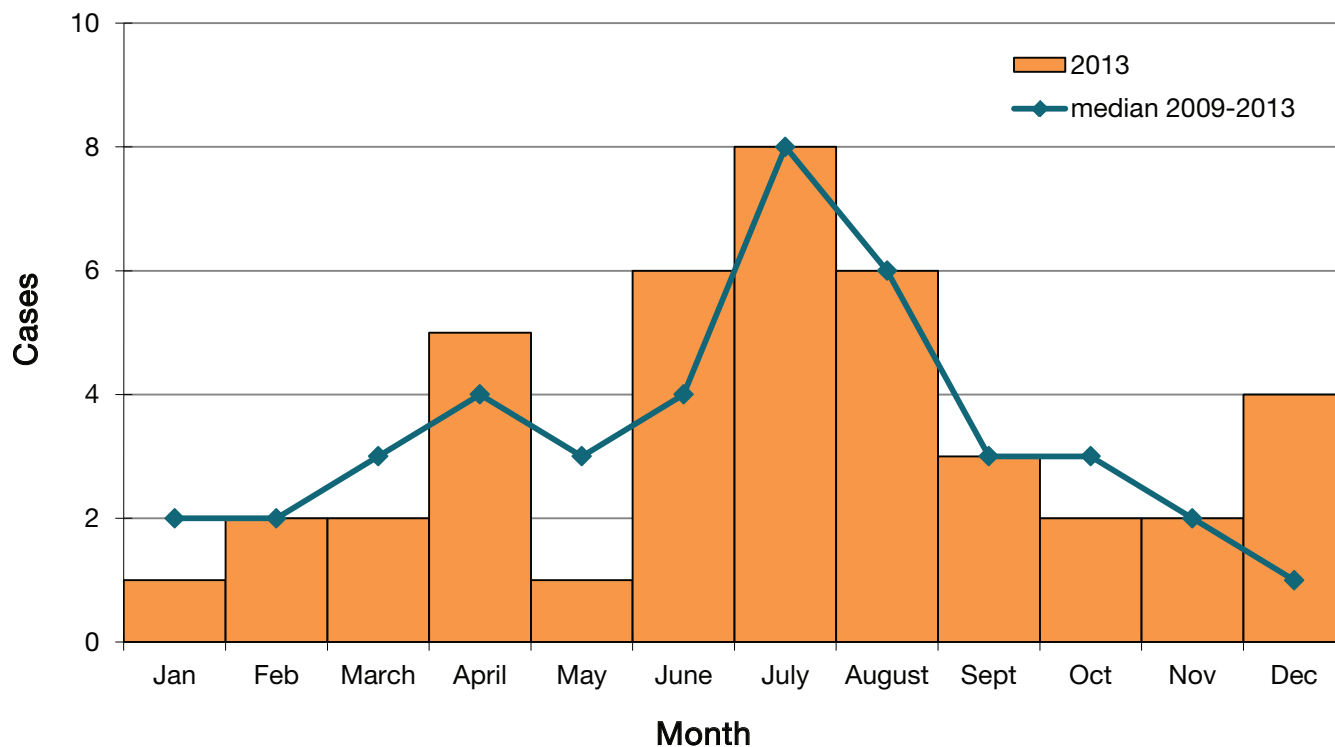
In 1997–1998, CDC and the Oregon Public Health Division collected and identified ticks and tested them for *Borrelia burgdorferi* in Deschutes, Josephine and Jackson counties. No ticks from Deschutes County were identified as carrying *Borrelia* in this study. The organism was isolated in 3.5% of *Ixodes pacificus* ticks tested.

During 2013, 42 cases of Lyme disease were reported in Oregon. The median age was 31 years. Twenty-five (60%) cases were female. Rates of infection were highest in Hood River (5.9/100,000), Josephine (5.6/100,000) and Gilliam (5.3/100,000) counties.

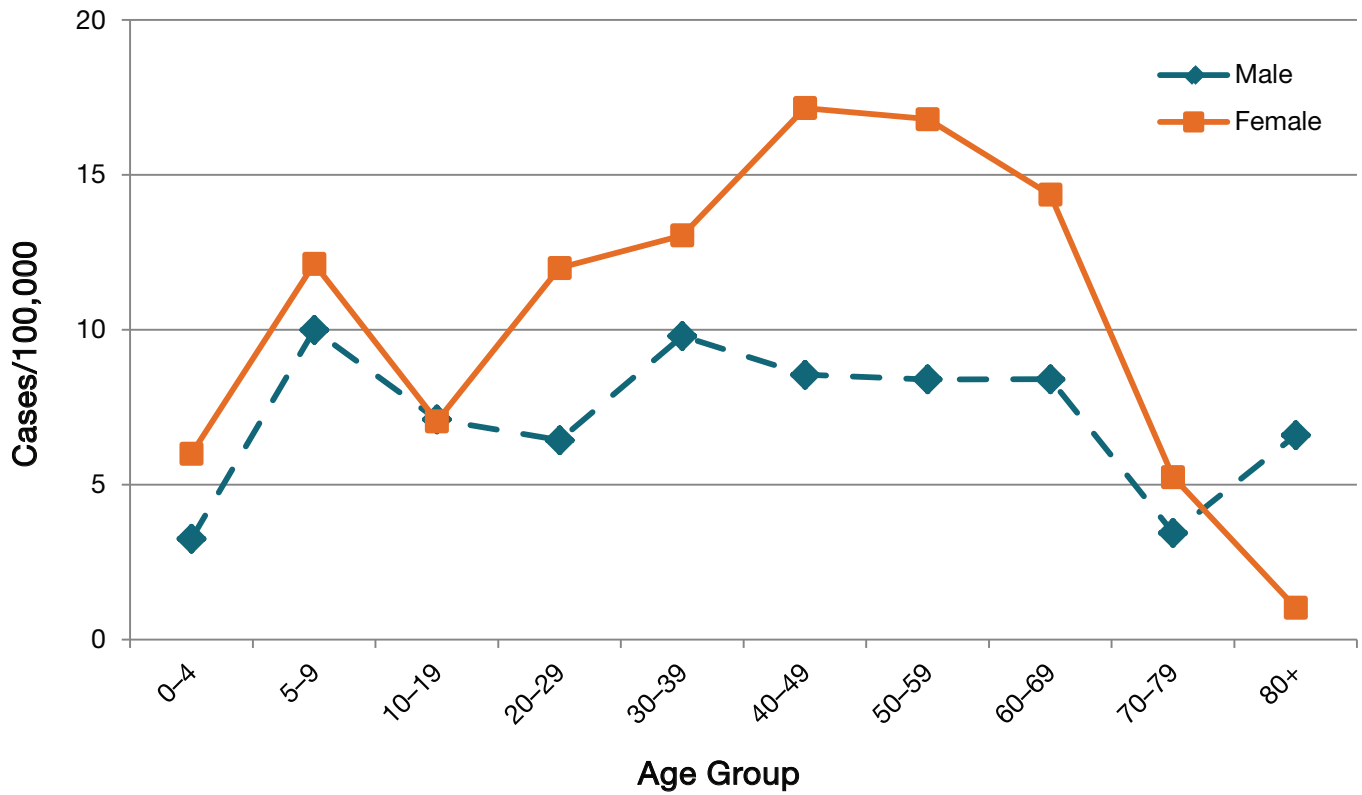
Lyme disease by year: Oregon, 1988–2013



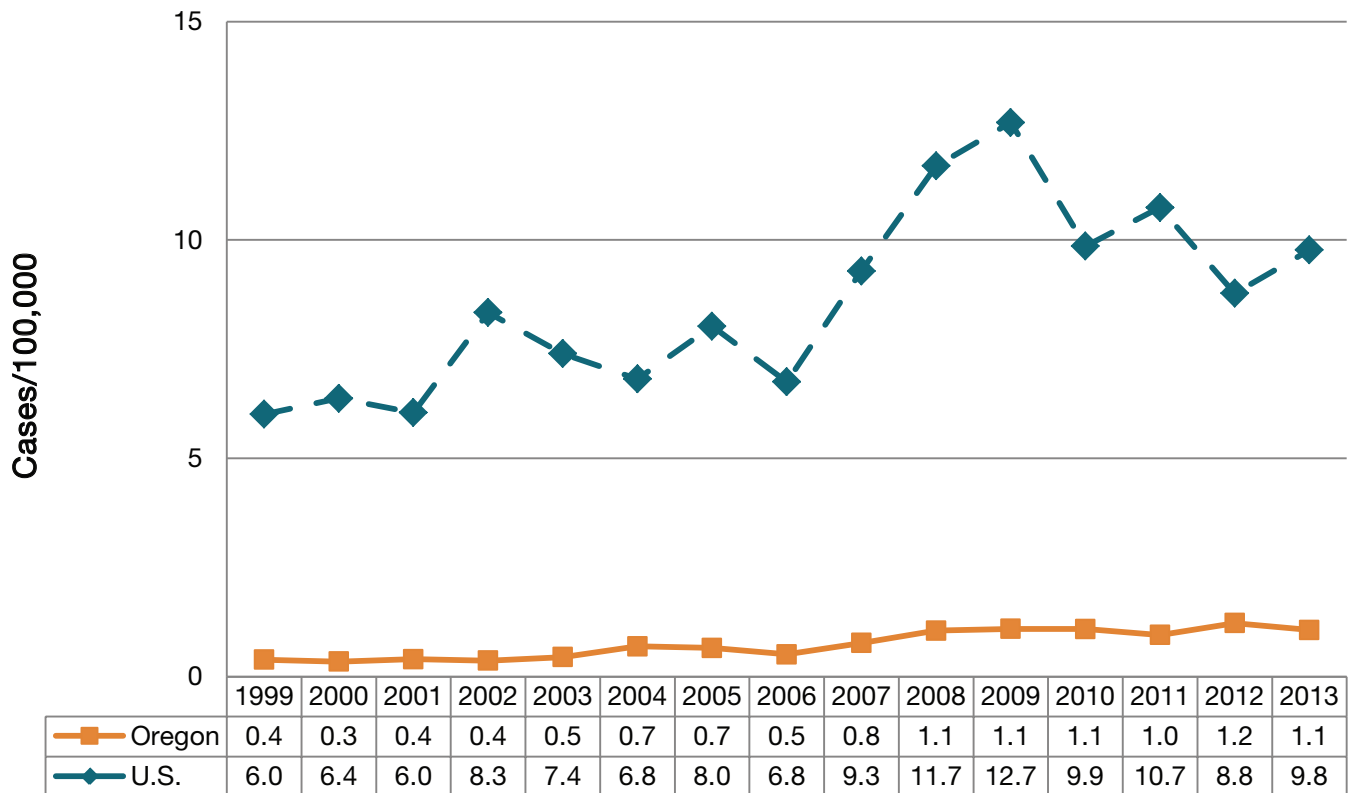
Lyme disease by onset month: Oregon, 2004–2013



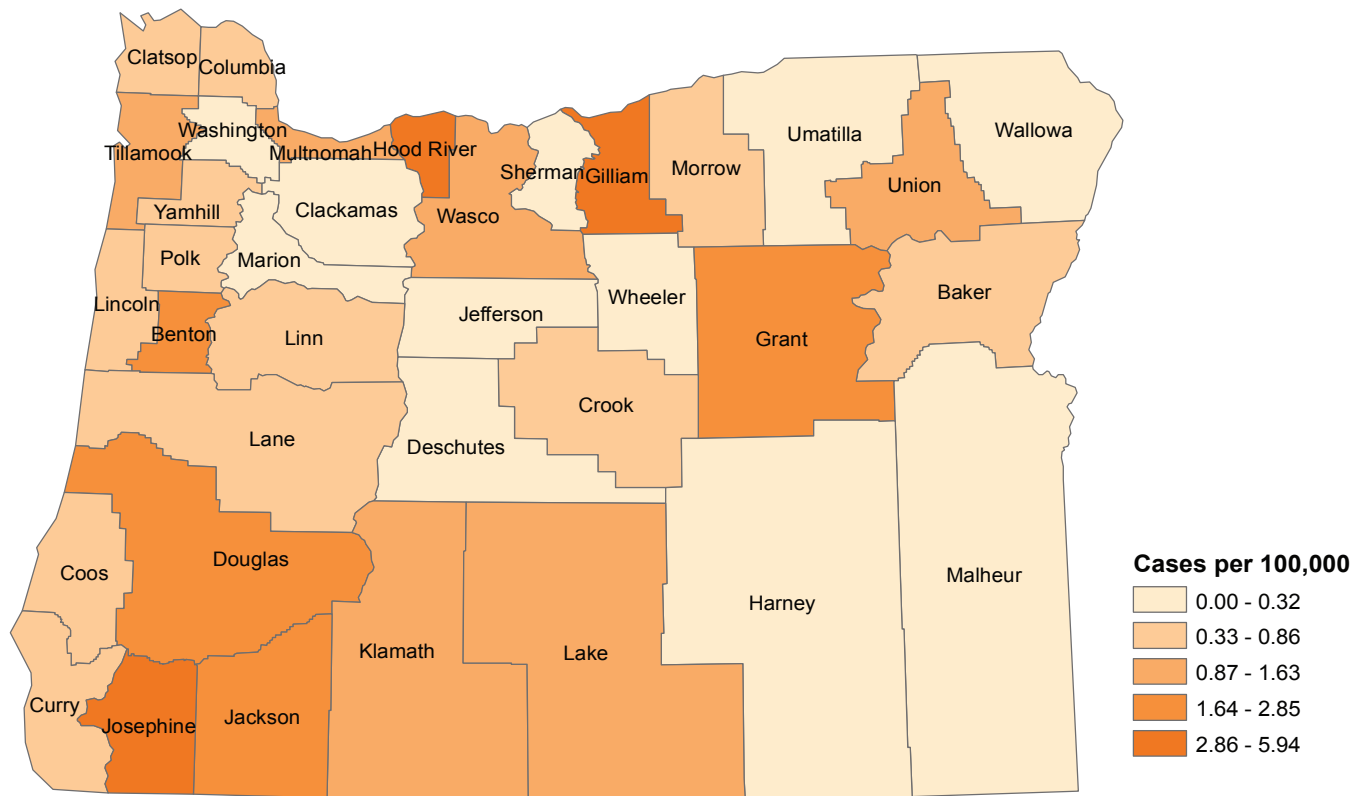
Incidence of Lyme disease by age and sex: Oregon, 2004–2013



Incidence of Lyme disease: Oregon vs. nationwide, 1999–2013



Incidence of Lyme disease by county of residence*: Oregon, 2004–2013



*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-3,8-diol products provide longer-lasting protection. To optimize safety and effectiveness, repellents should be used according to the label instructions.
- Do your best to tick-proof your yard. Clear brush and leaves where ticks live. Keep woodpiles in sunny areas.