

Executive summary

Reportable communicable diseases in Oregon, 2017

Control of communicable diseases in Oregon relies on laboratories and clinicians to report specific illnesses to local public health authorities. The local public health authorities (LPHAs) investigate cases and take steps to prevent further transmission. Ill persons are interviewed and asked about their clinical symptoms, the date they became ill, risk factors for illness, and places the person may have been exposed. Local public health investigators educate them on how to reduce transmission of illness and can legally restrict people from work, school or daycare. The Oregon Health Authority Public Health Division aggregates the data. This report summarizes this Oregon disease-specific data, best practices and the descriptive epidemiology of these infections. Laboratories must also forward bacterial isolates for some diseases to the Oregon State Public Health Laboratory for subtyping, which may identify common-source outbreaks.

Highlights of Oregon 2017 disease reporting

Oregon investigated 408 outbreaks of illness in 2017, up 35% from the 303 investigated in 2016. Gastroenteritis is by far the most commonly reported type of outbreak in Oregon, accounting for 211 (52%) of the outbreaks investigated. Of note, influenza-like illness was a close second in 2017, with a record-setting year of 148 outbreaks — 36% of the total. We saw a slight increase in the number of norovirus outbreaks among Oregon long-term-care facilities (LTCFs) in 2017 (n=83) when compared to recent years. GII.4 Sydney has remained the predominant norovirus strain since 2012; it was responsible for 22 norovirus outbreaks among Oregon LTCFs in 2017. Since 2015, we have seen an increase in other genotypes. In 2017, GI norovirus accounted for 16% of norovirus outbreaks among Oregon LTCFs.

What was up in 2017

Compared to 2016, Oregon case counts for the following communicable diseases were elevated in 2017: campylobacteriosis, coccidioidomycosis, *Haemophilus influenzae*, all acute hepatitises (A,B,C), chronic hepatitis C, Lyme disease, pertussis, Q fever, salmonellosis, Shiga toxin-producing *E. coli*, shigellosis and yersiniosis.

- **Campylobacteriosis:** 1,069 cases were reported in 2017. Children aged 0–4 years have the highest rates of illness (38 per 100,000). Infections occur year-round in Oregon, with peak incidence in the summer months. Cases diagnosed by culture are considered “confirmed,” while those diagnosed by molecular methods are “presumptive.” The apparent continued increase in 2017 could largely reflect clinical laboratories’ increasing employment of molecular diagnostic methods. The number of cases confirmed by culture remained stable with 630, while “presumptive” cases rose from 372 to 439.
- **Coccidioidomycosis:** Since it became officially reportable in 2015, we have received 107 reports of this fungal infection, 60 of those in 2017. Sixty-eight (64%) of the cases were in males, and 81 (76%) were White. Age range was 12–86 (mean, 61) years. The causative fungus, *Coccidioides* spp., is in soil. Establishing a diagnosis of coccidioidomycosis may be challenging in humans and animals, and multiple tests including cytology, histopathology, culture and serology may be necessary.
- **Acute hepatitis A, B and C:** Case counts were all elevated in 2017. Rates of infection were highest among those aged 30–39 years.
 - In 2017, Oregon logged 20 cases of acute hepatitis A. Nine of the 20 cases were acquired by venturing outside Oregon or from household members who traveled outside the United States, often to countries with high rates of hepatitis A such as Mexico, Peru and Guatemala. Fifty-five percent of cases were <40 years of age.
 - Local health departments investigated and reported 24 acute hepatitis B cases in 2017. Seventy-one percent of the cases were male. Eighty-three percent were interviewed. The most commonly reported risk factors include use of drugs (injection and non-injection), ever being incarcerated, and having multiple sexual partners.
 - An Oregon historic high 41 cases of acute hepatitis C were reported, mainly among those <40 years of age (90%). Sixty-three percent of cases reported injection drug use. Twenty-three (56%) of the cases were women.
- **Chronic hepatitis C:** Reported case rates continue to rise in Oregon. Although most cases reported are still among those born between 1945 and 1965, the number of cases reported in those <30 years of age has been increasing dramatically since 2010. These younger cases often represent infection due to injection drug use.

- Lyme disease: 88 cases were reported during 2017, up from the 53 reported in 2016. Protection against tick bites and tick checks are the best prevention against Lyme and any other tick-borne disease.
- Pertussis: In 2017, the reported pertussis incidence in Oregon was 6.0/100,000. The incidence among infants has consistently been higher than that of all other age groups. Infants with pertussis are also the most likely to suffer complications and death. Since 2003, 250 (34%) of the 727 infants diagnosed with pertussis in Oregon have been hospitalized, and five have died. The incidence has been increasing in recent years among adolescents and adults. The year 2017 was noteworthy for an historically high proportion of reported pertussis cases among older teenagers. Immunity wanes with time, so adolescents and adults need a Tdap booster dose, both to protect themselves and to avoid spreading it to vulnerable infants.
- Q fever: Eight cases were reported in 2017, compared to four in 2016. Although we don't know the reason for the increase in cases, most of the exposures occurred in the Willamette Valley and among people with exposure to goats or sheep.
- Salmonellosis: In 2017, 490 salmonellosis cases and 15 outbreaks were reported in Oregon. The outbreaks accounted for 81 cases. One large outbreak with 18 Oregon cases was associated with eating seafood, most notably fresh tuna sushi. Another national outbreak with seven confirmed Oregon cases was associated with mangos. Outbreaks of multiple *Salmonella* serotypes (Muenchen, Braenderup, Indiana, Hadar and Typhimurium) were related to contact with baby poultry.
- Shiga toxin-producing *E. coli* infections: These infections increased from 191 in 2016 to 215 in 2017. The increase is mostly attributable to four foodborne outbreaks resulting in 25 cases.
- Shigellosis: Case counts jumped from 101 in 2016 to 128 in 2017. An outbreak of 10 cases of *Shigella sonnei* infections was reported among travelers to a Costa Rican wedding.
- Yersiniosis: No cases of plague (caused by *Yersinia pestis*) were reported during 2017, but infections by other *Yersinia* species continued to increase — from 34 in 2016 to 47 during 2017, which was the largest number in 30 years. All cases were sporadic; 35 were *Yersinia enterocolitica*. The highest rate of infection occurred among infants (2.1 per 100,000). Because *Yersinia* is in the molecular-based, multi-pathogen gastrointestinal illness laboratory panels, it is being diagnosed more frequently than in the past.

What was down in 2017

- Carbapenem-resistant *Enterobacteriaceae* (CRE): CRE became reportable in Oregon in 2011. One hundred twenty-two cases of CRE infection were reported in Oregon in 2017, down from 171 reported in 2016. Reassuringly, carbapenemase-producing (CP)-CRE cases remain low. By the end of 2017, 17 CP-CRE infections had been identified in Oregon residents: 11 *Klebsiella pneumoniae* carbapenemase (KPC), four New Delhi metallo- β -lactamase (NDM) and two oxacillinase-48 (OXA-48). Thirteen (76%) of the CP-CRE infections were from patients with histories of health care exposure in other states or outside the United States. Unlike much of the rest of the country, we have no indication that CP-CRE are spreading in Oregon. We have instituted enhanced surveillance and prevention efforts and established the Drug-Resistant Organism Prevention and Coordinated Regional Epidemiology (DROP-CRE) Network, a statewide network to rapidly detect, respond to and prevent transmission of CRE.
- Zika: Six cases of Zika virus disease were reported among Oregon residents in 2017, a significant decrease from the 49 cases reported in 2016. This decrease reflects trends seen in the United States and globally in regions where Zika outbreaks had occurred. Beyond the six cases, two additional individuals were identified who had laboratory evidence of the Zika virus but did not present with any Zika-compatible symptoms. All cases or their sexual partners reported foreign travel. Most cases had traveled to areas with active Zika transmission including Mexico, Central America and the Caribbean.