



Communicable  
Disease Control

# Communicable Disease Control

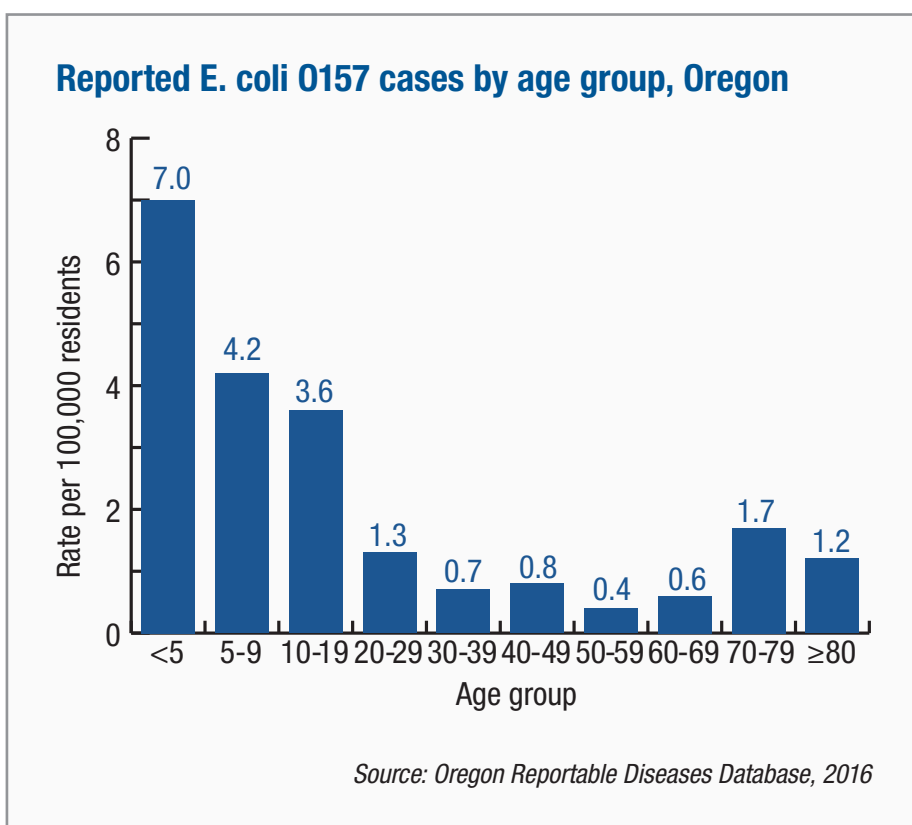
Communicable disease control refers to the prevention, detection, and response to transmissible infectious diseases. Although themes related to communicable disease were not frequently mentioned in the SHA community meetings or responses to the community survey, preventing communicable disease continues to be a priority for the public health system. According to the 2017 America's Health Rankings report, Oregon ranks 9th in the country for communicable disease rates.

## Foodborne and Waterborne Infections

### *E. coli*

Most people who become sick with a foodborne illness will recover without any lasting health problems. But for some, a foodborne illness will have serious long-term health outcomes, which may include kidney failure, chronic arthritis, brain and nerve damage, or death.

*Escherichia coli* O157 (*E. coli*) causes stomach and intestinal irritation and inflammation (infectious gastroenteritis). Bloody diarrhea is a hallmark of *E. coli*, but the real risks are anemia and kidney failure (hemolytic uremic syndrome or HUS), especially among children under 10 years. Approximately 6% of people who contract *E. coli* will develop these complications, and 3 to 5% of people who develop HUS die from it. Children are at highest risk for experiencing illness caused by *E. coli*.



## Norovirus

Norovirus infection is a common cause of gastrointestinal illness. Symptoms include nausea, vomiting, diarrhea, dehydration, muscle aches, fever, and abdominal cramps. Symptoms typically resolve within a day but can remain for up to three days. Norovirus is highly contagious, and people typically get norovirus by eating contaminated food. Norovirus is the leading cause of foodborne-illness outbreaks in the United States. It is commonly transmitted from person to person in settings such as long-term care facilities (LTCFs) and cruise ships.

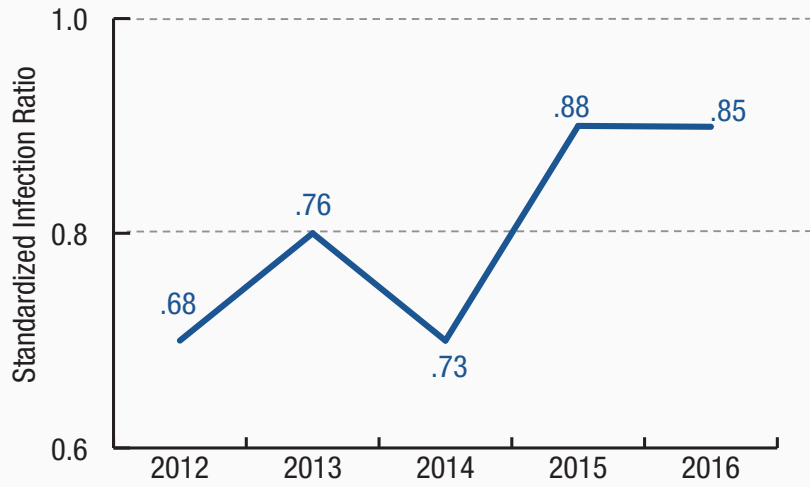
## Health care-associated Infections

Health care-associated infections are those that affect people while they are receiving health care. These individuals often have other health conditions that put them at risk of life-threatening complications if they develop a health care-associated infection. These infections can require additional treatment, more days in the hospital, stronger or more antibiotics, and higher costs to patients and the health care system.

*Clostridium difficile* is a toxin-producing bacterium that can cause symptoms ranging from diarrhea to life-threatening inflammation of the colon. *Clostridium difficile* infection (CDI) is a leading cause of health care-associated infections and has become increasingly common.

Oregon tracks CDI prevention progress at the facility and state level using the metric recommended by the Centers for Disease Control and Prevention (CDC): the standardized infection ratio (SIR), which measures performance relative to the national average. From 2015 to 2016, Oregon's SIR has dropped slightly; it reflects 15% less CDI than was predicted based on the national average. However, Oregon's CDI SIR falls significantly short of the national reduction target of 30% set by the U.S. Department of Health and Human Services.

### Reported cases of healthcare-onset C. difficile infections, Oregon



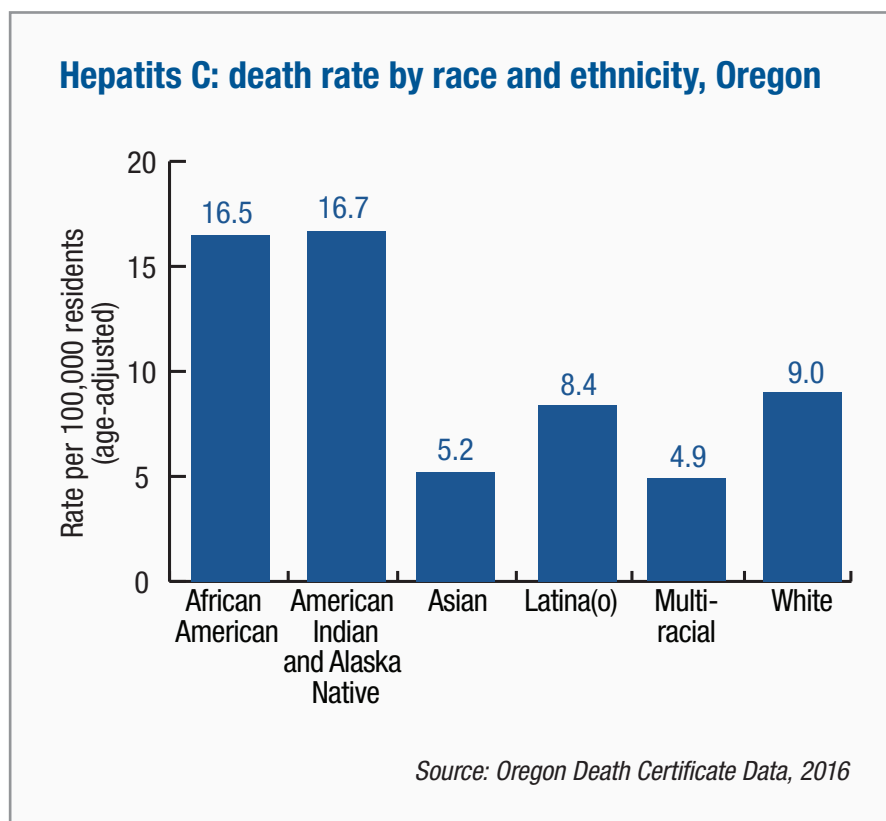
Source: National Healthcare Safety Network (NHSN), 2012 – 2016  
Notes: NHSN does not conduct surveillance for Neonatal Intensive Care Units, Labor and Delivery Units, and well-baby nurseries. These are excluded from SIR calculations.

# Hepatitis C

Hepatitis C virus (HCV) is the most common blood-borne pathogen in the United States and affects an estimated 2.7 million to 3.9 million (1.0% to 1.5%) residents. HCV can cause serious health problems such as liver disease, liver failure, and liver cancer. Of every 100 people infected with HCV, about 75 to 85 will become chronically infected. Of those, 60 to 70 will develop chronic liver disease, 5 to 20 will develop cirrhosis, and 1 to 5 will die from cirrhosis or liver cancer.

People born between 1945 and 1965 account for approximately 75% of all chronic HCV infections among adults in the United States. Although HCV can be treated, most persons with HCV do not know they are infected, do not receive the care they need (e.g., education, counseling, and medical monitoring), and are not evaluated for treatment. Today, most people become infected with HCV by sharing needles, syringes, or other equipment used to inject drugs.

The CDC estimates that the prevalence of HCV in adults in Oregon is 3%, the third-highest in the nation, and Oregon's mortality rate from HCV is the highest in the country. HCV disproportionately affects African Americans and American Indians and Alaska Natives in Oregon compared to Whites.





# HIV and Other Sexually Transmitted Infections

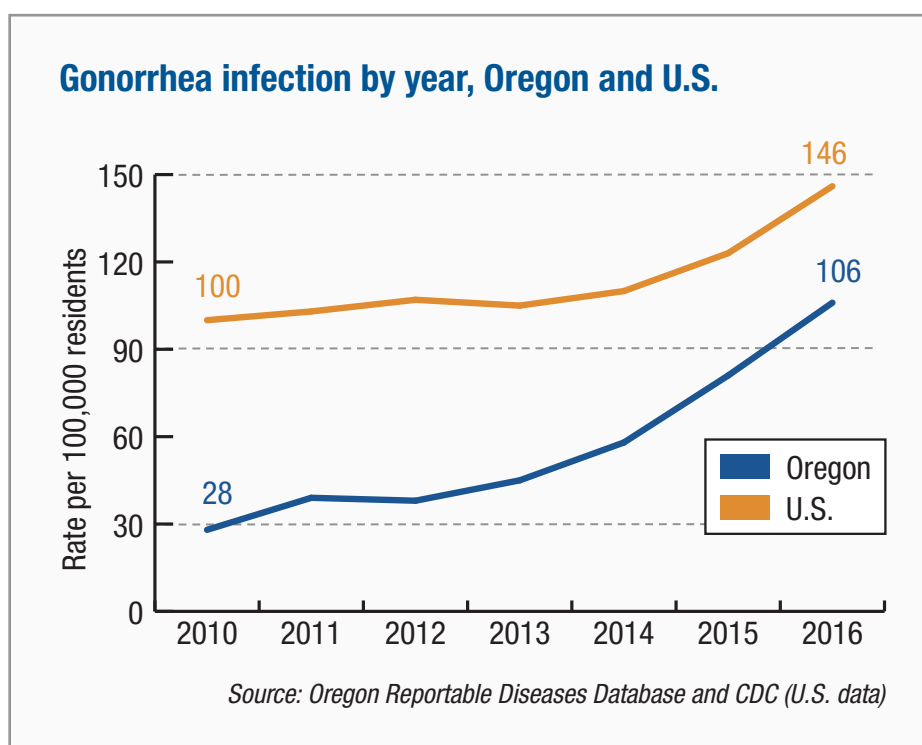
Sexually transmitted infections (STIs) are common in Oregon. In addition to increasing a person's risk for acquiring and transmitting HIV infection, STIs can lead to reproductive health complications, such as infertility and ectopic pregnancy. Rates of all STIs in Oregon, with the notable exception of HIV, are increasing.

## Chlamydia

Chlamydia is the most common reportable disease in Oregon, increasing steadily over the past decade. Chlamydia is mostly commonly diagnosed in young women, ages 15 to 24 years of age. If detected, chlamydia is easily treatable with antibiotics. Left untreated, chlamydia is a major cause of pelvic inflammatory disease and infertility.

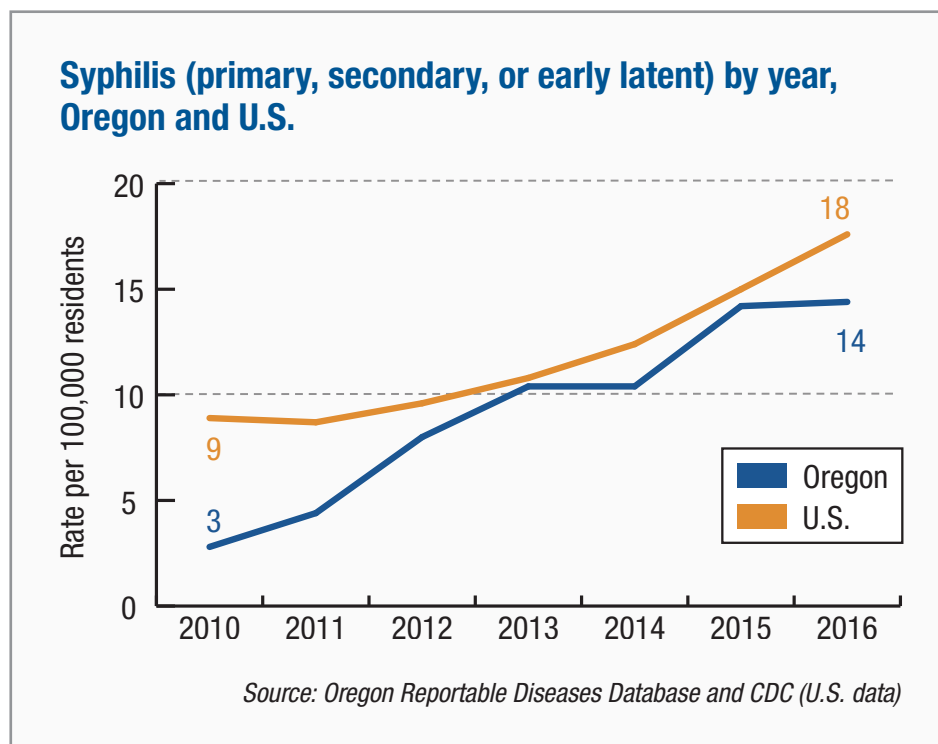
## Gonorrhea

Similar to chlamydia, gonorrhea has been increasing in Oregon over the last decade. Untreated gonorrhea can result in serious health problems including pelvic inflammatory disease and ectopic pregnancy in women; complications from epididymitis, inflammation of the epididymis, and prostatitis, inflammation of the prostate, in men; and infertility in both. It also increases the likelihood of acquiring and transmitting HIV. The highest rates of gonorrhea occur in men and women in their 20s, and rates are higher among men. About 42% of men with gonorrhea report having sex with men. Of particular concern, gonorrhea bacteria have progressively developed resistance to the antibiotics commonly prescribed to treat the infection. This could become a major problem, as no clear treatment alternatives exist.



## Syphilis

Syphilis has reached epidemic levels in Oregon, increasing over 2000% from 2007 to 2016. In Oregon, more than half of all cases occur in men with HIV, typically men who have sex with men (MSM). Both HIV and syphilis may make a person more susceptible to the other. In addition, some data indicate that MSM with HIV may be more likely to choose sex partners with the same HIV status and may be less likely to use condoms, now that effective treatments have dramatically reduced the chances of transmitting HIV. These factors could increase the likelihood of acquiring or passing syphilis within sexual networks. Syphilis symptoms can easily be confused with other less serious diseases; however, untreated syphilis can result in paralysis, blindness, and even death. Regular screening for syphilis is one of the best ways to address the syphilis epidemic. Sexually active MSM and people living with HIV should be tested for syphilis four times per year. Women should be tested during pregnancy, as mothers can pass the infection to their children. Syphilis can be treated with penicillin.

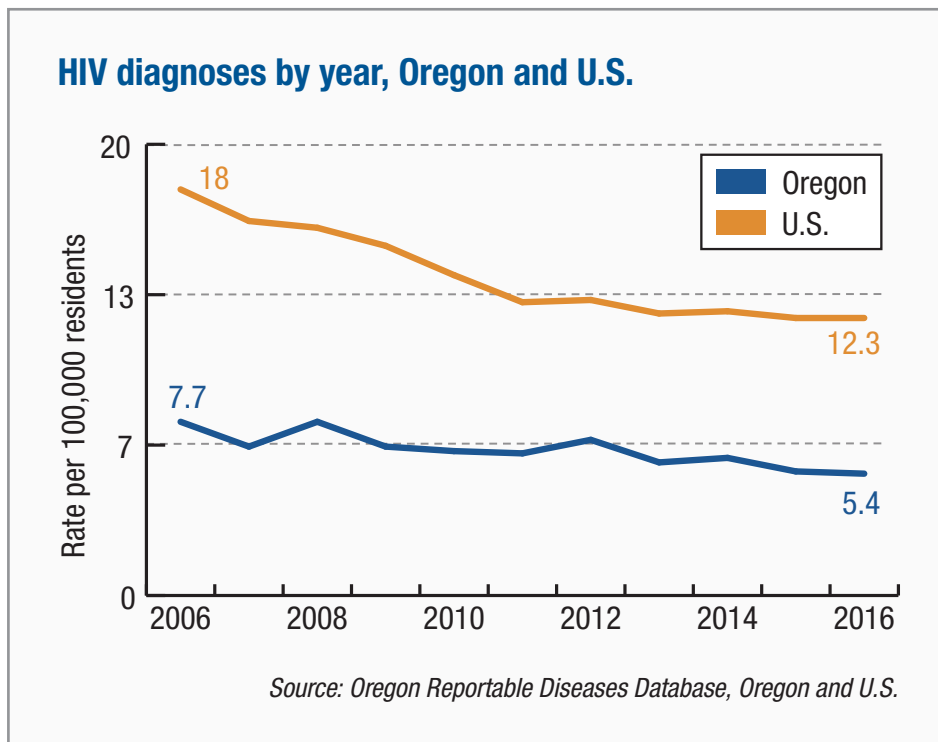


## Human papillomavirus

Human papillomavirus (HPV) is the most common sexually transmitted infection in Oregon, affecting a high percentage of sexually active people. HPV infections can cause cervical, vaginal, and vulvar cancers in women and anal cancer, throat cancer, and genital warts in both men and women. Effective vaccination for HPV is now available. In 2017, Oregon ranked 23rd and 10th in the country for the percentage of female and male adolescents, respectively, who received the HPV vaccine.

## HIV

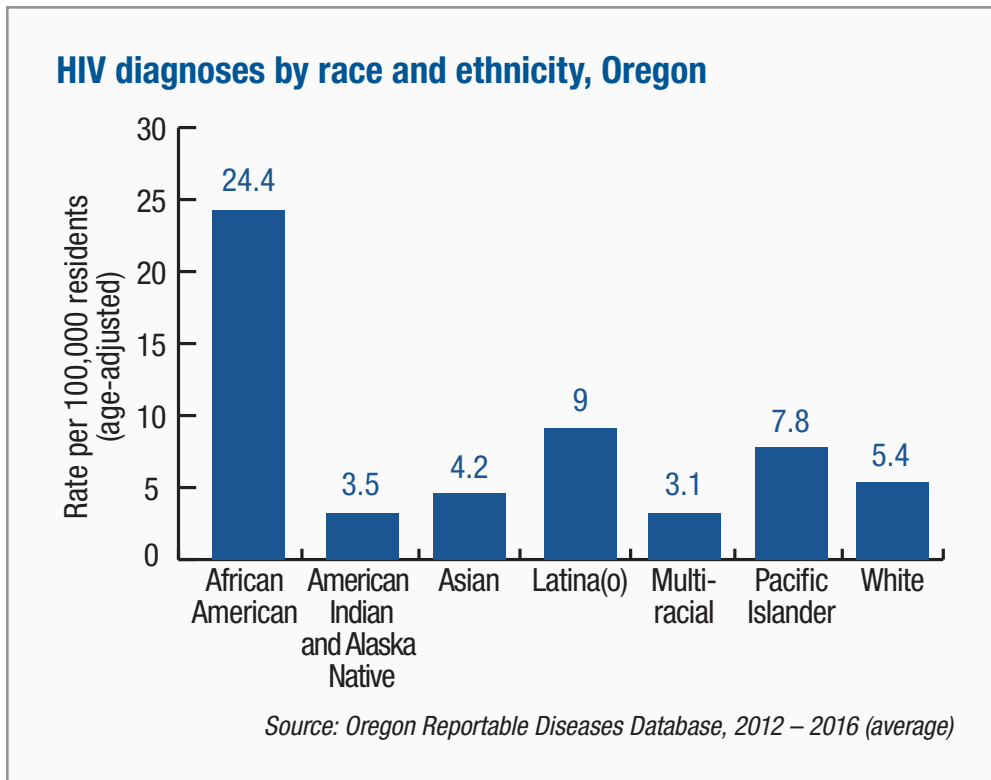
HIV is a chronic and potentially fatal disease. It disproportionately affects sexual, racial, and ethnic minority groups. HIV rates in Oregon are approximately half of U.S. rates and have been declining in recent years. Among the approximately 200 new HIV cases that continue to be diagnosed in Oregon every year, most are among men who have sex with men; only 11% of new diagnoses in 2016 occurred in women. To address transmission, efforts should continue to focus on men who have sex with men as well as people who inject drugs or are also infected with hepatitis (HCV). Ending new HIV transmissions in Oregon will require widespread HIV testing, since only 37% of people in Oregon report ever having been tested for HIV. Routine HIV testing is important because about 40% of new HIV cases in Oregon are diagnosed late in their infection; the leading reason people give for not getting tested earlier is that they didn't think they were at risk.



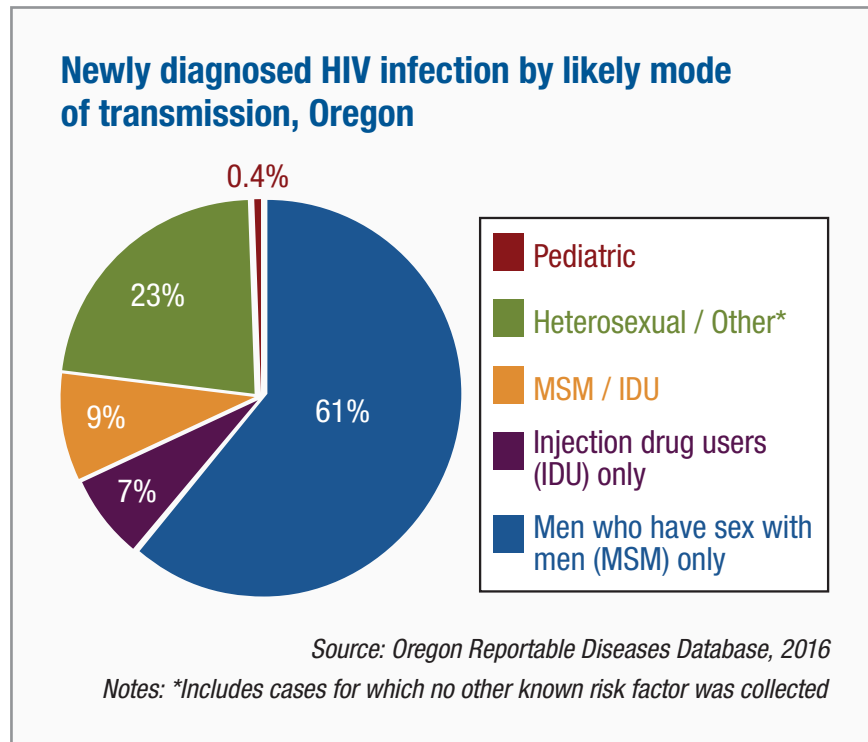


## Disparities in HIV and Other Sexually Transmitted Infections

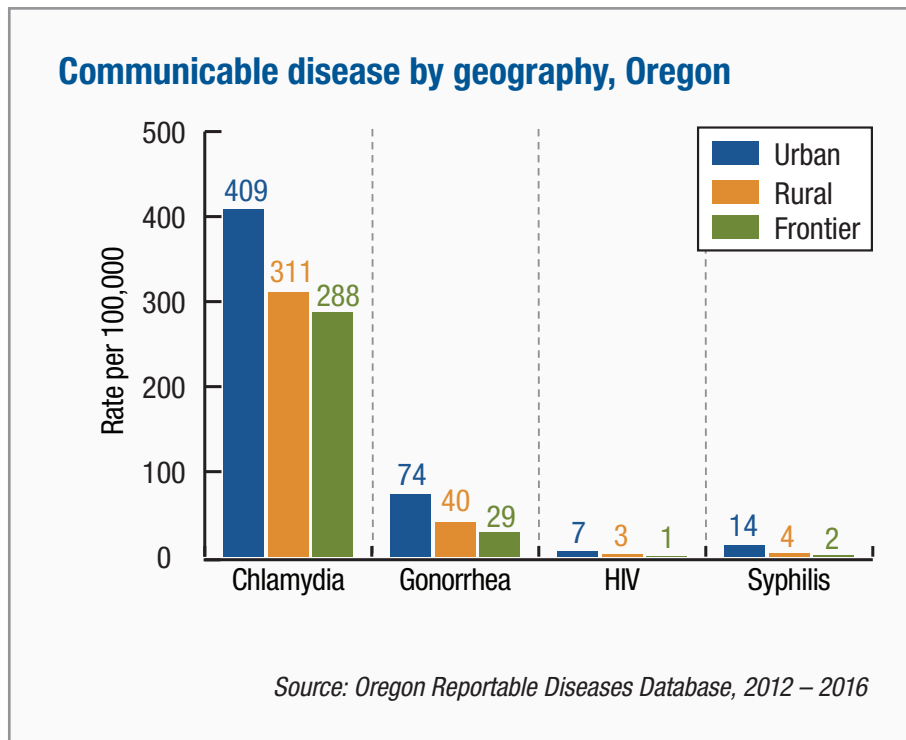
Risk of new HIV infection is higher among African Americans and Latina(o) than among non-Latina(o) Whites.



Men who have sex with men are at increased risk for HIV infection.

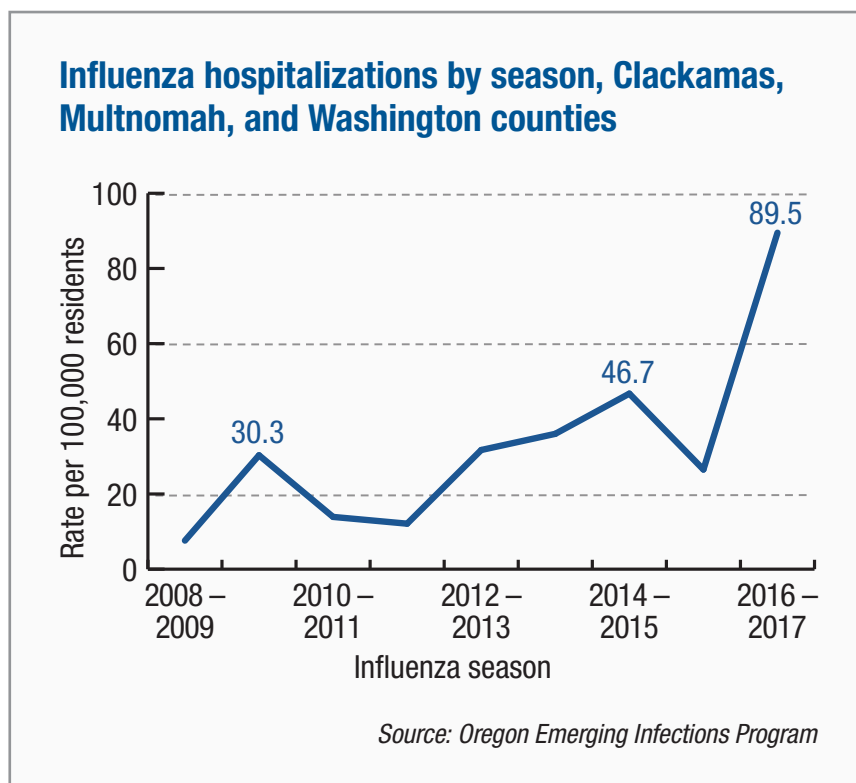


Rates of sexually transmitted infections are highest in urban areas, followed by rural and frontier areas.



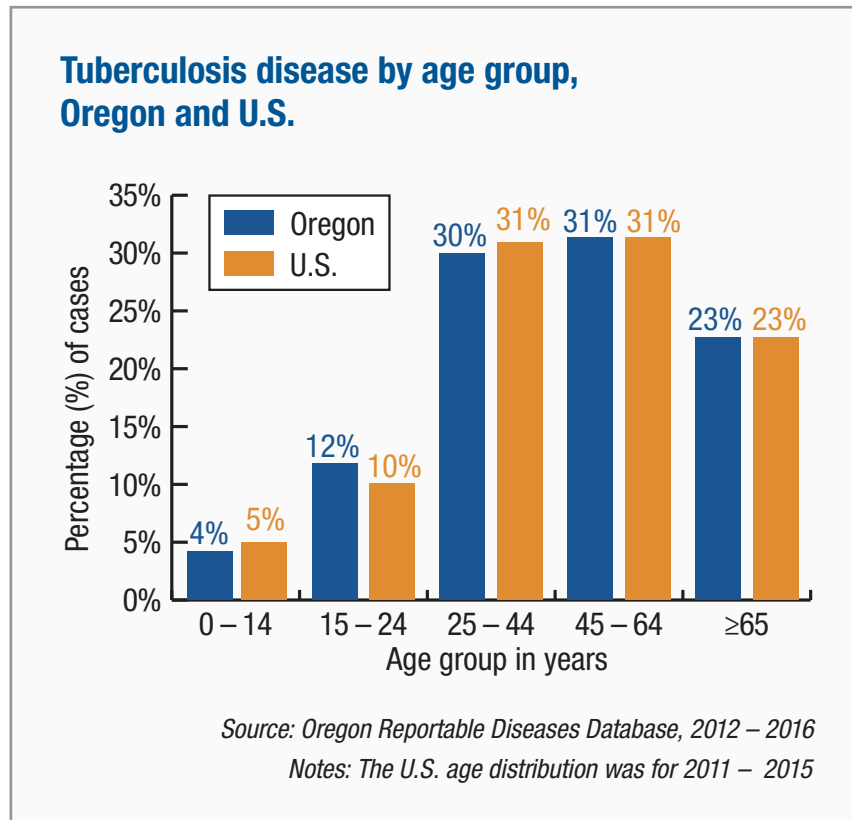
# Respiratory

The 2016 – 2017 flu season was the most severe flu season in Oregon since surveillance began on flu hospitalizations in 2005. There were 1,602 flu-related hospitalizations in the Portland tri-county area, and two-thirds of people hospitalized were older than 65 years. The severity of a flu season varies due to differences in strains from season to season and whether the vaccine matches the strain. Infants, people older than 65 years, and people with chronic diseases are at highest risk for severe disease.

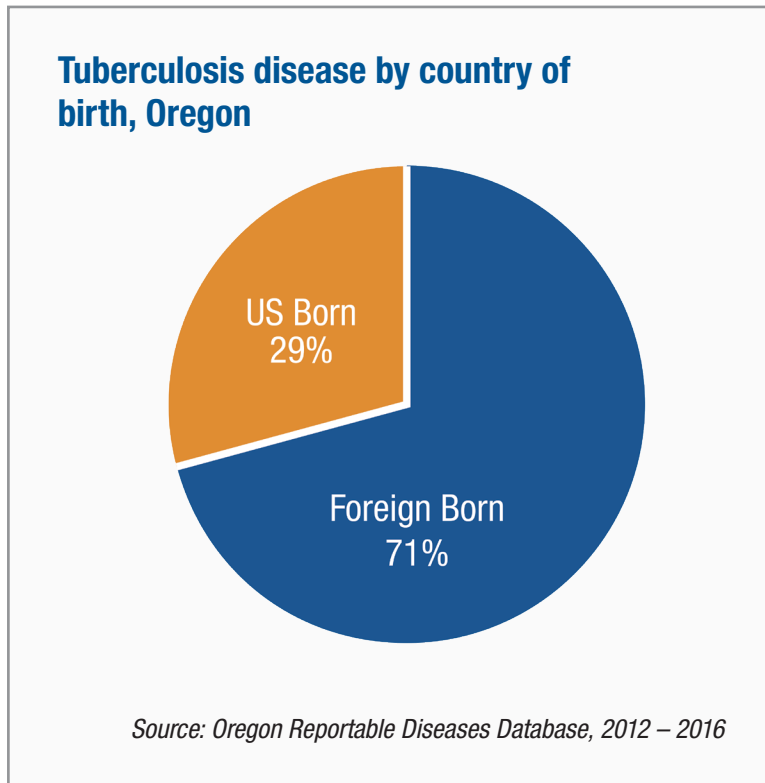


# Tuberculosis

*Mycobacterium tuberculosis* (TB) infects 30% of the world’s population, and TB disease is the most common infectious cause of death worldwide. Fortunately, TB disease is relatively uncommon in Oregon. During 2016, 70 cases were reported in Oregon; this was not a significant change from 2014 (77 cases) or 2015 (76). TB disproportionately affects people who are homeless, incarcerated, or who were born outside of the United States.



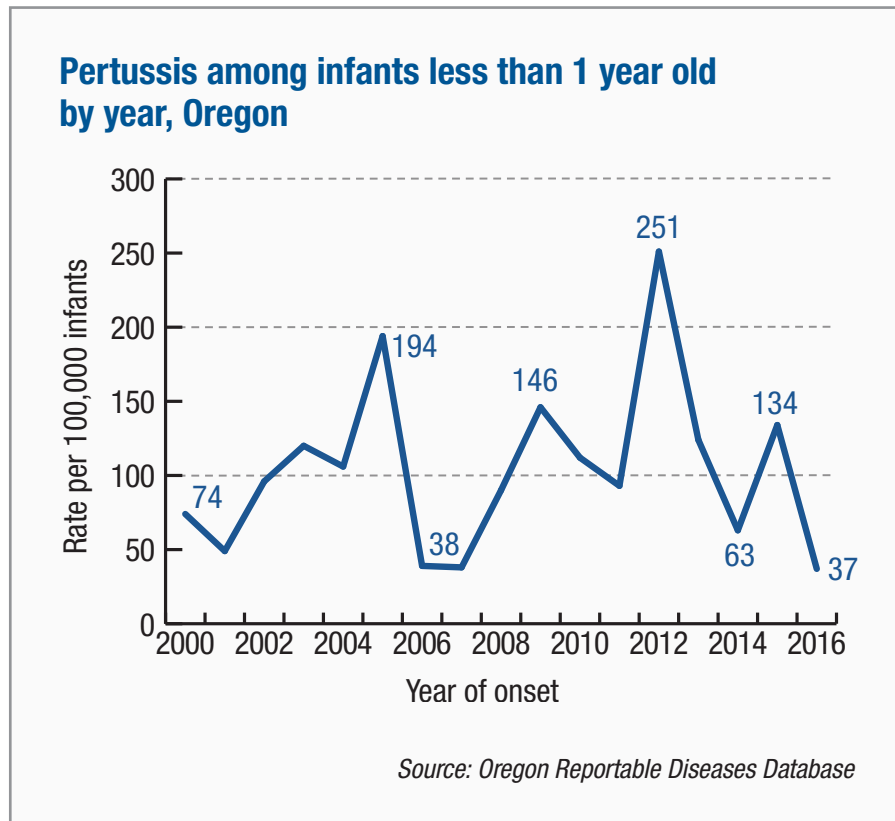
TB incidence varies considerably by race and ethnicity. Many people acquire the infection in countries other than the United States, either because they were born overseas or became infected while traveling overseas.





# Vaccine-preventable diseases

Vaccination has dramatically reduced communicable disease in the United States. However, concern over vaccines and access to health care keep immunization coverage below optimal levels and allow preventable outbreaks to occur. Since 2012, Oregon has had outbreaks of vaccine-preventable diseases including pertussis, meningococcal disease, mumps, influenza, and chicken pox.



Pertussis, or whooping cough, is a highly contagious disease involving the respiratory tract. It is caused by a bacterium that is found in the mouth, nose, and throat of an infected person. Pertussis can occur at any age. Pertussis has consistently been higher among infants than all other age groups. Infants with pertussis are also the most likely to suffer complications and death.

Meningococcal disease is a rare, potentially life-threatening illness. It occurs when bacteria invade the body, causing infections of fluids that line the brain and spinal cord (meningitis) or bloodstream (meningococemia or sepsis). The disease is serious and can be fatal if not treated right away. In 2015, 27 cases of Meningococcal disease were reported in Oregon, for an incidence rate of 0.67 per 100,000 persons. This was 20% higher than the average annual incidence rate in Oregon from 2010 to 2014 (0.56/100,000). This increase is likely explained by an outbreak of meningococcal serogroup B at a large public university in Oregon in 2015.

Mumps is a contagious disease that is caused by a virus. Mumps typically starts with fever, headache, muscle aches, tiredness, and loss of appetite. Most people will then experience swelling that causes puffy cheeks and a tender, swollen jaw. The number of mumps cases in Oregon has ballooned from three cases in 2013 to 67 cases in 2017. The recent outbreaks appear to be the result of a combination of factors: vaccine effectiveness, waning immunity, and intensity of exposure. Cases have occurred among Pacific Islanders, in a middle school, and among middle- and high-school wrestlers. Outbreaks can still occur in highly-vaccinated communities, particularly in close-contact settings. Two doses of the vaccine are 88% effective at protecting against mumps; one dose is 78% effective. High vaccination coverage helps limit the number, duration, and spread of mumps cases in a community. Mumps remains endemic\*, and vaccination is the best way to prevent it.

---

\* An endemic refers to the constant presence and/or usual prevalence of a disease in a population within a geographic area.