

Gonorrhea

Background

Gonorrhea is primarily a sexually transmitted bacterial infection affecting the genital tract, rectum, and mouth and throat of men and women. Women are more likely to become infected with gonorrhea after exposure, but less likely than men to develop symptoms after infection. The proportion of infections that are symptomatic among women ranges from 20% to as high as 75% of infections, but $\geq 95\%$ of men with gonorrhea are symptomatic. Local symptoms of gonorrhea infection among women include painful urination, painful menses and pelvic pain, or discharge from the vagina and cervix or from the rectum. Men usually experience painful urination and discharge from the penis. Local complications among men include epididymitis and prostatitis. Both men and women who acquire gonorrhea through oral sex can experience sore throat and discharge. Gonorrhea can also be transmitted from mother to infant during childbirth, causing eye infections and sometimes disseminated infection.

Gonorrhea can cause serious complications, including pelvic inflammatory disease that sometimes leads to infertility or tubal pregnancy in women. Disseminated infections can cause arthritis and blisters on the skin in either sex, but such infections are exceedingly rare. Untreated gonorrhea during pregnancy can cause premature delivery. Sometimes symptoms caused by gonorrhea can be difficult to differentiate from those caused by chlamydial infection. Simultaneous gonorrheal and chlamydial infections are not uncommon.

In Oregon, state law requires health providers and laboratories to report cases of gonorrhea to the local health department. To the extent their resources allow, local public health personnel interview people with reported cases to assure that they have received treatment, and to assist with notification and treatment of sexual partners.

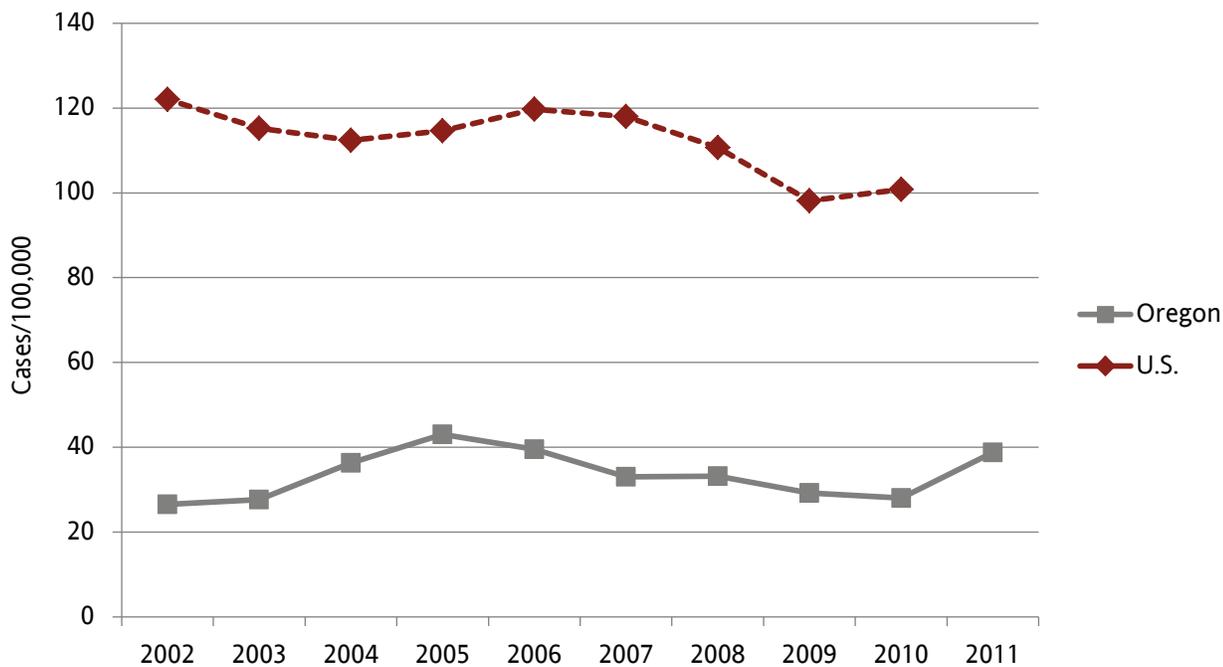
Treatment

Usually, gonorrhea can be treated successfully with antibiotics, preventing transmission to partners and long-term health consequences. Unfortunately, resistance to antibiotics tends to appear rapidly among circulating strains of *Neisseria gonorrhoeae* (the bacterium). Since 2007, the only class of antibiotics that has reliably been effective against gonorrhea is the cephalosporins, and within the past year or two, microbiologists have begun to notice diminished susceptibility to cephalosporins in the laboratory. In Asia, but not yet in the United States, some cases have occurred in which treatment with cephalosporins was not effective. Unfortunately, no clear alternative to cephalosporins exists for routine treatment of gonorrhea.

Epidemiology

During 2011, 1,490 cases of gonorrhea were reported in Oregon residents (39/100,000 residents). Rates in men (47/100,000) exceeded rates among women (31/100,000). Among counties with five or more reported cases, the rate was highest in Multnomah County (122/100,000 residents). Rates have fluctuated in the range of 25 to 45/100,000 residents since 2002 and remain well below the United States (101/100,000 residents during 2010) (Figure 1).

Figure 1. Incidence of gonorrhea by year, Oregon and the United States, 2002–2011



Note: Rates for the U.S. are only available through 2010.

By age, the highest rates of reported gonorrhea occur among young men and women aged 20–24 years. After age 24 years, reported rates of gonorrhea in men exceed rates among women (Figure 2) and remain above 50 cases per 100,000 men through age 44 years. Among men, rates rise again among those aged 40–44 years. Many of these cases occur among those who acknowledge sex with other men; during 2011 at least 35% of cases occurred among men who acknowledged sex with other men. By race and ethnicity, African Americans were much more likely to have a reported case of gonorrhea (391/100,000 residents) than whites or Hispanics, or people of other races (<35/100,000 residents) (Figure 3).

A disproportionate number of gonorrhea cases occur in men who are infected with HIV. During 2006–2011, annual rates of gonorrhea among men with HIV have been ≥ 30 times higher than the rate among the general population; approximately 70 cases of gonorrhea each year occur in men who have HIV.

Figure 2. Incidence of gonorrhea by age and sex: Oregon, 2011

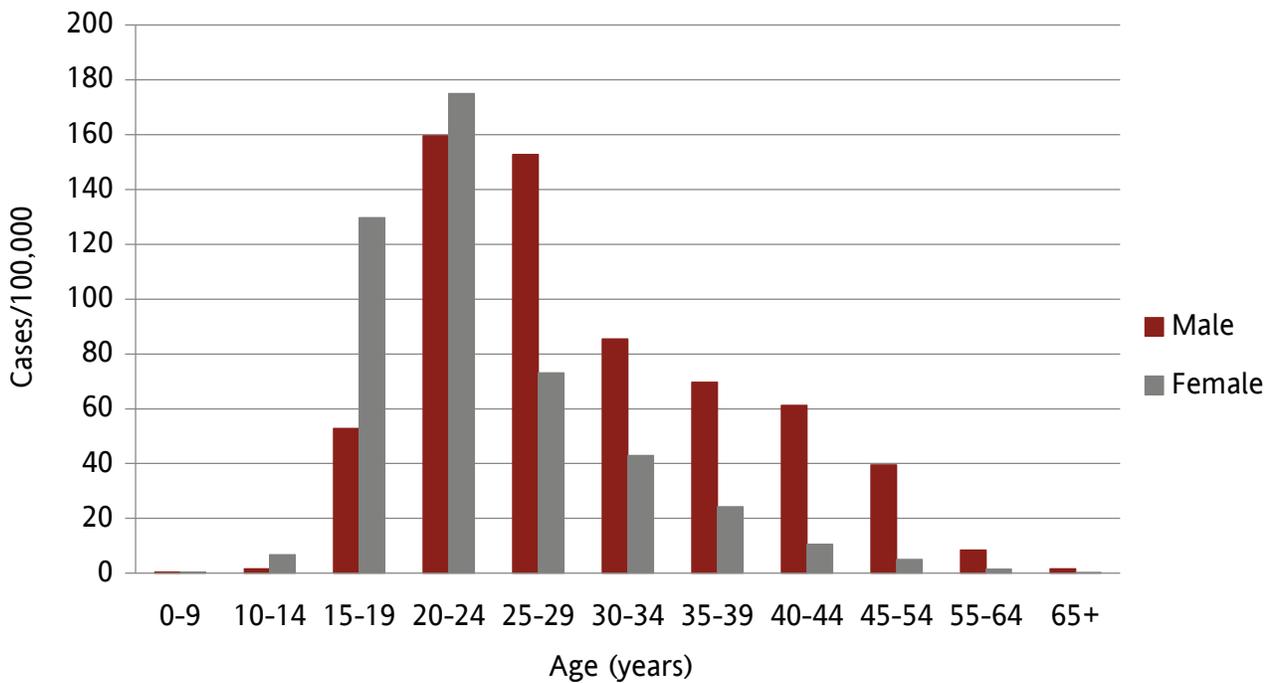
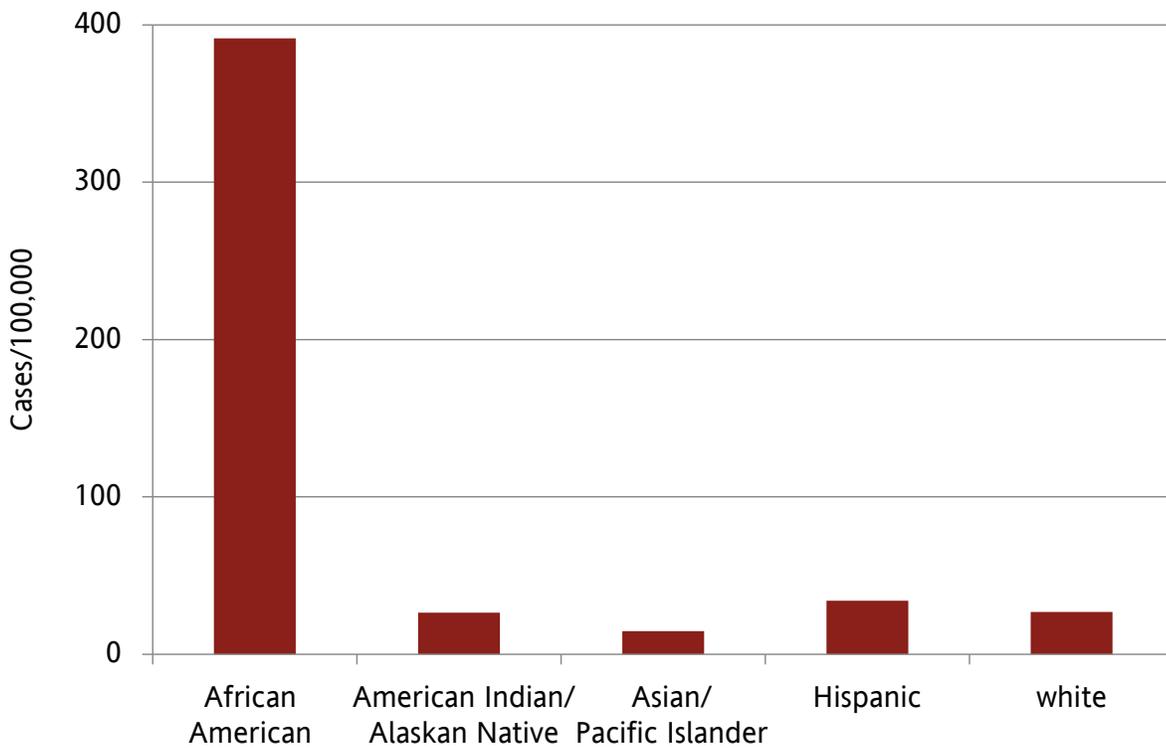


Figure 3. Incidence of gonorrhea by race and ethnicity, Oregon, 2011



Prevention

Primary prevention strategies aim to prevent a person from becoming infected in the first place by:

- Delaying age at onset of intercourse;
- Decreasing the number of sex partners; and
- Increasing condom use.

Rapid identification and treatment of new cases can also be considered primary prevention when it results in averting transmission to a sex partner.

Secondary prevention strategies aim to eradicate existing infections by:

- Treating asymptomatic gonorrhea cases; and
- Treating sex partners of people with gonorrhea.

Screening

In recent years, urine testing with nucleic acid amplification tests (NAATs) has made screening for gonorrhea much more convenient for clinicians and for patients. The use of NAATs, frequently testing simultaneously for Chlamydia and gonorrhea, has all but eclipsed culture for screening and diagnostic testing of gonorrhea. NAATs are very convenient and accurate. However, an unintended consequence may be the loss of laboratory capacity to culture *Neisseria gonorrhoeae* and test readily for susceptibility to antibiotics; this testing might become needed again if *N. gonorrhoeae* should become widely resistant to cephalosporins.

Centers for Disease Control and Prevention (CDC) and U.S. Preventive Services Task Force (USPSTF) guidance on screening for asymptomatic infections recommend that clinicians provide gonorrhea screenings for all sexually active women under the age of 25 years, including those who are pregnant, if they have the following specific risk factors for infection: a history of previous gonorrhea or other sexually transmitted infection, new or multiple sexual partners, inconsistent condom use, sex work, or drug use. Broader screening is recommended for those people in Oregon with a higher incidence of infection than the general population. These groups include Multnomah County residents, African Americans and other blacks, and men who have sex with men.