Sexually Transmitted Infections
(Chlamydia, Gonorrhea and Syphilis)

This is a data update of the *Health of Washington State* chapter on Sexually Transmitted Infections published in 2013.

Chlamydia

**Time Trends**

Healthcare providers in Washington State have been required to report cases of chlamydial infection since 1987, seven years before all states were required to report cases nationally to the CDC. The reported incidence rate of chlamydia in Washington reached a low of 166 per 100,000 in 1997. Since that time, incidence rates increased sharply before leveling off in 2004 through 2007. Rates then increased sharply to the 2015 incidence rate of 410 per 100,000.

**Geographic Variation**

Expansion of screening activities, more sensitive test technologies, and increased use of laboratory reporting for case finding may have contributed to the rate increases in the past decade.
Chlamydial infection is widely spread among all sexually active residents of Washington. Providers reported cases from all 39 Washington counties during 2013–2015, though too few cases were reported from Garfield and Wahkiakum counties to calculate stable rates. Based on the average annual incidence rate for 2013–2015, Whitman County had the greatest burden of disease (606 per 100,000) and Yakima County had a similarly high incidence rate (601 per 100,000). Pierce, Franklin, Spokane and Grant counties also had higher incidence rates than the overall state rate.

Age and Gender

Many more reports of chlamydial infection are received from providers for women than men; therefore, men and women have very different reported chlamydia incidence rates. Chlamydia screening initiatives target younger women who access care in family planning and reproductive health settings. Providers do not routinely screen men in these settings unless they accompany their female partners to the healthcare visit. Thus, a large portion of male partners of infected women remain unscreened, undiagnosed or untreated. This contributes to ongoing chlamydia transmission and re-infection. Given the disparities in screening between men and women, it is likely that the true incidence of chlamydial infection among men is similar to the rate among women for all age groups. The highest incidence rates for females and males occur among those ages 20–24.

Gonorrhea

Time Trends

Gonorrhea incidence declined steeply both nationally and in Washington during the middle of the 1990s. Since 1997, gonorrhea incidence among Washington residents sharply increased through 2006. This pattern is consistent with trends seen elsewhere on the U.S. West Coast. The rate of new cases decreased steadily through 2009 perhaps in response to widespread implementation of improved treatment resulting in decreased transmission of the disease. The rate of gonorrhea has since sharply increased through 2015 to 103 cases of gonorrhea per 100,000.

Geographic Variation

Gonorrhea cases have historically been concentrated in urban areas in Washington. For 2013–2015 combined, Pierce, Yakima, King and Spokane had higher incidence rates than the overall state rate. Nine counties had too few cases for calculating reliable rates, and the remaining counties had incidence rates similar to or lower than the statewide average incidence rate of 85 cases per 100,000.
The number of gonorrhea cases reported among males is higher than among females. In 2015, about 1.6 cases among males were reported for every female case. For men, gonorrhea rates peak at ages 25–29 where for women, gonorrhea rates peak at ages 20–24. The large differences in rates between men and women ages 25 and older occur because of the high incidence of gonorrhea among MSM.

**Syphilis**

**Time Trends**

Starting in 1997, infectious syphilis reemerged in Washington primarily among urban MSM. A sharp increase in incidence rates of primary and secondary syphilis has been observed since that time.

In 2015, there were 452 cases of primary and secondary syphilis reported in Washington for an incidence rate of 6.5 cases per 100,000.

In 2000, national primary and secondary syphilis incidence rates fell to their lowest rate (2.1 cases per 100,000) since reporting began in 1941. Because of these dramatic reductions in disease, the CDC launched the National Syphilis Elimination Project. Despite much work to reduce transmission in selected high-incidence populations nationwide, syphilis continues to be of particular concern in the southern United States and among urban MSM populations.

**Geographic Variation**

Primary and secondary syphilis transmission is mainly an urban phenomenon affecting MSM populations in King County or those who travel to
King County to find sex partners. King County reported 56% of all cases in 2013–2015 and had an incidence rate of 10 primary and secondary stage syphilis cases per 100,000. This was considerably higher than the statewide rate of 5.2 cases per 100,000 that year. Twelve additional counties reported sufficient cases to calculate stable rates for this period. Six of these twelve other counties have rates lower than the overall statewide rate.

### Chlamydia, Gonorrhea, Syphilis

#### Economic Factors and Education

Providers are not required to report the income level and educational attainment of patients diagnosed with STIs. However, chlamydia rates diagnosed during 2004–2006 were higher in census tracts with a lower proportion of people with at least a high school diploma. Census tracts with lower median household incomes also had higher rates of chlamydia than those with higher median incomes.\(^2\) (See Technical Notes.) Similar associations nationally show relationships of poverty, lower educational attainment and unemployment with higher STI rates.\(^3\)

#### Race and Hispanic Origin

Washington’s rates of chlamydia and gonorrhea by race and Hispanic origin are not reliable due to missing data. In 2015, 21% of case reports did not identify the race of the patient, and 27% were missing information about Hispanic origin.

National data suggest disparities in rates of chlamydia and gonorrhea by race and Hispanic origin. In 2014, all groups except Asians and Pacific Islanders combined had higher rates of chlamydia and gonorrhea than did non-Hispanic whites. Nationally, rates are highest among non-Hispanic blacks who have reported rates over seven times higher for chlamydia and 6.2 times higher for gonorrhea than the rates among non-Hispanic whites.\(^4\)

Data on race and ethnicity are more complete for primary and secondary syphilis due to the routine public health investigation and partner services activities. In 2015, 59% of reported primary and secondary syphilis in Washington was among non-Hispanic white residents. However, as is true nationally rates for Washington’s non-Hispanic black residents are higher than rates for residents of other races or Hispanic ethnicity. During 2013–2015, combined, Washington’s non-Hispanic black residents had a rate of 13.3 cases per 100,000 compared to a rate of 4.4 per 100,000 for non-Hispanic white residents.
Data Sources
Sexually Transmitted Disease Surveillance 2014: Centers for Disease Control and Prevention.

For More Information
Washington State Department of Health, Infectious Disease Office, Assessment Unit, (360) 236-3455
http://www.doh.wa.gov/YouandYourFamily/IlnessandDisease/SexuallyTransmittedDisease.aspx
U.S. Centers for Disease Control and Prevention, Division of STD Prevention, http://www.cdc.gov/STD/default.htm
Henry J Kaiser Family Foundation:
http://www.kaisernetwork.org/index.cfm
American Social Health Association:
http://www.ashaSTD.org/

Technical Notes
WAC 246-101 requires healthcare providers and laboratories to report cases of chlamydia, gonorrhea, and syphilis to local health jurisdictions. The Washington State Department of Health receives these reports from local health and compiles them into a confidential STI case registry. Not all cases of disease are reported, primarily because not everyone experiences symptoms or seeks medical care. About 70% of women infected with chlamydia have few or no symptoms; symptoms are often mild or absent in men. Approximately 50% of women do not experience symptoms of gonorrhea and early stages of syphilis can also be asymptomatic. Data for this report are based on cases diagnosed through December 31, 2015 and reported to the department as of May 17, 2016. An individual person may be diagnosed and reported with STIs more than once over time and thus multiple episodes of disease in an individual person could be counted in a given time period.

The Infertility Prevention Project is a collaborative initiative between the U.S. Centers for Disease Control and Prevention and the Office of Population Affairs, providing funds to screen for chlamydial and gonorrhea infection in all categorical sexually transmitted disease clinics and 95% of family planning clinics throughout Washington. For additional information see: http://www.cdc.gov/STD/infertility/ipp-archive.htm

A census tract is a small unit of geography defined by the US Census to provide a useful statistical subdivision of a county. Census tracts vary in size, but usually contain about 4000 persons and are designed to be homogenous as to the characteristics of the population residing in the area. For additional information see: http://www.census.gov/

Acknowledgments
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Endnotes