

Syphilis

Quick Facts for Healthcare Providers

Syphilis Trends

Contrary to popular belief, [syphilis](#) remains a significant public health problem in the United States and is increasing at an alarming rate. The U.S. recorded a 15.3% increase in cases (all stages) during 2016-2017. In Virginia, there were 1,603 reported cases of syphilis diagnosed in 2017 (includes all stages of infection). Reported cases of total early syphilis (TES) in Virginia increased 6% from 2016 to 2017 (and 158% from 2007 to 2017).

While rates have increased among both men and women, men accounted for 89% (n=422) of all primary and secondary syphilis cases in Virginia in 2017. Men who have sex with men represented 76% of these male cases where the sex of partners was known. In addition, 38% of total early syphilis cases diagnosed in 2017 were among persons co-infected with HIV.

QUICK FACTS

Syphilis is a systemic disease caused by the bacteria *Treponema pallidum*. It is divided into stages based on clinical findings. Persons might seek care for symptoms of early syphilis infection, which may include an ulcer or chancre at the infection site or palmar/plantar skin rashes or lesions. These symptoms may be easily confused with other conditions. More detailed information on the stages and diagnosis of syphilis can be found on the CDC's [website](#).

Congenital Syphilis

The incidence of congenital syphilis in the U.S. is also increasing ([MMWR 64:44](#)). Infants congenitally infected with syphilis may have developmental delays or other poor health outcomes. Up to 40% of babies born to women with untreated syphilis are stillborn or die from the infection. Untreated infants that survive frequently develop problems in multiple organs.

[Congenital syphilis](#) is preventable, and every case is a sentinel event representing a public health failure. All [pregnant patients](#) should be tested for syphilis at the first prenatal visit and at-risk women should be retested in the third trimester. Treating pregnant women at least 30 days before delivery is 98% effective at preventing illness in infants.

DID YOU KNOW?

Neurological complications due to syphilis are more common among patients co-infected with HIV. HIV-positive patients should be routinely screened for syphilis; and all co-infected patients should be carefully assessed for neurological and ocular symptoms.

Neurosyphilis

[Neurosyphilis](#)

can occur at any stage of infection and may cause a wide range of symptoms including headache, altered behavior, and movement problems that look like other neurologic diseases, such as Parkinson's or Huntington's disease; some patients do not exhibit symptoms.

If clinical evidence of neurologic involvement is observed (e.g., cognitive dysfunction, motor or sensory deficits, ophthalmic or auditory symptoms, cranial nerve palsies, and symptoms or signs of meningitis or stroke), a lumbar puncture and cerebrospinal fluid (CSF) analysis should be performed. All persons with neurosyphilis should be tested for HIV.

[Persons with HIV infection](#) who have early syphilis may be at increased risk for neurologic complications and serologic treatment failure with recommended regimens. When clinical findings are suggestive of syphilis, but serologic tests are unclear, alternative tests (e.g., biopsy of a lesion, darkfield examination, and PCR of lesion material) can be useful.

Ocular Syphilis

Since 2015, the

CDC has observed an increase in reports of [ocular syphilis](#), a clinical manifestation that can occur at any stage of syphilis. Posterior uveitis and panuveitis are most common; however, anterior uveitis, optic neuropathy, and retinal vasculitis have been documented. Ocular syphilis can result in permanent blindness. All providers are urged to:

- Screen for visual complaints in any patient diagnosed with syphilis and for syphilis in any at-risk patient with visual symptoms.
- Ensure an immediate ophthalmologic evaluation for patients with ocular complaints.
- Perform a CSF analysis in all instances of ocular syphilis, even in the absence of clinical neurologic findings.
- Treat with the [recommended regimen](#) of aqueous crystalline penicillin G (18–24 MU per day IV for 10–14 days).

*Need help treating patients for syphilis?
Contact your [local health department](#).*

Syphilis Trends in Virginia

In Virginia, there were 1,603 reported cases of syphilis diagnosed in 2017, and the rate of primary and secondary syphilis was 5.6 cases per 100,000 population. This is slightly lower than the national rate of 9.5 per 100,000 population in 2017 (the most recent national data available). Statewide, the overall incidence of TES has increased in recent years, by 6% from 2016 to 2017 and by 158% from 2007 to 2017 (Figure 1). This increase has been observed for all early stages of syphilis (primary, secondary, and early latent).

Of the 1,115 TES cases diagnosed in Virginia in 2017, the vast majority were diagnosed among men, a trend that has remained stable over the past five years, although rates have also increased among women (Figure 2). Eighty-six percent of TES cases diagnosed in 2017 were male, and of these, 76% were among men who have sex with men. Additionally, 38% of TES cases diagnosed in 2017 were co-infected with HIV.

Fifty-eight percent of all TES cases diagnosed in 2017 occurred among persons aged 20-34 years (n=644). Persons aged 25-29 experienced the highest rates of TES (43.5 per 100,000 population), with rates tapering off slowly among progressively older age groups (Figure 3). Non-Hispanic blacks accounted for 55% of all TES cases (Figure 4), with a rate of disease 7 times higher than that observed among non-Hispanic whites (36.1 vs. 5.3 per 100,000 population).

Figure 1. Syphilis Diagnoses by Stage of Disease in Virginia, 2013-2017

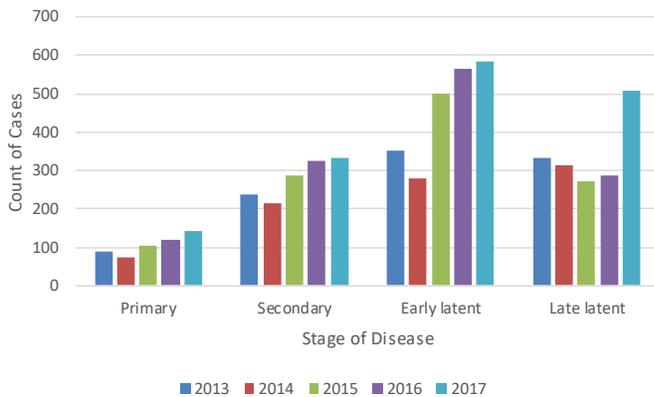
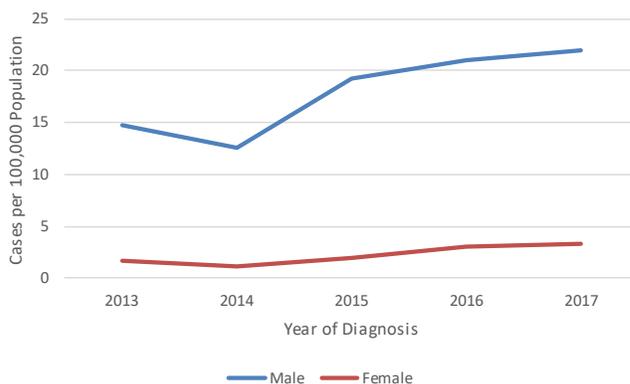


Figure 2. Total Early Syphilis Rates by Gender in Virginia, 2013-2017



DID YOU KNOW?

The rate of TES diagnoses among women in 2017 (3.4 per 100,000) increased 209% from the rate in 2014 (1.1 per 100,000). This is especially concerning due to the possibility of congenital syphilis among infants born to mothers with active syphilis infections. Cases of congenital syphilis have been increasing over the past few years.

Nationally, rates of congenital syphilis rose 43.8% from 2016. In Virginia, there were 12 congenital syphilis diagnoses in 2017 compared to 8 in 2016, a 650% increase from the average of 1.6 cases/year between 2010-2015.

Figure 3. Total Early Syphilis Rates by Age Group in Virginia, 2017

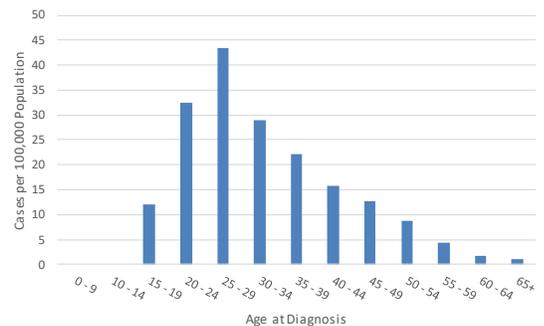
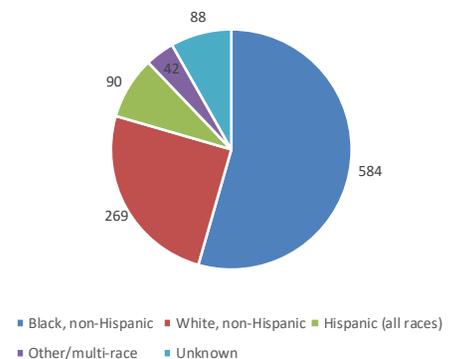


Figure 4. Total Early Syphilis Cases by Race and Ethnicity in Virginia, 2017



■ Black, non-Hispanic ■ White, non-Hispanic ■ Hispanic (all races)
■ Other/multi-race ■ Unknown

DATA NOTES: Data reported to the Virginia Department of Health as of September 25, 2018. The full annual data report for Virginia may be found on the Division of Disease Prevention's data and reports [website](#). Information on national syphilis trends are available on the CDC's [website](#).

Trends by Health Region

The epidemiology of syphilis varies across health regions in Virginia. The Eastern and Central regions of the state experience the greatest burden of syphilis in terms of both case counts and rates (Figure 5), with most cases concentrated in more urban areas.

The health districts with the highest rates of TES in 2017 included Richmond City (43.6 per 100,000), Crater (40.6 per 100,000), Norfolk (40.0 per 100,000), Hampton (37.1 per 100,000), and Portsmouth (37.0 per 100,000).

The majority of TES cases in the Central and Eastern regions are diagnosed among non-Hispanic blacks (69% and 66% respectively), while cases in the Northwest and Southwest are almost equally diagnosed among non-Hispanic whites and non-Hispanic blacks (Figure 6). TES cases diagnosed in the Northern region show the most diversity in race and ethnicity, and the Northern region has the highest proportion of Hispanic diagnoses (23%).

Figure 5. Total Early Syphilis Rates by Health Region in Virginia, 2013-2017

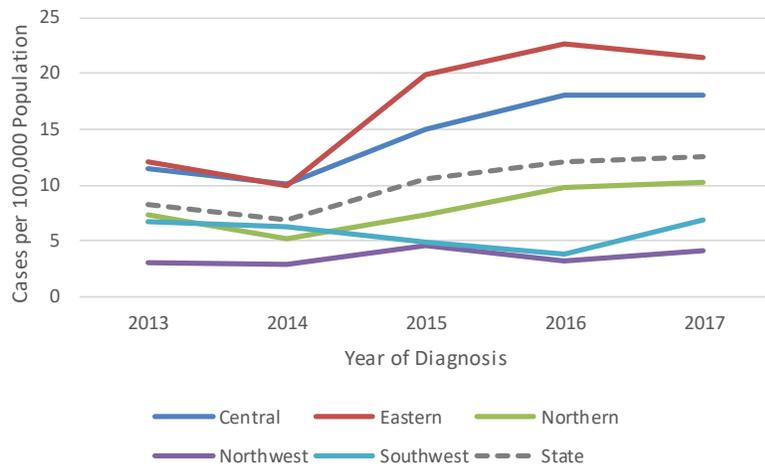
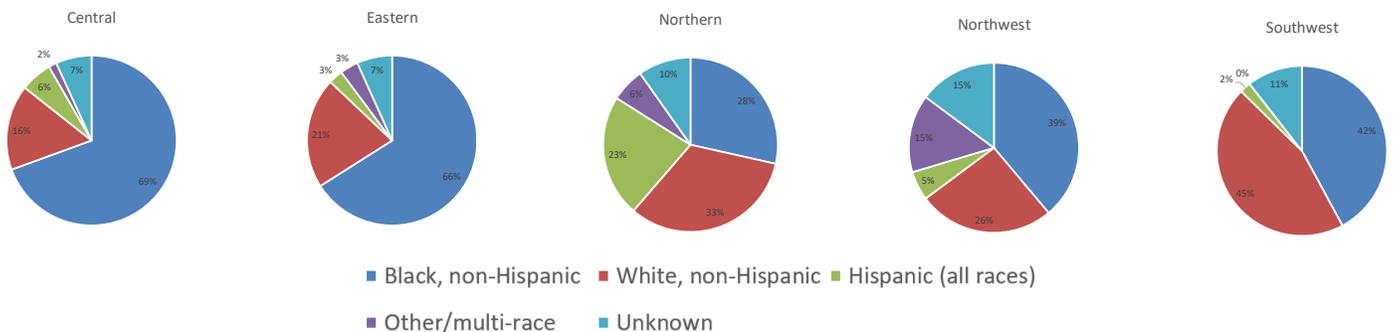


Figure 6. Total Early Syphilis Diagnoses by Region and Race/Ethnicity in Virginia, 2017



SYPHILIS STAGES

Syphilis is most transmissible during the primary and secondary stages of infection, and is usually transmitted by direct contact with a syphilitic sore, known as a chancre. However, syphilis can have very serious complications when left untreated.

PRIMARY SYPHILIS is generally accompanied by a painless ulcer or chancre at the infection site (although there can be multiple sores). Patients may not notice this chancre if it is not located in a visible area. The chancre lasts 3 to 6 weeks regardless of treatment.

SECONDARY SYPHILIS is most commonly characterized by skin rashes and/or mucous membrane lesions. These rashes usually do not cause itching, and while rashes may occur on any part of the body, they most commonly occur on the palms of the hands and bottoms of the feet. Symptoms usually resolve without treatment.

LATENT/LATE SYPHILIS begins when primary and secondary symptoms disappear. Without treatment, the infection can persist for years and cause damage to internal organs including the brain, eyes, and heart.

SYPHILIS TREATMENT GUIDELINES

Guidelines for the treatment of syphilis can be found on the CDC's website: www.cdc.gov/std/syphilis/treatment.htm

Drug Shortages: There is currently a national shortage of Bicillin-LA (benzathine penicillin G), Gemifloxacin, and Procaine Penicillin G. Additional information on the availability of these antibiotics can be found on the [FDA's Drug Shortage website](http://www.fda.gov/oc/ohrt/drug-shortage-website).