



Department of
Health

Tennessee STD Epidemiological Profile 2018

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Executive Summary

This report presents 2018 surveillance data for Sexually Transmitted Diseases (STD) in Tennessee. The report focuses on new reported cases of chlamydia, gonorrhea, and syphilis in the state. The purpose of this report is to effectively present the STD epidemic in Tennessee to assist with education, outcome monitoring, and program planning.

All data reported are based on information received by Tennessee Department of Health (TDH) as of July 1, 2019. The data in this report reflect five year trends between 2014 and 2018 for all categories of data.

Data are presented in the form of total counts, rates per 100,000 persons, and percentages of the total. Data are also stratified by various categories, including gender, race and ethnicity, and age category. Rates are equal to counts divided by the total population times 100,000 and are presented alongside totals to account for differences in total population, such as between racial and ethnic groups. Data release limitations were set to ensure that the information cannot be used to inadvertently identify an individual. Rates where the numerator is less than 20 cases should be interpreted with caution because of the low reliability of rates based on a small number of cases. The data in this edition supersede those in earlier publication of the data.

Key Findings

- During 2014–2018, the number and rate of reported cases of chlamydia, gonorrhea and primary and secondary (P&S) syphilis increased.
- In 2018, there were 38,282 chlamydia infections reported for a rate of 565.5 cases per 100,000 population, 14,666 gonorrhea infections reported for a rate of 216.6 cases per 100,000, and 553 cases of P&S syphilis reported for a rate of 8.2 cases per 100,000.
- During 2014–2018, non-Hispanic blacks had highest rate of chlamydia, gonorrhea, and P&S syphilis infections as compared to non-Hispanic whites and Hispanics.
- In 2018, Shelby was the public health region with the highest rate of chlamydia (1,044.1 cases per 100,000 population) and gonorrhea (465.3 cases per 100,000 population). Davidson had the highest rate of P&S syphilis (20.2 cases per 100,000 population).
- In 2018, men accounted for the majority (88%) of P&S syphilis cases.
- Among men, men who have sex with men (MSM) accounted for the majority of P&S syphilis cases. Of the 553 reported P&S syphilis cases in 2018, 300 (54%) were among MSM, and 33 (9%) among men who have sex with men and women (MSMW).
- In 2018, there were 12 reported cases of congenital syphilis, yielding a rate of 14.9 cases per 100,000 live births in the state.

Background

Tennessee is a mid-sized state that consists of 95 counties and borders eight other states. TDH's Central Office (CO), located in Nashville, partners with all of the state's counties, which are divided into thirteen public health regions. Six of the most populous counties operate as stand-alone metropolitan public health regions, and the remaining 89 counties are divided into seven rural health regions. The rural counties are considered to be an extension of TDH, whereas TDH partners with the metropolitan regions through contractual agreements.

Population: Tennessee was home to 6,770,010 people in 2018, which accounts for approximately 2% of the population in the United States.¹ With a growth rate of 4%, similar to the national rate, the population of Tennessee increased by 229,202 people between 2014 and 2018.¹ The geographic areas with the largest percentages of the population include the Memphis/Shelby County, Nashville/Davidson County, and Mid-Cumberland public health region.

Women of Reproductive Age: In 2018, 51.2% (3,467,819) of the population were women, of which 38.1% (1,322,005) were of reproductive age, between 15–44 years of age.² There were 80,737 live births in 2018.³

LGBT: It is estimated that 159,631 (3.1%) of adults in Tennessee identify as lesbian, gay, bisexual or transgender (LGBT) compared to 4.5% in the United States.⁴ Approximately, 10,898 same-sex couple households were estimated in Tennessee in the last census decennial. Data on LGBT are limited.

Age: The median age in Tennessee in 2018 was 39 years, similar to that of the U.S. median age (38 years). The age distribution in Tennessee roughly reflects that of the U.S. population in general.⁵

Race and Ethnicity: In 2018, 74% of the population in Tennessee was non-Hispanic white, followed by 17% non-Hispanic black and 6% Hispanic. Other racial groups make up the remaining 5% of the population, with the largest category being Asian (2%).⁵

Income and Poverty: The median household income in Tennessee in 2017 was \$48,708, compared to the national median income of \$57,652.⁶ There are noticeable racial and ethnic disparities in household income in Tennessee. White households had a median income of \$51,488 in 2016, while black and Hispanic households had median incomes of \$35,673 and \$41,013 respectively.⁷ The overall poverty rate in Tennessee in 2017 was 17%. The highest rates of poverty, between 25 and 40%, were primarily in rural regions of Tennessee, including East, West, and Upper Cumberland regions.^{6,8}

Reporting Laws and Regulations

The Tennessee Department of Health's (TDH) STD Prevention Program manages the Tennessee STD case surveillance registry. Chlamydia, gonorrhea, and syphilis are reportable conditions by law and medical labs are required to send all positive STD-related laboratory reports to TDH. Laboratory results are reported by providers and laboratories either by paper, electronic files (i.e., Excel files via secure email), and/or via Electronic Laboratory Reporting. These are reported to TDH within one week of identification. In accordance with T.C.A. §37-1-403, any physician or other person diagnosing or treating any sexually transmitted disease set out in T.C.A. §68-10-112, or venereal herpes in children 13 years of age or younger, should immediately make a confidential written report of the case to TDH.

In addition to the laboratory results, case report forms containing demographic characteristics, STD risk factors, and treatment information are collected. This information is then stored in the Patient Reporting Investigation Surveillance Manager (PRISM) and is used to create yearly epidemiological reports. TDH's Reportable Disease regulations can be found at <https://www.tn.gov/health/cedep/reportable-diseases.html>.

Chlamydia

Figure 1: Chlamydia — Number and Rate of Reported Cases, Tennessee and U.S., 2014–2018

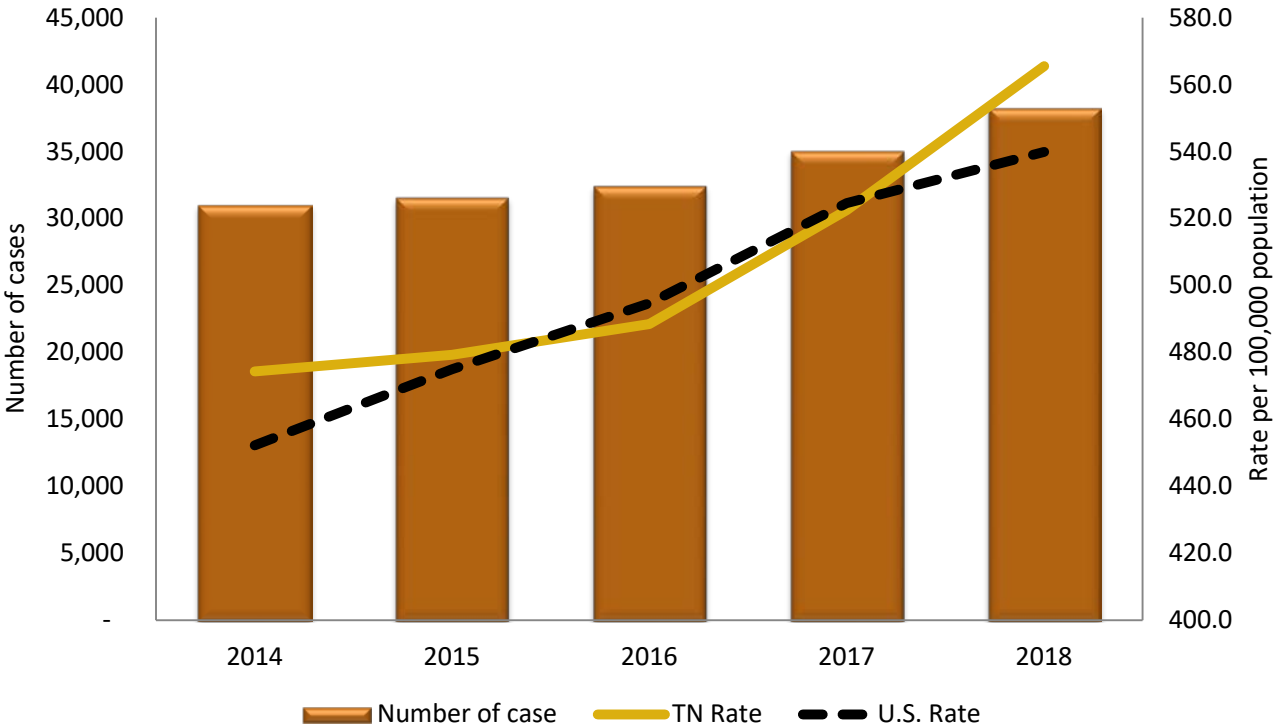


Table 1: Chlamydia — Number and Rate of Reported Cases, Tennessee and U.S., 2014–2018

	2014	2015	2016	2017	2018
Number of cases	31,043	31,607	32,487	35,088	38,282
TN rate	474.3	479.3	488.4	522.5	565.5
U.S. rate*	452.2	475.0	494.7	524.6	539.9

All rates per 100,000 population.

*U.S. rates are from the CDC STD Surveillance 2018 report.

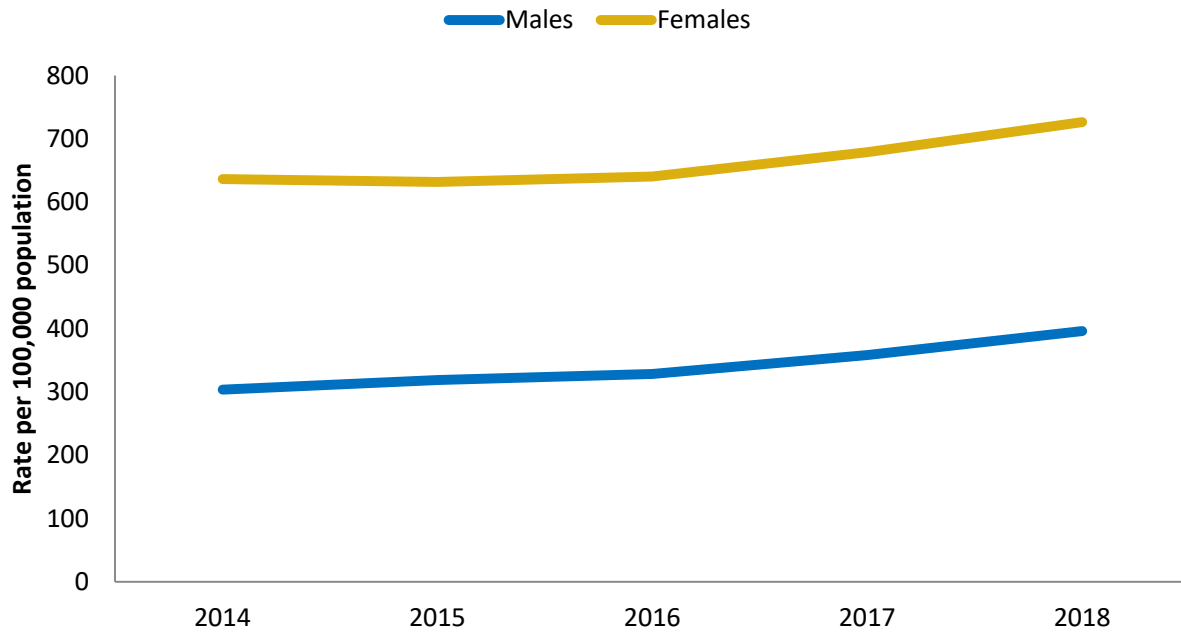
The rate and number of reported cases of chlamydia increased from 2014–2018 in Tennessee. In 2018, 38,282 chlamydia infections were reported to TDH. This cases count corresponds to a rate of 565.5 cases per 100,000 population, which was higher than the national rate of 539.9.

Table 2: Chlamydia — Number and Rate of Reported Cases by Gender, Tennessee, 2014–2018

Gender	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	31,043	474.3	31,607	479.3	32,487	488.4	35,088	522.5	38,282	565.5
Males	9,696	303.8	10,259	319.0	10,646	328.3	11,738	358.3	13,085	396.3
Females	21,345	636.6	21,348	631.7	21,837	640.6	23,347	678.7	25,193	726.5

All rates are per 100,000 population.

Figure 2: Chlamydia — Rate of Reported Cases by Gender, Tennessee, 2014–2018



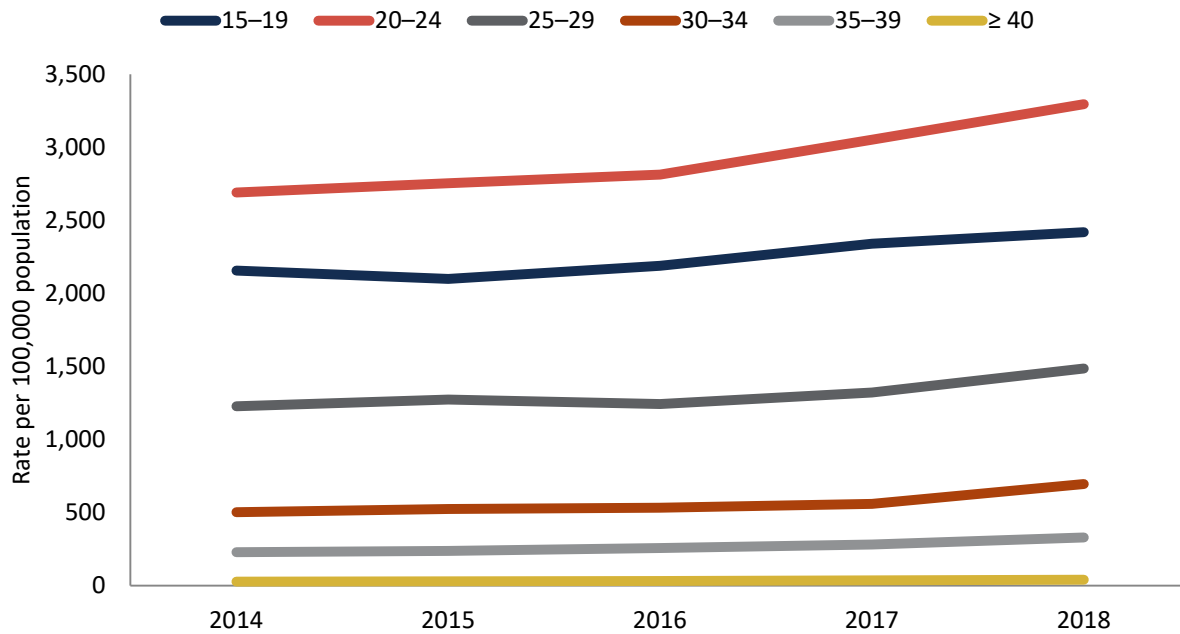
In 2018, 25,193 cases of chlamydia were reported among females for a rate of 726.5 cases per 100,000 females. The rate among males was lower, with 13,085 cases reported for a rate of 396.3 cases per 100,000 males. For both males and females, the rates have steadily increased during 2014–2018.

Table 3: Chlamydia — Number and Rate of Reported Cases by Age Group, Tennessee, 2014–2018

Age group (years)	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	31,043	474.3	31,607	479.3	32,487	488.4	35,088	522.5	38,282	565.5
15–19	8,998	2,156.2	8,807	2,099.1	9,237	2,189.1	9,947	2,340.6	10,635	2,420.0
20–24	12,517	2,690.6	12,709	2,753.8	12,802	2,814.3	13,644	3,051.9	14,413	3,295.6
25–29	5,318	1,228.5	5,689	1,273.7	5,779	1,243.1	6,396	1,323.3	7,199	1,486.8
30–34	2,149	504.2	2,236	524.7	2,284	534.7	2,421	559.6	2,997	696.0
35–39	930	229.1	981	238.1	1,085	258.1	1,208	282.6	1,434	330.9
≥ 40	871	27.6	962	30.2	1,036	32.2	1,216	37.4	1,333	40.5

All rates are per 100,000 population.

Figure 3: Chlamydia — Rate of Reported Cases by Age Group, Tennessee, 2014–2018



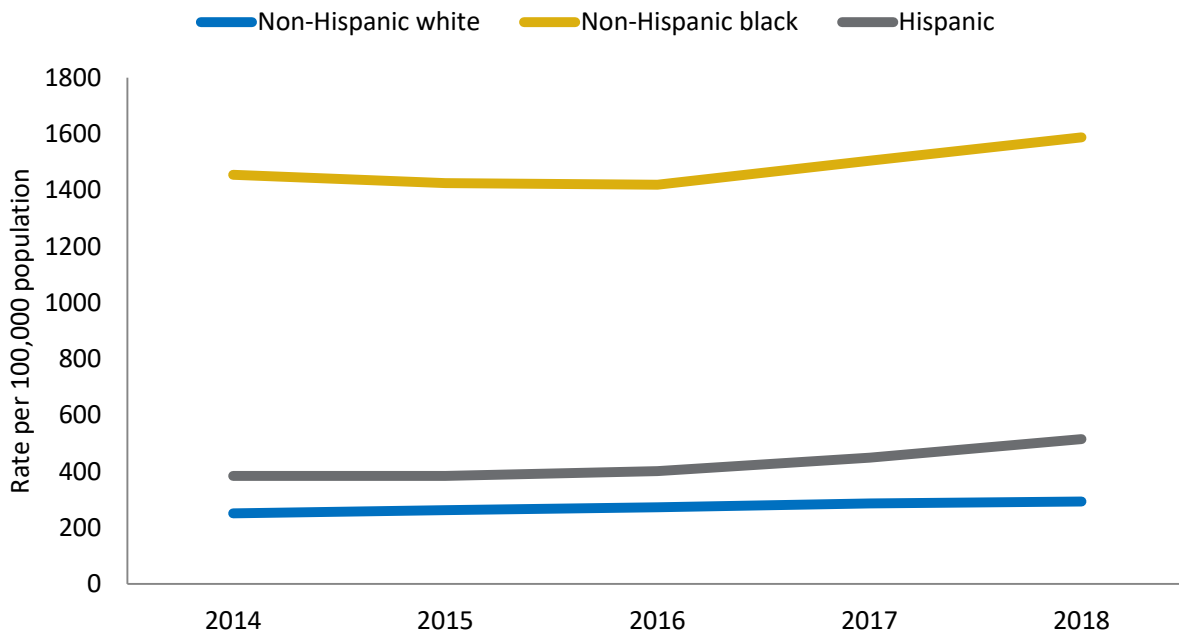
In 2018, the highest rates of chlamydia infections were reported among individuals 20–24 years old, followed by 15–19 year olds. Among 20–24 year olds, 14,413 cases were reported for a rate of 3,295.6 cases per 100,000 individuals aged 20–24. Among 15–19 year olds, 10,635 cases were reported for a rate of 2,420.0 cases per 100,000 individuals aged 15–19. The rate of chlamydia increased among all age groups from 2014–2018.

Table 4: Chlamydia — Number and Rate of Reported Cases by Race and Ethnicity, Tennessee, 2014–2018

Race/Ethnicity	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	31,043	474.3	31,607	479.3	32,487	488.4	35,088	522.5	38,282	565.5
Non-Hispanic white	12,304	251.7	12,901	262.7	13,475	272.9	14,224	286.6	15,380	293.8
Non-Hispanic black	15,972	1,454.8	15,773	1,424.6	15,840	1,419.1	16,950	1,504.4	18,070	1,588.2
Hispanic	1,257	384.7	1,296	384.3	1,401	401.7	1,646	449	1,920	514.9

All rates are per 100,000 population.

Figure 4: Chlamydia — Rate of Reported Cases by Race and Ethnicity, Tennessee, 2014–2018



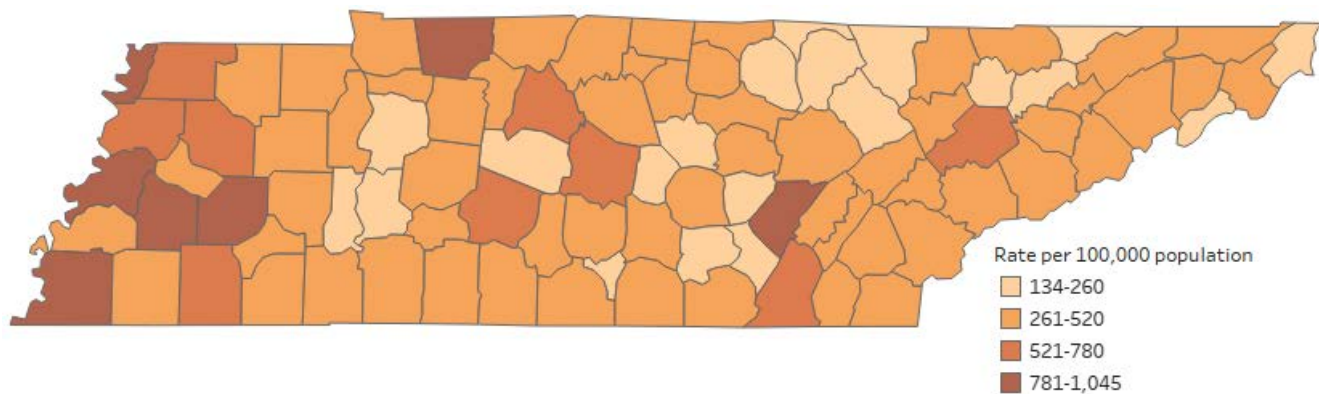
In the last five years, non-Hispanic blacks had highest rate of chlamydial infections in the state. In 2018, 18,070 cases of chlamydia were reported among non-Hispanic blacks for a rate of 1,588.2 cases per 100,000, as compared to 293.8 cases per 100,000 among non-Hispanic whites and 514.9 cases per 100,000 among Hispanics.

Table 5: Chlamydia — Number and Rate of Reported Cases by Public Health Region, Tennessee, 2014–2018

Regions/Metros	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	31,043	474.3	31,607	479.3	32,487	488.4	35,088	522.5	38,282	565.4
Northeast	841	240.5	874	249.7	947	269.7	1,017	289.2	1,166	330.6
East	2,020	268.3	2,110	278.9	2,193	288.1	2,242	292.6	2,515	326.4
Southeast	1,125	341.7	1,124	340.2	1,132	341.3	1,178	353.9	1,292	384.9
Upper-Cumberland	929	270.2	864	249.9	1,103	316.7	1,163	330.1	1,093	307.1
Mid-Cumberland	5,031	423.5	4,951	407.4	5,023	403.4	5,779	452.5	6,157	471.2
South Central	1,269	326.5	1,316	334.9	1,375	346.1	1,582	392.9	1,693	414.6
West	2,447	459.4	2,561	482.6	2,703	510.8	2,875	545.9	2,909	551.7
Shelby	8,108	865.2	8,120	867.4	7,871	842.2	9,004	961	9,770	1,044.1
Davidson	4,379	654.9	4,453	656.5	4,544	663.9	4,567	660.7	5,383	777.2
Knox	1,982	442.3	2,191	485.3	2,418	530.1	2,600	562.9	2,679	575.8
Hamilton	1,824	520.3	1,867	528	2,069	578.4	1,922	531.5	2,243	615.7
Madison	729	742.9	784	803.2	730	747.5	725	742.5	936	959.0
Sullivan	359	229	392	250.2	379	241.9	434	276.2	446	282.9

All rates are per 100,000 population.

Figure 5: Chlamydia — Rate of Reported Cases by County, Tennessee, 2018



In 2018, rates of reported cases of chlamydia by Public Health Region ranged from 282.9 cases per 100,000 population in Sullivan to 1,044.1 cases per 100,000 population in Shelby. The counties with the highest rates of reported cases of chlamydia were Shelby (1,044.1/100,000), Montgomery (1,035.2 /100,000), Haywood (1,026.8/100,000), Bledsoe (989.5/100,000), Madison (959.0/100,000), Lauderdale (902.2/100,000), and Lake (890.6/100,000).

Gonorrhea

Figure 6: Gonorrhea — Number and Rate of Reported Cases, Tennessee and U.S., 2014–2018

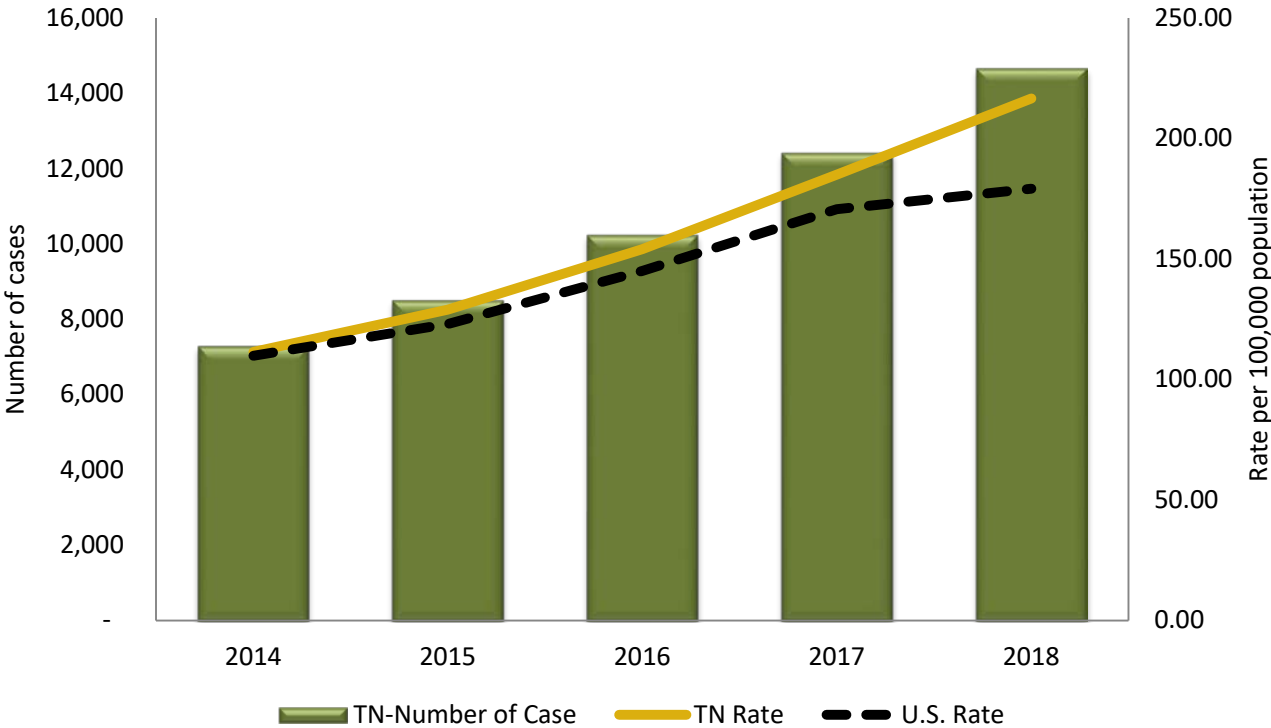


Table 6: Gonorrhea — Number and Rate of Reported Cases, Tennessee and U.S., 2014–2018

	2014	2015	2016	2017	2018
Number of cases	7,294	8,509	10,245	12,425	14,666
TN rate	111.5	129.0	154.0	185.0	216.6
U.S. rate*	109.8	123.0	145.8	169.2	179.1

All rates per 100,000 population.

*U.S. rates are from the CDC STD Surveillance 2018 report.

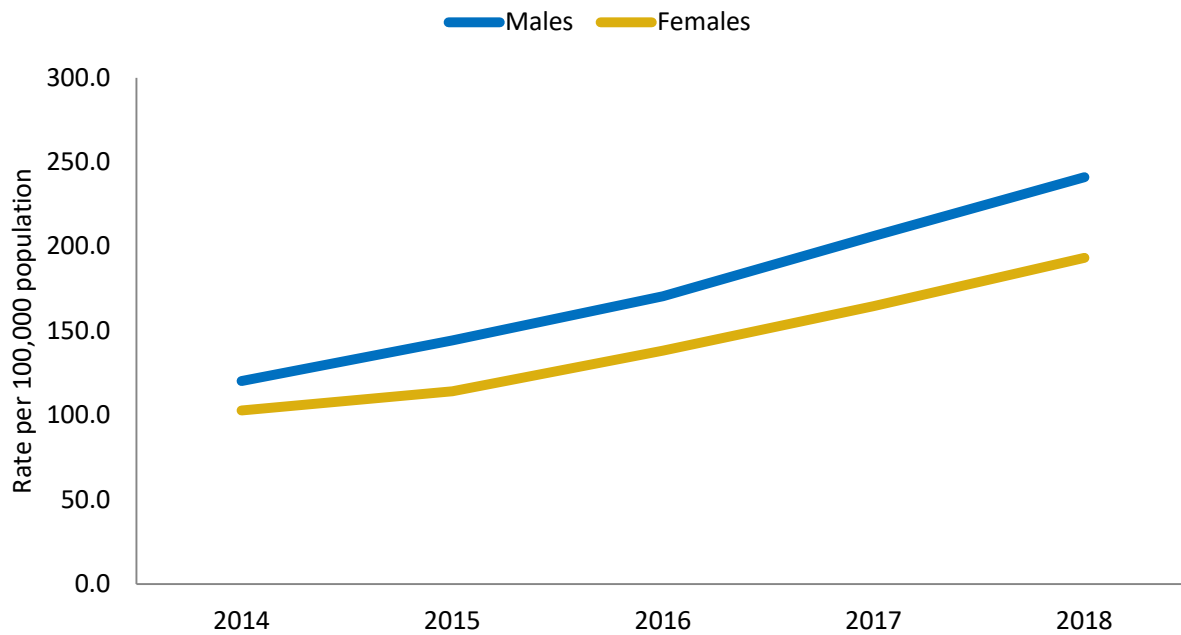
The rate and number of reported cases of gonorrhea increased from 2013–2018. Similarly, the national rate of gonorrhea has increased in the last five years, but Tennessee had higher rates of reported cases of gonorrhea compared to the United States during the last five years. In 2018, 14,666 gonorrhea infections were reported for a rate of 216.6 cases per 100,000 population, which was higher than the U.S. rate of 179.1 cases per 100,000 population.

Table 7: Gonorrhea — Number and Rate of Reported Cases by Gender, Tennessee, 2014–2018

Gender	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	7,294	111.4	8,509	129.0	10,245	154.0	12,425	185.0	14,666	216.6
Males	3,839	120.3	4,644	144.4	5,529	170.5	6,757	206.3	7,962	241.1
Females	3,453	103.0	3,865	114.4	4,715	138.3	5,667	164.7	6,704	193.3

All rates are per 100,000 population.

Figure 7: Gonorrhea — Rate of Reported Cases by Gender, Tennessee, 2014–2018



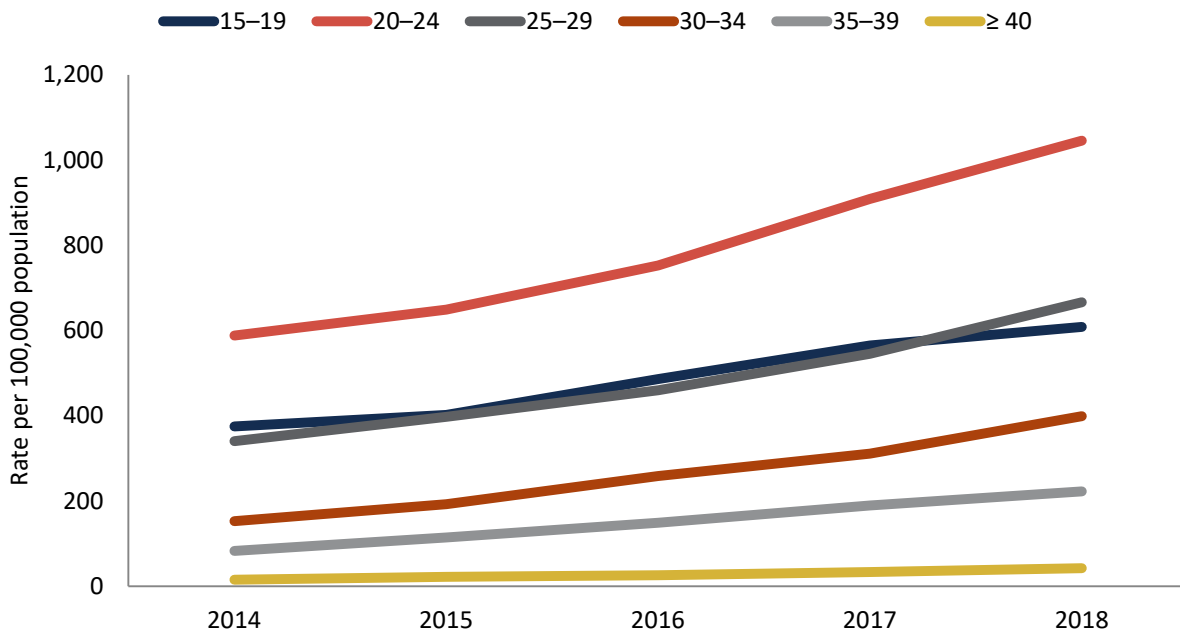
In 2018, 7,962 cases of gonorrhea were reported among males for a rate of 216.6 cases per 100,000 males. The rate among females was lower, with 6,704 cases reported for a rate of 193.3 cases per 100,000 females. For both, males and females, the rates increased from 2014–2018.

Table 8: Gonorrhea — Number and Rate of Reported Cases by Age Group, Tennessee, 2014–2018

Age group (years)	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	7,294	111.4	8,509	129.0	10,245	154.0	12,425	185.0	14,666	216.6
15–19	1,565	375.0	1,688	402.3	2,052	486.3	2,403	565.4	2,675	608.7
20–24	2,739	588.8	2,995	649.0	3,424	752.7	4,063	908.8	4,574	1,045.9
25–29	1,474	340.5	1,777	397.9	2,138	459.9	2,637	545.6	3,228	666.7
30–34	652	153.0	823	193.1	1,104	258.5	1,346	311.1	1,720	399.4
35–39	338	83.3	474	115.0	626	148.9	811	189.7	966	222.9
≥ 40	479	15.2	702	22.0	832	25.8	1,092	33.6	1,413	42.9

All rates are per 100,000 population.

Figure 8: Gonorrhea — Rate of Reported Cases by Age group, Tennessee, 2014–2018



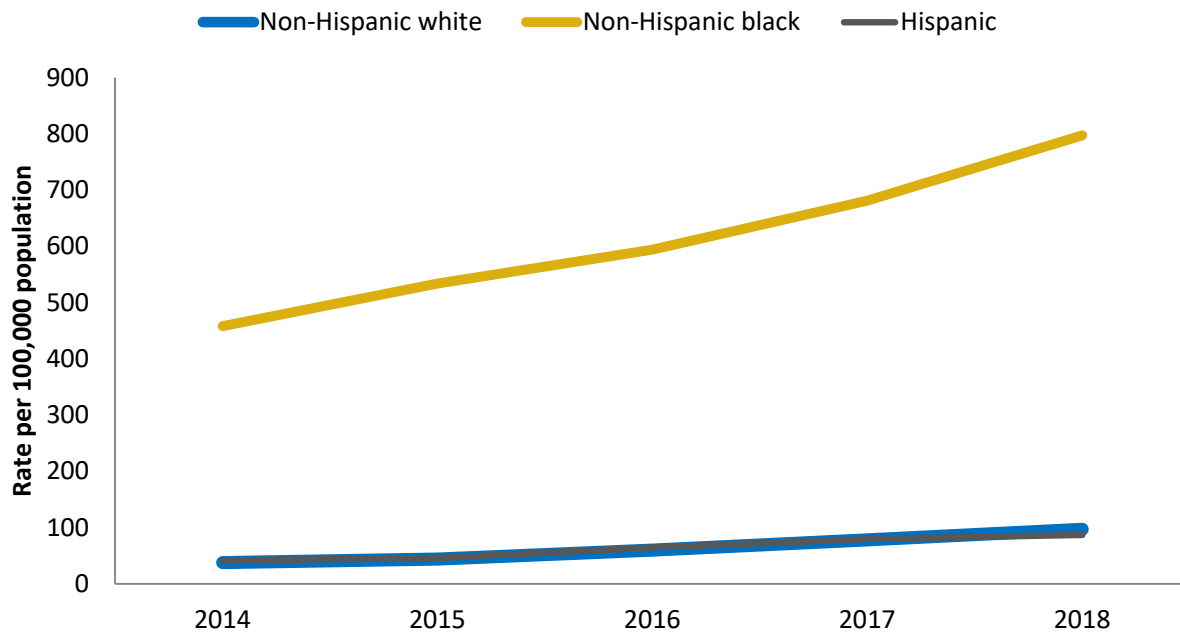
In 2018, individuals 20–24 years old had the highest rates of gonorrhea infections with 1,045.9 cases per 100,000 individuals aged 20–24. From 2014–2017, the second highest rates of gonorrhea were among 15–19 year olds, however in 2018, 25–29 year olds had the second highest gonorrhea rates in the state, with a rate of 666.7 cases per 100,000 individuals aged 25–29. The rate of gonorrhea increased among all age groups from 2014–2018.

Table 9: Gonorrhea — Number and Rate of Reported Cases by Race and Ethnicity, Tennessee, 2014–2018

Race/Ethnicity	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	7,294	111.4	8,509	129.0	10,245	154.0	12,425	185.0	14,666	216.6
Non-Hispanic white	1,850	37.9	2,167	44.1	2,968	60.1	3,891	78.4	4,847	97.1
Non-Hispanic black	5,033	458.4	5,910	533.8	6,631	594.1	7,678	681.5	9,035	797.0
Hispanic	137	41.9	157	46.6	227	65.1	293	79.9	332	87.2

All rates are per 100,000 population.

Figure 9: Gonorrhea — Rate of Reported Cases by Race and Ethnicity, Tennessee, 2014–2018



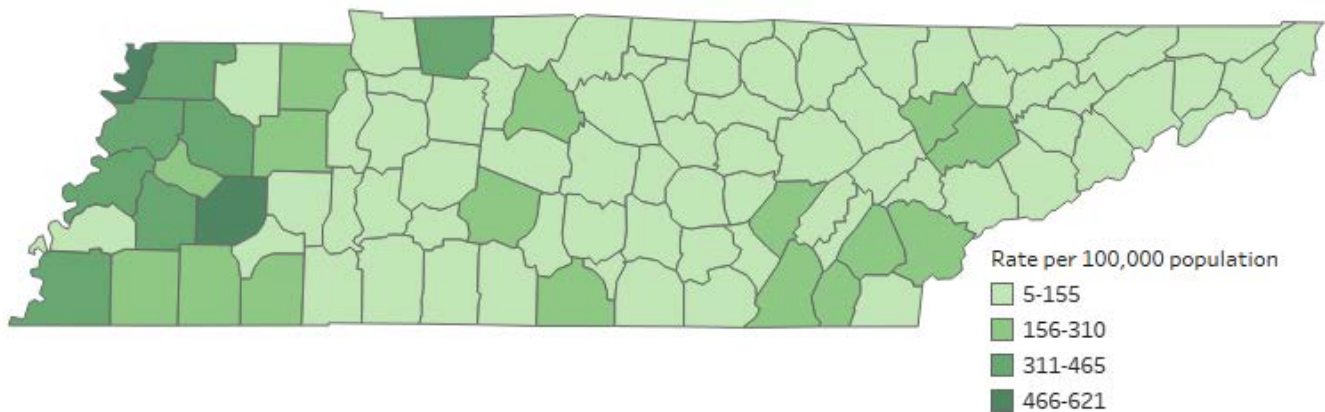
Non-Hispanic blacks had highest rate of gonorrhea infections in the state from 2014–2018. In 2018, 9,035 cases of gonorrhea were reported among non-Hispanic blacks for a rate of 797.0 cases per 100,000, as compared to 97.1 cases per 100,000 among non-Hispanic whites and 87.2 cases per 100,000 among Hispanics.

Table 10: Gonorrhea — Number and Rate of Reported Cases by Public Health Region, Tennessee, 2014–2018

Regions/Metros	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	7,294	111.4	8,509	129.0	10,245	154.0	12,425	185.0	14,666	216.6
Northeast	109	31.2	115	32.9	116	33	142	40.4	318	90.2
East	225	29.9	226	29.9	408	53.6	583	76.1	777	100.9
Southeast	218	66.2	275	83.2	413	124.5	404	121.4	512	152.5
Upper-Cumberland	50	14.5	86	24.9	166	47.7	372	105.6	223	62.7
Mid-Cumberland	1,117	94	990	81.5	1,346	108.1	1,705	133.5	1,812	138.7
South Central	243	62.5	273	69.5	293	73.7	321	79.7	494	121.0
West Total	395	74.2	497	93.7	681	128.7	900	170.9	1,280	242.8
Shelby	2,163	230.8	2,582	275.8	2,934	313.9	3,694	394.3	4,354	465.3
Davidson	1,325	198.1	1,537	226.6	1,895	276.9	1,656	239.6	1,882	271.7
Knox	576	128.5	795	176.1	940	206.1	1,333	288.6	1,329	285.6
Hamilton	598	170.6	838	237	749	209.4	928	256.6	1,024	281.1
Madison	207	210.9	233	238.7	241	246.8	311	318.5	523	535.8
Sullivan	68	43.4	62	39.6	63	40.2	76	48.4	138	87.5

All rates are per 100,000 population.

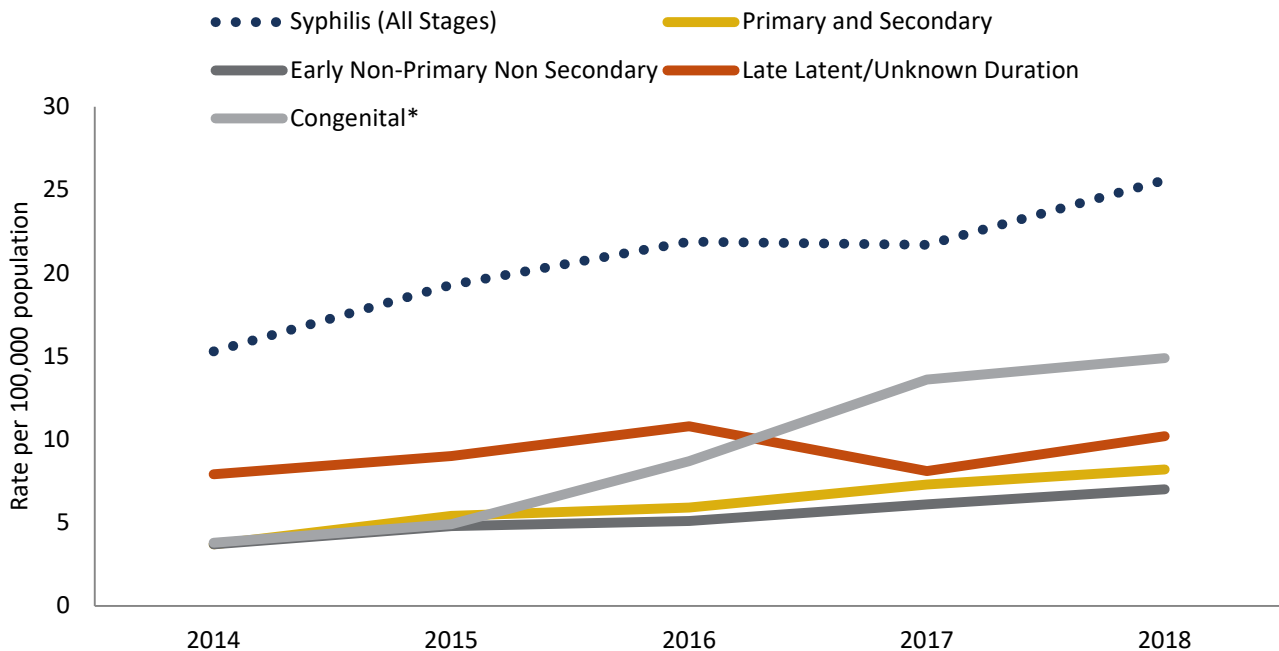
Figure 10: Gonorrhea — Rate of Reported Cases by County, Tennessee, 2018



In 2018, rates of reported cases of gonorrhea by Public Health Region ranged from 62.7 cases per 100,000 population in the Upper Cumberland region to 465.3 cases per 100,000 population in the Shelby region. The counties with the highest rates of reported cases of gonorrhea were Lake (620.7/100,000) and Madison (535.8/100,000).

Syphilis

Figure 11: Syphilis — Rate of Reported Cases by Disease Stage, Tennessee and U.S., 2014–2018



*Congenital syphilis rates are per 100,000 births.

Table 11: Syphilis — Number and Rate of Reported Cases by Disease Stage, Tennessee, 2014–2018

Stage of Infection	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Syphilis (All Stages)	1,002	15.3	1,272	19.3	1,459	21.9	1,456	21.7	1,730	25.6
Primary and Secondary	239	3.7	356	5.4	390	5.9	489	7.3	553	8.2
Early Non-Primary Non Secondary*	241	3.7	316	4.8	341	5.1	411	6.1	474	7.0
Late Latent/Unknown Duration*	519	7.9	594	9	721	10.8	544	8.1	691	10.2
Congenital**	3	3.8	4	4.9	7	8.7	11	13.6	12	14.9

Rates are per 100,000 population. Congenital syphilis rates are per 100,000 live births.

Note: Rates based on counts of < 20 are unreliable. Interpret with caution.

*In 2018 CDC changed naming of early latent and late latent stages to these.

**Congenital syphilis cases are based on case report year.

In 2018, there were a total of 1,730 reported cases of syphilis in Tennessee. Overall, the number and rate of total cases of syphilis have increased since 2014. The rates for cases of primary and secondary, early non-primary non-secondary, late latent/unknown duration, and congenital syphilis increased from 2015–2018.

Table 12: Syphilis (All Stages)* — Number and Rate of Reported Cases by Public Health Region, Tennessee, 2014–2018

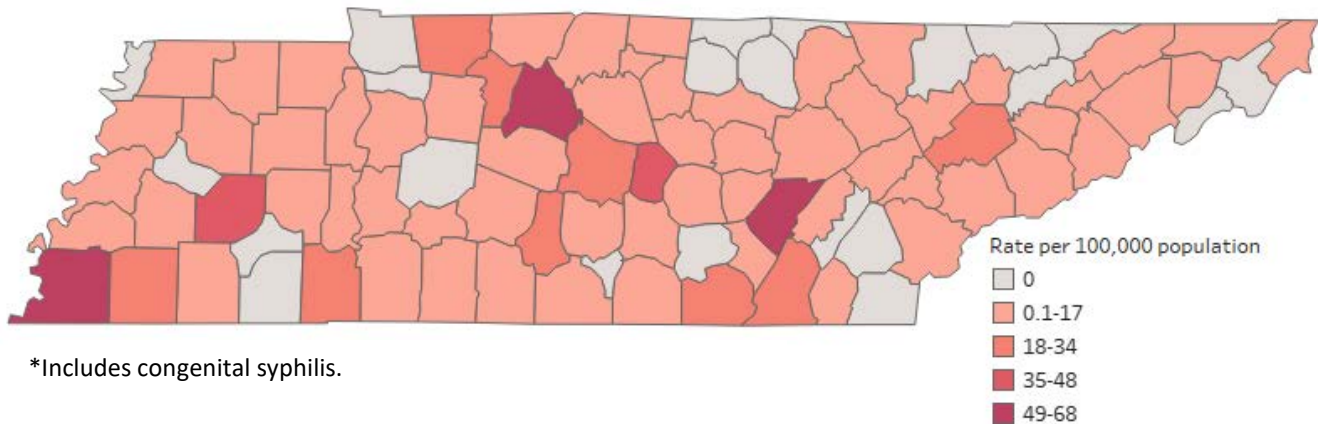
Regions/Metros	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	1,002	15.3	1,272	19.3	1,459	21.9	1,456	21.7	1,730	25.6
Northeast	14	4.0	23	6.6	10	2.8	28	8.0	29	8.2
East	31	4.1	42	5.6	80	10.5	60	7.8	61	7.9
Southeast	32	9.7	23	7.0	28	8.4	35	10.5	29	8.6
Upper-Cumberland	10	2.9	13	3.8	18	5.2	25	7.1	31	8.7
Mid-Cumberland	95	8.0	129	10.6	140	11.2	167	13.1	210	16.1
South Central	9	2.3	20	5.1	28	7.0	33	8.2	42	10.3
West	26	4.9	31	5.8	29	5.5	45	8.5	49	9.3
Shelby	422	45.0	532	56.8	693	74.1	590	63.0	634	67.8
Davidson	237	35.4	268	39.5	264	38.6	236	34.1	399	57.6
Knox	53	11.8	109	24.1	92	20.2	103	22.3	102	21.9
Hamilton	60	17.1	53	15.0	66	18.4	104	28.8	85	23.3
Madison	9	9.2	20	20.5	17	17.4	20	20.5	45	46.1
Sullivan	<5	2.6	9	5.7	<5	2.6	9	5.7	14	8.9

All rates are per 100,000 population.

Note: Rates based on counts of < 20 are unreliable. Interpret with caution.

*Includes congenital syphilis.

Figure 12: Syphilis (All Stages)* — Rate of Reported Cases by County Tennessee, 2018



*Includes congenital syphilis.

In 2018, rates of reported cases of syphilis by Public Health Region ranged from 8.2 cases per 100,000 population in the Northeast region to 67.8 per 100,000 population in the Shelby region. The counties with the highest rates of reported cases of total syphilis were Shelby (67.8 /100,000), Bledsoe (67.8 /100,000), and Davidson (57.6/100,000).

Primary and Secondary (P&S) Syphilis

Figure 13: Primary and Secondary Syphilis — Number and Rate of Reported Cases, Tennessee and U.S., 2014–2018

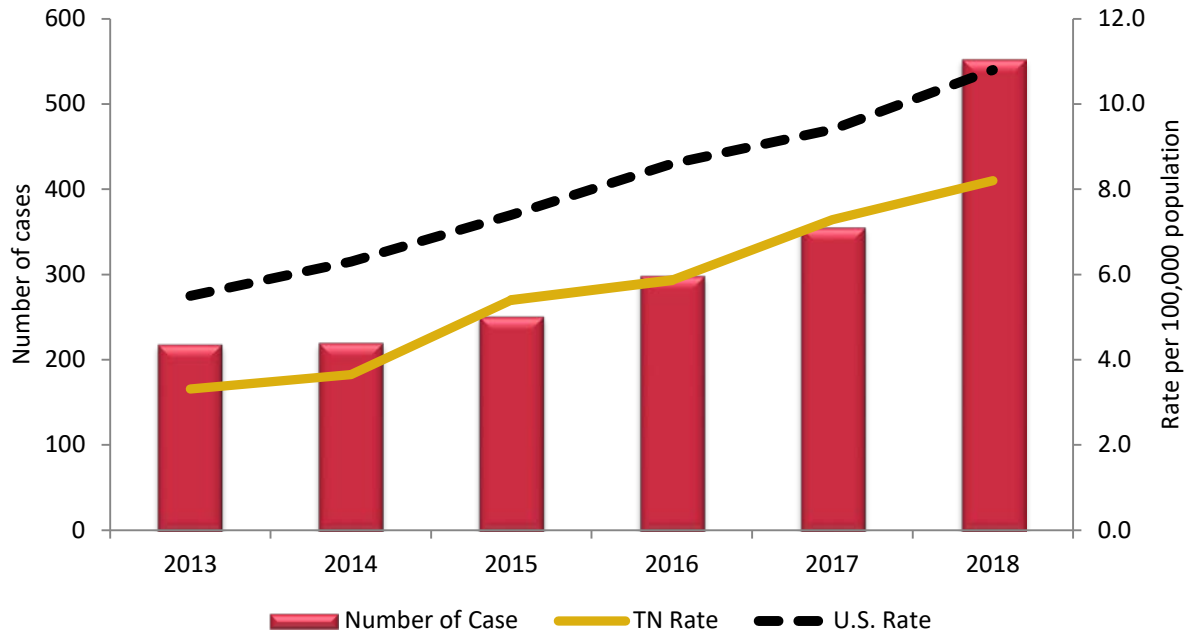


Table 13: Primary and Secondary Syphilis — Number and Rate of Reported Cases, Tennessee and U.S., 2014–2018

	2014	2015	2016	2017	2018
Number of cases	221	252	300	354	553
TN rate	3.7	5.4	5.9	7.3	8.2
U.S. rate*	6.3	7.4	8.7	9.1	10.8

All rates per 100,000 population.

*U.S. rates are from the CDC STD Surveillance 2018 report.

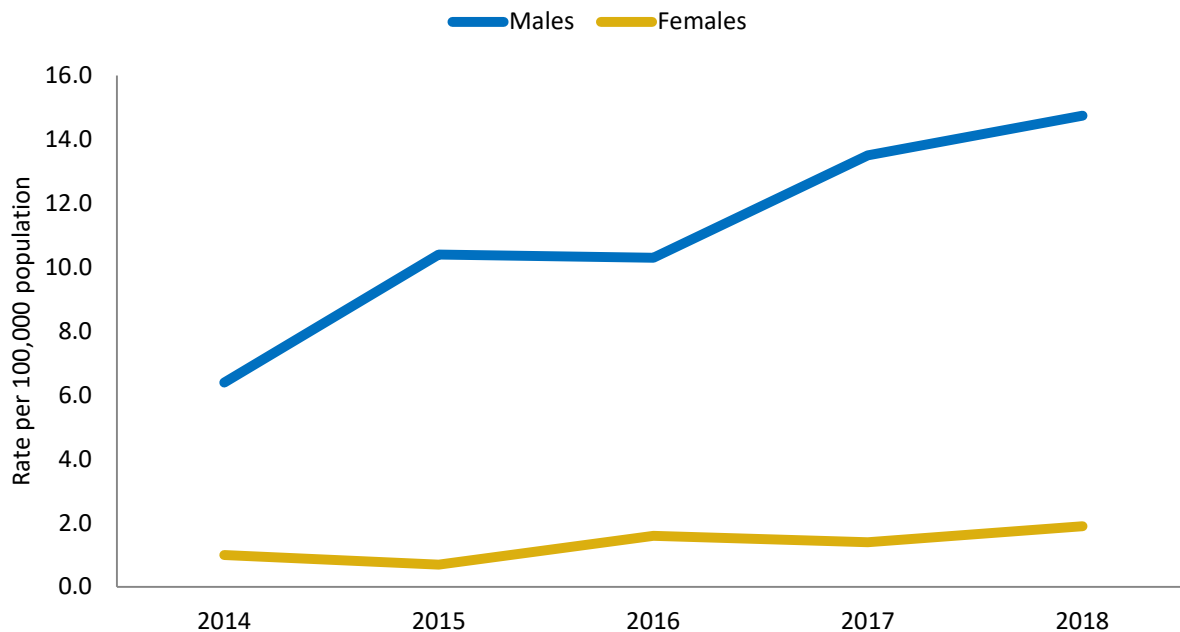
The rate and number of reported cases of P&S syphilis increased from 2014–2018 in Tennessee, but remained lower than the U.S. rate. In 2018, 553 cases of P&S syphilis were reported for a rate of 8.2 cases per 100,000 population, which was lower than the U.S. rate of 10.8 cases per 100,000 population.

Table 14: Primary and Secondary Syphilis — Number and Rate of Reported Cases by Gender, Tennessee, 2014–2018

Gender	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	239	3.7	356	5.4	390	5.9	489	7.3	553	8.2
Males	205	6.4	333	10.4	335	10.3	441	13.5	487	14.7
Females	34	1.0	23	0.7	55	1.6	48	1.4	66	1.9

All rates are per 100,000 population.

Figure 14: Primary and Secondary Syphilis — Rate of Reported Cases by Gender, Tennessee, 2014–2018



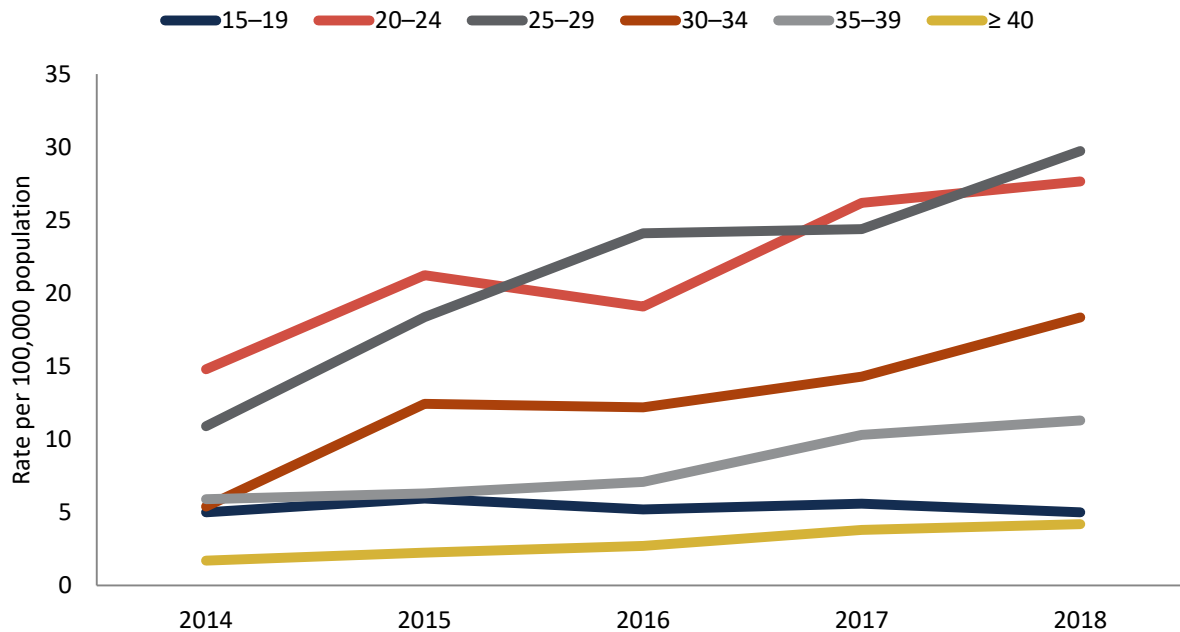
In 2018, 487 cases of P&S syphilis were reported among males for a rate of 14.7 cases per 100,000 males. The rate among females was significantly lower, with 66 cases reported for a rate of 1.49 cases per 100,000 females. From 2014–2018, the rate of cases of P&S syphilis has nearly doubled, from 3.7 cases per 100,000 males to 8.2 cases per 100,000 population.

Table 15: Primary & Secondary Syphilis — Number and Rate of Reported Cases by Age Group, Tennessee, 2014–2018

Age group (years)	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	239	3.7	356	5.4	390	5.9	489	7.3	553	8.2
15–19	21	5.0	25	6.0	22	5.2	24	5.6	22	5.0
20–24	69	14.8	98	21.2	87	19.1	117	26.2	121	27.7
25–29	47	10.9	82	18.4	112	24.1	118	24.4	144	29.7
30–34	23	5.4	53	12.4	52	12.2	62	14.3	79	18.3
35–39	24	5.9	26	6.3	30	7.1	44	10.3	49	11.3
≥ 40	54	1.7	72	2.3	87	2.7	124	3.8	138	4.2

All rates are per 100,000 population.

Figure 15: Primary & Secondary Syphilis — Rate of Reported Cases by Age Group, Tennessee, 2014–2018



In 2018, 144 cases of P&S syphilis infections were reported among individuals 25–29 year old, for a rate of 29.7. The state’s second highest rate of P&S syphilis (27.7 cases per 100,000) was among 20–24 years olds in 2018. The rate among this age group has sharply increased from 2014–2018.

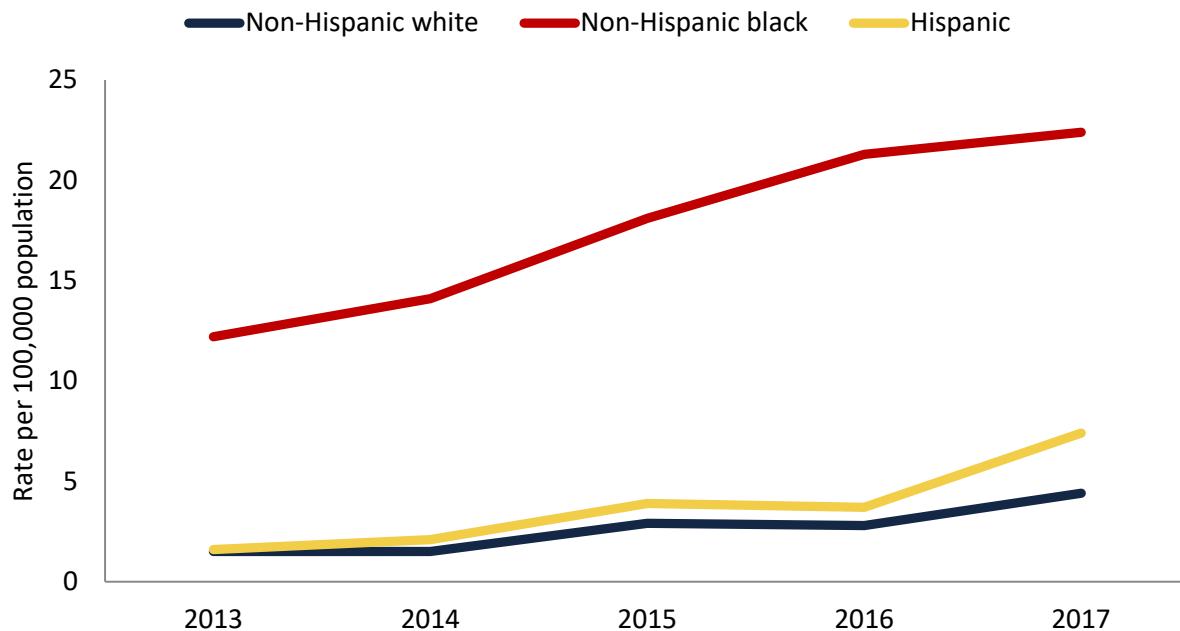
Table 16: Primary & Secondary Syphilis — Number and Rate of Reported Cases by Race and Ethnicity, Tennessee, 2014–2018

Race/Ethnicity	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	239	3.7	356	5.4	390	5.9	489	7.3	553	8.2
Non-Hispanic white	72	1.5	140	2.9	138	2.8	216	4.4	240	4.8
Non-Hispanic black	155	14.1	200	18.1	238	21.3	252	22.4	283	25.0
Hispanic	7	2.1	13	3.9	13	3.7	27	7.4	24	6.3

All rates are per 100,000 population.

Note: Rates based on counts of < 20 are unreliable. Interpret with caution.

Figure 16: Primary & Secondary Syphilis — Rate of Reported Cases by Race and Ethnicity, Tennessee, 2014–2018



Non-Hispanic blacks had highest rate of P&S syphilis infections in the state from 2014–2018. In 2018, 283 cases of P&S syphilis were reported among non-Hispanic blacks for a rate of 25.0 cases per 100,000, as compared to 4.8 cases per 100,000 among non-Hispanic whites and 6.3 cases per 100,000 among Hispanics. The rate of P&S syphilis increased among all race and ethnic groups from 2014–2017.

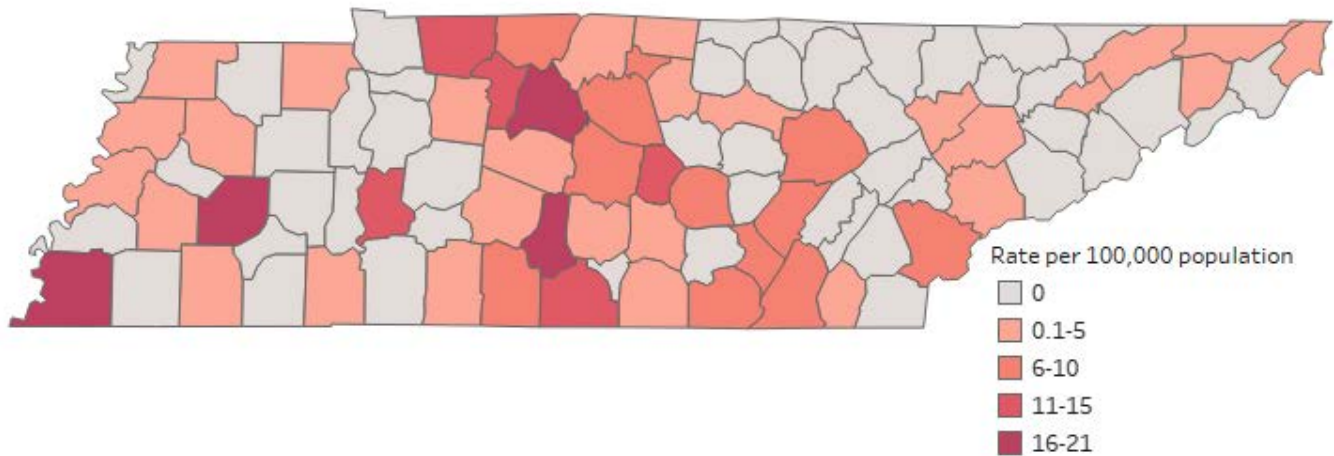
Table 17: Primary & Secondary Syphilis — Number and Rate of Reported Cases by Public Health Region, Tennessee, 2014–2018

Regions/Metros	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	239	3.7	356	5.4	390	5.9	489	7.3	553	8.2
Northeast	< 5	1.1	7	2	< 5	0.6	8	2.3	10	2.8
East	9	1.2	20	2.6	23	3	24	3.1	12	1.6
Southeast	6	1.8	< 5	1.2	5	1.5	12	3.6	10	3.0
Upper-Cumberland	10	2.9	13	3.8	18	5.2	25	7.1	16	4.5
Mid-Cumberland	23	1.9	41	3.4	48	3.9	69	5.4	105	8.0
South Central	< 5	0.5	8	2.0	16	4.0	17	4.2	24	5.9
West Total	7	1.3	8	1.5	5	0.9	11	2.1	8	1.5
Shelby	79	8.4	107	11.4	150	16.0	135	14.4	156	16.7
Davidson	58	8.7	90	13.3	73	10.7	107	15.5	140	20.2
Knox	22	4.9	36	8.0	21	4.6	38	8.2	25	5.4
Hamilton	25	7.1	25	7.1	28	7.8	43	11.9	24	6.6
Madison	< 5	2.0	11	11.3	11	11.3	8	8.2	17	17.4
Sullivan	0	0	< 5	2.6	< 5	0.6	5	3.2	6	3.8

All rates are per 100,000 population.

Note: Rates based on counts of < 20 are unreliable. Interpret with caution.

Figure 17: Primary and Secondary Syphilis — Rate of Reported Cases by County, Tennessee, 2018



In 2018, rates of reported cases of P&S syphilis by Public Health Region ranged from 1.6 cases per 100,000 population in the East region to 20.2 cases per 100,000 population in the Davidson region. The counties with the highest rates of reported cases of P&S syphilis were Davidson (20.2/100,000), Marshall (17.8/100,000), Madison (17.4/100,000), and Shelby (16.7 /100,000).

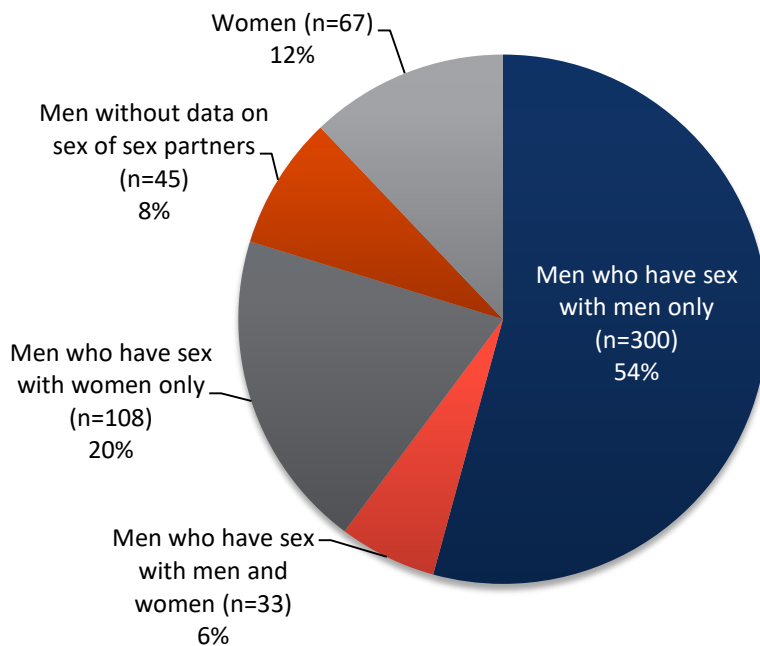
Syphilis by Sexual Behavior

Table 18: Primary and Secondary Syphilis — Distribution of Cases by Gender and Sexual Behavior, Tennessee, 2014–2018

Gender and Sexual Behavior	2014		2015		2016		2017		2018	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Total cases	239	-	356	-	390	-	489	-	553	-
MSM	148	62%	216	61%	202	52%	274	56%	300	54%
MSMW	16	7%	25	7%	27	7%	44	9%	33	6%
MSW	31	13%	64	18%	79	20%	94	19%	108	20%
Men without data on sex of sex partners	10	4%	28	8%	27	7%	29	6%	45	8%
Women	34	14%	23	6%	55	14%	48	10%	67	12%

MSM = Gay, bisexual, and other men who have sex with men; MSMW= Men who have sex with women and men; MSW = Men who have sex with women only.

Figure 18: Primary and Secondary Syphilis — Distribution of Cases by Gender and Sexual Behavior, Tennessee, 2018



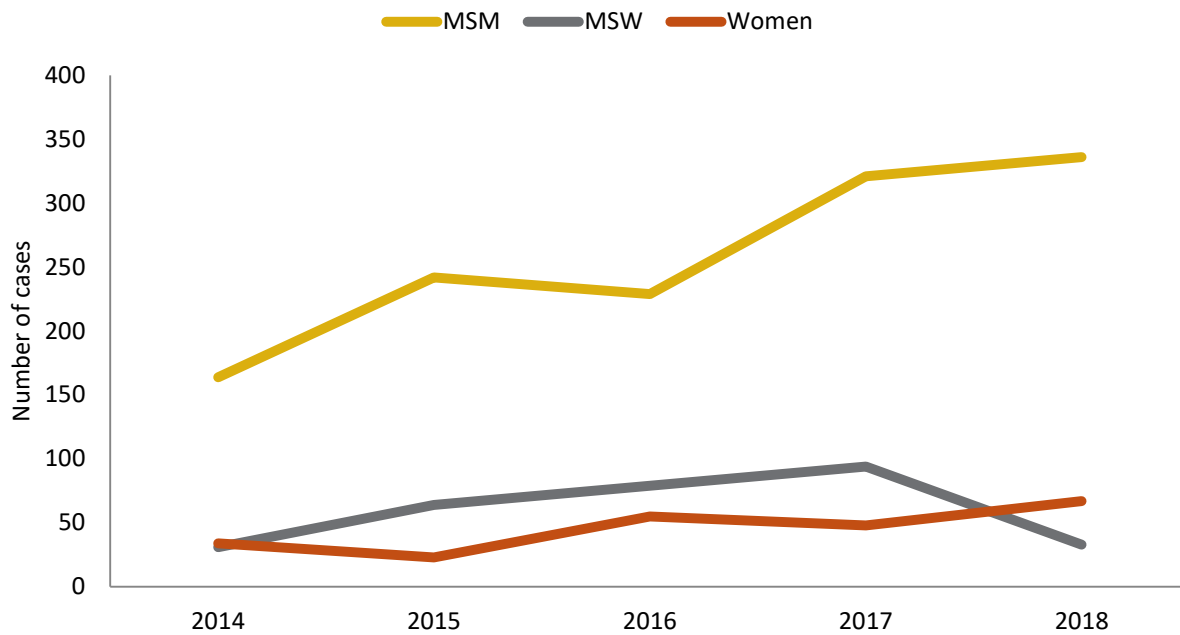
In 2018, men accounted for 88% of P&S syphilis cases and MSM accounted for the majority of P&S syphilis cases. Of the 553 reported P&S syphilis cases in 2018, 300 (54%) were among MSM, and 33 (9%) among MSMW.

Table 19: Primary and Secondary Syphilis — Number of Cases by Gender and Sexual Behavior, Tennessee, 2014–2018

Race/Ethnicity	2014 Cases	2015 Cases	2016 Cases	2017 Cases	2018 Cases
Total cases	239	356	390	489	553
MSM	164	242	229	321	336
MSW	31	64	79	94	33
Women	34	23	55	48	67

MSM = Gay, bisexual, and other men who have sex with men; MSW = Men who have sex with women only.

Figure 19: Primary and Secondary Syphilis — Number of Cases by Gender and Sexual Behavior, Tennessee, 2014–2018



MSM = Gay, bisexual, and other men who have sex with men; MSW = Men who have sex with women only.

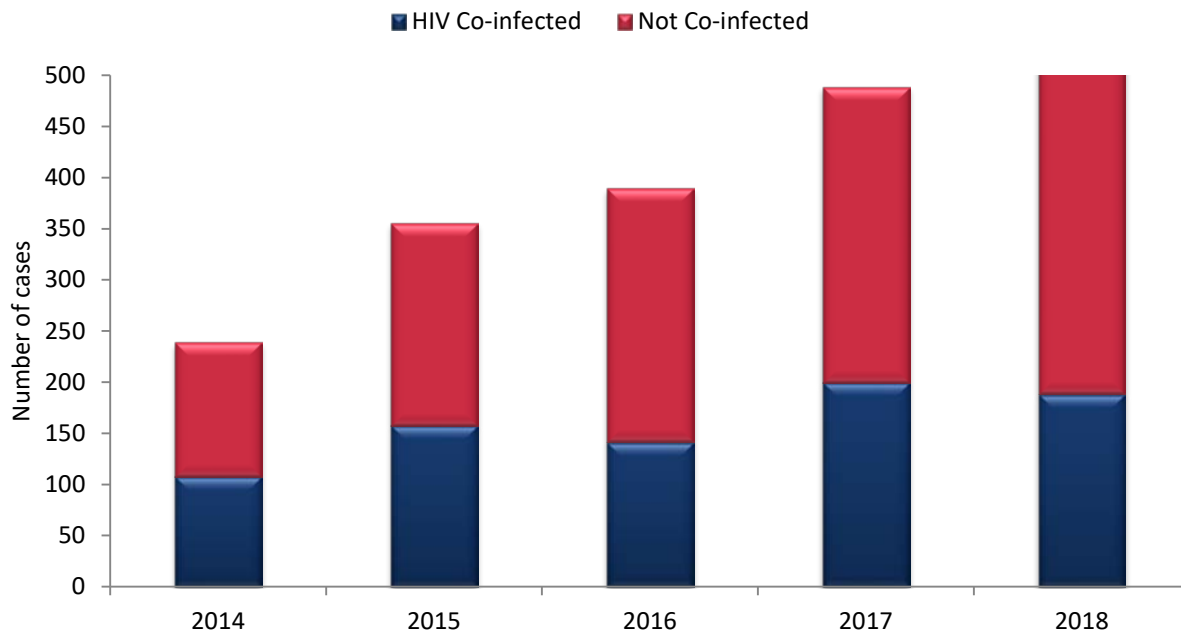
During 2014–2018, the number of P&S syphilis among MSM increased from 164 cases to 336 cases, which is a 104% increase.

Syphilis and Human Immunodeficiency Virus (HIV) Co-infections

Table 20: Primary and Secondary Syphilis — Number of Reported Cases Co-infected with HIV, Tennessee, 2014–2018

Gender	2014		2015		2016		2017		2018	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Total cases	239	-	356	-	390	-	489	-	553	-
HIV co-infected	108	45%	158	44%	142	36%	200	41%	189	34%

Figure 20: Primary and Secondary Syphilis — Reported Cases by HIV Co-infection, Tennessee, 2014–2018



The proportion of P&S syphilis cases co-infected with HIV has decreased since 2014. In 2018, of the 553 P&S syphilis cases, 34% (189) were co-infected with HIV.

Congenital Syphilis

Figure 21: Congenital Syphilis — Number and Rate of Reported Cases by Year of Diagnoses, Tennessee and U.S., 2014–2018

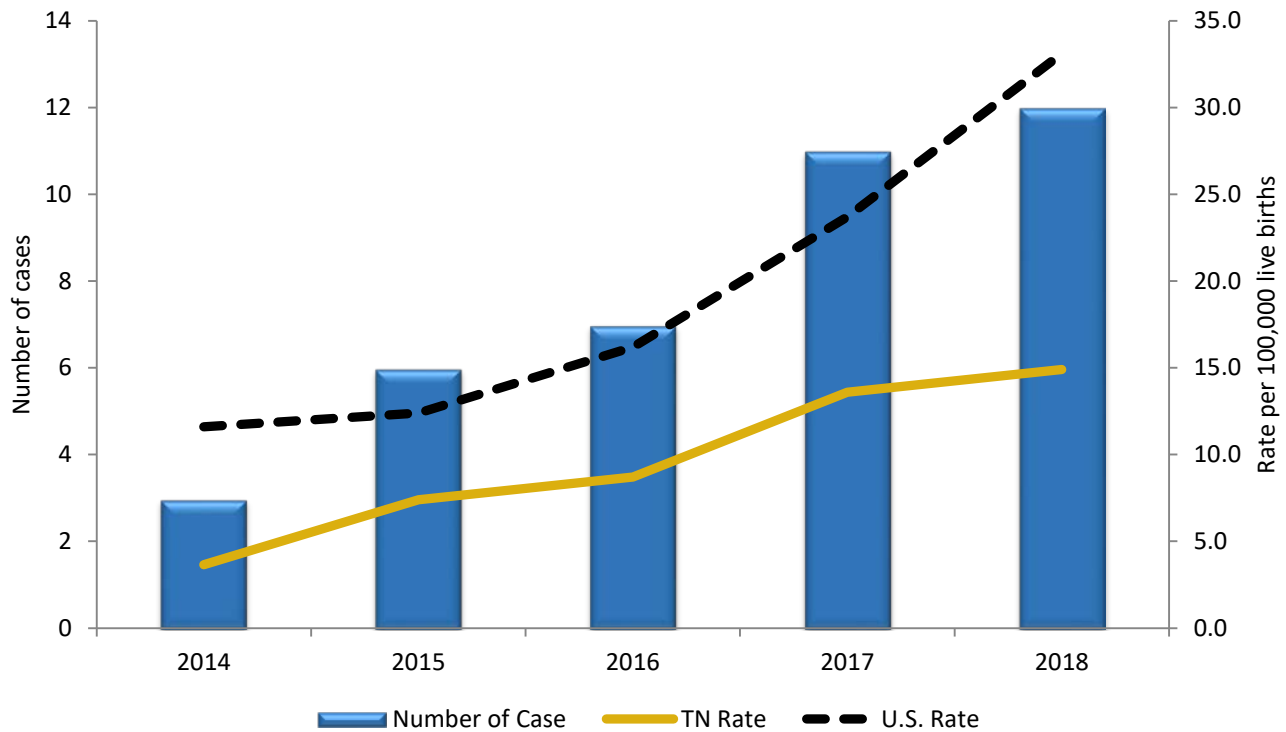


Table 21: Congenital Syphilis — Number and Rate of Reported Cases by Year of Diagnoses, Tennessee and U.S., 2014–2018

	2014	2015	2016	2017	2018
Number of cases	3	6	7	11	12
TN rate	3.7	7.4	8.7	13.6	14.9
U.S. rate*	11.6	12.4	16.2	23.7	33.1

All rates per 100,000 live births.

Note: Rates based on counts of < 20 are unreliable. Interpret with caution.

*U.S. rates are from the CDC STD Surveillance 2018 report.

In 2018, there were 12 reported cases of congenital syphilis, yielding a rate of 14.9 cases per 100,000 live births in the state. During 2014–2018 Tennessee’s congenital syphilis rate remained lower than the national rate, but increasing since 2014.

Table 22: Congenital Syphilis — Number and Rate of Reported Congenital Cases by Year of Diagnoses and P&S Syphilis among Women Aged 15–44 Years, Tennessee and U.S., 2013–2018

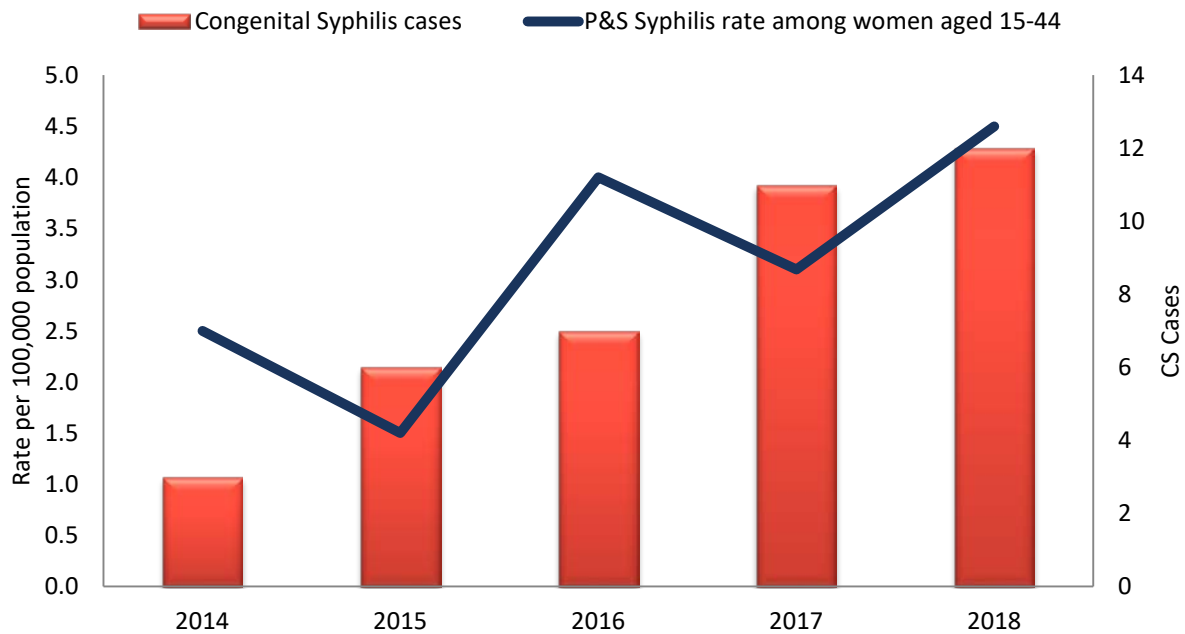
	2014		2015		2016		2017		2018	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total P&S Syphilis among Women*	34	1.0	23	0.7	55	1.6	48	1.4	66	1.9
P&S Syphilis among Women 15-44 years old *	32	2.5	20	1.5	52	4.0	41	3.1	59	4.5
Congenital Syphilis **	3	3.7	6	7.4	7	8.7	11	13.6	12	14.9

Note: Rates based on counts of < 20 are unreliable. Interpret with caution.

*Rates are per 100,000 population.

** Rates are per 100,000 live births.

Figure 22: Congenital Syphilis — Number of Reported Congenital Cases by Year of Diagnoses and Rate of P&S Syphilis among Women Aged 15–44 Years, Tennessee, 2013–2018



From 2014–2018, the increase in congenital syphilis cases paralleled an increases in P&S syphilis among reproductive-aged women.

Technical Notes

About this Report:

This report provides an overview of the reported STD cases in Tennessee, using current surveillance data, and presents statistics and trends from the reporting period based on core surveillance activities in the state.

The surveillance information in this report is based on case report data received and stored in the Patient Reporting Investigation Surveillance Manager (PRISM) from 2014–2018; however it is important to note that these case reports reflect only a portion of STDs occurring in the state’s population. STDs are often asymptomatic and may not be diagnosed; therefore, case report data underestimate the number of infections that occurred.

The case definitions used are those defined by the Council of State and Territorial Epidemiologists (CSTE). Case definitions are periodically revised using CSTE’s Position Statements and provide uniform criteria of nationally notifiable conditions for reporting purposes. Please see the NNDSS website (<https://wwwn.cdc.gov/nndss/case-definitions.html>) for case definitions.

Reporting Delay: Delays exist between the time a STD infection is diagnosed and the time the infection is reported to TDH. The data in this report represent all information reported to TDH through July 1, 2019. However, the case counts may change as new information is received and may differ from other reports. Therefore, data from recent years should be considered provisional. The figures and tables in this edition supersede those in earlier publication of the data.

Place of Residence: STD diagnoses are presented based on an individual’s residence at the time of the most recent laboratory results.

Population: Population estimates for Tennessee were obtained from the U.S. Census Bureau website. Because of the use of the updated population data, rates from 2014–2017 may be different from those presented in previous STD epidemiological profiles.

Small Numbers: Data release limitations are set to ensure that the information cannot be used to inadvertently identify an individual. Please interpret rates where the numerator is less than 20 cases with caution because of the low reliability of rates based on a small number of cases.

Public Health Regions: Tennessee’s 95 counties are divided into thirteen public health regions. A map showing the public health region is located in Appendix A.

Acknowledgements

The authors would like to thank the central office and public health regional STD surveillance staff throughout the state of Tennessee, without whom, an accurate accounting of the STD epidemic in Tennessee would not be possible. Additionally, we would like to thank Tennessee Department of Health's STD Prevention and HIV Surveillance and Epidemiology programs for providing valuable data collection, guidance, and support.

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Glossary

Case: A condition of a disease or infection diagnosed according to a standard case definition.

Case rate: The frequency of a defined event in a specified population for a given time period, usually expressed as the number of cases per 100,000 people in a population. Case rates provide a measure of the effect of illness relative to the size of the population. Case rate is calculated by dividing the number of cases in the population of interest by the total number of people in the population. Then multiply by 100,000 to get the rate per 100,000 people.

Chlamydia: A curable bacterial sexually transmitted disease caused by *Chlamydia trachomatis*. The infection may result in urethritis, epididymitis, cervicitis, acute salpingitis, or other syndromes; however, it can often be asymptomatic in women. Perinatal infections may result in inclusion conjunctivitis and pneumonia in newborns.

Congenital syphilis: A condition caused by infection in utero with *Treponema pallidum*. A wide spectrum of severity exists, from unapparent infection to severe cases that are clinically apparent at birth. An infant or child (aged less than 2 years) may have signs such as hepatosplenomegaly, rash, condyloma lata, snuffles, jaundice (nonviral hepatitis), pseudoparalysis, anemia, or edema (nephrotic syndrome and/or malnutrition). An older child may have stigmata (e.g., interstitial keratitis, nerve deafness, anterior bowing of shins, frontal bossing, mulberry molars, Hutchinson teeth, saddle nose, rhagades, or Clutton joints).

Date of diagnosis: The date of diagnoses refers to the date a laboratory makes a diagnosis based on the analysis of a specimen.

Early non-primary non-secondary syphilis: A stage of infection caused by *Treponema pallidum* in which initial infection has occurred within the previous 12 months, but there are no signs or symptoms of primary or secondary syphilis.

Gonorrhea: A curable bacterial sexually transmitted disease caused by *Neisseria gonorrhoeae*. The infection is commonly manifested by urethritis, cervicitis, proctitis, salpingitis, or pharyngitis. Infection may be asymptomatic.

HIV (human immunodeficiency virus): The virus that causes AIDS. Persons with HIV in their system are referred to as HIV infected.

Percentage: A proportion of the whole, in which the whole is 100.

Primary syphilis: A stage of infection with *Treponema pallidum* categorized as infectious. This stage is characterized by one or more ulcerative lesions (e.g., chancre), which might differ considerably in clinical appearance.

Secondary syphilis: A stage of infection with the bacterium *Treponema Pallidum* categorized as infectious. This stage is characterized by localized or diffuse mucocutaneous lesions, often with generalized lymphadenopathy. Other symptoms can include mucous patches, condyloma lata, and alopecia.

Surveillance: In a public health context, refers to the intentional collection of data on diseases or other important health conditions in order to monitor where the condition occurs and to determine the risk factors associated with the condition.

Syphilis: A curable bacterial sexually transmitted disease caused by *Treponema pallidum*. It is composed of four stages of infection that include primary, secondary, early non-primary non-secondary, and unknown duration or late. In January 2018, a revised case definition for syphilis went into effect, including changing the stage previously termed “early latent syphilis” to “syphilis, early non-primary non-secondary”. Additionally, the stages of “late latent syphilis” and “late syphilis with clinical manifestations” were removed and “syphilis, unknown duration or late” was added.

Trend: A long-term movement or change in frequency, usually upward or downward; may be presented as a line graph.

Unknown duration or late syphilis: A stage of infection caused by *Treponema pallidum* in which initial infection has occurred >12 months previously or in which there is insufficient evidence to conclude that infection was acquired during the previous 12 months.

Abbreviations

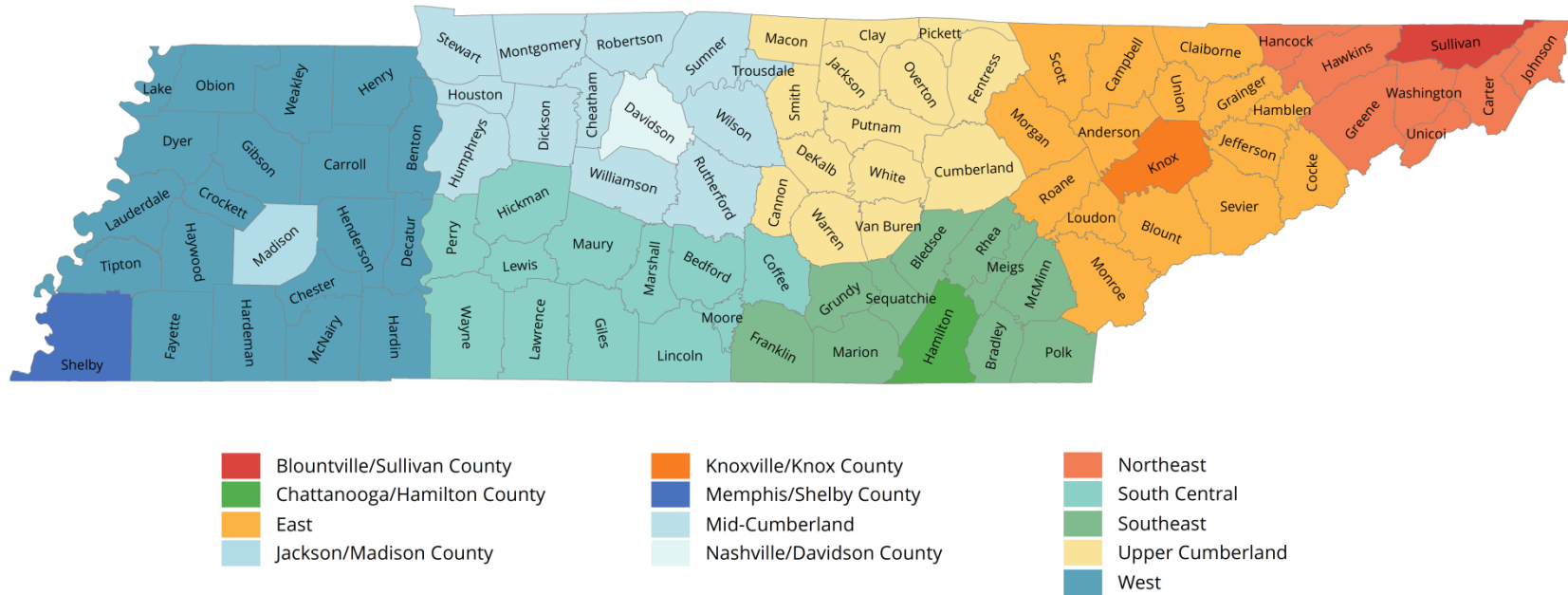
CDC: Centers for Disease Control and Prevention
CSTE: Council of State and Territorial Epidemiologist
CT: Chlamydia
CS: congenital syphilis
GC: Gonorrhea
HIV: human immunodeficiency virus
MSM: gay, bisexual and other men who have sex with men
MSMW: men who have sex with both men and women
MSW: men who have sex with women only
NNDSS: National Notifiable Disease Surveillance System
P&S: primary and secondary
PRISM: Patient Reporting Investigating Surveillance Manager
TDH: Tennessee Department of Health
STD: sexually transmitted disease

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Appendix A: Tennessee Public Health Regions

Map 1. Public Health Regions, Tennessee



Appendix B: Regional data

Table 23: STDs, Nashville (Davidson County), Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	5,383	777.2	1,882	271.7	399	57.6	140	20.2
Male	2,031	607.6	1,189	355.7	339	101.4	129	38.6
Female	3,348	934.4	693	193.4	60	16.7	11	3.1
≤ 15	37	30.0	< 5	4.9	< 5	1.6	0	0.0
15–19	1,222	3,150.1	251	647.0	12	30.9	< 5	7.7
20–24	1,867	3,759.8	527	1,061.3	46	92.6	20	40.3
25–29	1,189	1,595.5	433	581.0	83	111.4	34	45.6
30–34	544	822.9	274	414.5	71	107.4	26	39.3
35–39	243	460.1	145	274.5	50	94.7	14	26.5
≥ 40	281	97.8	246	85.6	135	47.0	43	15.0
Non-Hispanic White	1,713	440.5	536	137.8	142	36.5	60	15.4
Non-Hispanic Black	3,033	1,616.5	1,228	654.5	212	113.0	70	37.3
Hispanic	446	618.3	68	94.3	38	52.7	8	11.1

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 24: STDs, Chattanooga (Hamilton County), Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	2,243	615.7	1,024	281.1	85	23.3	24	6.6
Male	774	440.1	507	288.3	68	38.7	22	12.5
Female	1,469	779.7	517	274.4	17	9.0	< 5	1.1
≤ 15	16	25.3	7	11.1	< 5	1.6	0	0.0
15–19	576	2,703.0	187	877.5	< 5	4.7	0	0.0
20–24	865	3,827.8	317	1,402.8	5	22.1	< 5	4.4
25–29	430	1,539.2	225	805.4	17	60.9	< 5	14.3
30–34	192	763.9	103	409.8	12	47.7	< 5	15.9
35–39	84	356.8	70	297.4	7	29.7	< 5	8.5
≥ 40	80	44.3	115	63.7	42	23.3	13	7.2
Non-Hispanic White	847	327.3	322	124.4	47	18.2	16	6.2
Non-Hispanic Black	1,252	1,797.9	681	977.9	30	43.1	6	8.6
Hispanic	116	543.2	13	60.9	7	32.8	< 5	4.7

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 25: STDs, Knoxville (Knox County), Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	2,679	575.8	1,329	285.6	102	21.9	25	5.4
Male	1,100	486.7	768	339.8	84	37.2	25	11.1
Female	1,579	659.9	561	234.5	18	7.5	0	0.0
≤ 15	19	23.5	6	7.4	< 5	1.2	0	0.0
15–19	641	2,078.4	154	499.3	< 5	6.5	0	0.0
20–24	1,051	2,546.0	377	913.3	18	43.6	< 5	4.8
25–29	485	1,454.4	303	908.6	24	72.0	10	30.0
30–34	233	769.5	185	611.0	14	46.2	< 5	13.2
35–39	122	400.5	116	380.8	10	32.8	< 5	9.8
≥ 40	128	58.7	188	86.2	33	15.1	6	2.8
Non-Hispanic White	1,237	323.1	597	155.9	65	17.0	19	5.0
Non-Hispanic Black	1,044	2,581.7	631	1,560.4	23	56.9	< 5	9.9
Hispanic	146	714.2	40	195.7	5	24.5	< 5	9.8

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 26: STDs, Jackson (Madison County), Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	936	959.0	523	535.8	45	46.1	17	17.4
Male	322	696.6	265	573.3	35	75.7	15	32.4
Female	614	1,195.0	258	502.2	10	19.5	< 5	3.9
≤ 15	7	38.6	< 5	22.0	0	0.0	0	0.0
15–19	311	4,317.6	119	1,652.1	< 5	27.8	< 5	13.9
20–24	329	4,889.3	203	3,016.8	13	193.2	5	74.3
25–29	183	2,705.5	103	1,522.8	10	147.8	8	118.3
30–34	63	1,122.4	52	926.4	5	89.1	< 5	17.8
35–39	20	350.7	26	455.9	< 5	35.1	0	0.0
≥ 40	23	48.5	16	33.7	13	27.4	< 5	4.2
Non-Hispanic White	152	279.5	42	77.2	9	16.5	5	9.2
Non-Hispanic Black	561	1,535.3	396	1,083.7	34	93.0	12	32.8
Hispanic	13	333.4	< 5	102.6	< 5	25.6	0	0.0

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 27: STDs, Memphis (Shelby County), Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	9,770	1044.1	4,354	465.3	634	67.8	156	16.7
Male	3,057	687.7	2,347	528.0	471	106.0	131	29.5
Female	6,713	1,366.5	2,007	408.6	163	33.2	25	5.1
≤ 15	101	51.8	49	25.1	7	3.6	0	0.0
15–19	2,885	4,725.9	1,096	1,795.4	34	55.7	11	18.0
20–24	3,490	5,510.2	1,335	2,107.8	145	228.9	45	71.0
25–29	1,841	2,476.8	849	1,142.2	162	217.9	44	59.2
30–34	740	1,144.6	416	643.4	108	167.0	25	38.7
35–39	373	606.3	218	354.3	60	97.5	12	19.5
≥ 40	339	81.5	391	94.0	118	28.4	19	4.6
Non-Hispanic White	764	229.4	258	77.5	73	21.9	21	6.3
Non-Hispanic Black	8,289	1,651.1	3,924	781.6	536	106.8	135	26.9
Hispanic	344	562.5	63	103.0	22	36.0	0	0.0

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 28: STDs, Blountville (Sullivan County), Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	446	282.9	138	87.5	14	8.9	6	3.8
Male	147	191.7	72	93.9	12	15.6	< 5	5.2
Female	299	369.2	66	81.5	< 5	2.5	< 5	2.5
≤ 15	< 5	12.1	0	0.0	< 5	4.0	0	0.0
15–19	143	1,620.9	14	158.7	< 5	34.0	< 5	11.3
20–24	167	1,973.5	40	472.7	< 5	11.8	0	0.0
25–29	75	758.0	35	353.7	< 5	10.1	< 5	10.1
30–34	35	409.8	15	175.6	< 5	11.7	< 5	11.7
35–39	10	116.4	11	128.0	0	0.0	0	0.0
≥ 40	13	14.7	23	26.0	7	7.9	< 5	3.4
Non-Hispanic White	366	248.8	95	64.6	12	8.2	6	4.1
Non-Hispanic Black	45	1,299.5	30	866.3	< 5	28.9	0	0.0
Hispanic	6	196.4	< 5	65.5	0	0.0	0	0.0

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 29: STDs, East Public Health Region, Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	2,515	326.4	777	100.9	61	7.9	12	1.6
Male	780	206.2	423	111.8	47	12.4	10	2.6
Female	1,735	442.5	354	90.3	14	3.6	< 5	0.5
≤ 15	18	13.9	< 5	2.3	0	0.0	0	0.0
15–19	714	1,579.6	104	230.1	< 5	2.2	0	0.0
20–24	958	2,251.3	183	430.0	10	23.5	< 5	9.4
25–29	457	954.3	180	375.9	10	20.9	< 5	6.3
30–34	178	430.3	117	282.9	7	16.9	0	0.0
35–39	96	223.0	95	220.7	5	11.6	0	0.0
≥ 40	94	22.3	95	22.6	28	6.6	5	1.2
Non-Hispanic White	2,065	295.5	654	93.6	39	5.6	7	1.0
Non-Hispanic Black	217	1,296.8	94	561.7	11	65.7	< 5	12.0
Hispanic	176	512.8	21	61.2	8	23.3	< 5	8.7

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 30: STDs, Mid-Cumberland Public Health Region, Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	6,157	471.2	1,812	138.7	210	16.1	105	8.0
Male	2,171	336.8	1,024	158.8	178	27.6	96	14.9
Female	3,986	602.2	788	119.1	32	4.8	9	1.4
≤ 15	17	6.3	< 5	1.1	0	0.0	0	0.0
15–19	1,773	1,988.3	278	311.8	< 5	1.1	< 5	1.1
20–24	2,563	2,886.1	701	789.4	54	60.8	32	36.0
25–29	1,058	1,157.8	421	460.7	47	51.4	25	27.4
30–34	396	460.9	193	224.6	29	33.8	10	11.6
35–39	187	203.5	84	91.4	18	19.6	8	8.7
≥ 40	163	27.6	132	22.3	61	10.3	29	4.9
Non-Hispanic White	3,260	320.1	735	72.2	105	10.3	57	5.6
Non-Hispanic Black	2,356	1,737.5	968	713.9	87	64.2	41	30.2
Hispanic	348	406.7	71	83.0	14	16.4	6	7.0

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 31: STDs, Northeast Public Health Region, Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	1,166	330.6	318	90.2	29	8.2	10	5.8
Male	362	208.4	167	96.2	27	15.5	10	5.8
Female	804	449.2	151	84.4	< 5	1.1	0	0.0
≤ 15	5	9.1	< 5	3.6	0	0.0	0	0.0
15–19	345	1,639.3	38	180.6	< 5	9.5	< 5	4.8
20–24	484	2,053.2	95	403.0	< 5	12.7	< 5	4.2
25–29	189	840.8	87	387.0	< 5	17.8	< 5	4.4
30–34	64	331.8	42	217.8	< 5	5.2	0	0.0
35–39	40	204.2	28	142.9	< 5	10.2	< 5	5.1
≥ 40	39	20.3	26	13.5	17	8.9	6	3.1
Non-Hispanic White	952	293.4	225	69.3	27	8.3	9	2.8
Non-Hispanic Black	136	1,481.5	69	751.6	< 5	21.8	< 5	10.9
Hispanic	62	618.5	15	149.6	0	0.0	0	0.0

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 32: STDs, South Central Public Health Region, Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	1,693	414.6	494	121.0	42	10.3	24	5.9
Male	537	266.7	220	109.3	30	14.9	20	9.9
Female	1,156	558.6	274	132.4	12	5.8	< 5	1.9
≤ 15	11	14.1	< 5	2.6	0	0.0	0	0.0
15–19	510	2,047.3	95	381.4	< 5	8.0	< 5	8.0
20–24	603	2,669.4	128	566.6	7	31.0	5	22.1
25–29	312	1,133.3	112	406.8	10	36.3	6	21.8
30–34	149	604.7	73	296.3	7	28.4	< 5	12.2
35–39	66	261.4	36	142.6	7	27.7	< 5	11.9
≥ 40	42	20.4	48	23.4	9	4.4	5	2.4
Non-Hispanic White	1,213	349.1	327	94.1	28	8.1	17	4.9
Non-Hispanic Black	376	1,348.7	158	566.8	12	43.0	5	17.9
Hispanic	87	414.6	8	38.1	< 5	4.8	< 5	4.8

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 33: STDs, Southeast Public Health Region, Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	1,292	384.9	512	152.5	29	8.6	10	3.0
Male	491	296.2	266	160.5	24	14.5	8	4.8
Female	801	471.4	246	144.8	5	2.9	< 5	1.2
≤ 15	< 5	3.5	< 5	1.7	0	0.0	0	0.0
15–19	316	1,444.2	52	237.7	< 5	9.1	< 5	4.6
20–24	495	2,355.1	157	747.0	6	28.5	< 5	19.0
25–29	268	1,265.8	122	576.2	5	23.6	< 5	9.4
30–34	111	604.0	79	429.8	< 5	21.8	< 5	10.9
35–39	63	322.1	49	250.5	< 5	5.1	0	0.0
≥ 40	37	21.0	52	29.5	11	6.2	< 5	0.6
Non-Hispanic White	973	325.4	390	130.4	18	6.0	8	2.7
Non-Hispanic Black	230	1,830.0	100	795.7	7	55.7	< 5	8.0
Hispanic	73	501.8	11	75.6	< 5	27.5	< 5	6.9

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 34: STDs, Upper Cumberland Public Health Region, Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	1,093	325.4	223	66.4	31	9.2	16	4.8
Male	330	187.8	117	66.6	21	12.0	10	5.7
Female	763	423.4	106	58.8	10	5.5	6	3.3
≤ 15	8	13.0	0	0.0	0	0.0	0	0.0
15–9	303	1,407.3	31	144.0	< 5	9.3	0	0.0
20–24	422	1,858.6	62	273.1	< 5	13.2	< 5	4.4
25–29	200	893.8	59	263.7	5	22.3	< 5	17.9
30–34	90	469.2	41	213.7	< 5	20.9	< 5	10.4
35–39	43	216.6	17	85.6	6	30.2	5	25.2
≥ 40	27	14.3	13	6.9	11	5.8	< 5	2.1
Non-Hispanic White	972	299.0	190	58.4	26	8.0	12	3.7
Non-Hispanic Black	58	1,057.0	25	455.6	< 5	36.4	< 5	18.2
Hispanic	53	314.1	< 5	23.7	< 5	11.9	< 5	11.9

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.

Table 35: STDs, West Public Health Region, Tennessee, 2018

Gender	Chlamydia		Gonorrhea		Syphilis -All Stages		P&S Syphilis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	2,909	551.7	1,280	242.8	49	9.3	8	1.5
Male	983	378.3	597	229.8	38	14.6	7	2.7
Female	1,926	720.2	683	255.4	11	4.1	< 5	0.4
≤ 15	25	26.5	7	7.4	0	0.0	0	0.0
15–9	896	2,668.7	256	762.5	7	20.8	< 5	3.0
20–24	1,119	3,459.0	449	1387.9	8	24.7	< 5	3.1
25–29	512	1,558.9	299	910.4	12	36.5	< 5	6.1
30–34	202	684.6	130	440.6	7	23.7	< 5	3.4
35–39	87	279.9	71	228.4	< 5	12.9	< 5	3.2
≥ 40	67	24.5	68	24.9	11	4.0	< 5	0.7
Non-Hispanic White	1,309	318.1	476	115.7	19	4.6	< 5	0.7
Non-Hispanic Black	1,395	1,614.8	731	846.2	28	32.4	5	5.8
Hispanic	50	304.6	12	73.1	< 5	6.1	0	0.0

Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2018.

All stages of syphilis column include congenital cases. P&S refers to primary and secondary stages of syphilis.

Hispanics can be any race reported.

Rates are per 100,000 population. Rates were calculated using the 1-year U.S. Census Bureau 2018 Population estimates.

Counts < 5 have been suppressed.