2018 Sexually Transmitted Infections Annual Report

February 2020

COLORADO
Department of Public Health & Environment

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Colorado 2018 Sexually Transmitted Infections Annual Report

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Acknowledgements

The Colorado Department of Public Health and Environment acknowledges that generations-long social, economic, and environmental inequities result with adverse health outcomes. They affect communities differently and have a greater influence on health outcomes than either individual choices or one's ability to access health care. Reducing health disparities through policies and organizational systems can help improve opportunities for all Coloradans.

Executive Summary

The 2018 Sexually Transmitted Infections Annual Report's purpose is to present the data in multiple ways for use by local public health agencies, health care professionals, nonprofit organizations and the public. It is a resource to aid in prevention planning, funding applications, reports and presentations. It presents statistics and trends for reportable sexually transmitted infections (STIs) in Colorado. These include chlamydia, gonorrhea and syphilis. STIs are the most commonly reported conditions in Colorado and are among the world's most common infections, with an annual incidence exceeded only by diarrheal diseases and malaria. In 2018, 39,102 cases of chlamydia (29,124), gonorrhea (8,894) and syphilis of all stages (1,084) were newly reported in Colorado. This year has seen the highest reported cases of all three in Colorado. These trends mirror increases at the national level. For more information on national STI trends, please reference the CDC 2018 STD Surveillance Report.

Chlamydia

In 2018, Colorado reported 511.4 cases of chlamydia per 100,000, a 6.4% increase from 2017 and a 25.2% increase from 2014. The majority of chlamydia cases are among women, 63.4%, and 66.9% of cases among women were between the ages of 15 and 24.

Gonorrhea

In 2018, there were 156.2 cases of gonorrhea per 100,000, a 3.5% increase from 2017 and a 163.7% increase from 2014. Males represent a higher proportion of gonorrhea cases (59.6%) when compared to females and 46.3% of all cases were among those 20-29 years of age.

Syphilis

There were 19.0 cases of syphilis (all stages) per 100,000 in 2018, a 30.8% increase from 2017 and a 110.9% increase from 2014. Males accounted for 86.2% of cases. However, the proportion of women diagnosed with syphilis has been increasing the past several years (7.0% in 2014 to 13.8% in 2018).

This report describes trends in reportable STIs in Colorado by person, place and time. STI surveillance data is used to detect outbreaks, prioritize resources, develop and tailor interventions, and evaluate the effectiveness of interventions. Some of the reasons for preventing and controlling STIs include high rates of complications and adverse health outcomes. STIs also can facilitate the transmission of HIV and are closely related to other co-morbidities such as substance use and mental illness. STIs can also serve as a marker to identify health-related inequities that may exist in Colorado communities.

Data Sources and Methods

Under Colorado law as of May 2017, health care providers and laboratories must report all diagnosed cases of chlamydia and gonorrhea to the Colorado Department of Public Health and Environment (CDPHE) within four days and all syphilis cases within one workday.[1] These case reports are entered into the statewide STI reporting database. Case reports entered into this database are the primary data source for diagnosed cases of STIs in Colorado. Chlamydia, gonorrhea, and syphilis cases most often require laboratory confirmation; all laboratories submit STI reports to CDPHE, and all major laboratories report STIs electronically via secure data networks.

Colorado's STI reporting system, Patient Reporting Investigating Surveillance Manager (PRISM), is an event based relational database. This system allows for electronic disease reporting for the vast majority of reports and helps to reduce reporting delays due to a small minority of reporting still using a paper-based process. This has led to an improvement in the speed of partner management and treatment activities. Case information is updated as provider reports are received and interviews with patients are completed. Additionally, STI related reports are now geocoded, providing assurance that cases are attributed to the right jurisdiction for official reporting purposes and allowing for more accurate calculation of rates at a geographic level.

The National Electronic Telecommunications System for Surveillance (NETSS)[2] is a mechanism for state and local health jurisdictions to transmit surveillance data weekly and the finalized year-end data to the CDC. This year-end data is the primary source of the official STI numbers in this report.

Rates of reported cases in this report were calculated based on cases diagnosed in the calendar year per 100,000 persons. The 2018 disease rates for all Colorado counties are calculated by dividing the number of cases diagnosed for that county in 2018 by the 2018 total population for each county estimated by the Colorado State Demography Office and multiplying by 100,000. Our race/ethnicity categories are in line with the U.S. Census bureau.

Age and sex-specific rates of reported cases are presented in this report. The counts presented are summations of all valid data reported in the 2018 reporting year. Rates based on a small number of cases are often statistically unreliable especially for counties with small populations or where rates are calculated for age, sex, or race/ethnicity with small cell sizes.

Guidelines for Accurate Use of Data

The following guidelines are provided to ensure an accurate understanding of the use, interpretation, and limitations of the data presented in this report. These guidelines can help prevent data misuse, and increase

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[1] CDPHE, DCEED, Colorado Revised Statutes § 6 CCR 1009-1, Rules and Regulations Pertaining to Epidemic and Communicable Disease Control (Promulgated by The State Board of Health). https://www.colorado.gov/pacific/cdphe/regulations-adopted-board-health-division. Effective May 2017.
[2] https://wwwn.cdc.gov/nndss/netss.html

understanding of the accuracy and correct use of the STI data. These guidelines may be considered when reviewing data from any source.

1. Data in this report are primarily reported for new cases of STIs diagnosed in 2018. They are not for unique persons diagnosed with disease, e.g. a person may have more than one occurrence of disease in a single year.
2. Data in this report are based on cases reported to the STI/HIV Surveillance, Data, and Analytics Program, Division of Disease Control and Public Health Response, CDPHE. These data represent occurrences of disease among persons seeking and receiving care for STIs.
3. Small changes in numbers from year to year can appear dramatic if the actual number of cases is small. For example, if two cases of gonorrhea are counted in a county in one year and three cases are counted the next year, this is an increase of 50%. While this may sound significant, a change of one case does not represent a meaningful increase in the burden of disease. Although disease rates were calculated for counties reporting fewer than five cases, rates based on low case counts are considered statistically unreliable. Caution is recommended in interpreting trends or comparing across counties.
4. Data are presented for all reported cases and are known not to be 100% complete. Factors that impact the completeness and accuracy of STI data include:
   a. Level of STI screening by health care providers
   b. Individual test-seeking behavior (awareness of illness often depends on whether an individual is symptomatic or not)
   c. Sensitivity of diagnostic tests
   d. Compliance with case reporting
   e. Completeness of case reporting
   f. Timeliness of case reporting
5. Increases and decreases in STI rates can be due to actual changes in disease occurrence and/or changes in one or more of the above factors.
6. CDPHE does not maintain statistics for other, non-reportable STIs, e.g., herpes, human papillomavirus, genital warts, but does maintain statistics for HIV and Hepatitis C, which are reported separately and not included here.
7. Early syphilis comprises of primary and secondary syphilis, which is symptomatic and non-primary, non-secondary latent[3] syphilis, which is asymptomatic. Syphilis infectivity varies based on its presentation; while primary and secondary syphilis is considered to be highly infective, non-primary, non-secondary latent syphilis is not. For this reason, public health programming may base

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[3] In 2017, CDC updated the case definition and naming convention for early latent syphilis to start January 1, 2018. What was referred to as early latent syphilis in the past is referred to as non-primary, non-secondary latent syphilis in this report.

interventions and evaluation methods on primary and secondary syphilis infection rate alone. That said, given the morbidity of both primary and secondary and non-primary, non-secondary latent syphilis, we have included information on both presentations. For congenital syphilis, CDPHE previously reported only confirmed cases and not probable cases. After review CDPHE will be reporting both confirmed and probable cases. Data in this report reflect corrected figures from prior years.

Limitations

Due to the increasing number of STIs in Colorado, the percent of unknown race/ethnicity has increased since 2012. This unknown was most evident in chlamydia, where the percent of unknown race/ethnicity went from 28.1% in 2012 to 50.2% in 2017. Gonorrhea also showed an increase in unknown race/ethnicity from 13.9% in 2012 to 35.3% in 2017. All stages of syphilis, however, has seen a decrease in unknown race/ethnicity from 10.1% in 2013 to 8.2% in 2017. When looking specifically at primary and secondary syphilis, the percent went from 9.8% to 7.2% in the same time. Non-primary, non-secondary latent syphilis follows the same pattern as chlamydia and gonorrhea where the percent of unknown race/ethnicity was 5.1% in 2013 and increased to 6.4% in 2017. Race/ethnicity data for chlamydia and gonorrhea is primarily derived from labs, which often do not report race/ethnicity and results in less data completeness. Procedures were put in place to help with race/ethnicity data ascertainment, and 2018 saw a reduction of unknown data in chlamydia (32.1%), gonorrhea (22.6%), and syphilis (3.7%). Due to the proportion of cases having unknown race/ethnicity being over 30% for both chlamydia and gonorrhea in the previous years, trends of the rates by this variable are not displayed.

Also, due to the increasing number of STIs in Colorado, follow-up and interviews were limited in 2018 to new HIV and syphilis diagnoses. This results in less data completeness for chlamydia and gonorrhea cases, especially for data relating to previous HIV diagnoses and risk behavior information like men having sex with other men.

Anyone with questions about how these data should be interpreted is encouraged to contact the STI/HIV Surveillance, Data and Analytics Program at (303) 692-2700.

Chlamydia

Chlamydia remained the most commonly reported STI in Colorado. In 2018, there were 29,124 cases diagnosed and reported for a statewide rate of 511.4 per 100,000. This is an all-time high for reported cases and rate of reported cases of chlamydia in Colorado. **Figure C.1** shows annual case counts and rates of chlamydia in Colorado from 2009 to 2018. Cases and rates have increased steadily from 2009 to 2018, with two dips in 2010 and 2013. The rate of chlamydia increased 6.4% from 2017 to 2018 and 25.2% from 2014 to 2018. A similar trend was seen for the nation. In 2018, 1,758,668 cases of chlamydia were diagnosed and reported to CDC for a rate of 539.9 per 100,000. This corresponds with an increase in the rate by 19.4% compared to 2014 (452.2 per 100,000).[4]

Figure C.1: Reported Chlamydia Cases and Rates of Reported Cases, Colorado, 2009-2018
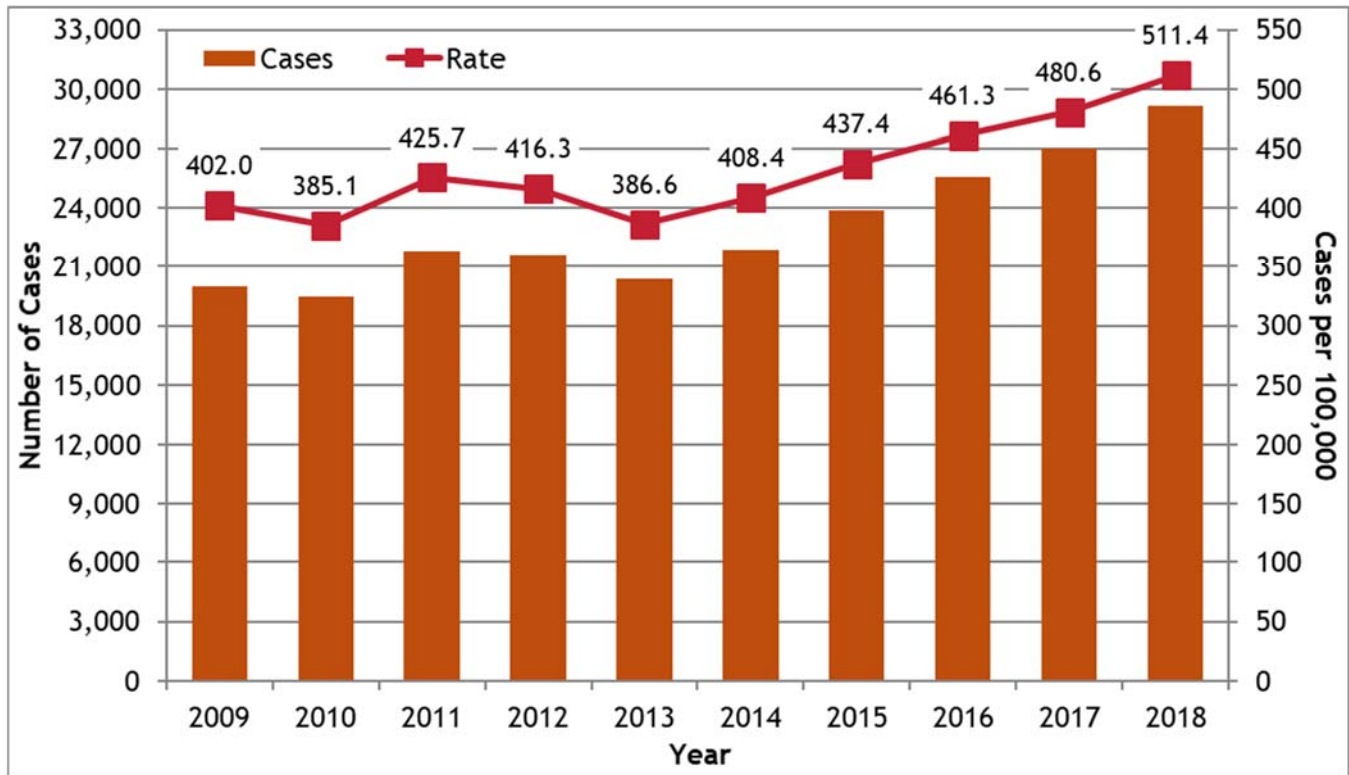
Rates per 100,000 varied significantly by sex and age. The chlamydia rate was nearly two times greater among females, 649.4 per 100,000, than males, 373.6 per 100,000 in 2018 (**Table 1** in the appendix). Rates were highest among adolescents and young adults for both males and females.

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[4] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2018.* Atlanta: U.S. Department of Health and Human Services; 2019. http://www.cdc.gov/std/stats.

Figure C.2 shows age and sex case counts and rates for chlamydia diagnosed in 2018. The mean age at diagnosis was 25.2, with a range of 0 to 74 years of age. Females accounted for nearly two-thirds (63.4%) of the chlamydia cases. Among 15-19-year olds, the chlamydia rate for females, 3,098.5 per 100,000, was nearly four times greater than the rate for males, 835.2 per 100,000.

The marked difference in case rates by sex may be attributed to screening efforts which target females in reproductive health settings. To a lesser degree, this difference may also reflect the natural history of chlamydia infections. Males may be less susceptible to infection, are more likely to be asymptomatic compared to females, and are less likely to access health services and receive routine screening.[5] The result of these factors is the burden of chlamydia infections among males remains largely undiagnosed, untreated and unreported.

Figure C.2: Reported Chlamydia Cases and Rates of Reported Cases by Sex and Age Group, Colorado, 2018
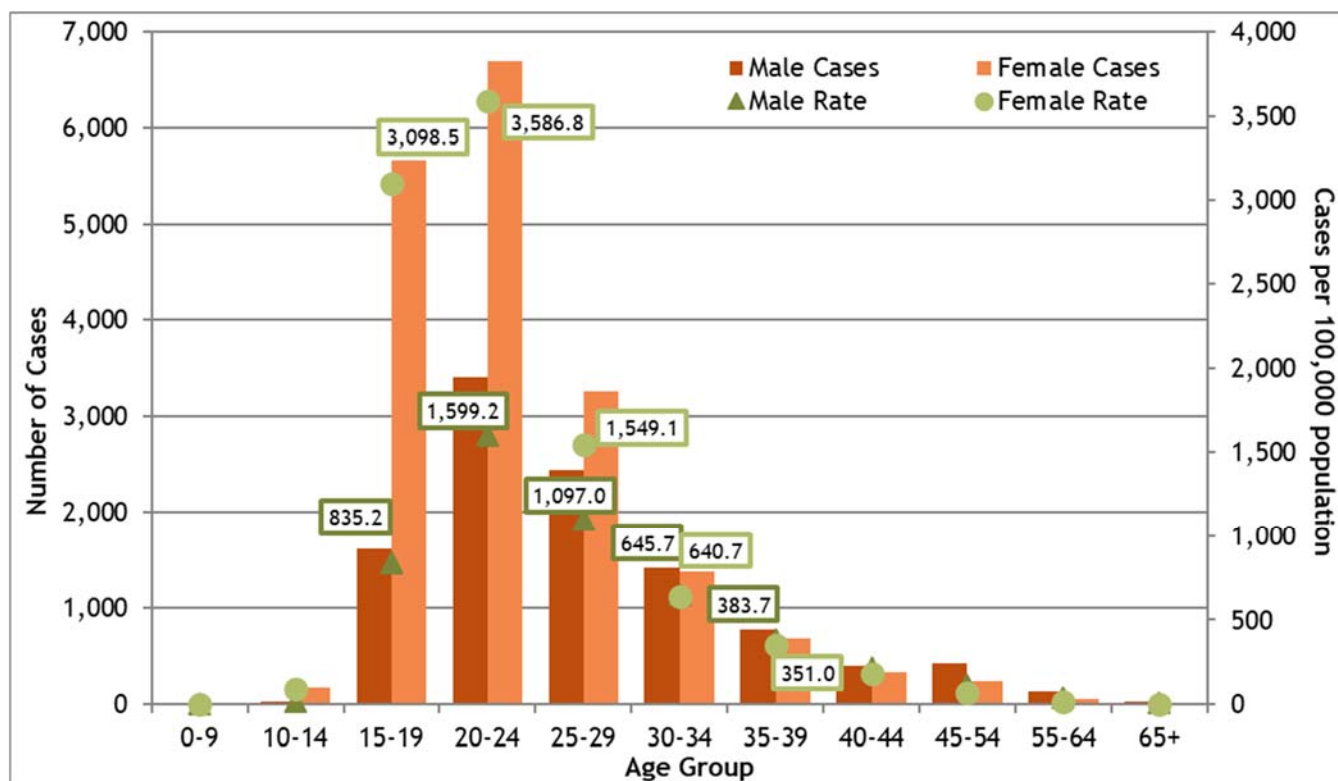
Rates not displayed can be found in Table 3.

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[5] Maraynes, M. E., Chao, J. H., Agoritsas, K., Sinert, R., & Zehtabchi, S. (2017). Screening for asymptomatic chlamydia and gonorrhea in adolescent males in an urban pediatric emergency department. *World Journal of Clinical Pediatrics*, 6(3), 154-160. http://doi.org/10.5409/wjcp.v6.i3.154

Racial and ethnic minorities continued to be disproportionately affected by STIs. Non-Hispanic Blacks represented 4.2% of Colorado's population, but represented 9.4% of reported chlamydia cases in 2018. Please note, race/ethnicity data is not complete (see limitations section). Therefore, the racial and ethnicity data should be interpreted with caution.

Figure C.3 shows the geographical distribution of chlamydia rates in Colorado at the county level. **Figure C.4** shows chlamydia rates by county for 2018. Denver, Arapahoe, and Costilla counties had the three highest rates of reported chlamydia cases and accounted for 40.1% of chlamydia cases in 2018. As shown in both **Figure C.3** and **Figure C.4**, chlamydia cases were largely concentrated in Denver County. In 2018, every county had at least one reported chlamydia case.

Figure C.3: Rates of Reported Chlamydia Cases by County Map, Colorado, 2018
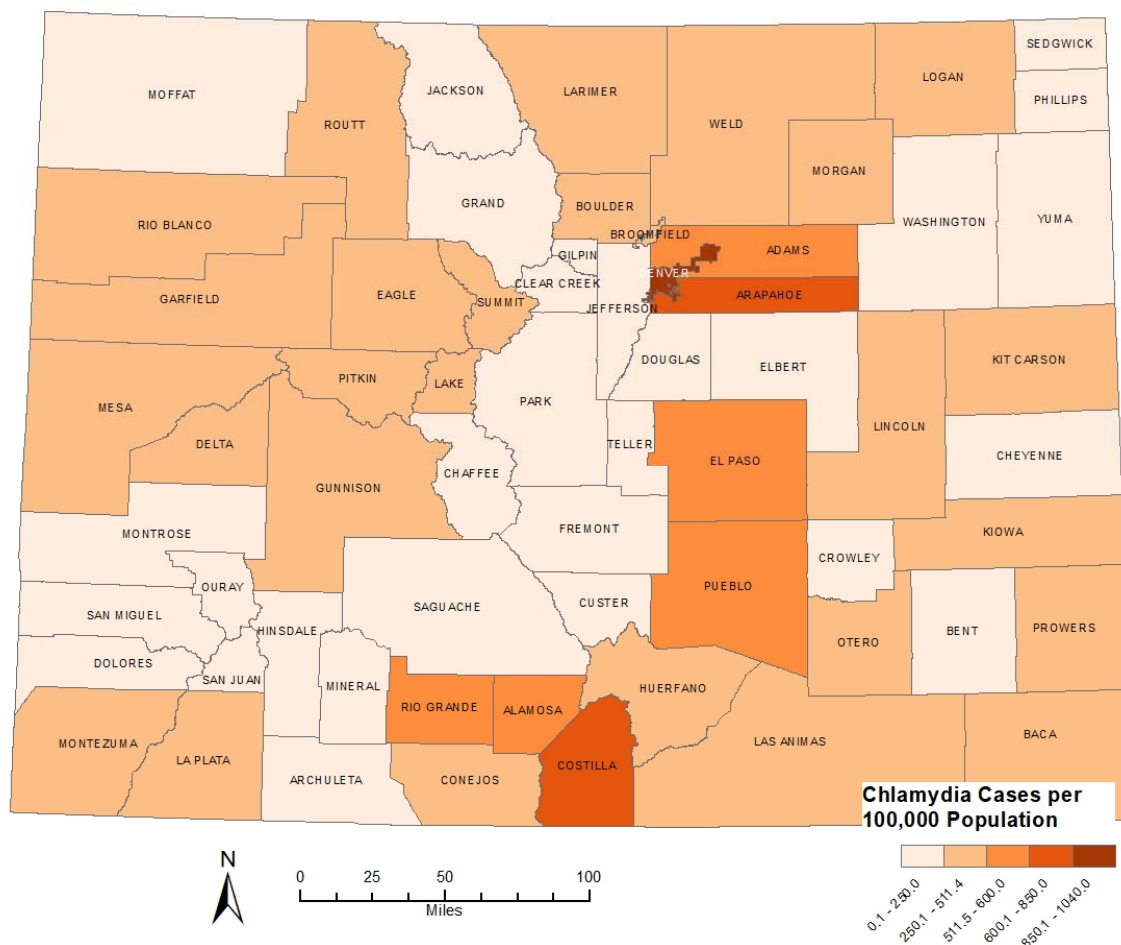
High rates do not necessarily mean high case counts; for further details, see Figure C.4 and Table 2.

Figure C.4: Rates of Reported Chlamydia Cases by County Chart, Colorado, 2018

County	Cases per 100,000
Denver	1,040.0
Arapahoe	640.7
Costilla	602.3
Rio Grande	597.5
Alamosa	587.2
Pueblo	571.6
Adams	571.2
El Paso	561.9
State of Colorado	511.4
Lake	476.4
Morgan	460.7
Weld	458.2
Otero	441.4
Boulder	433.8
Prowers	430.6
Larimer	428.6
Mesa	416.6
La Plata	402.2
Garfield	396.0
Broomfield	371.8
Las Animas	371.7
Summit	358.3
Montezuma	340.7
Eagle	340.7
Pitkin	340.3
Huerfano	292.0
Kiowa	291.3
Lincoln	287.0
Delta	274.8
Gunnison	273.5
Logan	269.9
Routt	268.3
Kit Carson	265.0
Conejos	257.6
Rio Blanco	254.3
Baca	253.4
Jefferson	229.9
Moffat	227.3
San Miguel	219.6
Phillips	210.3
Montrose	208.1
Bent	205.7
Douglas	200.0
Dolores	195.1
Elbert	186.7
Sedgwick	175.8
Fremont	173.2
Grand	161.3
Archuleta	159.8
Yuma	159.4
Chaffee	149.9
Saguache	146.4
Teller	143.6
Jackson	143.5
Park	140.2
Crowley	136.6
San Juan	133.9
Mineral	132.6
Hinsdale	124.4
Cheyenne	107.1
Ouray	103.9
Clear Creek	103.5
Custer	81.1
Gilpin	65.6
Washington	63.6

Cases per 100,000

Gonorrhea

Gonorrhea remained the second most commonly reported STI in Colorado with 8,894 cases reported in 2018, yielding a rate of 156.2 per 100,000. This rate increased 3.5% from 2017 and 163.79% from 2014 as shown in **Figure G.1**. Like chlamydia, this is also a historic high for Colorado. In the United States, 583,405 gonorrhea cases were diagnosed and reported to the CDC in 2018, producing a rate of 179.1 per 100,000. This is an increase of 63.1% in the rate compared to 2014 (109.8 per 100,000).[6]

Figure G.1 shows cases diagnosed each year and the rate per 100,000 from 2009 to 2018. Over this ten-year period, overall gonorrhea rates remained relatively consistent from 2009 through 2013. 2014 saw a slight increase followed by sharp increases in 2015 through 2018.

Figure G.1: Reported Gonorrhea Cases and Rates of Reported Cases, Colorado, 2009-2018
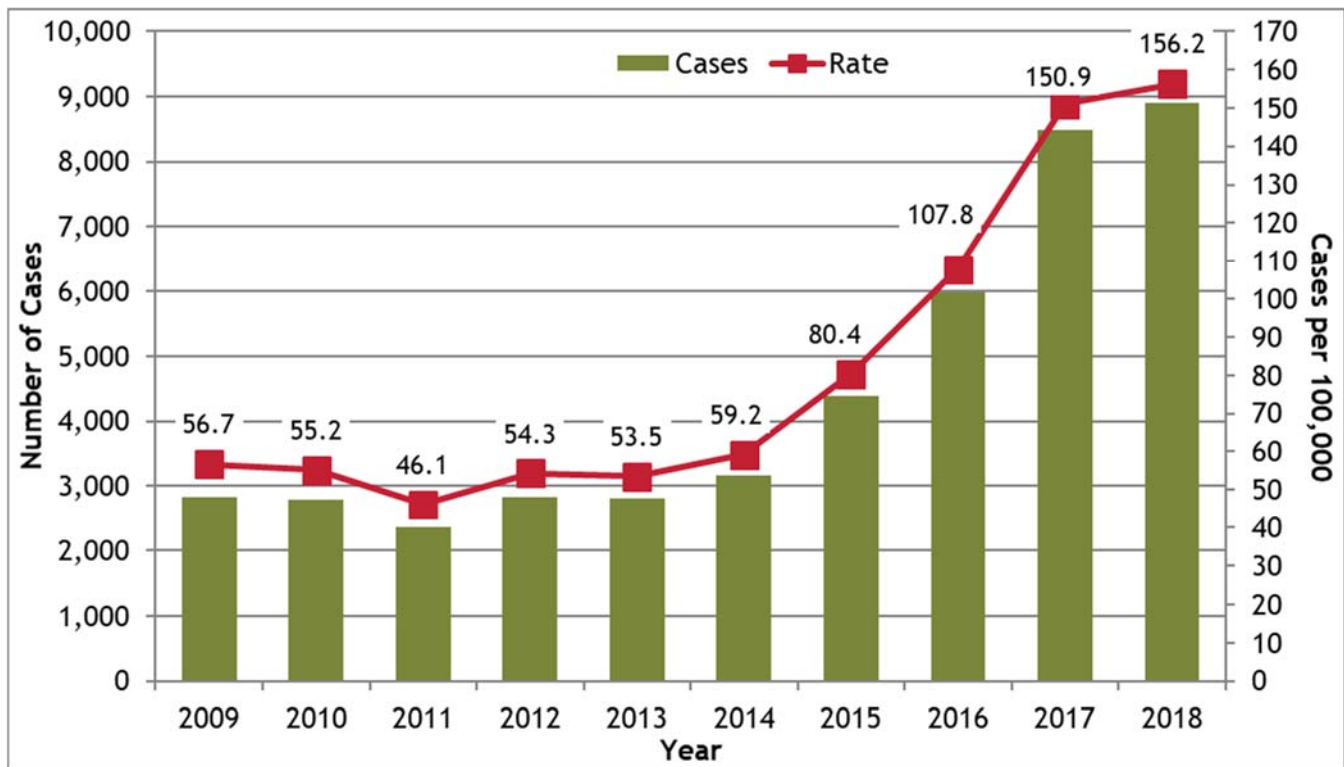
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[6] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2018*. Atlanta: U.S. Department of Health and Human Services; 2019. http://www.cdc.gov/std/stats.

Figure G.2 shows age and sex case count for gonorrhea diagnosed in 2018. The mean age at diagnosis was 29.6 with a range of 2 to 81 years of age. Males accounted for 59.6% of total cases and rates by sex and age were typically higher for males. However, among 15-19-year olds, the gonorrhea rate for females, 404.7 per 100,000, was almost two times greater than the rate for males, 208.4 per 100,000.

Figure G.2: Reported Gonorrhea Cases and Rates of Reported Cases by Sex and Age Group, Colorado, 2018
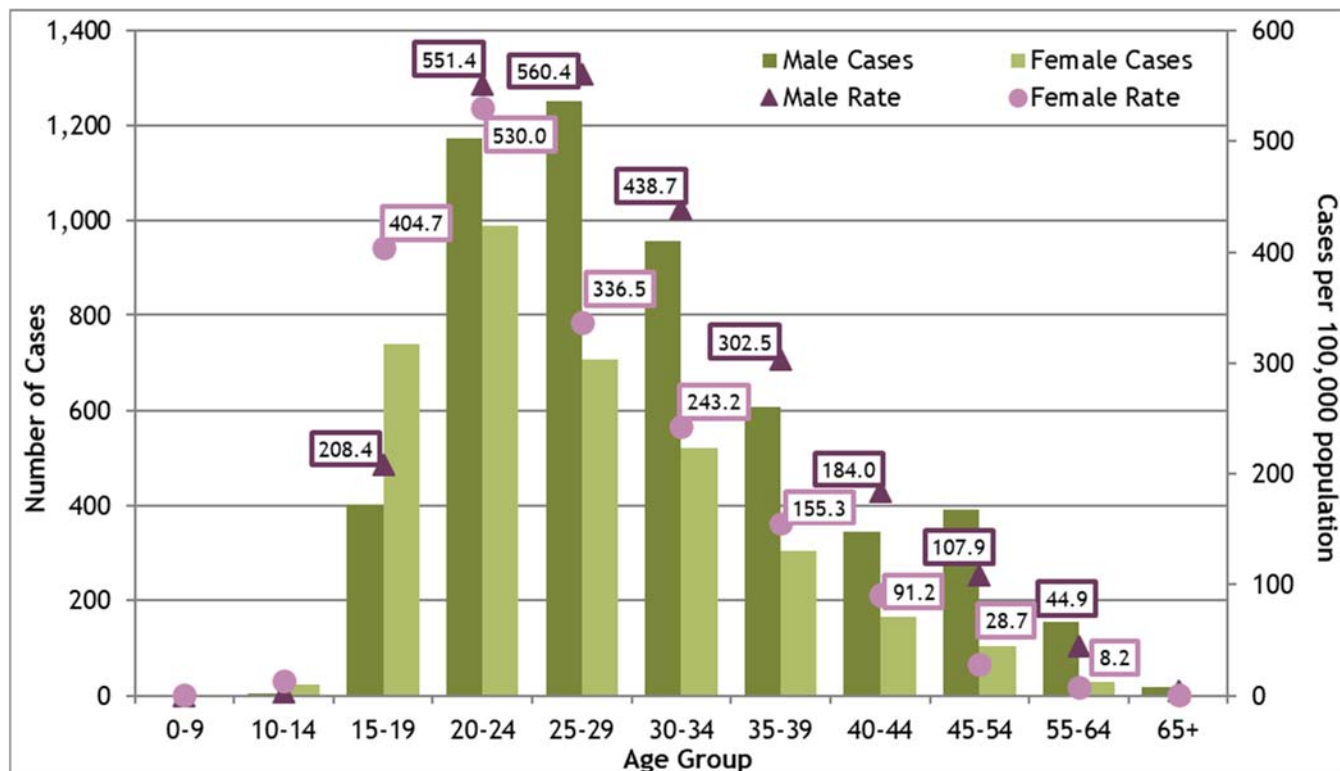
Rates not displayed can be found in Table 4.

As seen with chlamydia, Non-Hispanic Blacks were disproportionately affected by gonorrhea in 2018. They represented 4.2% of Colorado's population, but represented 13.5% of reported gonorrhea cases. **Figure G.3** shows that the highest rate of gonorrhea was seen among Non-Hispanic Black males, 548.7 per 100,000 in 2018. The next highest rate was among Non-Hispanic Black females, 383.2 per 100,000. Although Non-Hispanic Whites accounted for the largest proportion of gonorrhea cases, 32.6%, their overall rate per 100,000 was only higher than Non-Hispanic Asian/Pacific Islanders (73.4 and 38.3 per 100,000, respectively) in 2018.

Figure G.3: Rates of Reported Gonorrhea Cases by Race/Ethnicity and Sex, Colorado, 2018
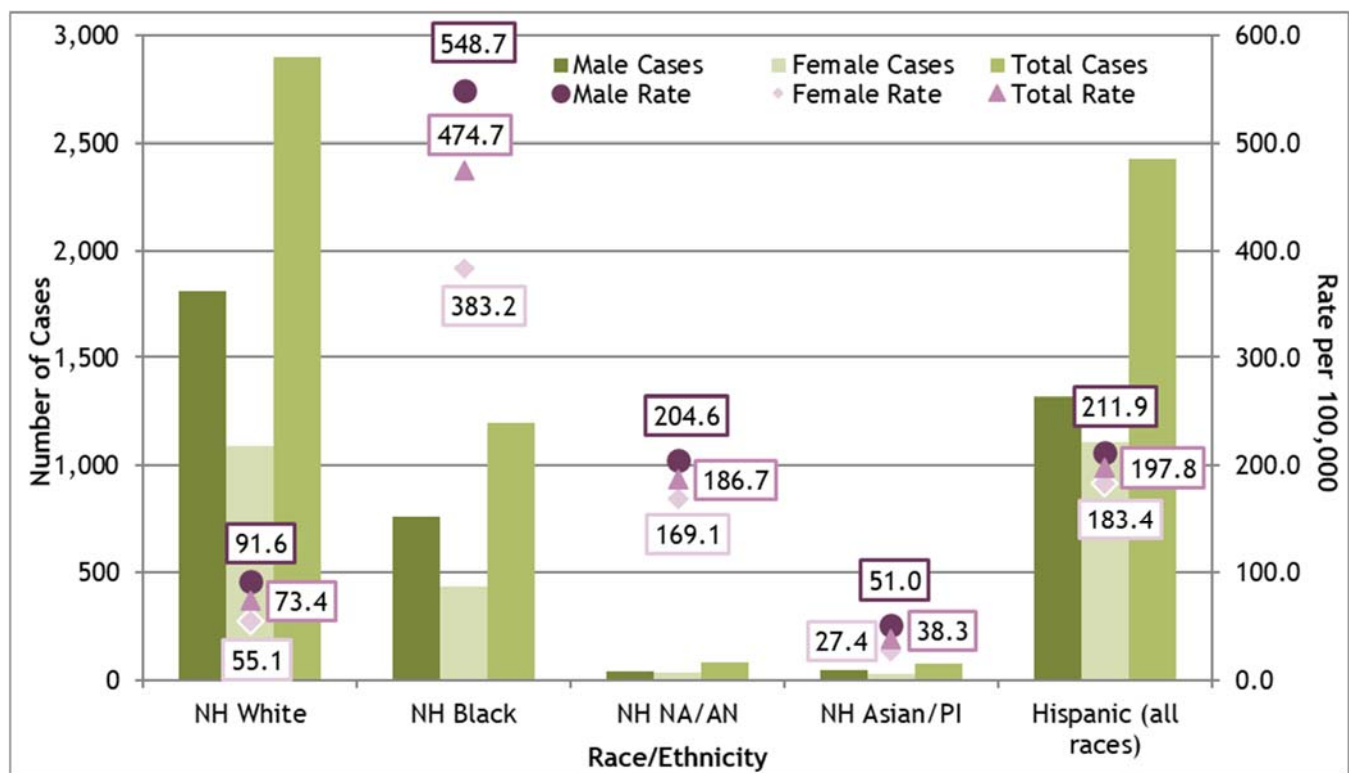
Figure **G**.4 and **Figure G**.5 describe the geographical distribution of gonorrhea rates in Colorado at the county level. The map shows gonorrhea cases were not as widespread as chlamydia. Six counties did not report any gonorrhea cases in 2018. All of these counties are rural. A large proportion, 57.6%, of all cases was reported in just three counties; Denver, El Paso and Arapahoe, with Denver County accounting for 30.4% of reported cases. Pueblo, Denver, and Arapahoe had the highest rates of gonorrhea.

Figure G.4: Rates of Reported Gonorrhea Cases by County Map, Colorado, 2018
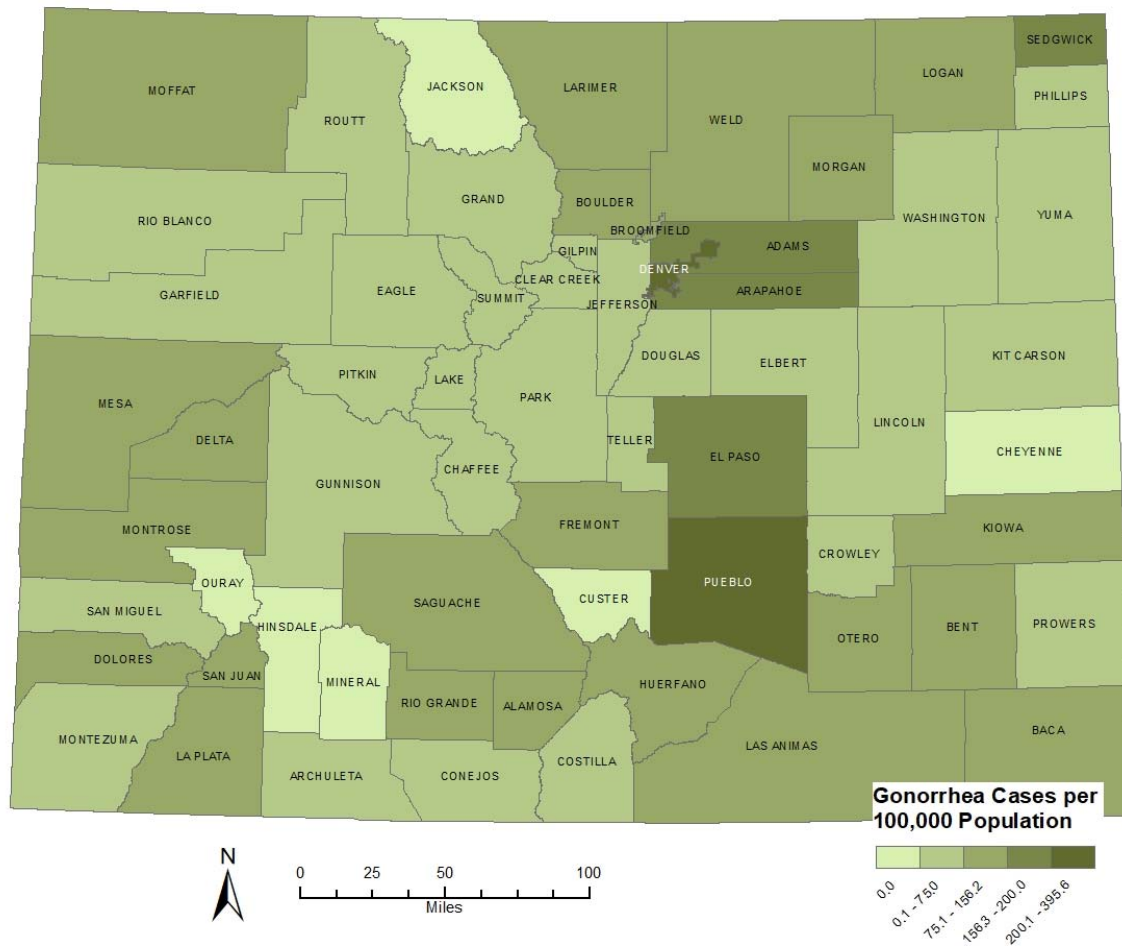
High rates do not necessarily mean high case counts; for further details, see Figure G.5 and Table 2.

Figure G.5: Rates of Reported Gonorrhea Cases by County Chart, Colorado, 2018

County	Cases per 100,000
Pueblo	395.6
Denver	376.7
Arapahoe	178.0
El Paso	176.6
Sedgwick	175.8
Adams	159.3
State of Colorado	156.2
Kiowa	145.7
Mesa	142.6
Las Animas	137.7
Weld	134.9
San Juan	133.9
Otero	114.4
Baca	112.6
Morgan	112.5
Alamosa	111.3
Rio Grande	107.0
Saguache	102.5
Huerfano	102.2
Dolores	97.6
Delta	97.0
Moffat	90.9
La Plata	90.4
Larimer	89.3
Bent	85.7
Broomfield	82.5
Boulder	79.3
Logan	77.8
Fremont	77.2
Montrose	75.7
Conejos	73.6
Montezuma	72.7
Jefferson	71.4
Phillips	70.1
Kit Carson	69.7
Eagle	60.1
Routt	54.4
Gunnison	52.4
Costilla	52.4
Lake	51.5
Gilpin	49.2
Chaffee	45.0
Garfield	43.4
Park	43.1
Washington	42.4
Clear Creek	41.4
Pitkin	39.0
Summit	35.5
Crowley	34.2
Prowers	33.1
Elbert	30.5
Douglas	28.3
San Miguel	24.4
Teller	23.9
Yuma	19.9
Lincoln	17.9
Rio Blanco	15.9
Grand	12.9
Archuleta	7.3

Primary and Secondary Syphilis

There were 337 cases of primary and secondary syphilis diagnosed and reported in Colorado in 2018 and the rate was 5.9 per 100,000. This is an increase in the rate of 13.8% from 2017 and 70.3% from 2014 as shown in **Figure PS.1**. Again, this is a historic high for Colorado. Like in Colorado, from 2014 to 2018, the U.S. reported a 71.4% increase in the rate of primary and secondary syphilis cases. This corresponds with 35,063 cases (10.8 per 100,000) of primary and secondary syphilis reported for 2018 compared to 19,999 cases (6.3 per 100,000) in 2014 for the total United States.[7]

The reported cases in Colorado were primarily among men (92.6%). Nearly half of all cases were among Non-Hispanic White males, representing 53.7%. Additionally, 63.2% of all cases were among men who have sex with men (MSM). In 2018, 26.1% of primary and secondary syphilis diagnoses were co-infected with HIV; i.e. the percent of syphilis cases that were reported among people living with HIV (both previously diagnosed with HIV or diagnosed with HIV at the same time as the syphilis diagnosis), and 36.6% of those who reported MSM risk were co-infected with HIV. Comparatively in the United States, 41.6% of primary and secondary syphilis diagnoses who reported MSM risk were co-infected with HIV.[8]

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[7] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2018*. Atlanta: U.S. Department of Health and Human Services; 2019. http://www.cdc.gov/std/stats.
[8] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2018*. Atlanta: U.S. Department of Health and Human Services; 2019. http://www.cdc.gov/std/stats.

Figure PS.1: Reported Primary & Secondary Syphilis Cases and Rates of Reported Cases, Colorado, 2009-2018
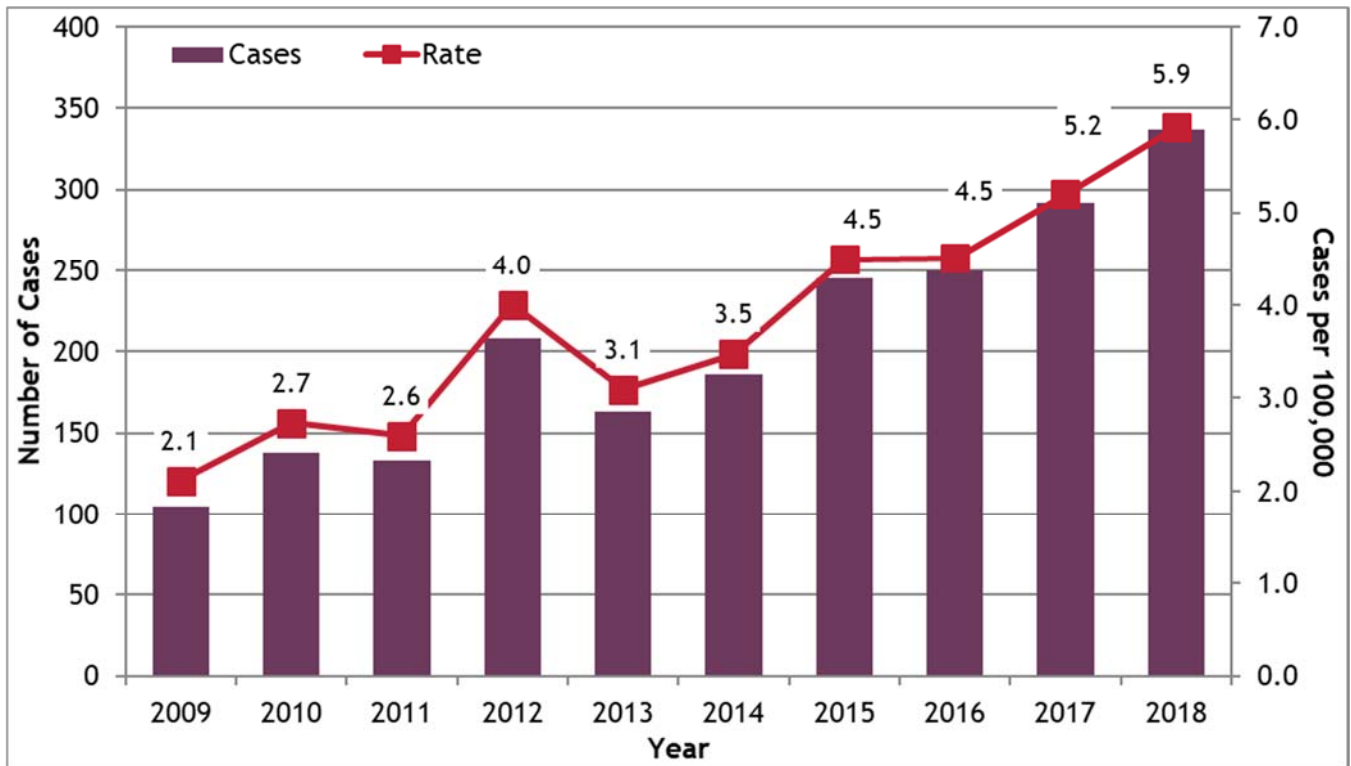
Figure PS.2 shows age and sex case counts for primary and secondary syphilis diagnosed and reported in 2018. The mean age at diagnosis was 34.8 with a range of 16 to 75 years of age. The highest rates were reported among 25-29-year-old males whose rate was 34.5 cases per 100,000. In 2018, 22.8% of the cases occurred among 25-29-year-old males followed by 30-34-year-old males at 17.2% of all reported primary and secondary syphilis cases.

Figure PS.2: Reported Primary & Secondary Syphilis Cases and Rates of Reported Cases by Sex and Age Group, Colorado, 2018
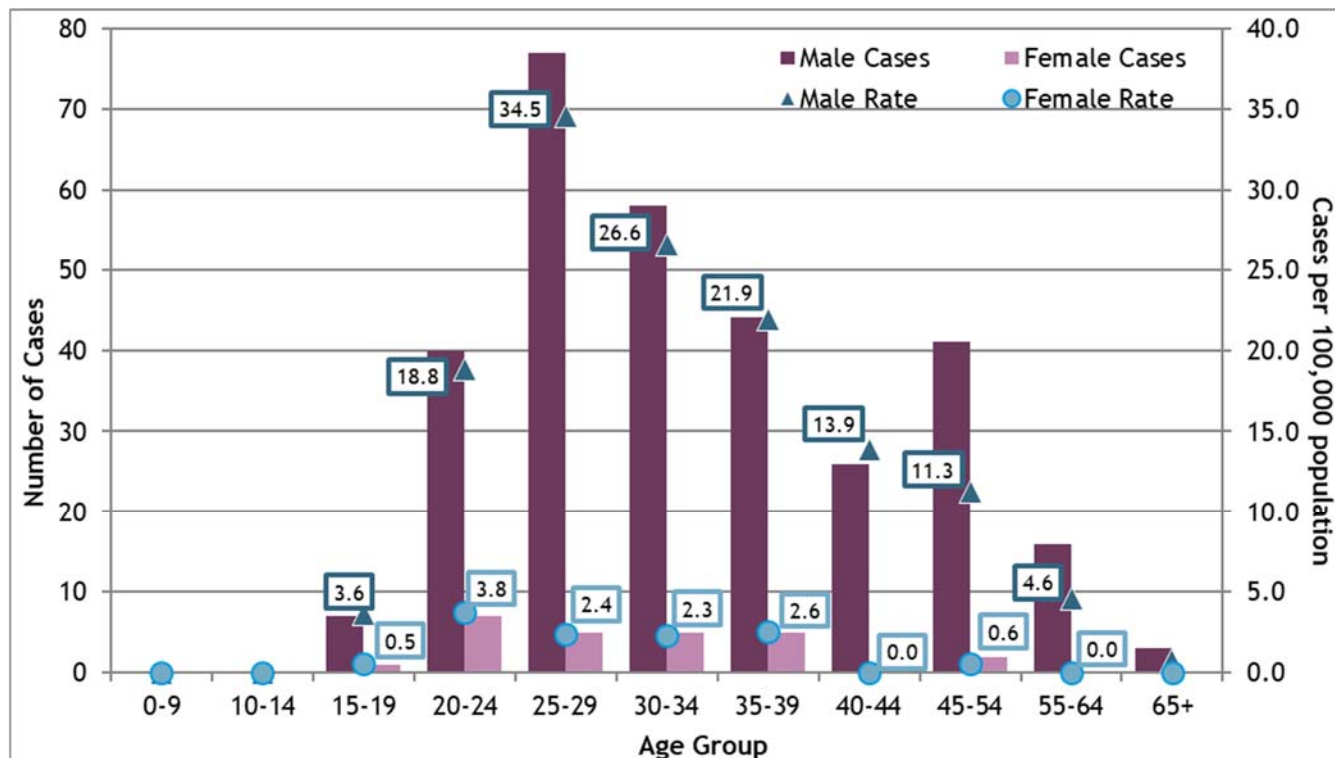
Rates not displayed can be found in Table 5. Caution: these rates use small numbers and should be interpreted with caution.

Figure PS.3 and **Figure PS.4** below depict age group case counts and rates for primary and secondary syphilis. Since numbers from one year are small, the five-year average rate in **Figure PS.4** helps to stabilize the rate and thus produces a more accurate representation of the distribution.

Figure PS.3: Reported Primary and Secondary Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2018
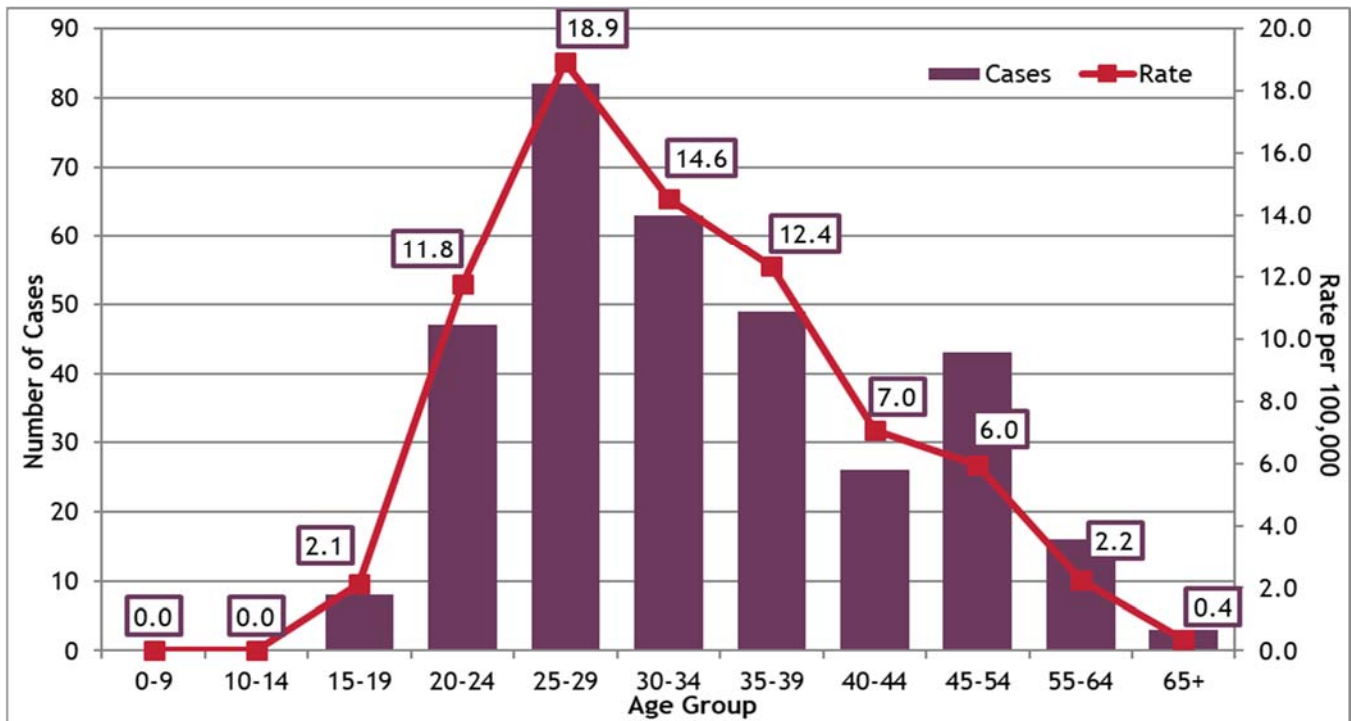
Caution: these rates use small numbers and should be interpreted with caution.

Figure PS.4: Reported Primary & Secondary Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2014-2018
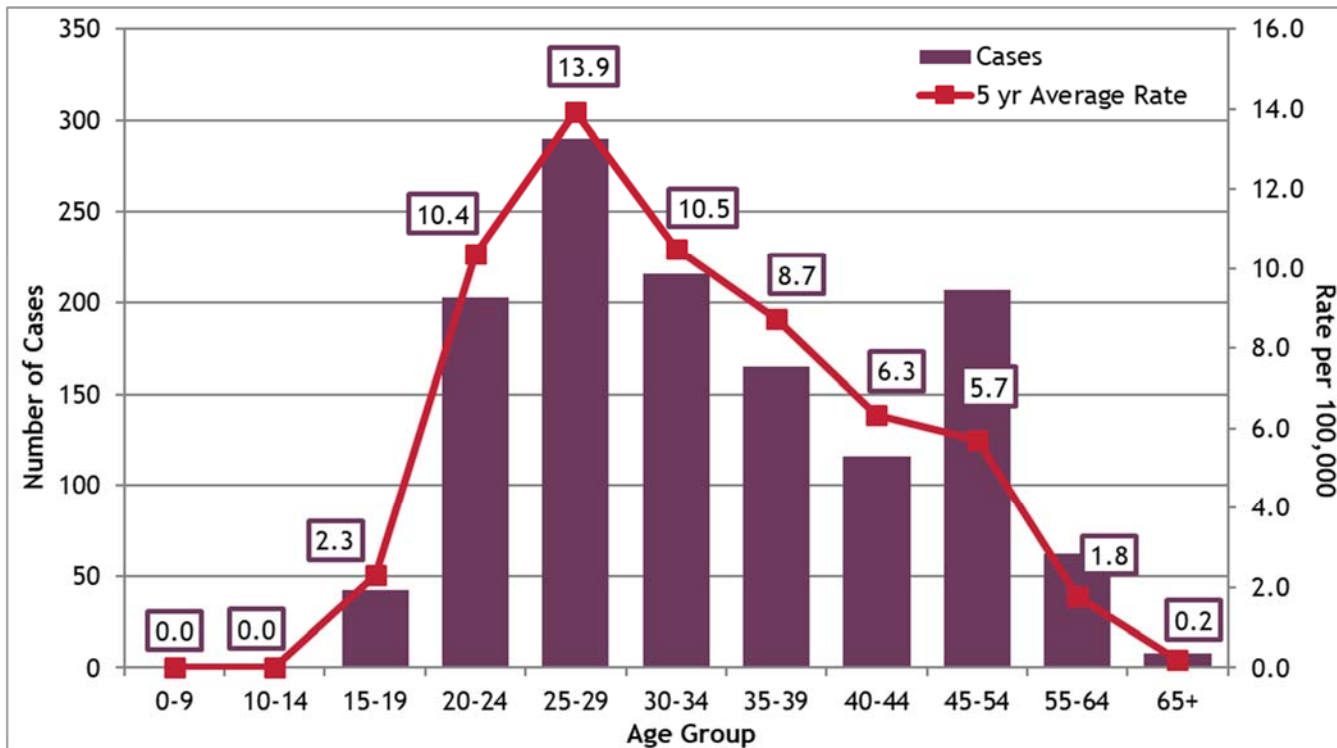
More stable than the one-year rate from Figure PS.3.

Figure PS.5 shows that the highest rate of primary and secondary syphilis was seen among Non-Hispanic Blacks, 15.1 per 100,000 in 2018. The next highest rate was among Non-Hispanic Native Americans/Alaska Natives, 9.2 per 100,000. Although Non-Hispanic Whites accounted for the majority of the primary and secondary syphilis cases, 53.7%, their rate per 100,000 was only higher than Non-Hispanic Asian/Pacific Islanders (4.6 and 0.5 per 100,000) in 2018.

Figure PS.5: Rates of Reported Primary & Secondary Syphilis Cases by Race/Ethnicity and Sex, Colorado, 2018
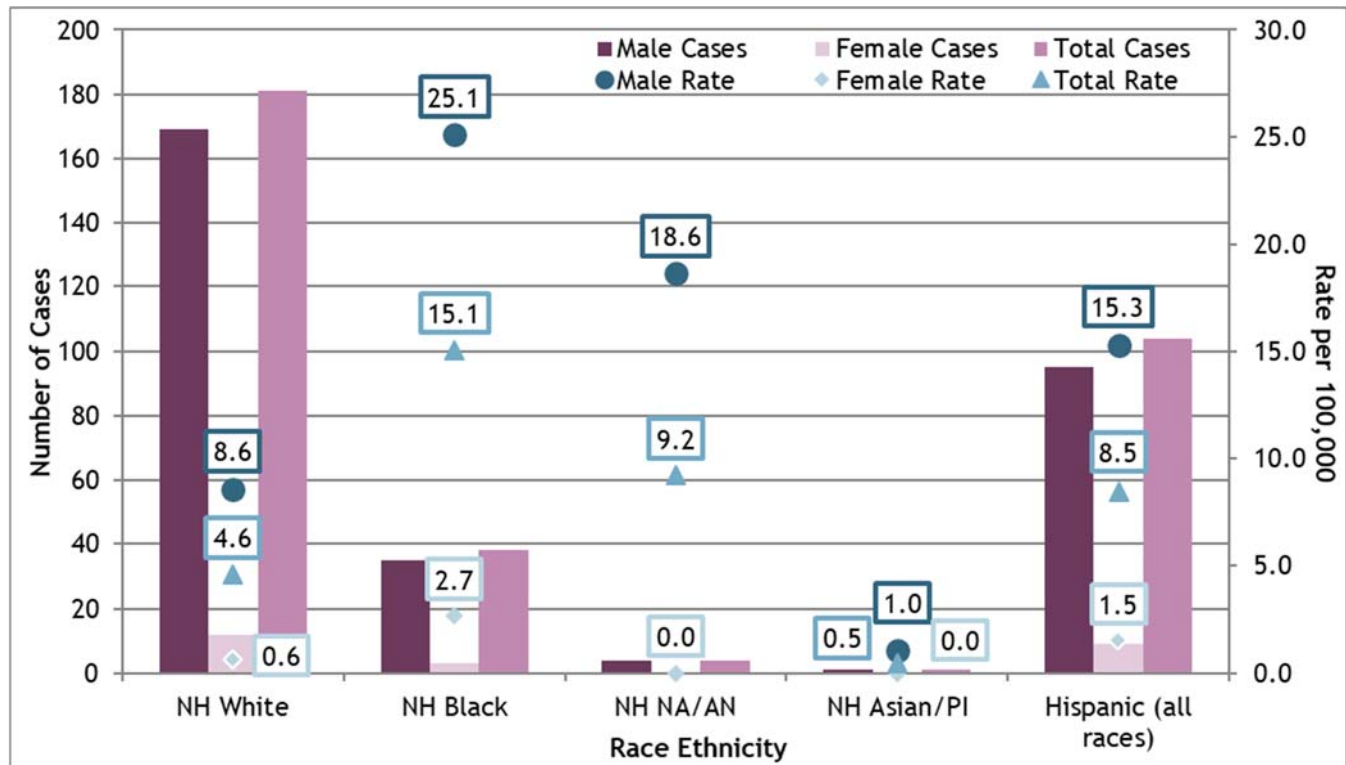
Caution: these rates use small numbers and should be interpreted with caution.

Figure PS.6 shows the five-year trend in rates for Non-Hispanic Whites, Non-Hispanic Blacks and Hispanics. Other races were not displayed due to small numbers (less than 20 cases per year). All three showed an increasing trend from 2014-2018. The rates for Non-Hispanic Blacks saw a sharper increase.

Figure PS.6: Rates of Reported Primary & Secondary Syphilis Cases by Race/Ethnicity, Colorado, 2014-2018
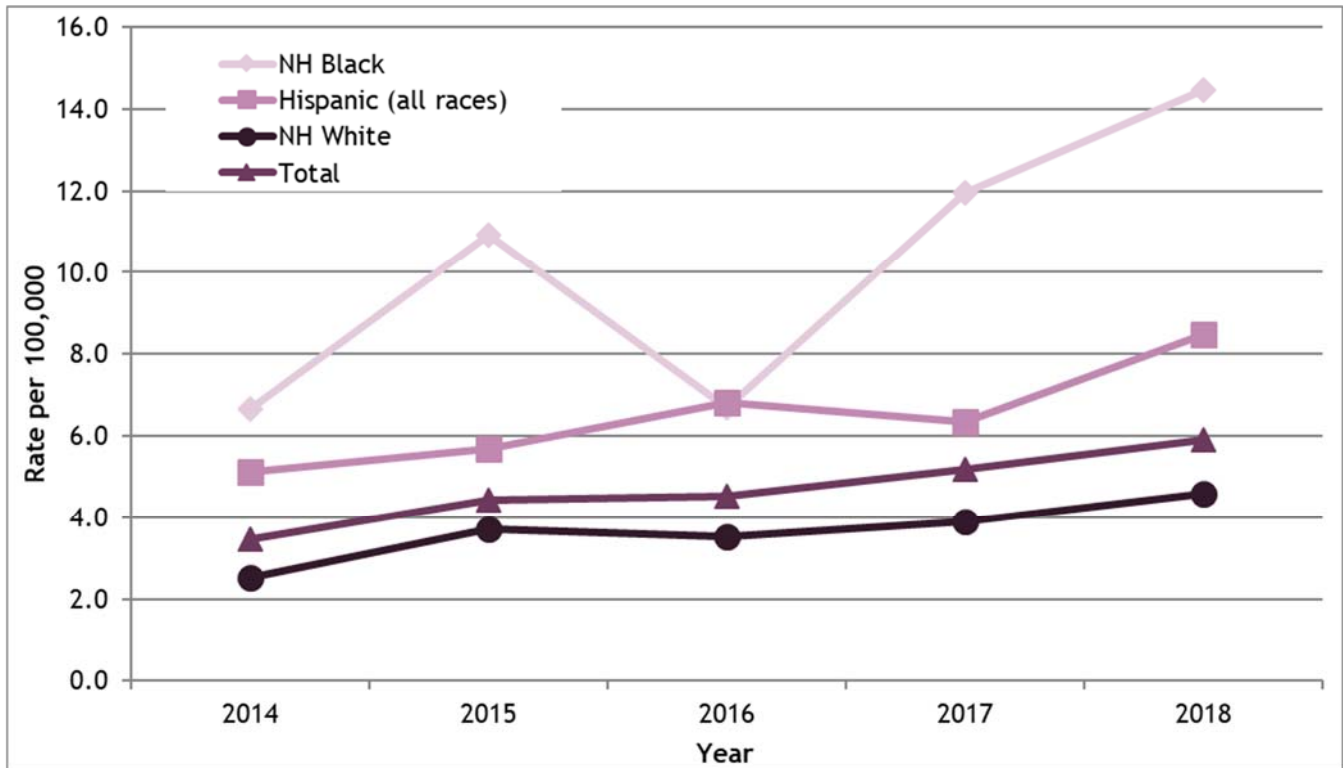
Caution: these rates use small numbers and should be interpreted with caution.

Figure PS.7 and **Figure PS.8** describe the geographical distribution of primary and secondary syphilis rates in Colorado at the county level. The map shows primary and secondary syphilis has been diagnosed in 28 of 64 counties with Denver County reporting the highest proportion of cases, 39.2% in 2018. The highest rates were in Washington, Denver and Bent counties with a rate of 21.2, 18.4, and 17.1, respectively, (**Figure PS.8**). However, the Washington and Bent rates were produced from five or less cases and are not reliable. Use caution when interpreting some of these rates as the county may have a small population and small case numbers.

Figure PS.7: Rates of Reported Primary & Secondary Syphilis Cases by County Map, Colorado, 2018
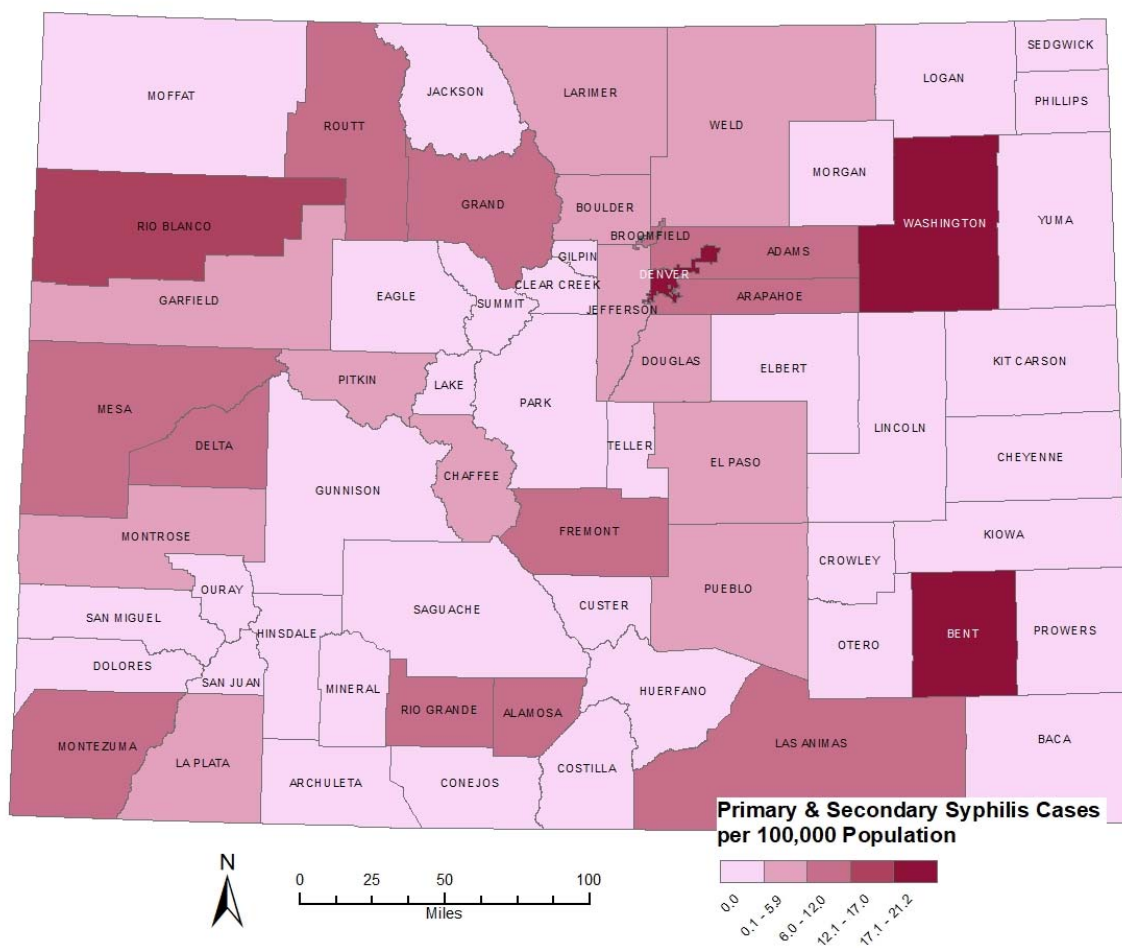
High rates do not necessarily mean high case counts; for further details, see Figure PS.8 and Table 2.

Figure PS.8: Rates of Reported Primary & Secondary Syphilis Cases by County Chart, Colorado, 2018

Caution: these rates use small numbers and should be interpreted with caution. For details see Table 2.

Figure PS.9 shows the rate of primary and secondary syphilis and HIV co-infections; i.e. the percent of syphilis cases that were reported among people living with HIV (both previously diagnosed with HIV or diagnosed with HIV at the same time as the syphilis diagnosis), for 2014-2018. The rate has ranged from 41.6% in 2015 to 26.1% in 2018 producing a downward trend. The five-year average rate for primary and secondary syphilis and HIV co-infections was 34.0%.

Figure PS.9: Reported Primary & Secondary Syphilis Cases and Percent HIV+ by Year of Diagnosis, Colorado, 2014-2018
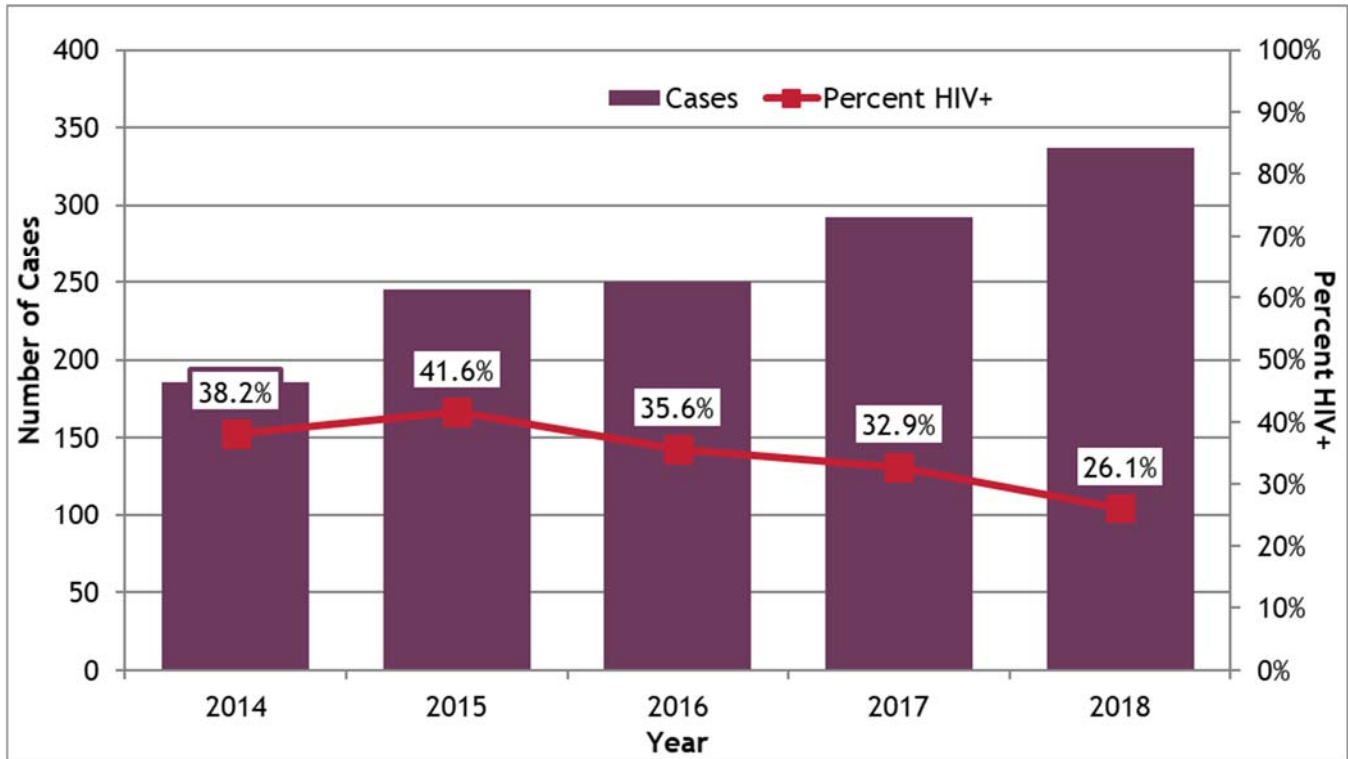
Non-Primary, Non-Secondary Latent Syphilis

Non-primary, non-secondary latent syphilis is latent syphilis (no visible signs or symptoms, previously referred to as early latent syphilis) in which the infection occurred within the past 12 months. There were 362 cases of non-primary, non-secondary latent syphilis diagnosed and reported in 2018 and the rate was 6.4 per 100,000. The rate increased by 27.0% from 2017 and 107.5% from 2014 as shown in **Figure EL.1**. Similar to the three previous sections, this is an all-time high for Colorado. In the United States, 38,539 (11.8 per 100,000) cases of non-primary, non-secondary latent syphilis were diagnosed and reported for 2018 to the CDC. Like Colorado, this rate for the U.S. is an increase (93.4%) compared to 2014 (6.1 per 100,000).[9]

Non-Hispanic White males represent 45.0% of reported non-primary, non-secondary latent cases. Additionally, 65.7% of cases were among MSM. In 2018, 43.9% of non-primary, non-secondary latent syphilis diagnoses were co-infected with HIV; i.e. percent of syphilis cases that were reported among people living with HIV (both previously diagnosed with HIV or diagnosed with HIV at the same time as the syphilis diagnosis), and 53.8% of those who reported MSM risk were co-infected with HIV.

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[9] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2018*. Atlanta: U.S. Department of Health and Human Services; 2019. http://www.cdc.gov/std/stats.

Figure EL.1: Reported Non-Primary, Non-Secondary Latent Syphilis Cases and Rates of Reported Cases, Colorado, 2009-2018
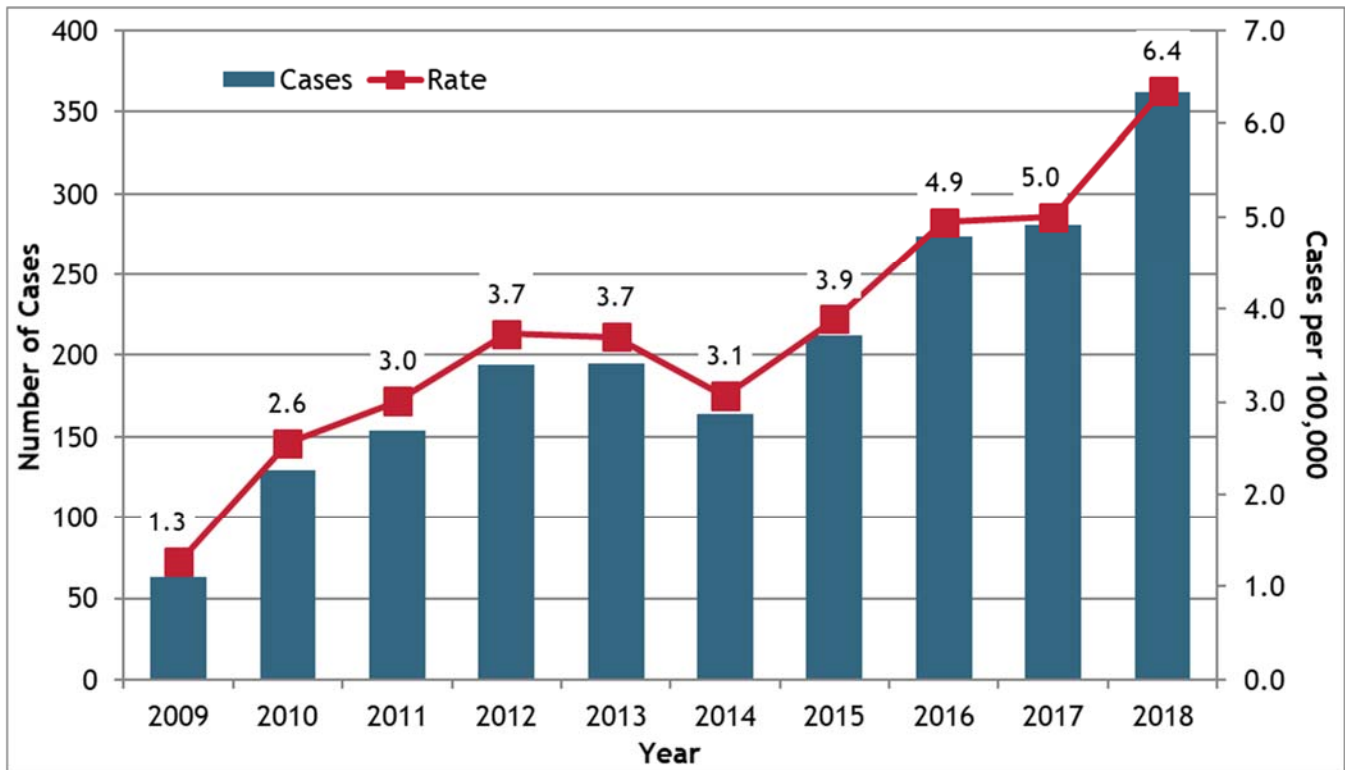
Figure EL.2 shows age and sex case counts for non-primary, non-secondary latent syphilis diagnosed in 2018. The mean age at diagnosis was 34.9 with a range of 1 to 67 years of age. Overall from 2009-2018, the highest rates were reported among 25-29 year old males whose rate was 30.5 cases per 100,000. In 2018, 18.8% of the cases occurred among 25-29 year old males; followed by 30-34 year old males which accounted for 17.1% of cases.

Figure EL.2: Reported Non-Primary, Non-Secondary Latent Syphilis Cases and Rates of Reported Cases by Sex and Age Group, Colorado, 2018
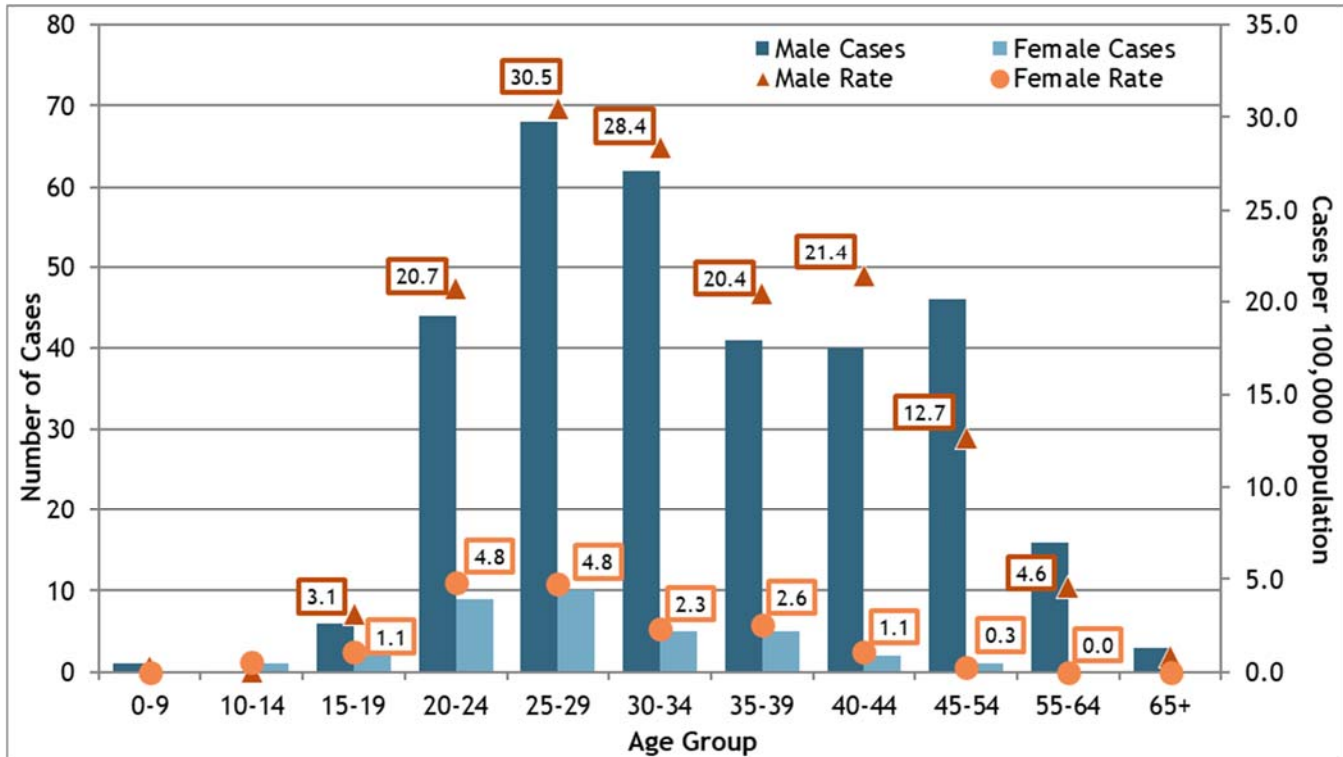
Rates not displayed can be found in Table 6. Caution: these rates use small numbers and should be interpreted with caution.

Figure EL.3 and **Figure EL.4** below depict age group case counts and rates for non-primary, non-secondary latent syphilis. This five-year average rate helps to stabilize the rate and thus produces a more accurate representation of the rate.

Figure EL.3: Reported Non-Primary, Non-Secondary Latent Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2018
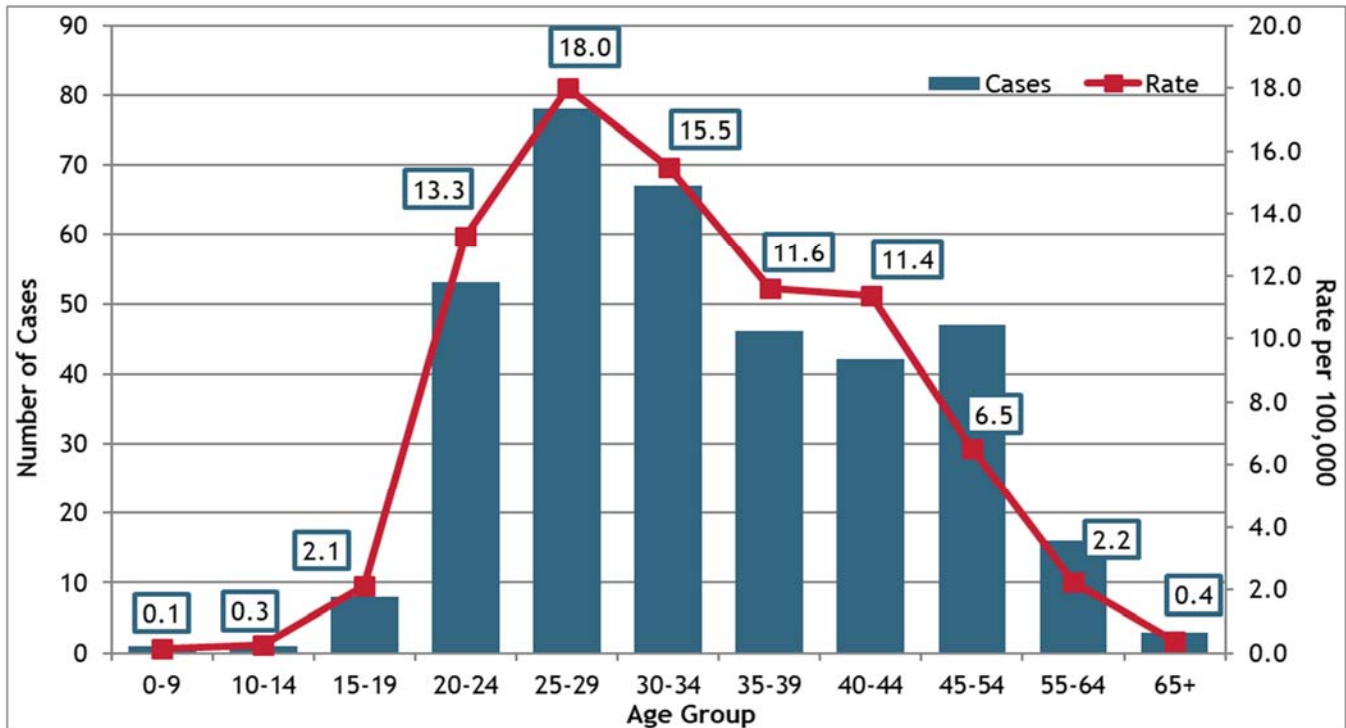
Caution: these rates use small numbers and should be interpreted with caution.

Figure EL.4: Reported Non-Primary, Non-Secondary Latent Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2014-2018
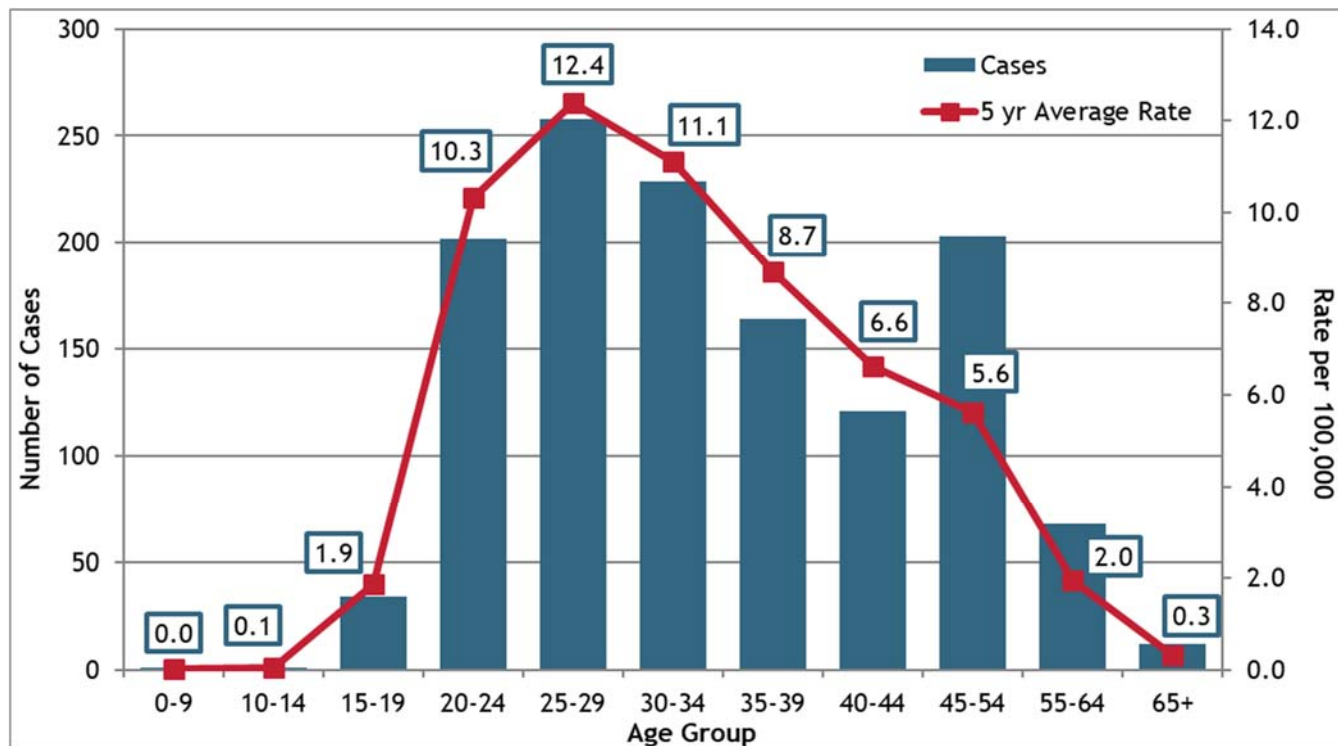
More stable than the one-year rate from Figure EL.3.

Figure EL.5 shows that the highest rate of non-primary, non-secondary latent syphilis is seen among Hispanic males, 20.1 per 100,000 in 2018. The next highest rate was among Non-Hispanic Black males, 16.5 per 100,000. The highest proportion of non-primary, non-secondary latent syphilis was among Non-Hispanic Whites, accounting for 50.0%, however their rate was one of the lowest at 4.6 per 100,000, only higher than Non-Hispanic Asian/Pacific Islanders, 2.4 per 100,000.

Figure EL.5: Rates of Non-Primary, Non-Secondary Latent Syphilis Cases by Race/Ethnicity and Sex, Colorado, 2018

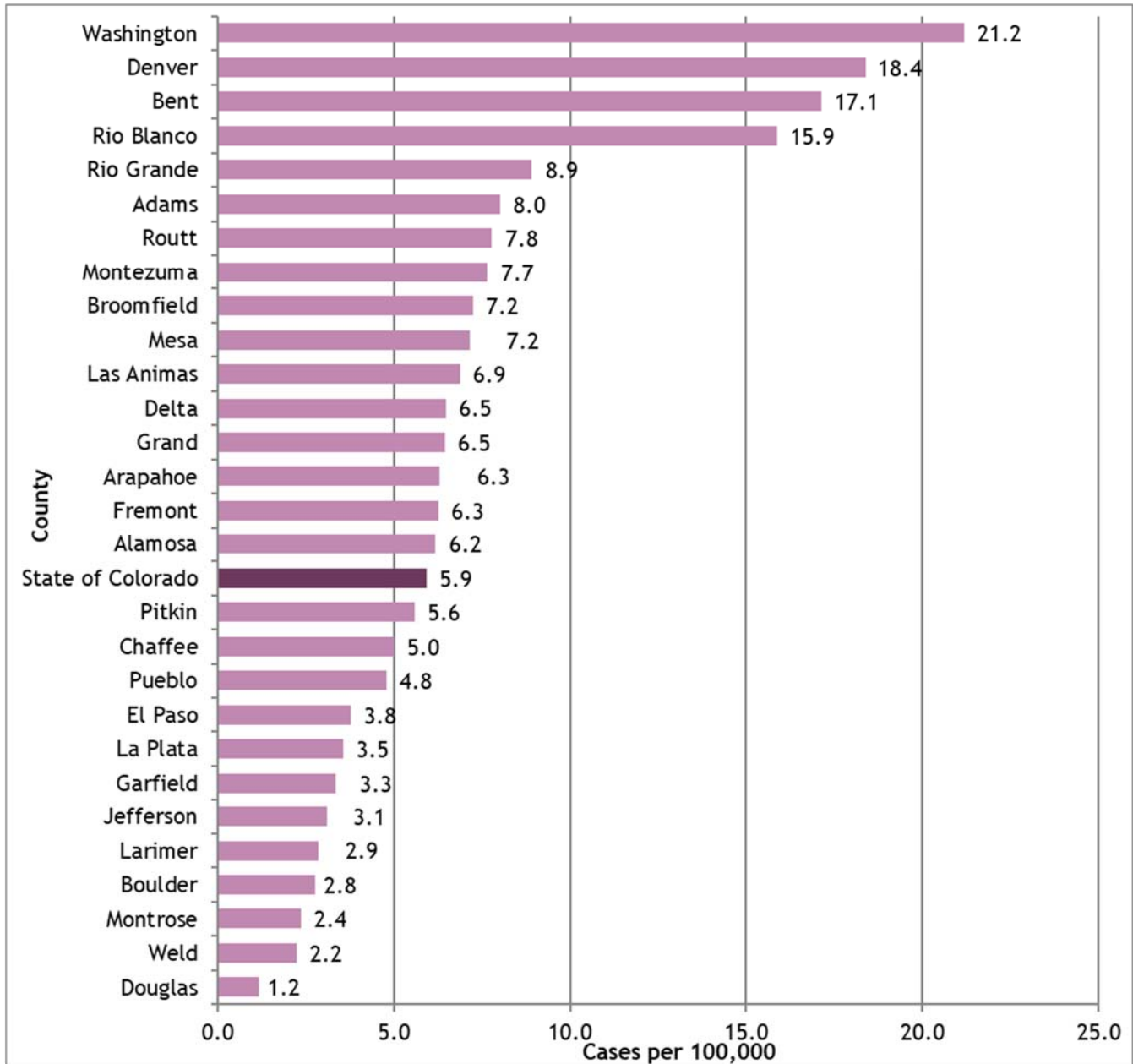Caution: these rates use small numbers and should be interpreted with caution.

Figure EL.6 shows the five-year trend in rates for Non-Hispanic Whites, Non-Hispanic Blacks and Hispanics. Other races were not displayed due to small numbers. Rates for Non-Hispanic Blacks have varied over time, ranging from 7.5 in 2014 to 13.4 in 2016. Rates among Non-Hispanic Whites and Hispanics have had an overall increasing trend from 2014-2018. Hispanics and Non-Hispanic Blacks now report similar rates in 2018 (11.1 and 11.0 respectively), demonstrating a clear health inequity.

Figure EL.6: Rates of Non-Primary, Non-Secondary Latent Syphilis Cases by Race/Ethnicity, Colorado, 2014-2018
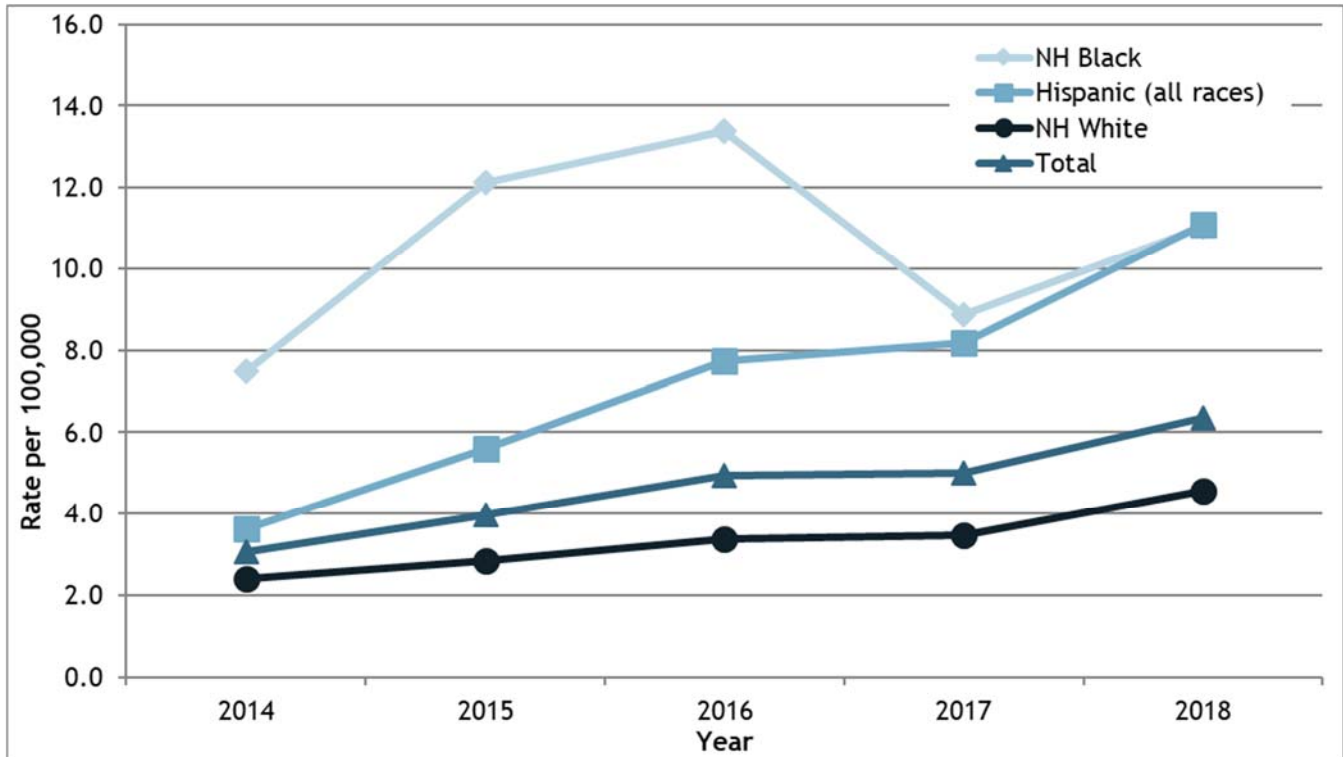
Caution: these rates use small numbers and should be interpreted with caution.

Figure EL.7 and **Figure EL.8** describe the geographical distribution of non-primary, non-secondary latent syphilis rates in Colorado at the county level. The map shows non-primary, non-secondary latent syphilis cases have been diagnosed in residents of 28 of 64 counties with Denver County reporting the highest proportion and highest rate of reported cases, 46.7% and 23.5 per 100,000 population in 2018. The next highest rates were in Las Animas and Kit Carson counties (**Figure EL.8**). However, the Las Animas and Kit Carson rates were produced from five or less cases and are not reliable. Use caution when interpreting some of these rates as the county may have a small population and small case numbers.

Figure EL.7: Rates of Non-Primary, Non-Secondary Latent Syphilis Cases by County Map, Colorado, 2018
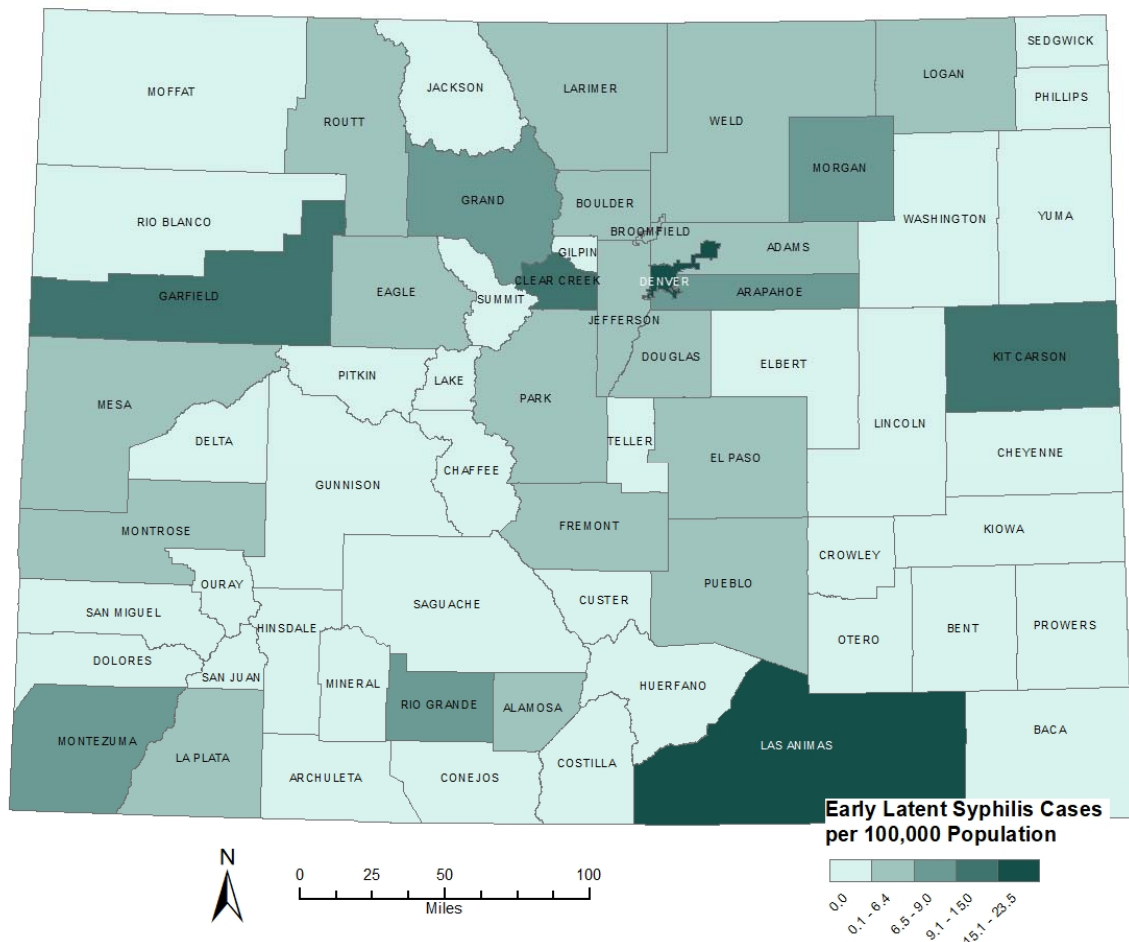
High rates do not necessarily mean high case counts; for further details, see Figure EL.8 and Table 2.

Figure EL.8: Rates of Non-Primary, Non-Secondary Latent Syphilis Cases by County Chart, Colorado, 2018
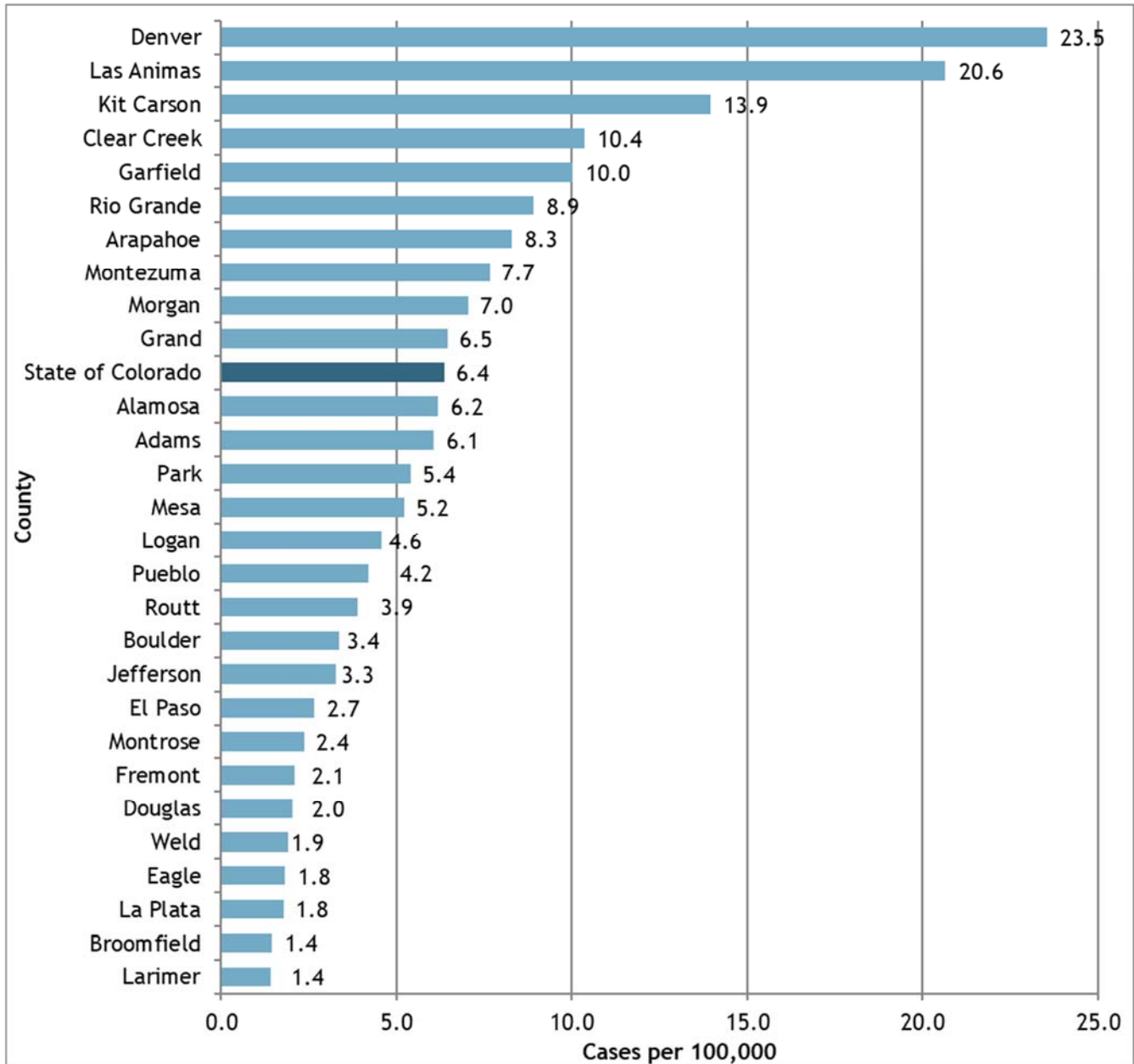
Caution: these rates use small numbers and should be interpreted with caution. For details, see Table 2.

Figure EL.9 shows the rate of non-primary, non-secondary latent syphilis and HIV co-infections; i.e. the percent of syphilis cases that were reported among people living with HIV (both previously diagnosed with HIV or diagnosed with HIV at the same time as the syphilis diagnosis), for 2014-2018. The five-year average rate for non-primary, non-secondary latent syphilis and HIV co-infections was 43.6%.

Figure EL.9: Non-Primary, Non-Secondary Latent Syphilis Reported Cases and Percent HIV+ by Year of Diagnosis, Colorado, 2014-2018
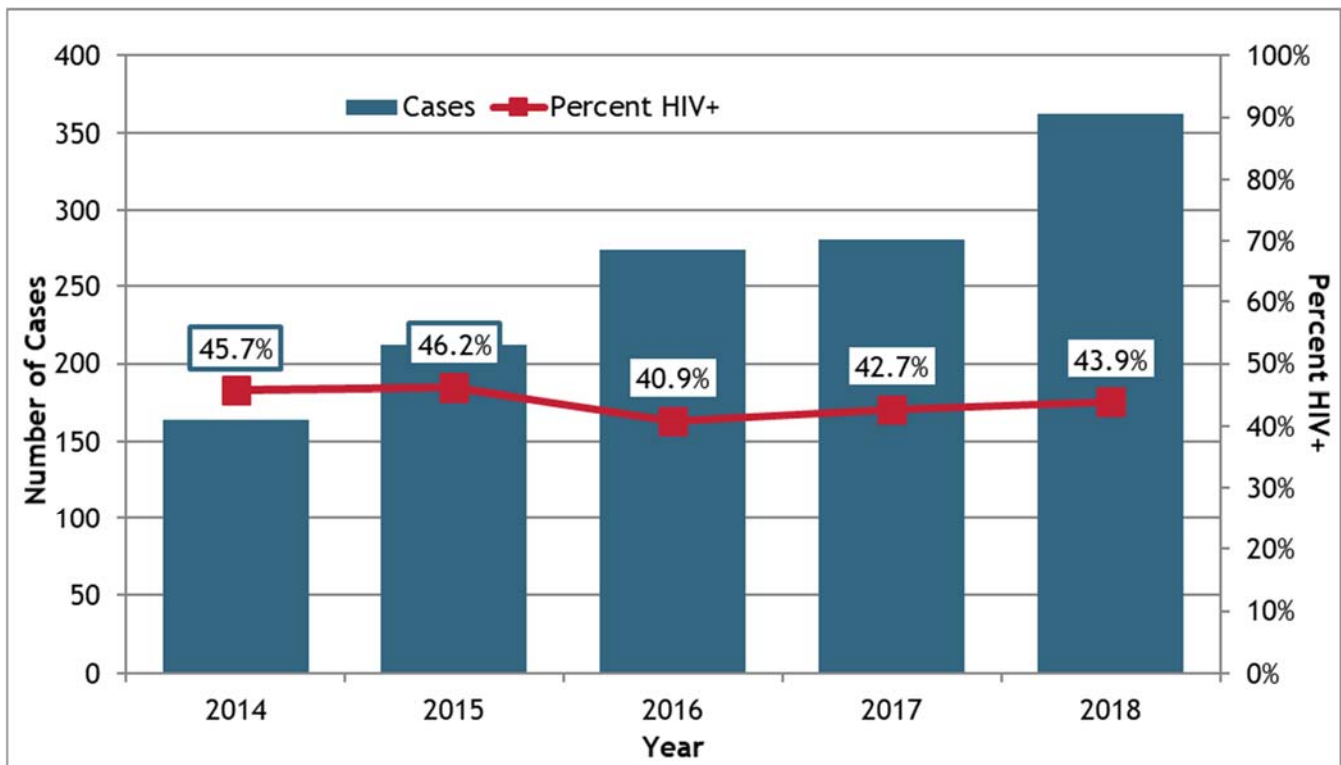
Congenital Syphilis

All congenital syphilis reports that meet the current case definition for "probable" or "confirmed" are considered congenital syphilis cases. In context of increases of congenital syphilis cases, a comprehensive review of cases reported since 2013 was conducted. Findings included correction of cases that were previously classified as "confirmed" to "probable" based on the limited availability of the confirmation labs required for classifying a congenital syphilis case as confirmed.

There were seven cases of congenital syphilis reported in Colorado in 2018 and the rate was 11.1 per 100,000 live births.[10] Nationally, there were a total of 1,306 cases of congenital syphilis (33.1 per 100,000 live births) reported for 2018 to the CDC.[11]

Figure CS.1: Reported Congenital Syphilis Cases and Rates of Reported Cases, Colorado, 2014-2018
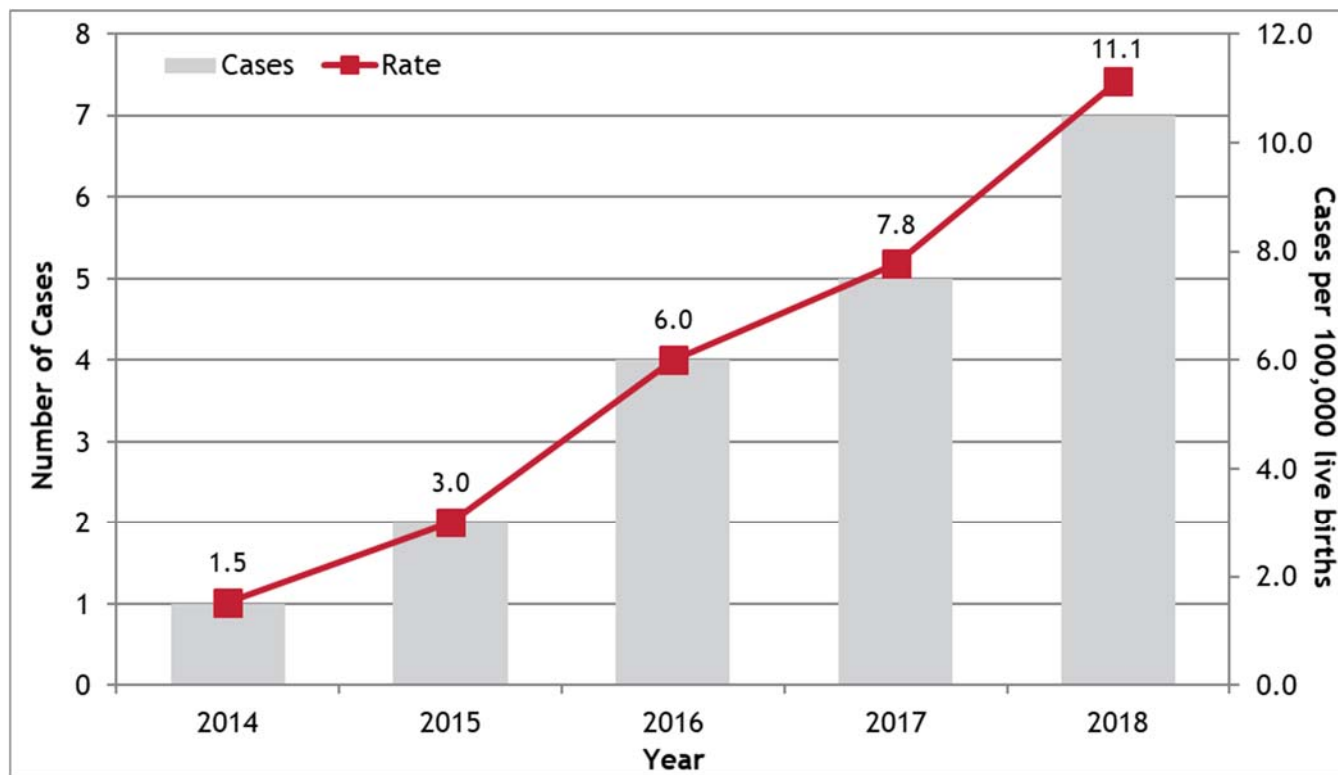
Utilizes the data compiled by the program.

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[10] Live birth data from the Colorado Health Information Dataset (COHID) managed by CDPHE. http://www.cohid.dphe.state.co.us/

[11] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2018*. Atlanta: U.S. Department of Health and Human Services; 2018. http://www.cdc.gov/std/stats.

Syphilis Among Women of Reproductive Age

Trends for congenital syphilis mirror trends for syphilis of all stages among women of reproductive age (WRA), which is defined as 15-44 years of age. For the years 2010 to 2015, this particular cohort has had stable numbers of reported cases. In 2016, however, the number of cases more than doubled compared to the previous year as seen below in **Figure CS.2** (27 cases in 2015 to 64 cases in 2016). For 2018, 131 cases of syphilis among WRA were diagnosed and reported to CDPHE, producing a rate of 11.2 per 100,000. Similarly, the rate of primary and secondary syphilis among WRA 2014-2018 increased 165.4% from 2.6 to 6.9 cases per 100,000 nationally.[12]

Figure CS.2: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases, Colorado, 2009-2018

[12] Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2018*. Atlanta: U.S. Department of Health and Human Services; 2018. http://www.cdc.gov/std/stats.
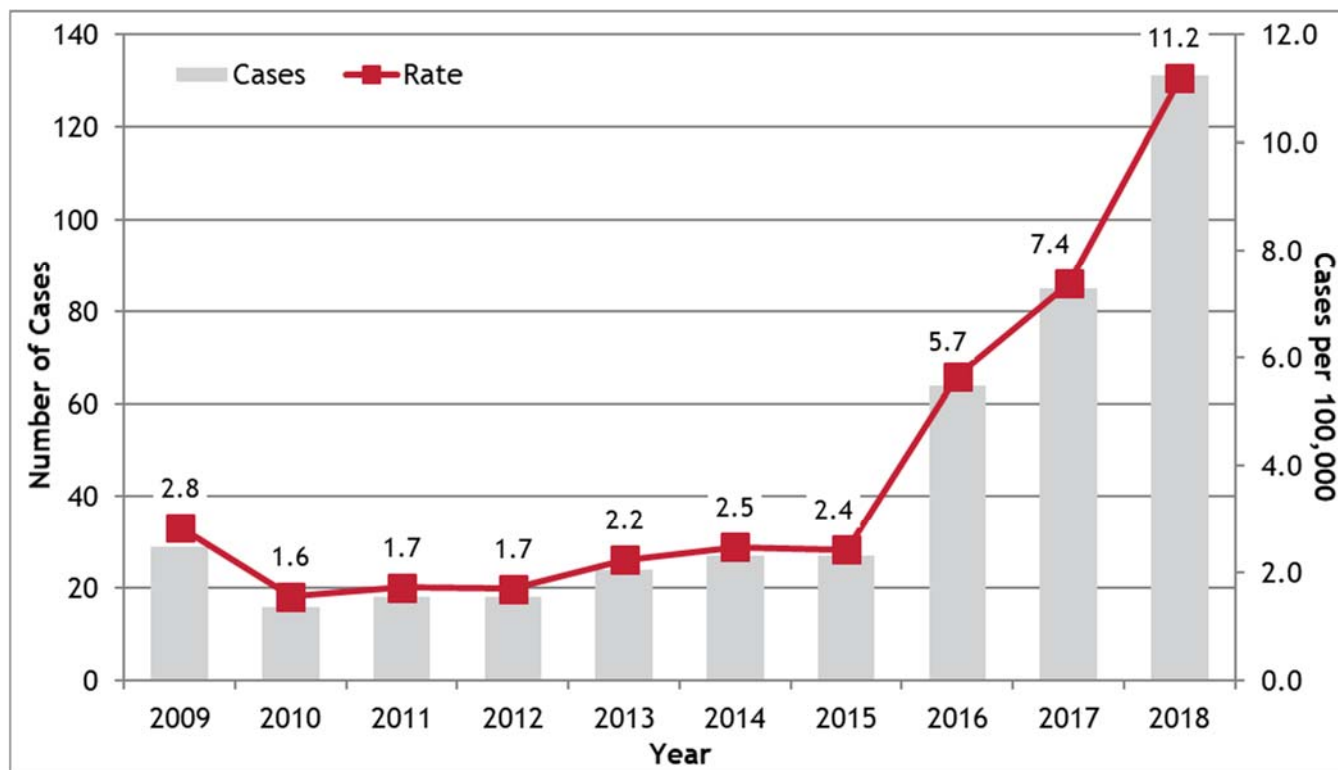
Figure CS.3 shows age group case counts for syphilis among women of reproductive age diagnosed in 2018. The mean age at diagnosis was 28.2 with a range of 15 to 44 years of age. Overall in 2018, the highest rates were reported among 20-24 year olds whose rate was 8.6 cases per 100,000. **Figure CS.4** depicts age group case counts and rates for syphilis among women of reproductive age diagnosed in 2013-17. This five-year average rate helps to stabilize the rate and thus produces a more accurate representation of the condition.

Figure CS.3: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases by Age Group, Colorado, 2018
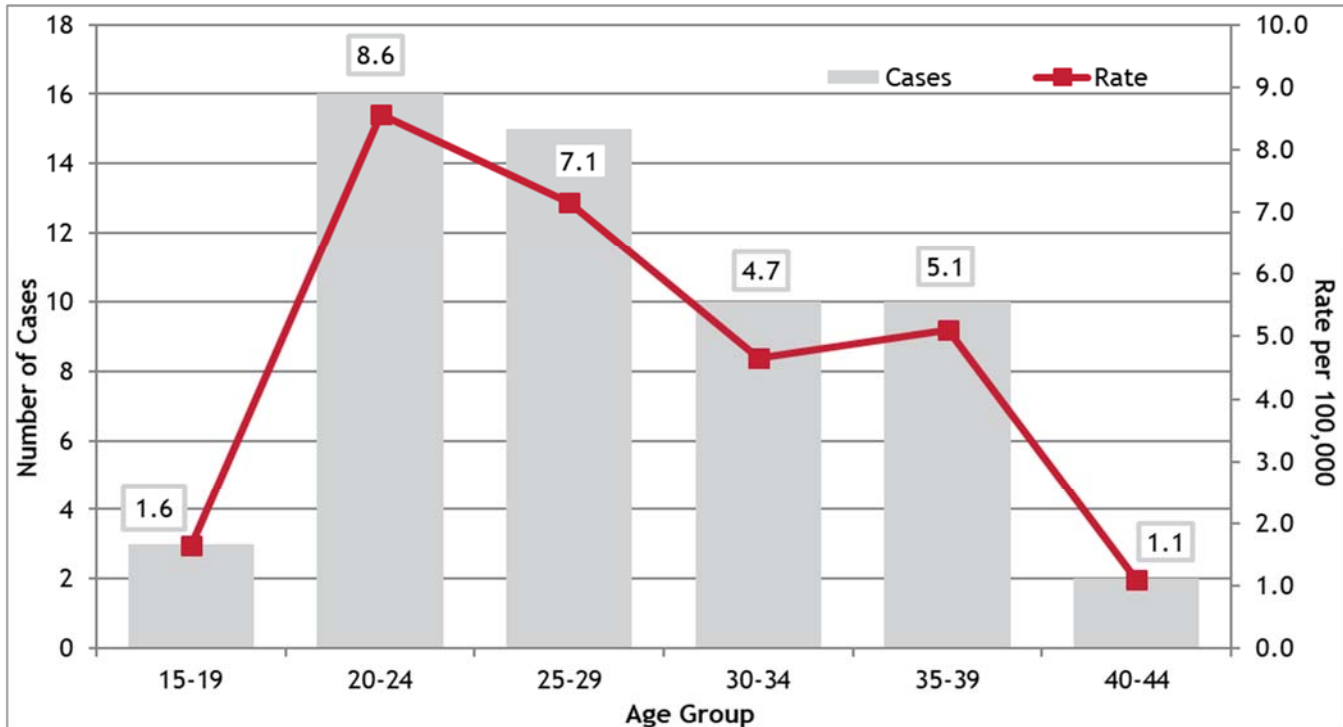
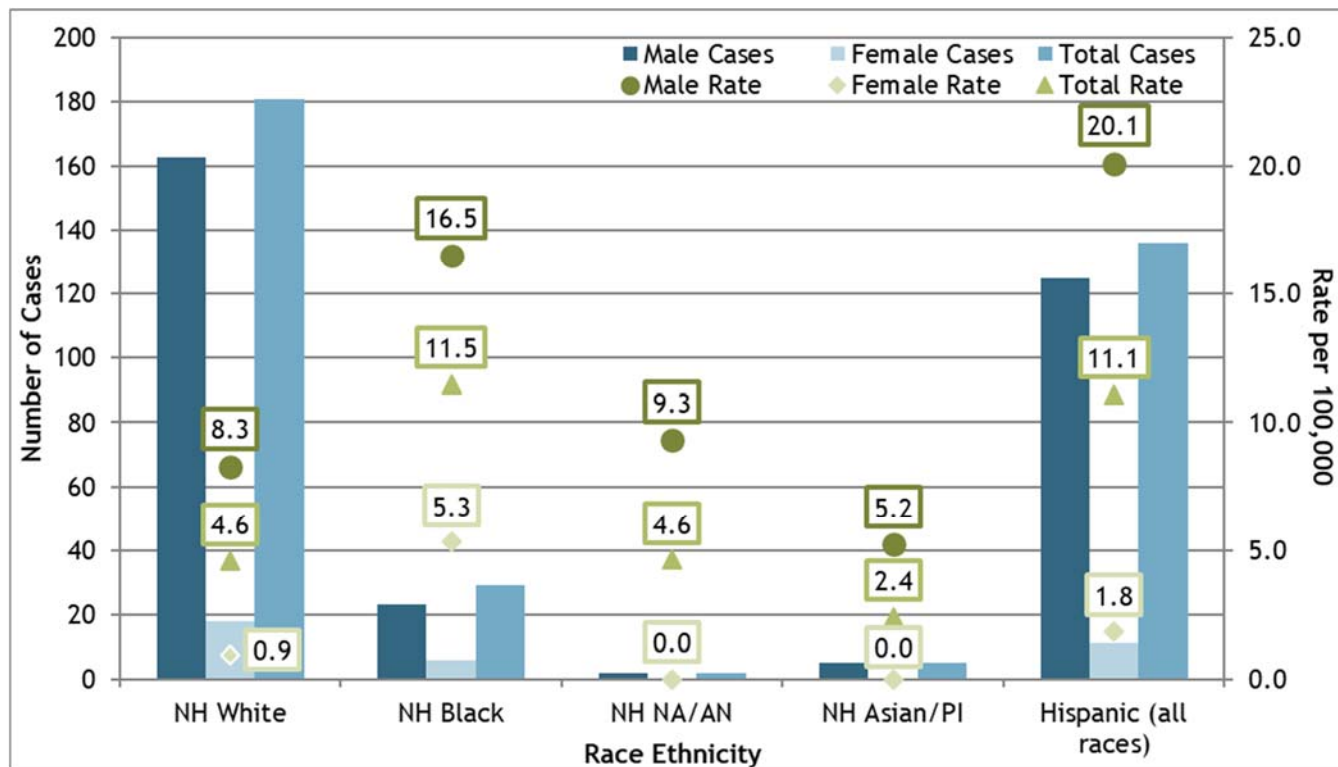Caution: these rates use small numbers and should be interpreted with caution.

Figure CS.4: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases by Age Group, Colorado, 2014-2018
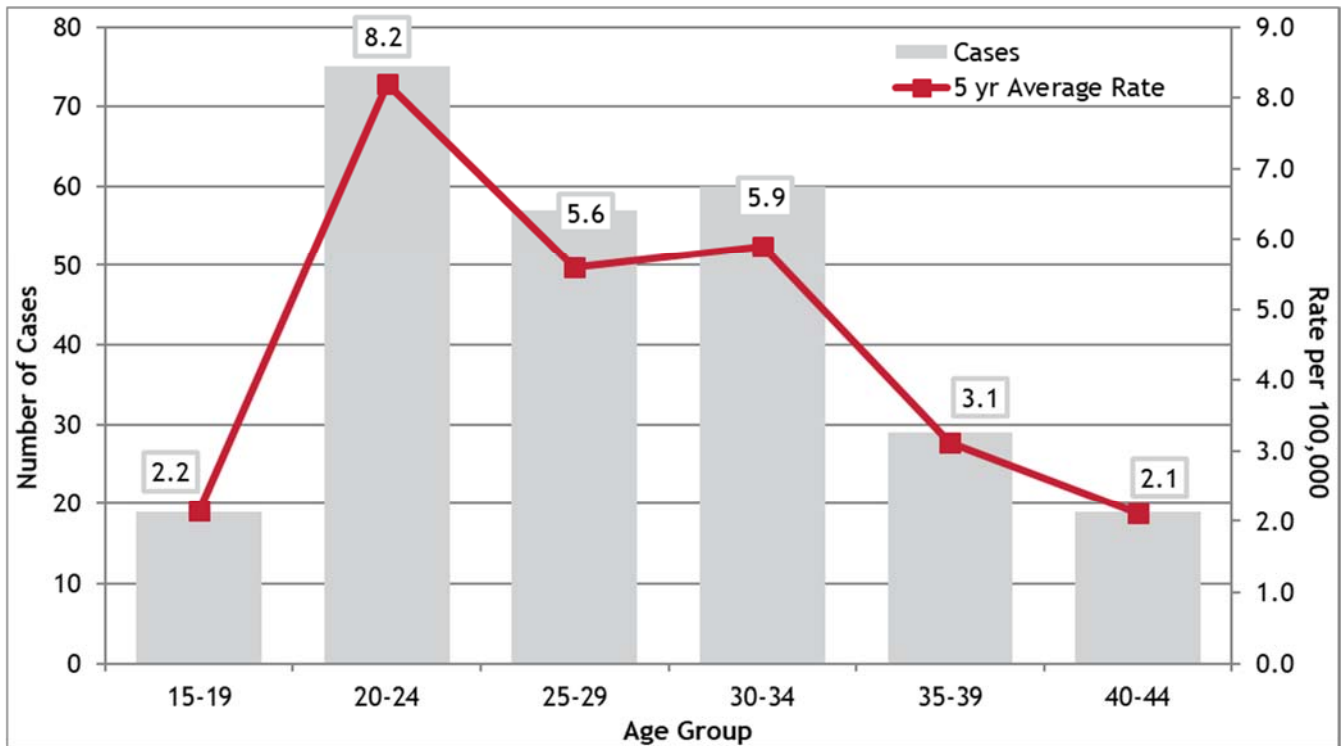
More stable than the one-year rate from Figure CS.3.

Figure CS.5 shows that the highest rate of syphilis among women of reproductive age is seen among Non-Hispanic Blacks, 34.5 per 100,000 in 2018. The highest proportion of cases was among Non-Hispanic Whites, accounting for 42.0%, however their rate was one of the lowest at 7.2 per 100,000, only higher than Non-Hispanic Asian/Pacific Islanders, 3.7 per 100,000.

Figure CS.5: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases by Race/Ethnicity, Colorado, 2018
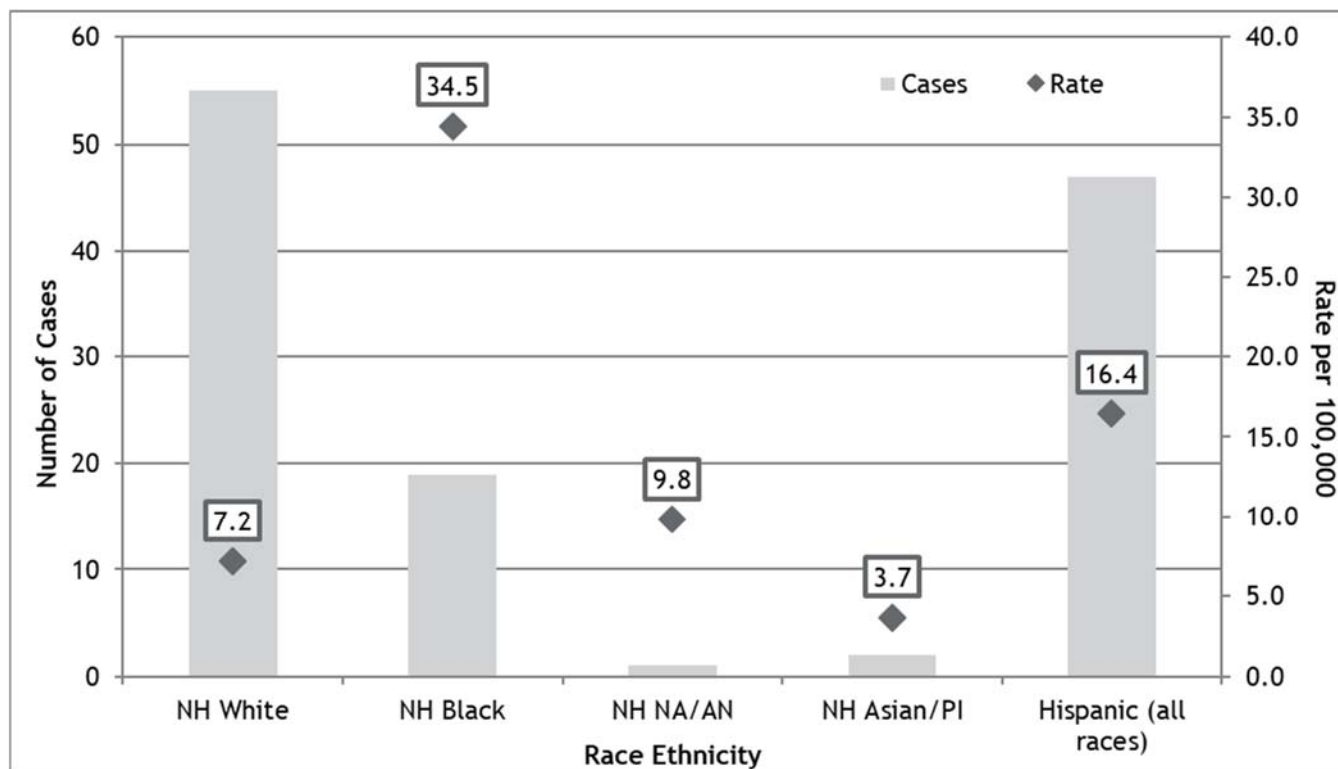
Caution: these rates use small numbers and should be interpreted with caution.

Figure CS.6 shows the five-year trend in rates for Non-Hispanic Whites, Non-Hispanic Blacks and Hispanics. Other races were not displayed due to small numbers. All three showed an increasing trend from 2014-2018. The rates for Non-Hispanic Blacks experienced a sharper increase.

Figure CS.6: Rates of Reported Syphilis Cases Among Women of Reproductive Age by Race/Ethnicity, Colorado, 2014-2018
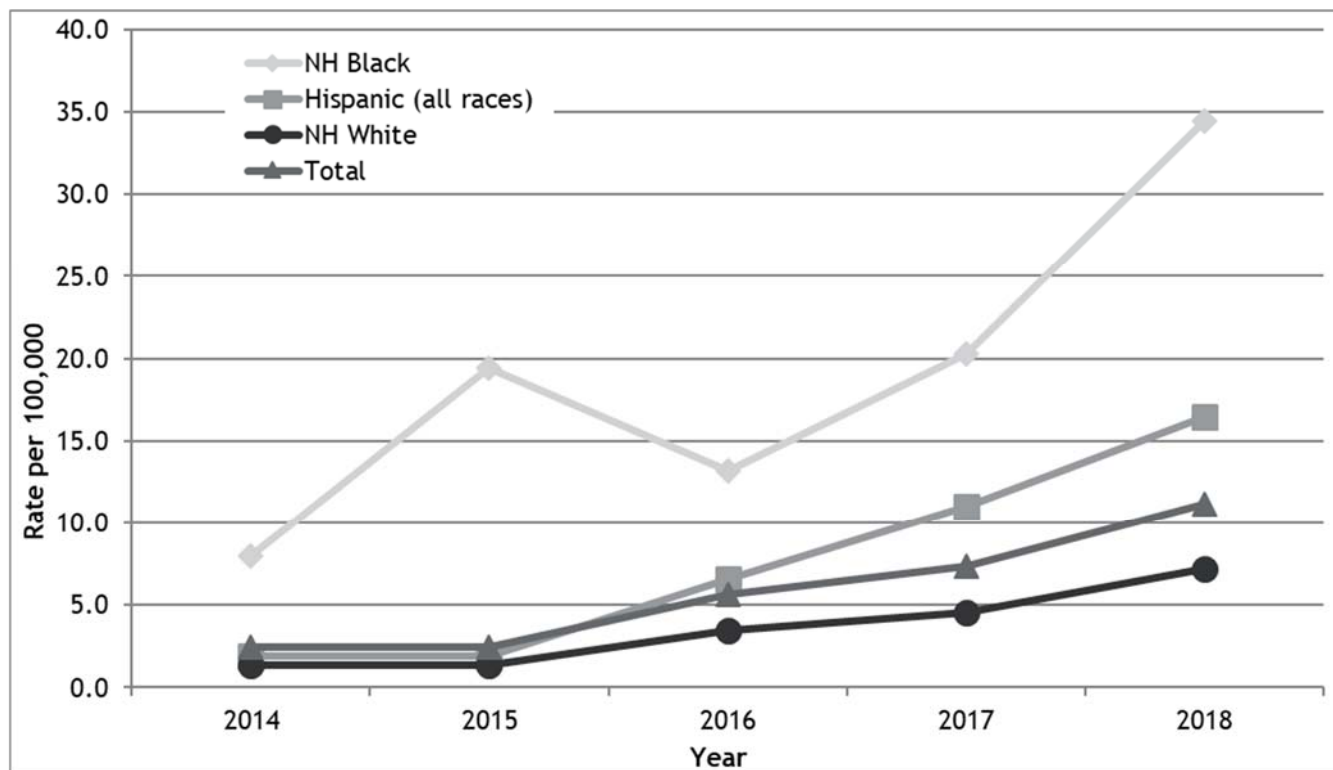
Caution: these rates use small numbers and should be interpreted with caution.

Figure CS.7 and Figure CS.8 describe the geographical distribution of syphilis rates among women of reproductive age in Colorado at the county level. The chart shows syphilis cases have been diagnosed in residents of 21 of 64 counties with Denver County reporting the highest proportion (22.9%) in 2018. The three highest rates were in Las Animas, Rio Grande and Delta counties (Figure CS.8) however, the rates were produced from small case counts and are not reliable. Use caution when interpreting some of these rates as the county may have a small population and small case numbers.

Figure CS.7: Rates of Reported Syphilis Cases Among Women of Reproductive Age by County Map, Colorado, 2018
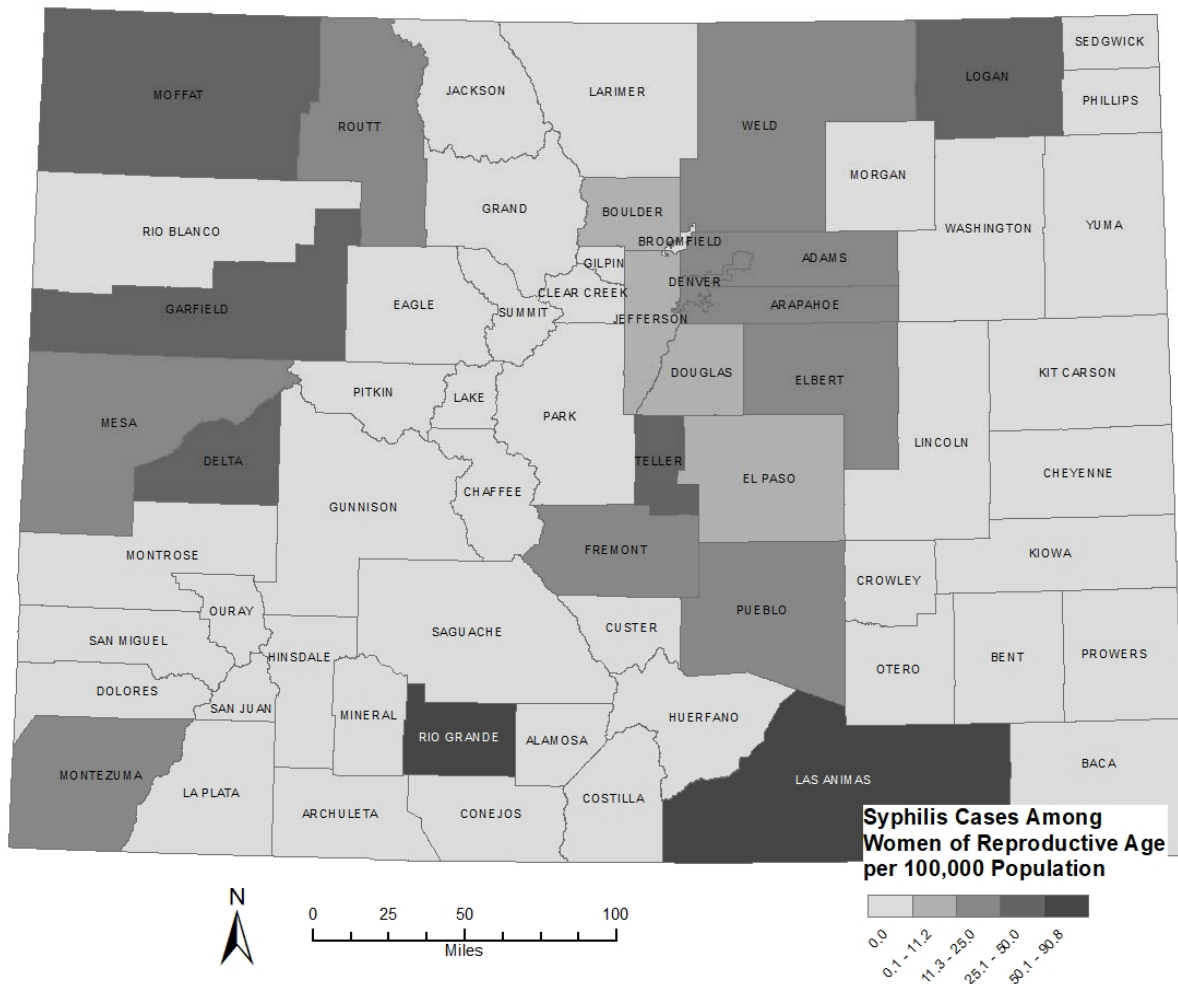
High rates do not necessarily mean high case counts; for further details, see Figure CS.8 and Table 7.

Figure CS.8: Rates of Reported Syphilis Cases Among Women of Reproductive Age by County Chart, Colorado, 2018
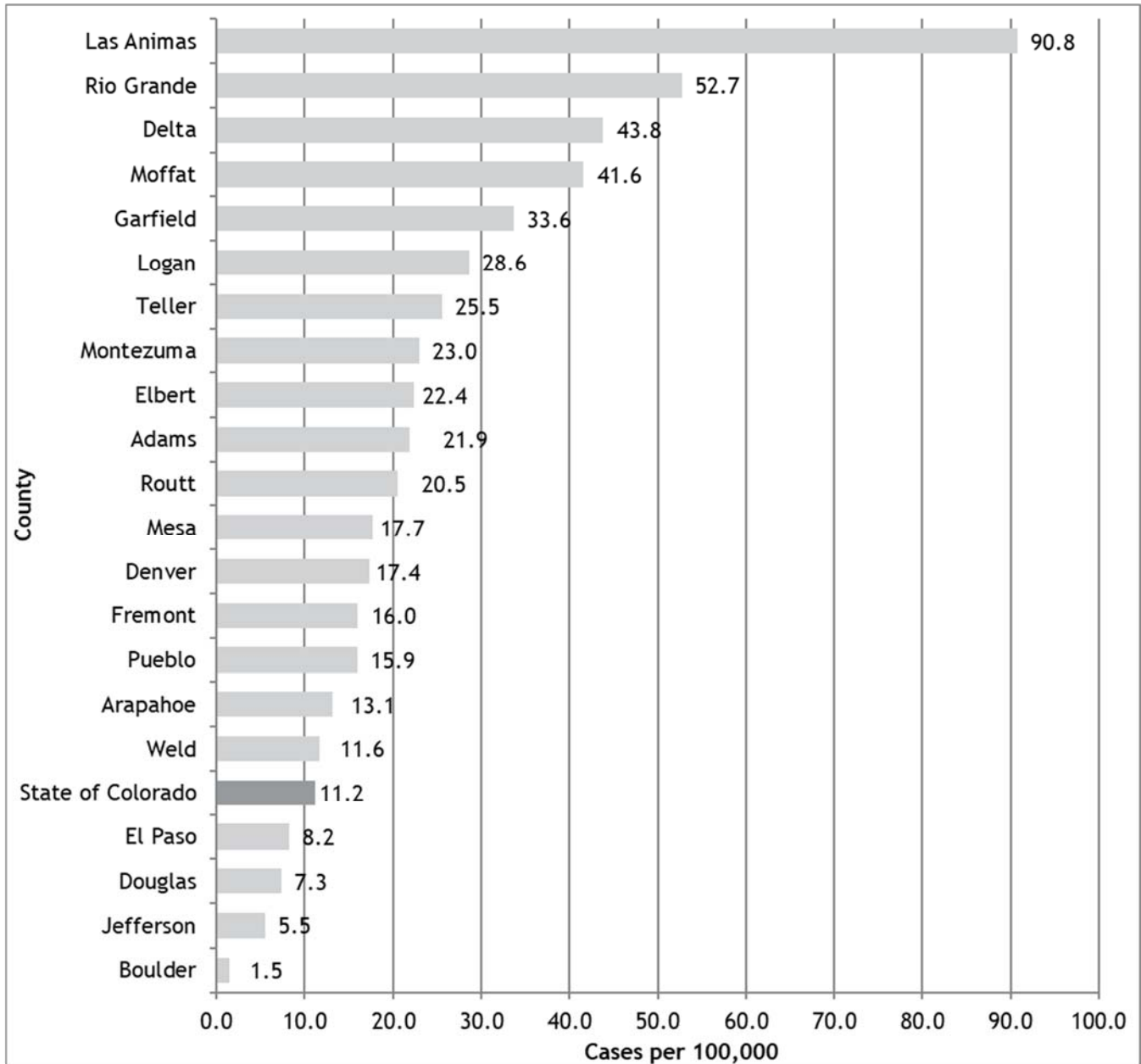
County	Cases per 100,000
Las Animas	90.8
Rio Grande	52.7
Delta	43.8
Moffat	41.6
Garfield	33.6
Logan	28.6
Teller	25.5
Montezuma	23.0
Elbert	22.4
Adams	21.9
Routt	20.5
Mesa	17.7
Denver	17.4
Fremont	16.0
Pueblo	15.9
Arapahoe	13.1
Weld	11.6
State of Colorado	11.2
El Paso	8.2
Douglas	7.3
Jefferson	5.5
Boulder	1.5

Caution: these rates use small numbers and should be interpreted with caution. For details, see Table 7.

Figure CS.9 shows the rate of pregnancy and syphilis among women of reproductive age for 2014-2018 reported to CDPHE. The five-year average for percent pregnant and syphilis was 23.7%. In 2018, 28 (21.4% of the total reported cases) women were pregnant at the time of their syphilis diagnosis.

Figure CS.9: Reported Syphilis Cases Among Women of Reproductive Age and Percent Pregnant by Year of Diagnosis, Colorado, 2014-2018
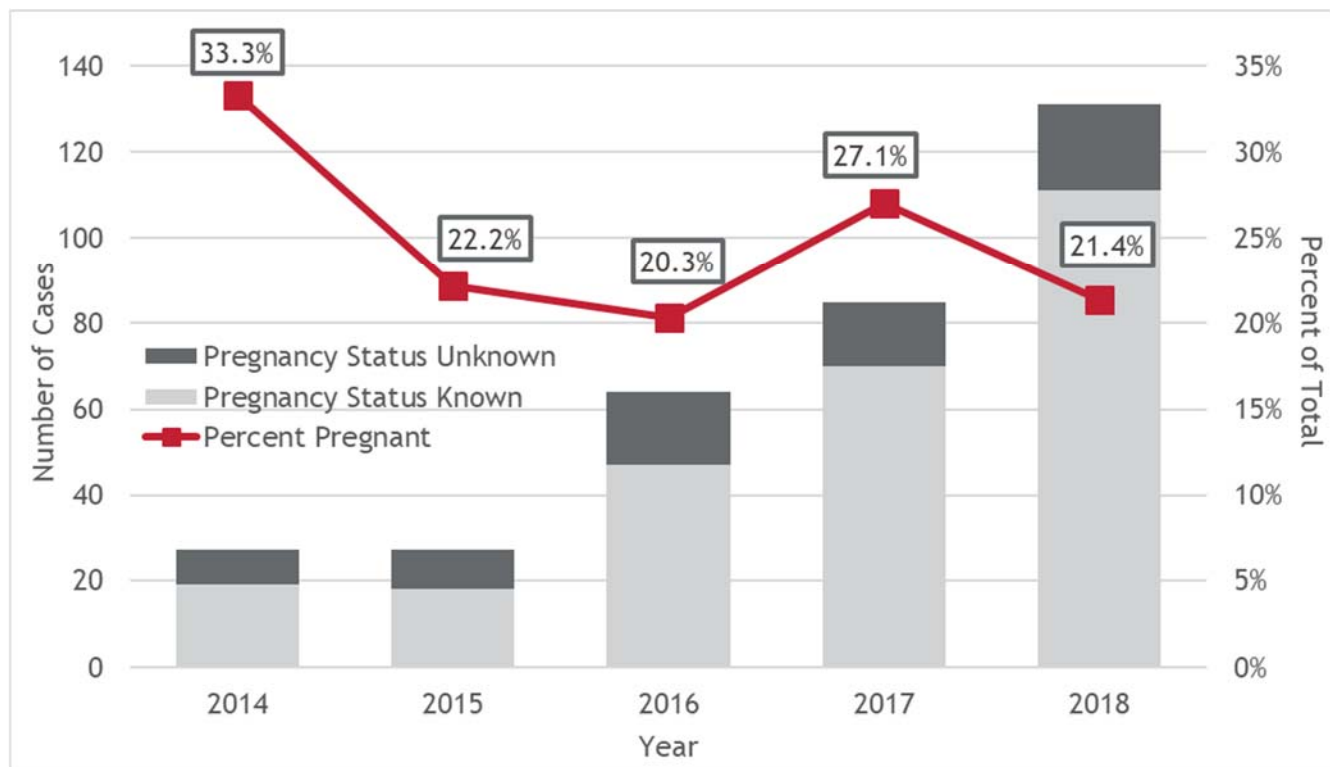
Data Tables

Table 1: Reported Chlamydia, Gonorrhea and Early Syphilis Cases and Rates of Reported Cases by Demographic Characteristics, 2018

	2018 Population^	Chlamydia			Gonorrhea			Primary & Secondary Syphilis			Early Latent Syphilis		
		Cases	%	Rate†	Cases	%	Rate†	Cases	%	Rate†	Cases	%	Rate†
Total	5,695,430	29,124	100.0	511.4	8,894	100.0	156.2	337	100.0	5.9	362	100.0	6.4
Sex													
Male	2,850,719	10,650	36.6	373.6	5,305	59.6	186.1	312	92.6	10.9	327	90.3	11.5
Female	2,844,711	18,474	63.4	649.4	3,589	40.4	126.2	25	7.4	0.9	35	9.7	1.2
Race/Ethnicity													
Hispanic (all races)	1,225,699	6,726	23.1	548.7	2,425	27.3	197.8	104	30.9	8.5	136	37.6	11.1
NH White	3,954,812	8,541	29.3	216.0	2,901	32.6	73.4	181	53.7	4.6	181	50.0	4.6
NH Black	262,542	2,737	9.4	1042.5	1,198	13.5	456.3	38	11.3	14.5	29	8.0	11.0
NH NA/AN	43,390	196	0.7	451.7	81	0.9	186.7	4	1.2	9.2	2	0.6	4.6
NH Asian/PI	208,987	465	1.6	222.5	80	0.9	38.3	1	0.3	0.5	5	1.4	2.4
NH Other	---	1,114	3.8	---	196	2.2	---	0	0.0	---	3	0.8	---
Unknown	---	9,345	32.1	---	2,013	22.6	---	9	2.7	---	6	1.7	---
Age Group													
0 to 9	674,909	9	0.0	1.3	2	0.0	0.3	0	0.0	0.0	1	0.3	0.1
10 to 14	370,225	198	0.7	53.5	29	0.3	7.8	0	0.0	0.0	1	0.3	0.3
15 to 19	376,243	7,281	25.0	1935.2	1,143	12.9	303.8	8	2.4	2.1	8	2.2	2.1
20 to 24	399,331	10,095	34.7	2528.0	2,162	24.3	541.4	47	13.9	11.8	53	14.6	13.3
25 to 29	432,867	5,697	19.6	1316.1	1,956	22.0	451.9	82	24.3	18.9	78	21.5	18.0
30 to 34	432,979	2,785	9.6	643.2	1,480	16.6	341.8	63	18.7	14.6	67	18.5	15.5
35 to 39	396,390	1,457	5.0	367.6	911	10.2	229.8	49	14.5	12.4	46	12.7	11.6
40 to 44	368,945	733	2.5	198.7	510	5.7	138.2	26	7.7	7.0	42	11.6	11.4
45 to 54	722,466	659	2.3	91.2	495	5.6	68.5	43	12.8	6.0	47	13.0	6.5
55 to 64	712,373	183	0.6	25.7	186	2.1	26.1	16	4.7	2.2	16	4.4	2.2
65+	808,702	27	0.1	3.3	20	0.2	2.5	3	0.9	0.4	3	0.8	0.4
Unknown	---	0	0.0	---	0	0.0	---	0	0.0	---	0	0.0	---

^2018 population estimates from the Colorado State Demography Office (SDO), released October 2019.   †Rate per 100,000 population

All STI surveillance data reported to the CDPHE for the year of 2018.

Table 2: Reported Chlamydia, Gonorrhea and Early Syphilis Cases and Rate of Reported Cases with Ranking by County & Health Statistics Region (HSR), 2018

	2018 Popu-lation^	Chlamydia				Gonorrhea				Primary & Secondary Syphilis				Early Latent Syphilis			
		Cases	Rate†	County Rank‡	HSR Rank *	Cases	Rate†	County Rank‡	HSR Rank *	Cases	Rate †	County Rank‡	HSR Rank *	Cases	Rate †	County Rank‡	HSR Rank *
Region 1:	71,602	222	310.0	---	14	60	83.8	---	11	1	1.4	---	18	3	4.2	---	8
Logan	21,858	59	269.9	30	---	17	77.8	27	---	0	0.0	29	---	1	4.6	15	---
Morgan	28,436	131	460.7	10	---	32	112.5	14	---	0	0.0	29	---	2	7.0	9	---
Phillips	4,280	9	210.3	39	---	3	70.1	33	---	0	0.0	29	---	0	0.0	29	---
Sedgwick	2,275	4	175.8	45	---	4	175.8	5	---	0	0.0	29	---	0	0.0	29	---
Washington	4,716	3	63.6	64	---	2	42.4	44	---	1	21.2	1	---	0	0.0	29	---
Yuma	10,037	16	159.4	49	---	2	19.9	54	---	0	0.0	29	---	0	0.0	29	---
Region 2: Larimer	350,424	1,502	428.6	15	8	313	89.3	23	10	10	2.9	24	13	5	1.4	27	19
Region 3: Douglas	342,937	686	200.0	42	19	97	28.3	51	21	4	1.2	28	19	7	2.0	23	17
Region 4: El Paso	714,536	4,015	561.9	8	5	1,262	176.6	4	4	27	3.8	20	10	19	2.7	20	14
Region 5:	40,853	86	210.5	---	18	14	34.3	---	20	0	0.0	---	20	1	2.4	---	15
Cheyenne	1,867	2	107.1	59	---	0	0.0	59	---	0	0.0	29	---	0	0.0	29	---
Elbert	26,243	49	186.7	44	---	8	30.5	50	---	0	0.0	29	---	0	0.0	29	---
Lincoln	7,169	19	265.0	32	---	5	69.7	34	---	0	0.0	29	---	1	13.9	3	---
Kit Carson	5,574	16	287.0	27	---	1	17.9	55	---	0	0.0	29	---	0	0.0	29	---
Region 6:	68,419	240	350.8	---	11	65	95.0	---	9	2	2.9	---	13	3	4.4	---	6
Baca	3,551	9	253.4	35	---	4	112.6	13	---	0	0.0	29	---	0	0.0	29	---
Bent	5,833	12	205.7	41	---	5	85.7	24	---	1	17.1	3	---	0	0.0	29	---
Crowley	5,855	8	136.6	55	---	2	34.2	48	---	0	0.0	29	---	0	0.0	29	---
Huerfano	6,850	20	292.0	25	---	7	102.2	18	---	0	0.0	29	---	0	0.0	29	---
Kiowa	1,373	4	291.3	26	---	2	145.7	7	---	0	0.0	29	---	0	0.0	29	---
Las Animas	14,529	54	371.7	20	---	20	137.7	9	---	1	6.9	11	---	3	20.6	2	---
Otero	18,352	81	441.4	12	---	21	114.4	12	---	0	0.0	29	---	0	0.0	29	---
Prowers	12,076	52	430.6	14	---	4	33.1	49	---	0	0.0	29	---	0	0.0	29	---
Region 7: Pueblo	167,081	955	571.6	6	3	661	395.6	1	1	8	4.8	19	7	7	4.2	16	8
Region 8:	46,944	217	462.3	---	6	45	95.9	---	8	2	4.3	---	8	2	4.3	---	7
Alamosa	16,178	95	587.2	5	---	18	111.3	15	---	1	6.2	16	---	1	6.2	11	---
Conejos	8,151	21	257.6	33	---	6	73.6	30	---	0	0.0	29	---	0	0.0	29	---

	2018 Popu-lation^	Chlamydia				Gonorrhea				Primary & Secondary Syphilis				Early Latent Syphilis			
		Cases	Rate†	County Rank‡	HSR Rank *	Cases	Rate†	County Rank‡	HSR Rank *	Cases	Rate †	County Rank‡	HSR Rank *	Cases	Rate †	County Rank‡	HSR Rank *
Costilla	3,819	23	602.3	3	---	2	52.4	37	---	0	0.0	29	---	0	0.0	29	---
Mineral	754	1	132.6	57	---	0	0.0	59	---	0	0.0	29	---	0	0.0	29	---
Rio Grande	11,213	67	597.5	4	---	12	107.0	16	---	1	8.9	5	---	1	8.9	6	---
Saguache	6,829	10	146.4	51	---	7	102.5	17	---	0	0.0	29	---	0	0.0	29	---
Region 9:	99,128	343	346.0	---	13	74	74.7	---	13	4	4.0	---	9	3	3.0	---	12
Archuleta	13,764	22	159.8	48	---	1	7.3	58	---	0	0.0	29	---	0	0.0	29	---
Dolores	2,050	4	195.1	43	---	2	97.6	19	---	0	0.0	29	---	0	0.0	29	---
La Plata	56,446	227	402.2	17	---	51	90.4	22	---	2	3.5	21	---	1	1.8	25	---
Montezuma	26,121	89	340.7	22	---	19	72.7	31	---	2	7.7	8	---	2	7.7	8	---
San Juan	747	1	133.9	56	---	1	133.9	11	---	0	0.0	29	---	0	0.0	29	---
Region 10:	104,210	244	234.1	---	16	73	70.1	---	15	3	2.9	---	13	1	1.0	---	21
Delta	30,936	85	274.8	28	---	30	97.0	20	---	2	6.5	12	---	0	0.0	29	---
Gunnison	17,182	47	273.5	29	---	9	52.4	37	---	0	0.0	29	---	0	0.0	29	---
Hinsdale	804	1	124.4	58	---	0	0.0	59	---	0	0.0	29	---	0	0.0	29	---
Montrose	42,280	88	208.1	40	---	32	75.7	29	---	1	2.4	26	---	1	2.4	21	---
Ouray	4,812	5	103.9	60	---	0	0.0	59	---	0	0.0	29	---	0	0.0	29	---
San Miguel	8,196	18	219.6	38	---	2	24.4	52	---	0	0.0	29	---	0	0.0	29	---
Region 11:	46,604	117	251.1	---	15	27	57.9	---	17	3	6.4	---	4	1	2.1	---	16
Jackson	1,394	2	143.5	53	---	0	0.0	59	---	0	0.0	29	---	0	0.0	29	---
Moffat	13,201	30	227.3	37	---	12	90.9	21	---	0	0.0	29	---	0	0.0	29	---
Rio Blanco	6,293	16	254.3	34	---	1	15.9	56	---	1	15.9	4	---	0	0.0	29	---
Routt	25,716	69	268.3	31	---	14	54.4	36	---	2	7.8	7	---	1	3.9	17	---
Region 12:	179,156	621	346.6	---	12	79	44.1	---	18	4	2.2	---	16	8	4.5	---	5
Eagle	54,895	187	340.7	22	---	33	60.1	35	---	0	0.0	29	---	1	1.8	25	---
Garfield	59,854	237	396.0	18	---	26	43.4	42	---	2	3.3	22	---	6	10.0	5	---
Grand	15,503	25	161.3	47	---	2	12.9	57	---	1	6.5	12	---	1	6.5	10	---
Pitkin	17,926	61	340.3	24	---	7	39.0	46	---	1	5.6	17	---	0	0.0	29	---
Summit	30,978	111	358.3	21	---	11	35.5	47	---	0	0.0	29	---	0	0.0	29	---
Region 13:	80,631	154	191.0	---	20	50	62.0	---	16	4	5.0	---	6	1	1.2	---	20
Chaffee	20,010	30	149.9	50	---	9	45.0	41	---	1	5.0	18	---	0	0.0	29	---
Custer	4,934	4	81.1	62	---	0	0.0	59	---	0	0.0	29	---	0	0.0	29	---
Fremont	47,921	83	173.2	46	---	37	77.2	28	---	3	6.3	14	---	1	2.1	22	---
Lake	7,766	37	476.4	9	---	4	51.5	39	---	0	0.0	29	---	0	0.0	29	---
Region 14: Adams	511,720	2,923	571.2	7	4	815	159.3	6	5	41	8.0	6	2	31	6.1	12	3

	2018 Popu-lation^	Chlamydia				Gonorrhea				Primary & Secondary Syphilis				Early Latent Syphilis			
		Cases	Rate†	County Rank‡	HSR Rank *	Cases	Rate†	County Rank‡	HSR Rank *	Cases	Rate †	County Rank‡	HSR Rank *	Cases	Rate †	County Rank‡	HSR Rank *
Region 15: Arapahoe	651,513	4,174	640.7	2	2	1,160	178.0	3	3	41	6.3	14	5	54	8.3	7	2
Region 16:	394,650	1,669	422.9	---	9	315	79.8	---	12	14	3.5	---	11	12	3.0	---	12
Boulder	325,520	1,412	433.8	13	---	258	79.3	26	---	9	2.8	25	---	11	3.4	18	---
Broomfield	69,130	257	371.8	19	---	57	82.5	25	---	5	7.2	9	---	1	1.4	27	---
Region 17:	59,368	76	128.0	---	21	21	35.4	---	19	0	0.0	---	20	2	3.4	---	10
Clear Creek	9,659	10	103.5	61	---	4	41.4	45	---	0	0.0	29	---	1	10.4	4	---
Gilpin	6,096	4	65.6	63	---	3	49.2	40	---	0	0.0	29	---	0	0.0	29	---
Park	18,545	26	140.2	54	---	8	43.1	43	---	0	0.0	29	---	1	5.4	13	---
Teller	25,068	36	143.6	52	---	6	23.9	53	---	0	0.0	29	---	0	0.0	29	---
Region 18: Weld	314,288	1,440	458.2	11	7	424	134.9	10	7	7	2.2	27	16	6	1.9	24	18
Region 19: Mesa	153,628	640	416.6	16	10	219	142.6	8	6	11	7.2	9	3	8	5.2	14	4
Region 20: Denver	717,862	7,466	1040.0	1	1	2,704	376.7	2	2	132	18.4	2	1	169	23.5	1	1
Region 21: Jefferson	579,877	1,333	229.9	36	17	414	71.4	32	14	18	3.1	23	12	19	3.3	19	11
Unknown	---	1	---	---	---	2	---	---	---	1	---	---	---	0	---	---	---
STATEWIDE TOTAL	5,695,430	29,124	511.4	---	---	8,894	156.2	---	---	337	5.9	---	---	362	6.4	---	---

^2018 SDO Population Estimate   †Rate per 100,000 population   ‡Counties ranked by STI rate per 100,000 population

*Health Statistics Regions ranked by STI rate per 100,000 population

Table 3: Reported Chlamydia Cases and Rates of Reported Cases by Demographic Characteristics and Sex, 2018

	Chlamydia											
	Male				Female				Total			
	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†
Total	2,850,719	10,650	100.0	373.6	2,844,711	18,474	100.0	649.4	5,695,430	29,124	100.0	511.4
Race/Ethnicity												
Hispanic (all races)	621,072	2,044	19.2	329.1	604,627	4,682	25.3	774.4	1,225,699	6,726	23.1	548.7
NH White	1,972,728	3,412	32.0	173.0	1,982,085	5,129	27.8	258.8	3,954,813	8,541	29.3	216.0
NH Black	139,412	1,270	11.9	911.0	123,130	1,467	7.9	1,191.4	262,542	2,737	9.4	1,042.5
NH NA/AN	21,503	56	0.5	260.4	21,887	140	0.8	639.6	43,390	196	0.7	451.7
NH Asian/PI	96,004	122	1.1	127.1	112,982	343	1.9	303.6	208,986	465	1.6	222.5
NH Other	---	352	3.3	---	---	762	4.1	---	---	1,114	3.8	---
Unknown	---	3,394	31.9	---	---	5,951	32.2	---	---	9,345	32.1	---
Age Group												
0 to 9	344,808	3	0.0	0.9	330,102	6	0.0	1.8	674,910	9	0.0	1.3
10 to 14	189,361	28	0.3	14.8	180,864	170	0.9	94.0	370,225	198	0.7	53.5
15 to 19	193,377	1,615	15.2	835.2	182,865	5,666	30.7	3,098.5	376,242	7,281	25.0	1,935.2
20 to 24	212,729	3,402	31.9	1,599.2	186,602	6,693	36.2	3,586.8	399,331	10,095	34.7	2,528.0
25 to 29	223,062	2,447	23.0	1,097.0	209,804	3,250	17.6	1,549.1	432,866	5,697	19.6	1,316.1
30 to 34	218,377	1,410	13.2	645.7	214,603	1,375	7.4	640.7	432,980	2,785	9.6	643.2
35 to 39	200,671	770	7.2	383.7	195,719	687	3.7	351.0	396,390	1,457	5.0	367.6
40 to 44	186,971	396	3.7	211.8	181,975	337	1.8	185.2	368,946	733	2.5	198.7
45 to 54	363,412	423	4.0	116.4	359,053	236	1.3	65.7	722,465	659	2.3	91.2
55 to 64	347,801	135	1.3	38.8	364,572	48	0.3	13.2	712,373	183	0.6	25.7
65+	370,150	21	0.2	5.7	438,552	6	0.0	1.4	808,702	27	0.1	3.3
Unknown	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---

^2018 SDO Population Estimate   †Rate per 100,000 population

Table 4: Reported Gonorrhea Cases and Rates of Reported Cases by Demographic Characteristics and Sex, 2018

| | Gonorrhea | | | | | | | | | | | |
| | Male | | | | Female | | | | Total | | | |
	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†
Total	2,850,719	5,305	100.0	186.1	2,844,711	3,589	100.0	126.2	5,695,430	8,894	100.0	156.2
Race/Ethnicity												
Hispanic (all races)	621,072	1,316	24.8	211.9	604,627	1,109	30.9	183.4	1,225,699	2,425	27.3	197.8
NH White	1,972,728	1,808	34.1	91.6	1,982,085	1,093	30.5	55.1	3,954,813	2,901	32.6	73.4
NH Black	139,412	765	14.4	548.7	123,130	433	12.1	351.7	262,542	1,198	13.5	456.3
NH NA/AN	21,503	44	0.8	204.6	21,887	37	1.0	169.1	43,390	81	0.9	186.7
NH Asian/PI	96,004	49	0.9	51.0	112,982	31	0.9	27.4	208,986	80	0.9	38.3
NH Other	---	111	2.1	---	---	85	2.4	---	---	196	2.2	---
Unknown	---	1,212	22.8	---	---	801	22.3	---	---	2,013	22.6	---
Age Group												
0 to 9	344,808	0	0.0	0.0	330,102	2	0.1	0.6	674,910	2	0.0	0.3
10 to 14	189,361	5	0.1	2.6	180,864	24	0.7	13.3	370,225	29	0.3	7.8
15 to 19	193,377	403	7.6	208.4	182,865	740	20.6	404.7	376,242	1,143	12.9	303.8
20 to 24	212,729	1,173	22.1	551.4	186,602	989	27.6	530.0	399,331	2,162	24.3	541.4
25 to 29	223,062	1,250	23.6	560.4	209,804	706	19.7	336.5	432,866	1,956	22.0	451.9
30 to 34	218,377	958	18.1	438.7	214,603	522	14.5	243.2	432,980	1,480	16.6	341.8
35 to 39	200,671	607	11.4	302.5	195,719	304	8.5	155.3	396,390	911	10.2	229.8
40 to 44	186,971	344	6.5	184.0	181,975	166	4.6	91.2	368,946	510	5.7	138.2
45 to 54	363,412	392	7.4	107.9	359,053	103	2.9	28.7	722,465	495	5.6	68.5
55 to 64	347,801	156	2.9	44.9	364,572	30	0.8	8.2	712,373	186	2.1	26.1
65+	370,150	17	0.3	4.6	438,552	3	0.1	0.7	808,702	20	0.2	2.5
Unknown	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---

^2018 SDO Population Estimate   †Rate per 100,000 population

Table 5: Reported Primary and Secondary Syphilis Cases and Rates of Reported Cases by Demographic Characteristics and Sex, 2018

| | Primary and Secondary Syphilis | | | | | | | | | | | |
| | Male | | | | Female | | | | Total | | | |
	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†
Total	2,850,719	312	100.0	10.9	2,844,711	25	100.0	0.9	5,695,430	337	100.0	5.9
Race/Ethnicity												
Hispanic (all races)	621,072	95	30.4	15.3	604,627	9	36.0	1.5	1,225,699	104	30.9	8.5
NH White	1,972,728	169	54.2	8.6	1,982,085	12	48.0	0.6	3,954,813	181	53.7	4.6
NH Black	139,412	35	11.2	25.1	123,130	3	12.0	2.4	262,542	38	11.3	14.5
NH NA/AN	21,503	4	1.3	18.6	21,887	0	0.0	0.0	43,390	4	1.2	9.2
NH Asian/PI	96,004	1	0.3	1.0	112,982	0	0.0	0.0	208,986	1	0.3	0.5
NH Other	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---
Unknown	---	8	2.6	---	---	1	4.0	---	---	9	2.7	---
Age Group												
0 to 9	344,808	0	0.0	0.0	330,102	0	0.0	0.0	674,910	0	0.0	0.0
10 to 14	189,361	0	0.0	0.0	180,864	0	0.0	0.0	370,225	0	0.0	0.0
15 to 19	193,377	7	2.2	3.6	182,865	1	4.0	0.5	376,242	8	2.4	2.1
20 to 24	212,729	40	12.8	18.8	186,602	7	28.0	3.8	399,331	47	13.9	11.8
25 to 29	223,062	77	24.7	34.5	209,804	5	20.0	2.4	432,866	82	24.3	18.9
30 to 34	218,377	58	18.6	26.6	214,603	5	20.0	2.3	432,980	63	18.7	14.6
35 to 39	200,671	44	14.1	21.9	195,719	5	20.0	2.6	396,390	49	14.5	12.4
40 to 44	186,971	26	8.3	13.9	181,975	0	0.0	0.0	368,946	26	7.7	7.0
45 to 54	363,412	41	13.1	11.3	359,053	2	8.0	0.6	722,465	43	12.8	6.0
55 to 64	347,801	16	5.1	4.6	364,572	0	0.0	0.0	712,373	16	4.7	2.2
65+	370,150	3	1.0	0.8	438,552	0	0.0	0.0	808,702	3	0.9	0.4
Unknown	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---

^2018 SDO Population Estimate   †Rate per 100,000 population

Table 6: Reported Non-Primary, Non-Secondary Latent Syphilis Cases and Rates of Reported Cases by Demographic Characteristics and Sex, 2018

| | Early Latent Syphilis | | | | | | | | | | | |
| | Male | | | | Female | | | | Total | | | |
	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†
Total	2,850,719	327	100.0	11.5	2,844,711	35	100.0	1.2	5,695,430	362	100.0	6.4
Race/Ethnicity												
Hispanic (all races)	621,072	125	38.2	20.1	604,627	11	31.4	1.8	1,225,699	136	37.6	11.1
NH White	1,972,728	163	49.8	8.3	1,982,085	18	51.4	0.9	3,954,813	181	50.0	4.6
NH Black	139,412	23	7.0	16.5	123,130	6	17.1	4.9	262,542	29	8.0	11.0
NH NA/AN	21,503	2	0.6	9.3	21,887	0	0.0	0.0	43,390	2	0.6	4.6
NH Asian/PI	96,004	5	1.5	5.2	112,982	0	0.0	0.0	208,986	5	1.4	2.4
NH Other	---	3	0.9	---	---	0	0.0	---	---	3	0.8	---
Unknown	---	6	1.8	---	---	0	0.0	---	---	6	1.7	---
Age Group												
0 to 9	344,808	1	0.3	0.3	330,102	0	0.0	0.0	674,910	1	0.3	0.1
10 to 14	189,361	0	0.0	0.0	180,864	1	2.9	0.6	370,225	1	0.3	0.3
15 to 19	193,377	6	1.8	3.1	182,865	2	5.7	1.1	376,242	8	2.2	2.1
20 to 24	212,729	44	13.5	20.7	186,602	9	25.7	4.8	399,331	53	14.6	13.3
25 to 29	223,062	68	20.8	30.5	209,804	10	28.6	4.8	432,866	78	21.5	18.0
30 to 34	218,377	62	19.0	28.4	214,603	5	14.3	2.3	432,980	67	18.5	15.5
35 to 39	200,671	41	12.5	20.4	195,719	5	14.3	2.6	396,390	46	12.7	11.6
40 to 44	186,971	40	12.2	21.4	181,975	2	5.7	1.1	368,946	42	11.6	11.4
45 to 54	363,412	46	14.1	12.7	359,053	1	2.9	0.3	722,465	47	13.0	6.5
55 to 64	347,801	16	4.9	4.6	364,572	0	0.0	0.0	712,373	16	4.4	2.2
65+	370,150	3	0.9	0.8	438,552	0	0.0	0.0	808,702	3	0.8	0.4
Unknown	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---

^2018 SDO Population Estimate   †Rate per 100,000 population

Table 7: Reported Congenital Syphilis Cases and Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases by Demographic Characteristics, 2018

	Syphilis							
	Congenital Syphilis				Among Women of Reproductive Age			
	2018 Live Births *	Cases	%	Rate†	2018 Population ^	Cases	%	Rate†
Total	62,871	7	100.0	11.1	1,171,568	131	100.0	11.2
Sex								
Male	32,016	4	57.1	12.5	---		---	---
Female	30,854	3	42.9	9.7	1,171,568	131	100.0	11.2
Race/Ethnicity								
Hispanic (all races)	18,229	1	14.3	5.5	285,956	47	35.9	16.4
NH White	37,468	6	85.7	16.0	765,680	55	42.0	7.2
NH Black	3,578	0	0.0	0.0	55,144	19	14.5	34.5
NH NA/AN	458	0	0.0	0.0	10,211	1	0.8	9.8
NH Asian/PI	2,953	0	0.0	0.0	54,576	2	1.5	3.7
NH Other/Unknown	185	0	0.0	---	---	7	5.3	---
Age Group								
15 to 19	---	---	---	---	182,865	7	5.3	3.8
20 to 24	---	---	---	---	186,602	36	27.5	19.3
25 to 29	---	---	---	---	209,804	45	34.4	21.4
30 to 34	---	---	---	---	214,603	22	16.8	10.3
35 to 39	---	---	---	---	195,719	17	13.0	8.7
40 to 44	---	---	---	---	181,975	4	3.1	2.2
Pregnancy Status								
Pregnant	---	---	---	---	---	28	21.4	---
Not Pregnant	---	---	---	---	---	83	63.4	---
Unknown	---	---	---	---	---	20	15.3	---
County of Residence								
Adams	6,796	1	14.3	14.7	114,222	25	19.1	21.9
El Paso	9,111	1	14.3	11.0	146,639	12	9.2	8.2
Mesa	1,653	3	42.9	181.5	28,317	5	3.8	17.7
Weld	4,233	1	14.3	23.6	68,837	8	6.1	11.6
Other Urban Counties‡	33,602	0	0.0	0.0	676,158	65	49.6	9.6
Rural Counties	7,476	1	14.3	13.4	137,395	16	12.2	11.6

* Live birth data from COHID   ^2018 SDO Population Estimate   †Rate per 100,000

‡ Includes Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Pueblo Counties.