

Sexually Transmitted Infections in Colorado



2017 Annual Report



Colorado 2017 Sexually Transmitted Infections Annual Report

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On the cover: 3-D illustrations of *Chlamydia trachomatis* bacteria, left, *Nessseria gonorrhoeae*, gram-negative bacteria, center, and syphilis bacterium, *Treponema pallidum*, right. Images from Shutterstock.

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Acknowledgements

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Executive Summary

The 2017 Sexually Transmitted Infection Annual Report 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 diseases, with an annual incidence exceeded only by diarrheal diseases and malaria. In 2017, 36,291 cases of chlamydia (26,995), gonorrhea (8,478) and syphilis of all stages (818) were newly reported in Colorado. This year has seen the highest reported cases of all three health conditions described in this report in Colorado.

This report describes trends in reportable STIs in Colorado by person, place and time.

Chlamydia

In 2017, Colorado reported 481.3 cases of chlamydia per 100,000, a 23.0 percent increase from 2013. The majority of chlamydia cases are among women, 63.9 percent, and 67.0 percent of cases among women were between 15 and 24 years of age in 2017.

Gonorrhea

For gonorrhea in 2017, there were 151.3 cases per 100,000, a 182.3 percent increase since 2013. Males represent a higher proportion of gonorrhea cases when compared to females (59.1 percent) and 48.7 percent of all cases were among those 20-29 years of age.

Syphilis

There were 14.6 cases of syphilis (all stages) per 100,000 in 2017, a 61.5 percent increase since 2013. Males accounted for 88.0 percent of cases. However, the proportion of women diagnosed with syphilis has been increasing the past several years (5.9 percent in 2013 to 12.0 percent in 2017).

STI surveillance data are 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 abuse 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 updated in 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 2017 disease rates for all Colorado counties are calculated by dividing the number of cases diagnosed for that county in 2017 by the 2017 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 2017 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

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://www.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 2017. 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/VH Surveillance Program, Disease Control and Environmental Epidemiology Division, 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 percent. 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 percent complete. Factors that affect the completeness and accuracy of STI data include:
 - Level of STI screening by health care providers
 - Individual test-seeking behavior (awareness of illness often depends on whether individual is symptomatic or not)
 - Sensitivity of diagnostic tests
 - Compliance with case reporting
 - Completeness of case reporting
 - 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, HPV, genital warts) but does maintain statistics for HIV and Hepatitis C, which are reported separately and not included here.

7. Early syphilis comprises primary and secondary syphilis, which is symptomatic, and early latent³ syphilis, which is asymptomatic. Syphilis infectivity varies based on its presentation; while primary and secondary syphilis is considered to be highly infective, early latent syphilis is not. For this reason, public health programming may base interventions and evaluation methods on primary and secondary syphilis infection rate alone. That said, given the morbidity of both primary and secondary syphilis and early latent syphilis, this report includes 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 was most evident in chlamydia where the percent of unknown race/ethnicity went from 28.1 percent in 2012 to 50.2 percent in 2017. Gonorrhea also showed an increase in unknown race/ethnicity from 13.9 percent in 2012 to 35.3 percent in 2017. All stages of syphilis, however, have seen a decrease in unknown race/ethnicity from 10.1 percent in 2013 to 8.2 percent in 2017. When looking specifically at primary and secondary syphilis, the percent went from 9.8 percent to 7.2 percent in the same time period. Early latent syphilis follows the same pattern as chlamydia and gonorrhea where the percent of unknown race/ethnicity was 5.1 percent in 2013 and increased to 6.4 percent in 2017. Due to the proportion of cases having unknown race/ethnicity being over 30 percent for both chlamydia and gonorrhea, trends of the rates by this variable are not displayed. 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.

Also due to the increasing number of STIs in Colorado, follow-up and interviews were limited in 2017 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.

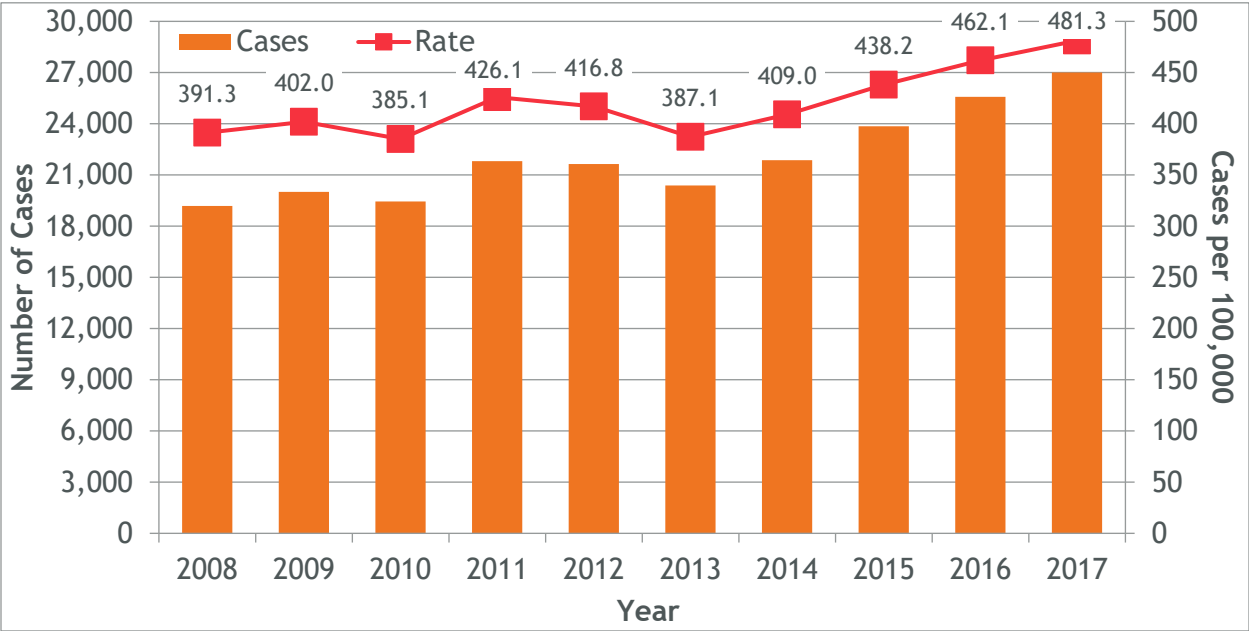
Anyone with questions about how these data should be interpreted is encouraged to contact the STI/HIV Surveillance Program at (303) 692-2700.

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

Chlamydia

Chlamydia remained the most commonly reported STI in Colorado. In 2017, there were 26,995 cases diagnosed and reported for a statewide rate of 481.3 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 2008 to 2017. Cases and rates have increased steadily from 2008 to 2017, with two dips in 2010 and 2013. The rate of chlamydia increased 23.0 percent from 2013 to 2017 (387.1 to 481.3, respectively). A similar trend was seen for the nation. In 2017, 1,708,569 cases of chlamydia were diagnosed and reported to CDC for a rate of 528.8 per 100,000. This corresponds with an increase in the rate by 19.2 percent compared to 2013 (443.5 per 100,000).⁴

Figure C.1: Reported Chlamydia Cases and Rates of Reported Cases, Colorado, 2008-2017



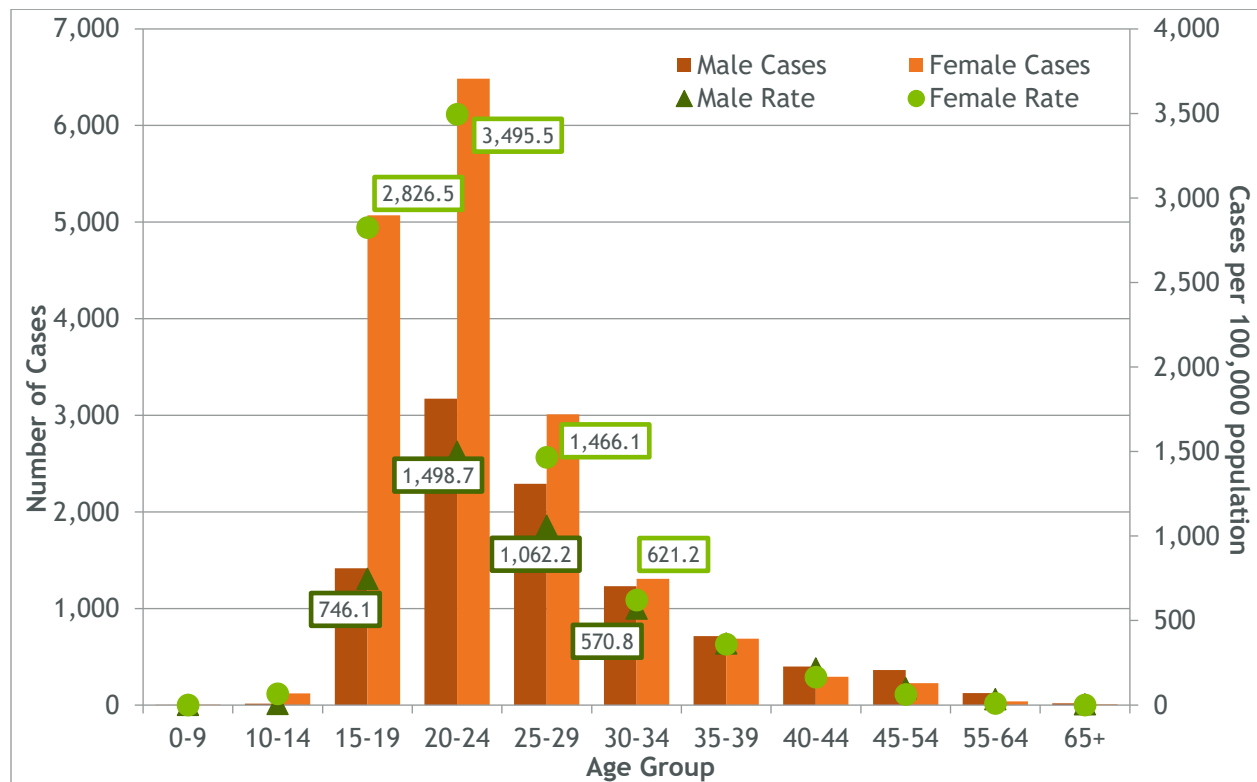
Rates per 100,000 varied significantly by sex and age. The chlamydia rate was nearly two times greater among females, 615.8 per 100,000, than males, 347.0 per 100,000 in 2017 (Table 1 in the appendix). Rates were highest among adolescents and young adults for both males and females.

⁴ Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2017*. Atlanta: U.S. Department of Health and Human Services; 2018. <http://www.cdc.gov/std/stats>.

Figure C.2 shows age and sex case counts and rates for chlamydia diagnosed in 2017. The mean age at diagnosis was 25.3 with a range of 0 to 74 years of age. Females accounted for nearly two-thirds (63.9 percent) of the chlamydia cases. Among 15-19 year olds, the chlamydia rate for females, 2,826.5 per 100,000, was nearly four times greater than the rate for males, 746.1 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, 2017



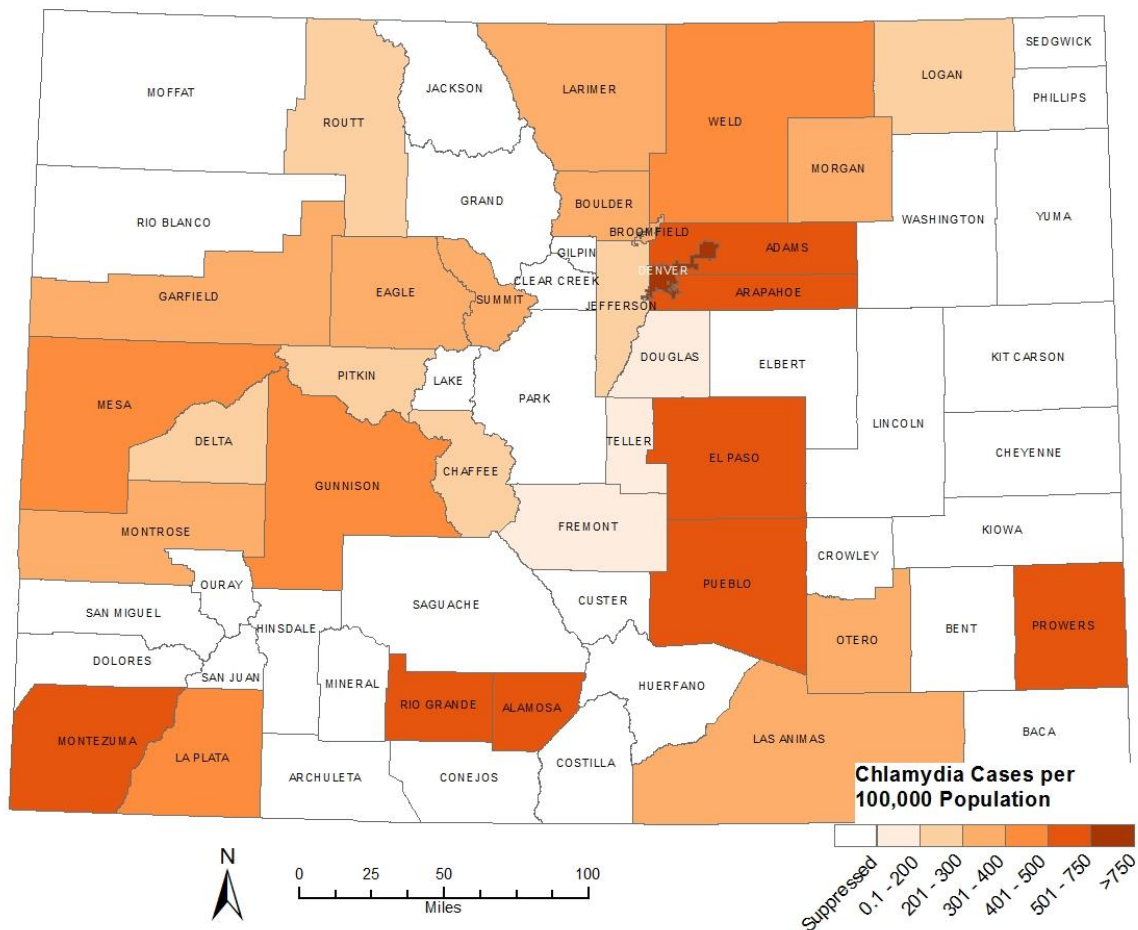
Rates by sex for the other age groups can be found in Table 3.

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 percent of Colorado’s population, but represented 7.1 percent of reported chlamydia cases in 2017. Please note, race/ethnicity data is not complete (see limitations section). Therefore, the racial and ethnicity data should be interpreted with caution.

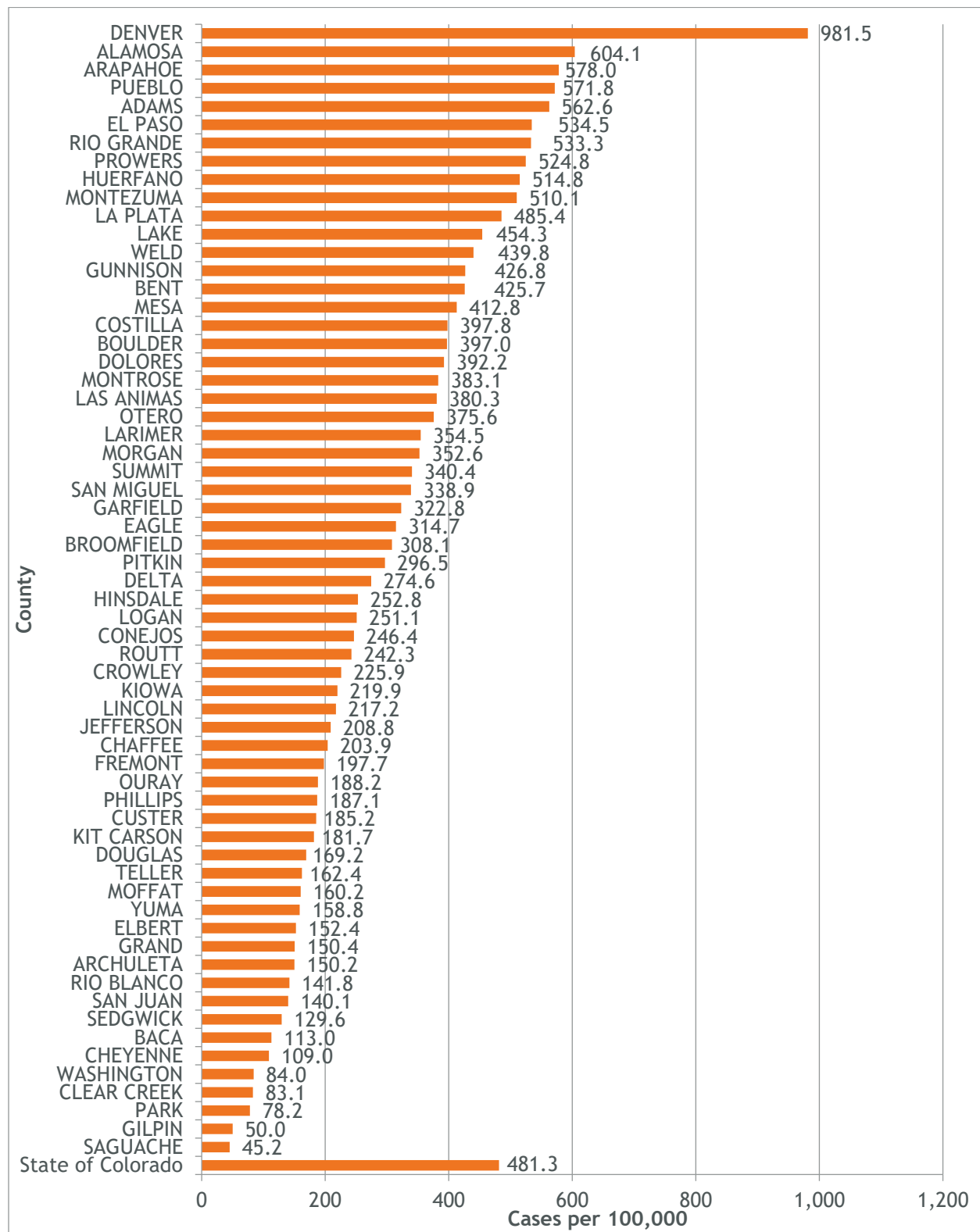
Figure C.3 shows the geographical distribution of chlamydia rates for Colorado at the county level. Figure C.4 shows chlamydia rates by county for 2017. Denver, Alamosa and Arapahoe counties had the three highest rates of reported chlamydia cases and accounted for 39.8 percent of chlamydia cases in 2017. As shown in both Figure C.3 and Figure C.4, chlamydia cases were largely concentrated in Denver County. In 2017, only two counties had no reported chlamydia cases. Both of these counties are rural.

Figure C.3: Rates of Reported Chlamydia Cases by County Map, Colorado, 2017



Rates suppressed for counties with less than three cases or a population <15,000. High rates do not necessarily mean high case counts; for further details, see Table 2.

Figure C.4: Rates of Reported Chlamydia Cases by County Chart, Colorado, 2017

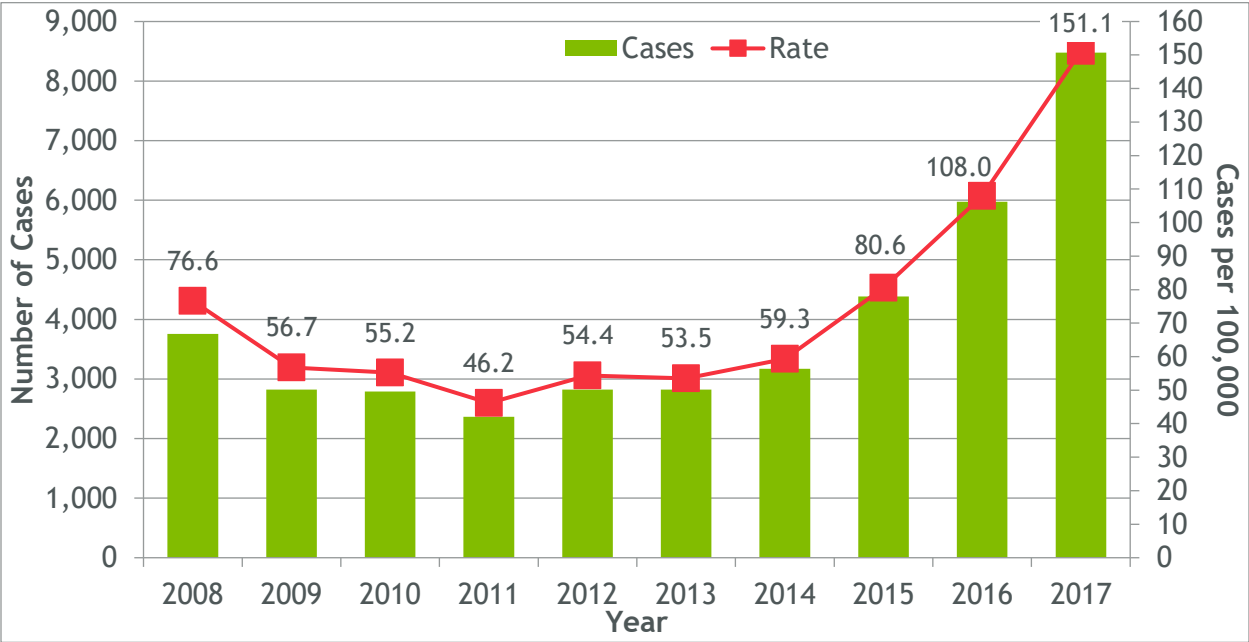


Gonorrhea

Gonorrhea remained the second most commonly reported STI in Colorado with 8,478 cases reported in 2017, yielding a rate of 151.1 per 100,000. This rate is 182.3 percent higher than the rate in 2013 (53.5 per 100,000) as shown in **Figure G.1**. Like chlamydia, this is also a historic high for Colorado. In the United States, 555,608 gonorrhea cases were diagnosed and reported to the CDC in 2017, producing a rate of 171.9 per 100,000. This is an increase of 63.2 percent in the rate compared to 2013 (105.3 per 100,000).⁶

Figure G.1 shows cases diagnosed each year and the rate per 100,000 from 2008 to 2017. 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 2017.

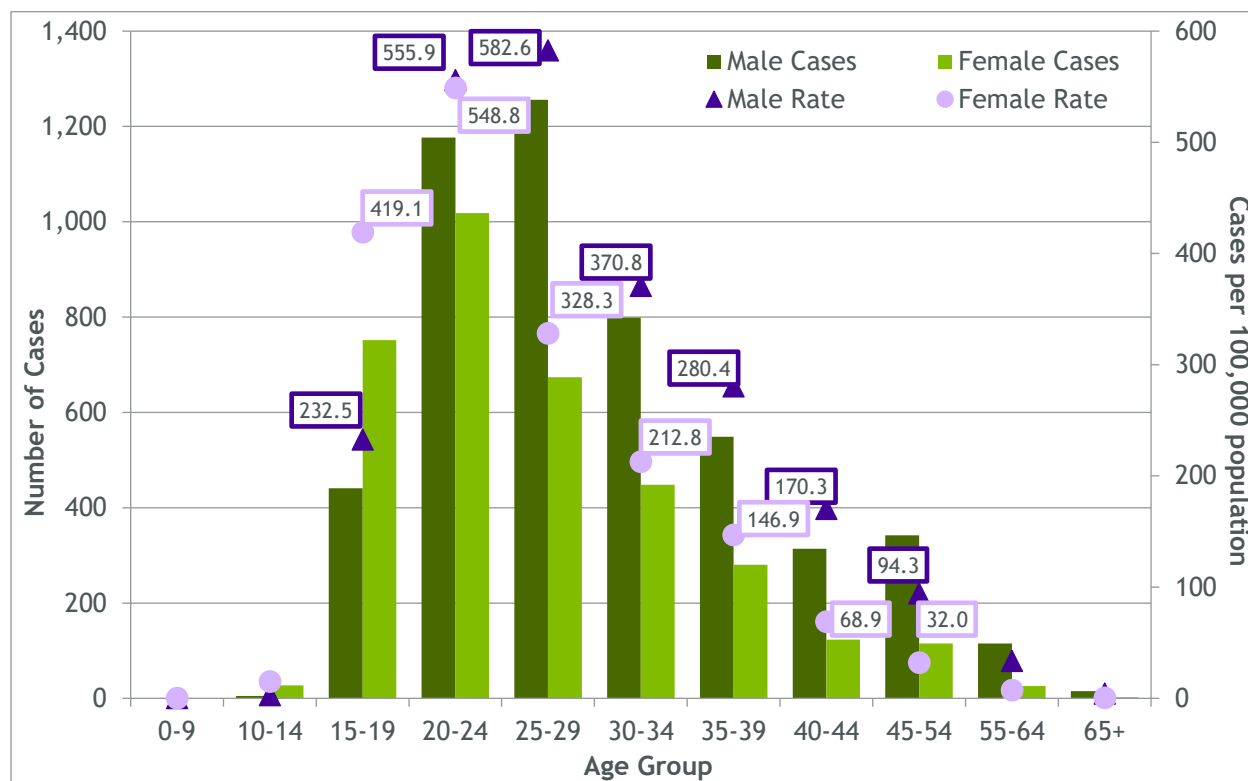
Figure G.1: Reported Gonorrhea Cases and Rates of Reported Cases, Colorado, 2008-2017



⁶ Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2017. Atlanta: U.S. Department of Health and Human Services; 2018. <http://www.cdc.gov/std/stats>.

Figure G.2 shows age and sex case counts for gonorrhea diagnosed in 2017. The mean age at diagnosis was 29.0 with a range of 13 to 80 years of age. Males accounted for 59.1 percent 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, 419.1 per 100,000, was almost two times greater than the rate for males, 232.5 per 100,000.

Figure G.2: Reported Gonorrhea Cases and Rates of Reported Cases by Sex and Age Group, Colorado, 2017

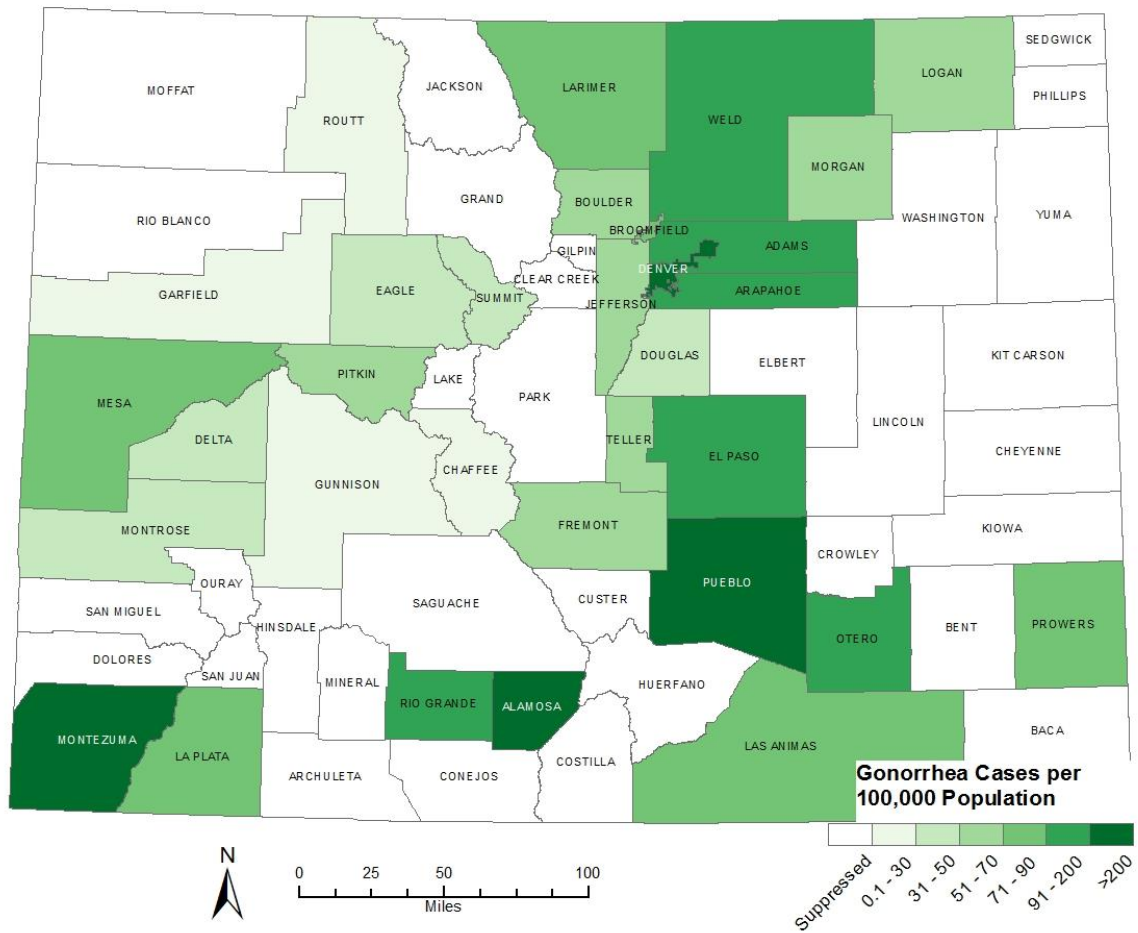


Rates by sex for the other age groups can be found in Table 4.

As seen with chlamydia, Non-Hispanic Blacks were disproportionately affected by gonorrhea in 2017. They represented 4.2 percent of Colorado’s population but represented 12.7 percent of reported gonorrhea cases. Please note, race/ethnicity data is not complete (see limitations section). Therefore, this data should be interpreted with caution.

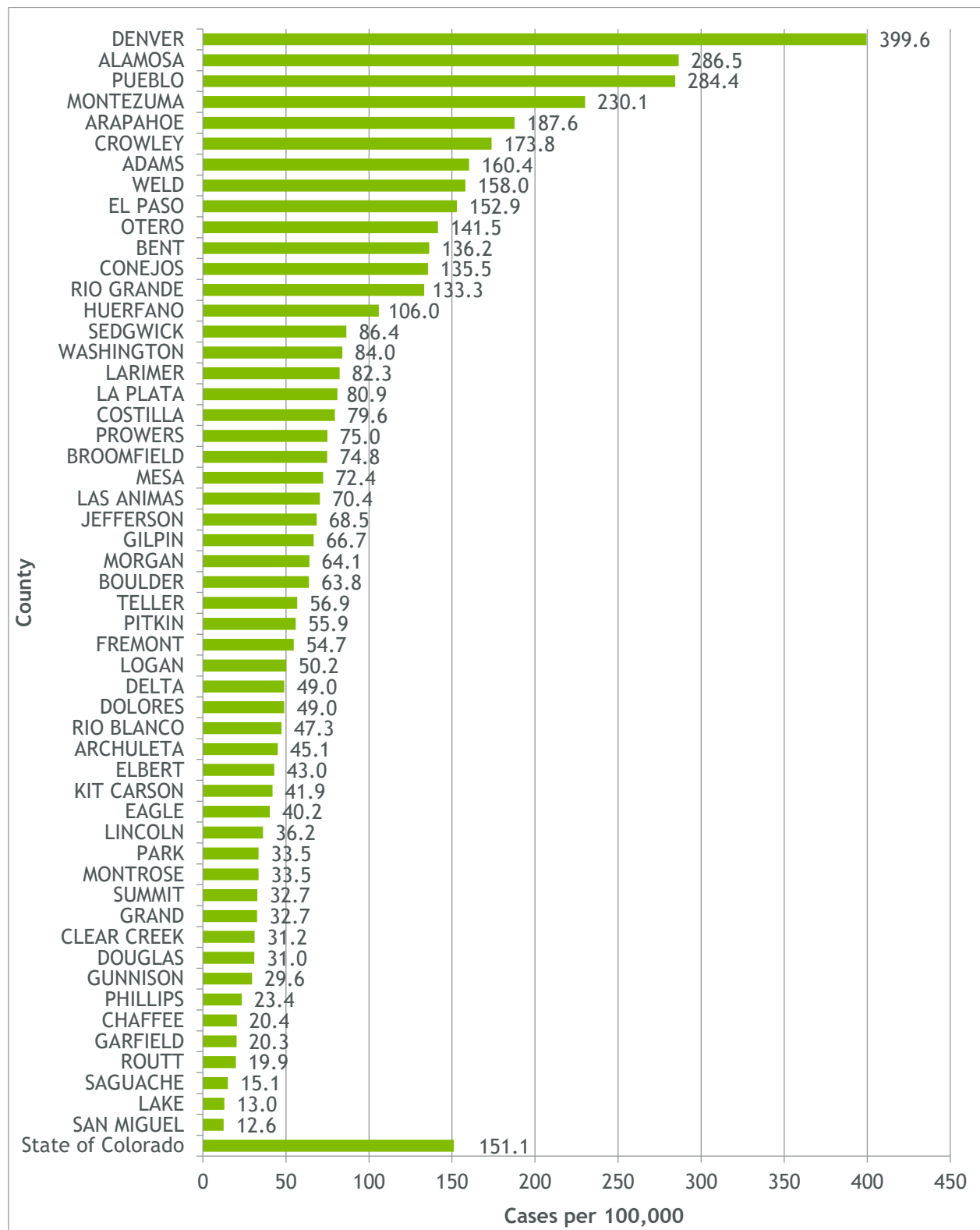
Figure G.3 and Figure G.4 describe the geographical distribution of gonorrhea rates of Colorado at the county level. The map shows gonorrhea cases were not as widespread as chlamydia. Eleven counties did not report any gonorrhea cases in 2017. All of these counties are rural. A large proportion, 60.2 percent, of all cases was reported in just three counties; Denver, Arapahoe and El Paso, with Denver County accounting for 33.3 percent of reported cases. Denver, Pueblo and Alamosa had the highest rates of gonorrhea.

Figure G.3: Rates of Reported Gonorrhea Cases by County Map, Colorado, 2017



Rates suppressed for counties with less than three cases or a population <15,000. High rates do not necessarily mean high case counts; for further details, see Table 2.

Figure G.4: Rates of Reported Gonorrhea Cases by County Chart, Colorado, 2017

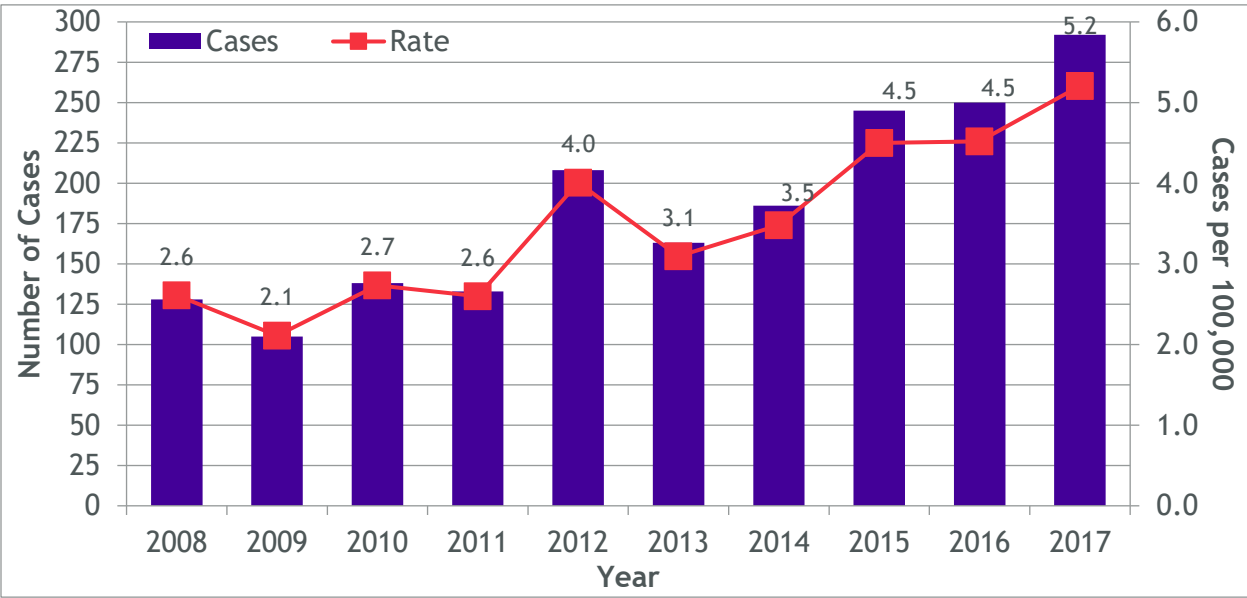


Primary and Secondary Syphilis

There were 292 cases of primary and secondary syphilis diagnosed and reported in Colorado in 2017, and the rate was 5.2 per 100,000. This is an increase of 68.2 percent in the rate from 2013 (3.1 per 100,000) as shown in **Figure PS.1**. Again, this is a historic high for Colorado. Like in Colorado, from 2013 to 2017, the U.S. reported a 72.7 percent increase in the rate of primary and secondary syphilis cases. This corresponds with 30,644 cases (9.5 per 100,000) of primary and secondary syphilis reported in 2017 compared to 17,375 cases (5.5 per 100,000).⁷

The reported cases were primarily among men (93.8 percent). Nearly half of all cases were among Non-Hispanic White males, representing 47.6 percent. Additionally, 71.9 percent of all cases were among men who have sex with men (MSM). In 2017, 32.9 percent 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 40.0 percent of those who reported MSM risk were co-infected with HIV. Comparatively in the United States, 36 percent of primary and secondary syphilis diagnoses were co-infected with HIV, and 46 percent of those who reported MSM risk were co-infected with HIV.⁸

Figure PS.1: Reported Primary and Secondary Syphilis Cases and Rates of Reported Cases, Colorado, 2008-2017

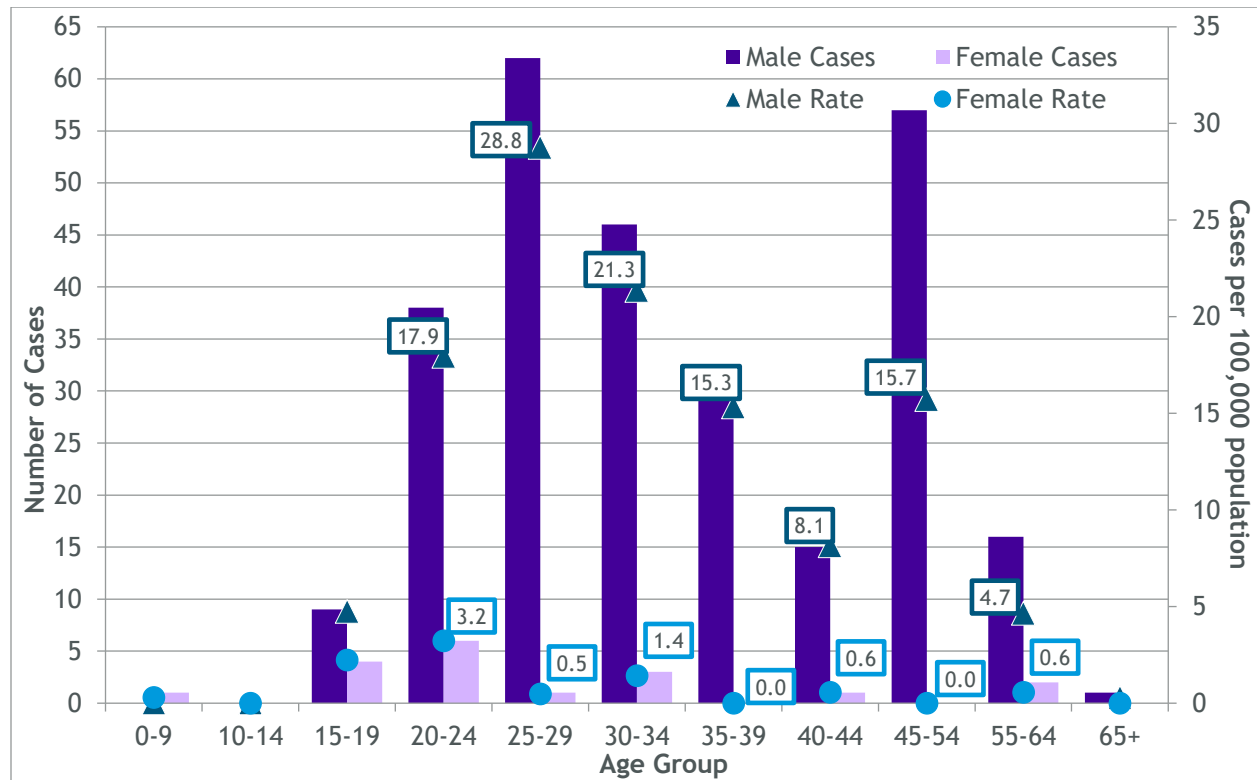


⁷ Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2017*. Atlanta: U.S. Department of Health and Human Services; 2018. <http://www.cdc.gov/std/stats>.

⁸ Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2017*. Atlanta: U.S. Department of Health and Human Services; 2018. <http://www.cdc.gov/std/stats>.

Figure PS.2 shows age and sex case counts for primary and secondary syphilis diagnosed and reported in 2017. The mean age at diagnosis was 35.4 with a range of 3 to 66 years of age. The highest rates were reported among 25-29 year old males whose rate was 28.8 cases per 100,000. In 2017, 21.2 percent of the cases occurred among 25-29 year old males followed by 45-54 year old males at 19.5 percent of all reported primary and secondary syphilis cases.

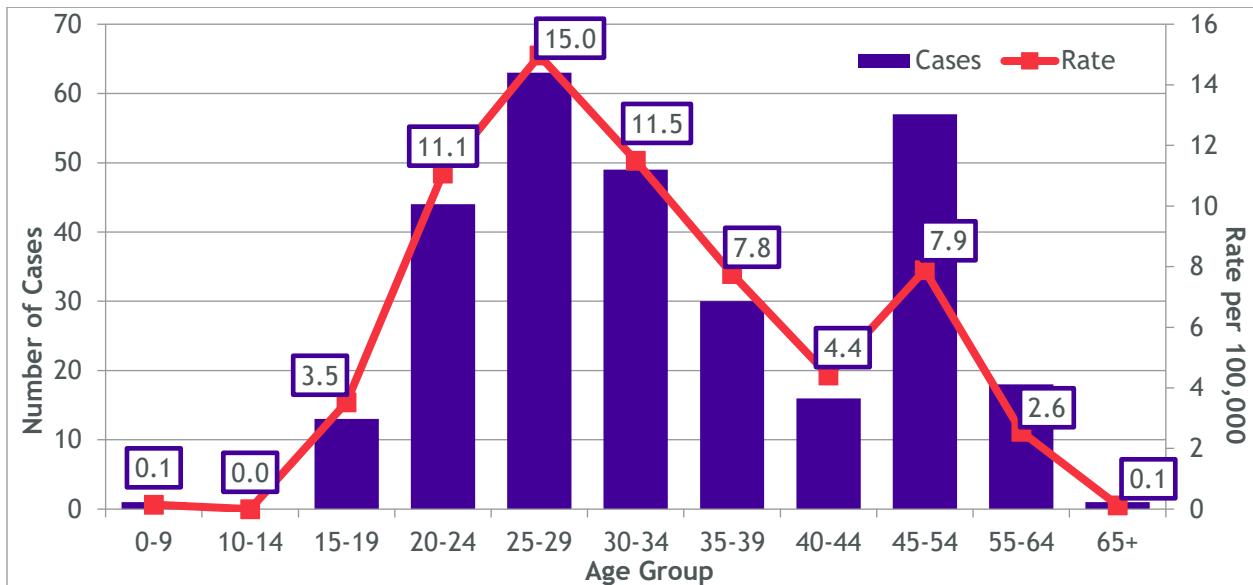
Figure PS.2: Reported Primary and Secondary Syphilis Cases and Rates of Reported Cases by Sex and Age Group, Colorado, 2017



Rates by sex for the other age groups can be found in Table 5. Caution: these rates use small numbers and should be interpreted with caution.

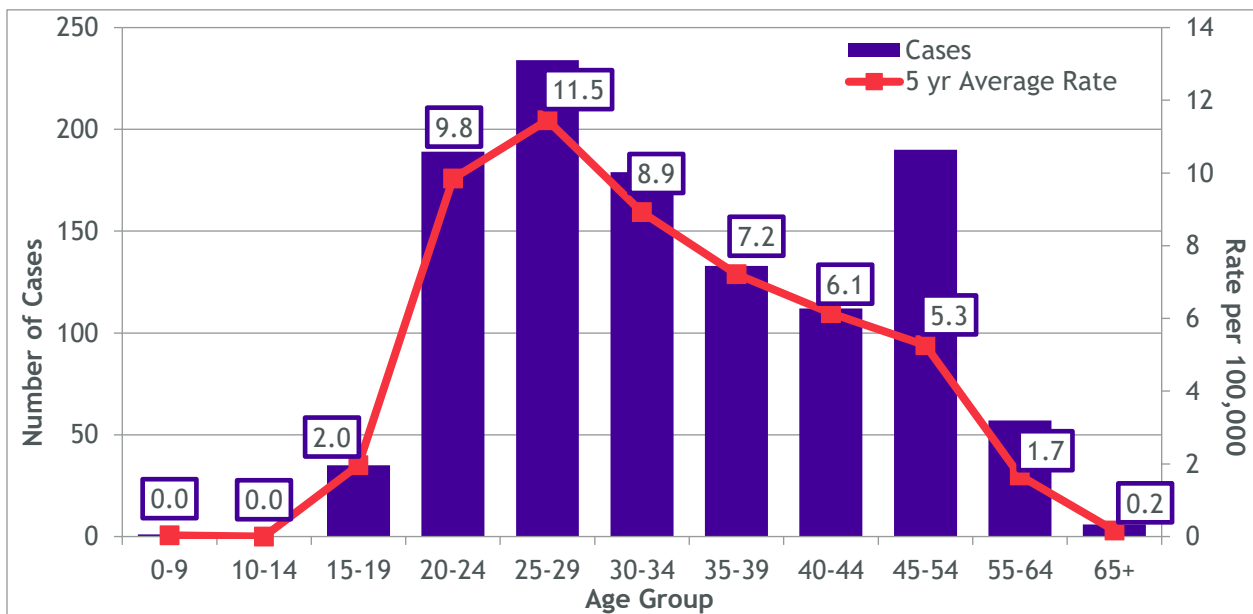
Figure PS.3 and Figure PS.4 below depict age group case counts and rates for primary and secondary syphilis. Since numbers from one year are small, the five-year average rate in Figure PS.4 helps to stabilize the rate and thus produces a more accurate representation of the distribution.

Figure PS.3: Reported Primary and Secondary Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2017



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

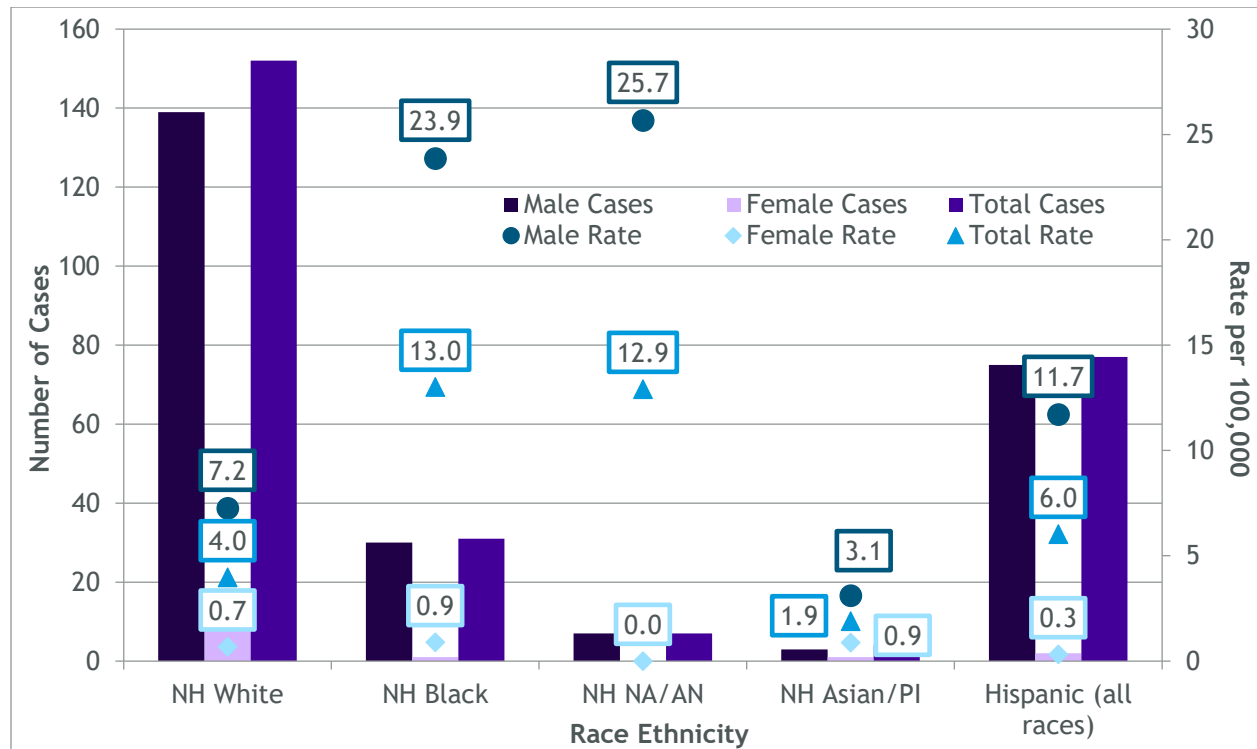
Figure PS.4: Reported Primary and Secondary Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2013-2017



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, 13.0 per 100,000 in 2017. The next highest rate was among Non-Hispanic Native Americans/Alaska Natives, 12.9 per 100,000. Although Non-Hispanic Whites accounted for the majority of the primary and secondary syphilis cases, 52.1 percent, their rate per 100,000 was only higher than Non-Hispanic Asian/Pacific Islanders (1.9 per 100,000) in 2017.

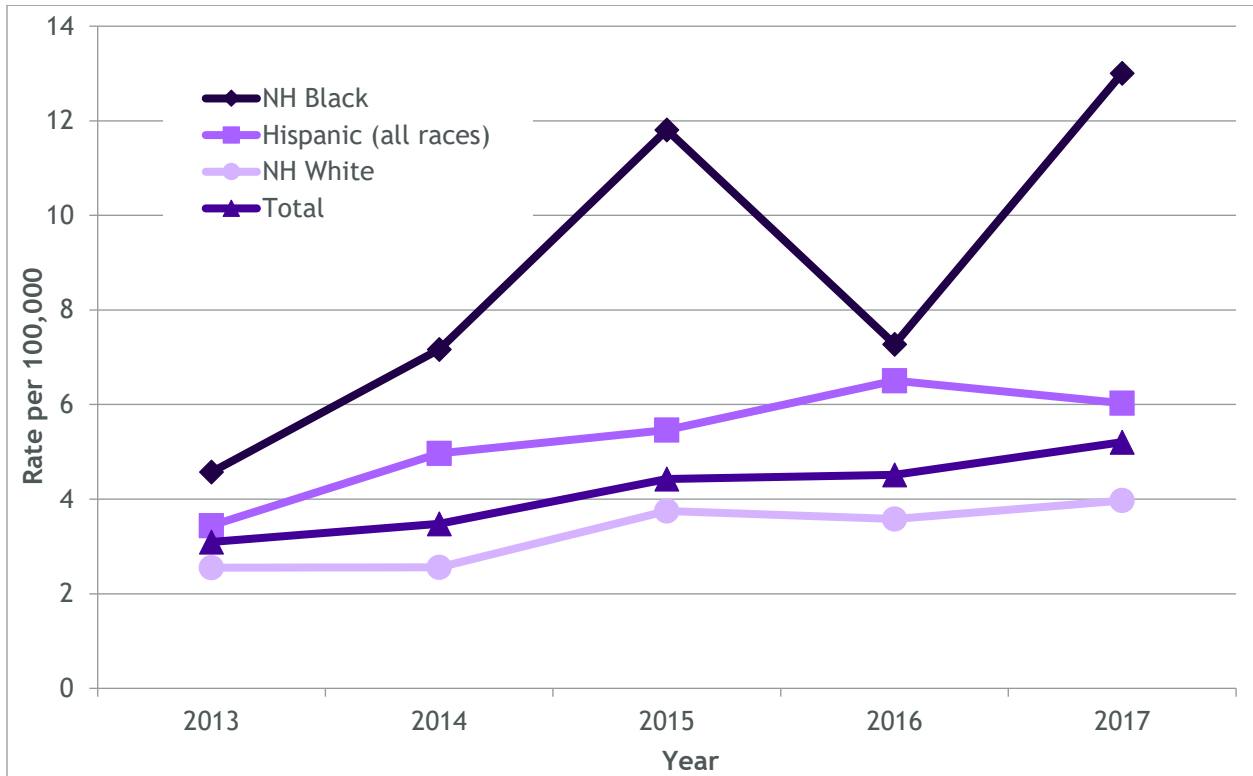
Figure PS.5: Rates of Reported Primary and Secondary Syphilis Cases by Race/Ethnicity and Sex, Colorado, 2017



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 2013-2017. The rates for Non-Hispanic Blacks saw a sharper increase.

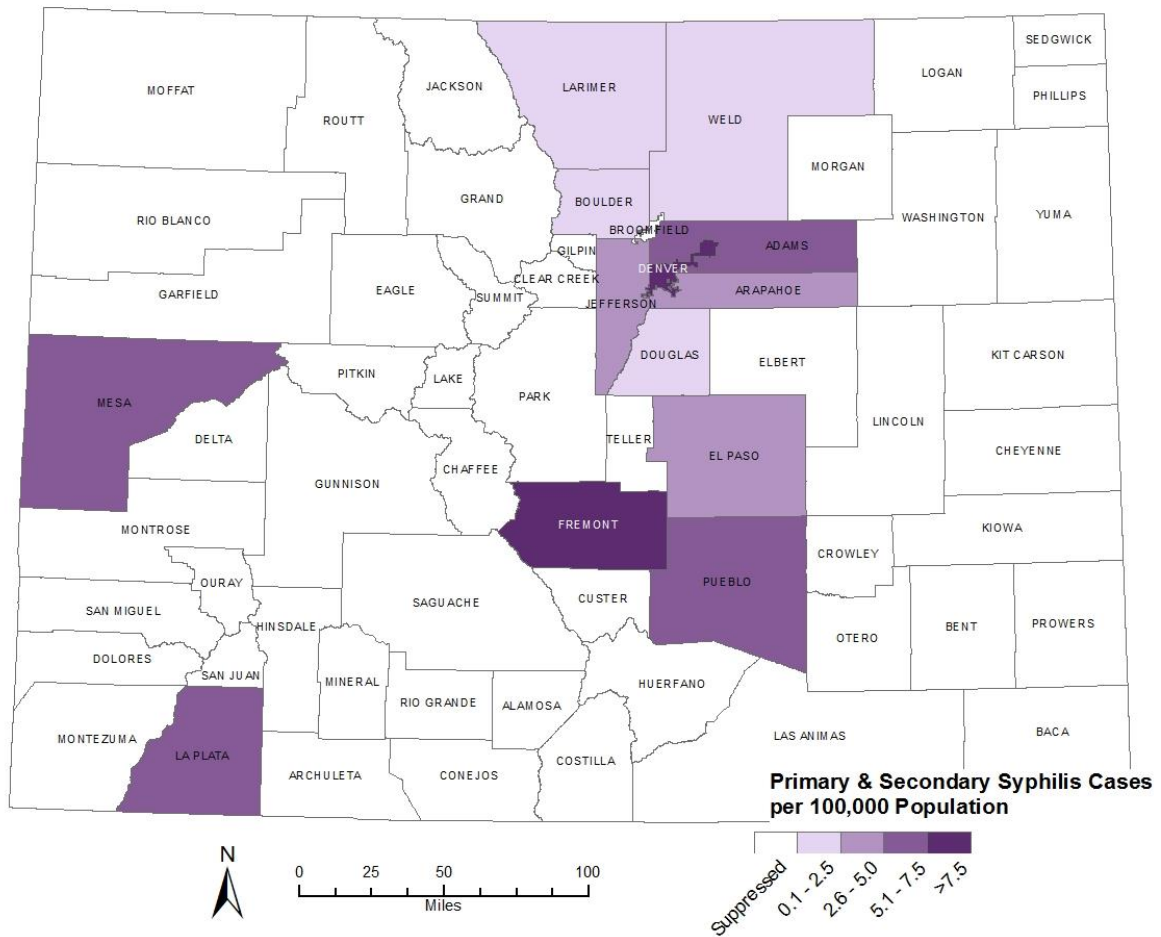
Figure PS.6: Rates of Reported Primary & Secondary Syphilis Cases by Race/Ethnicity, Colorado, 2013-2017



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

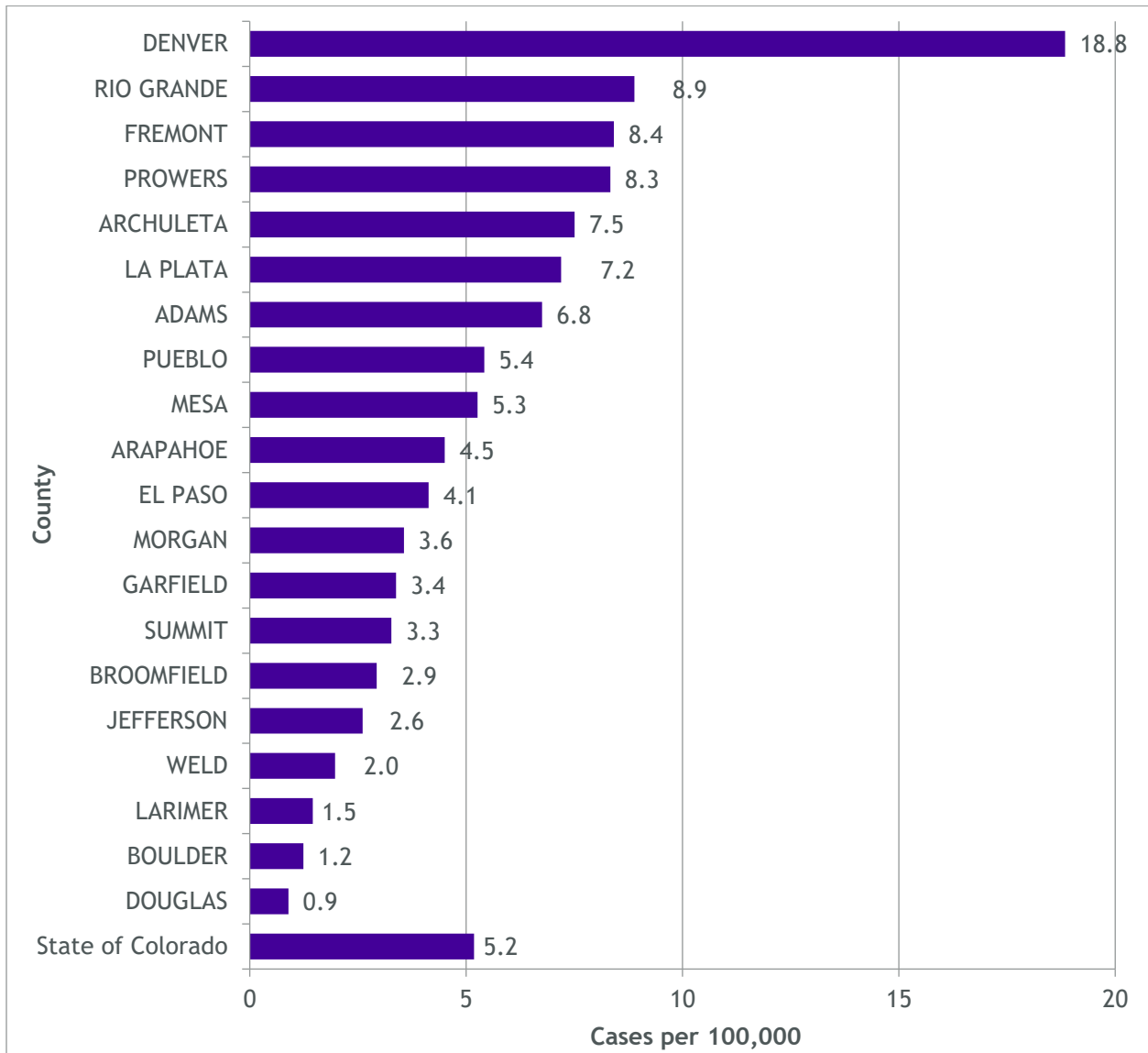
Figure PS.7 and Figure PS.8 describe the geographical distribution of primary and secondary syphilis rates for Colorado at the county level. The map shows primary and secondary syphilis has been diagnosed in 20 of 64 counties with Denver County reporting the highest proportion of cases, 45.6 percent in 2017. The highest rates were in Denver, Rio Grande, Fremont and Prowers Counties with a rate of 18.9, 8.7, 8.4 and 8.4, respectively, (Figure PS.8).

Figure PS.7: Rates of Reported Primary and Secondary Syphilis Cases by County Map, Colorado, 2017



Rates suppressed for counties with less than three cases or a population <15,000. High rates do not necessarily mean high case counts; for further details, see Table 2.

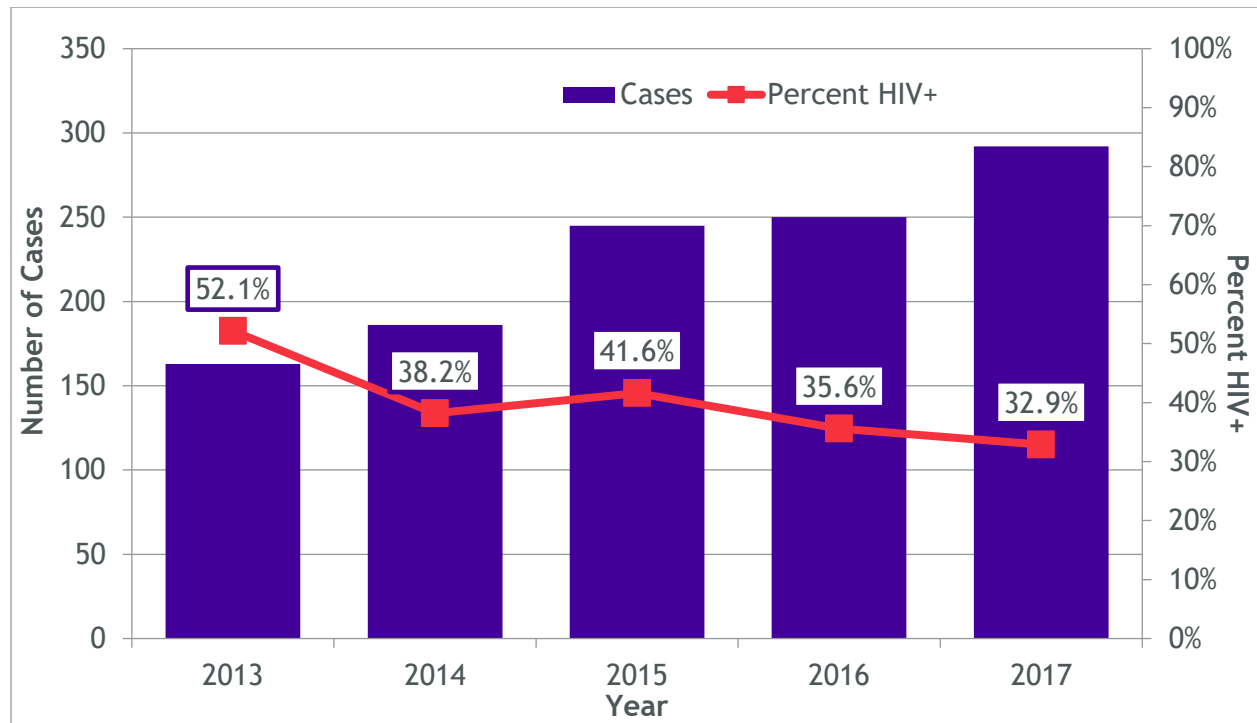
Figure PS.8: Rates of Reported Primary and Secondary Syphilis Cases by County Chart, Colorado, 2017



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

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 2013-2017. The rate has ranged from 52.1 percent in 2013 to 32.9 percent in 2017 producing a downward trend. The five-year average rate for primary and secondary syphilis and HIV co-infections was 39.0 percent.

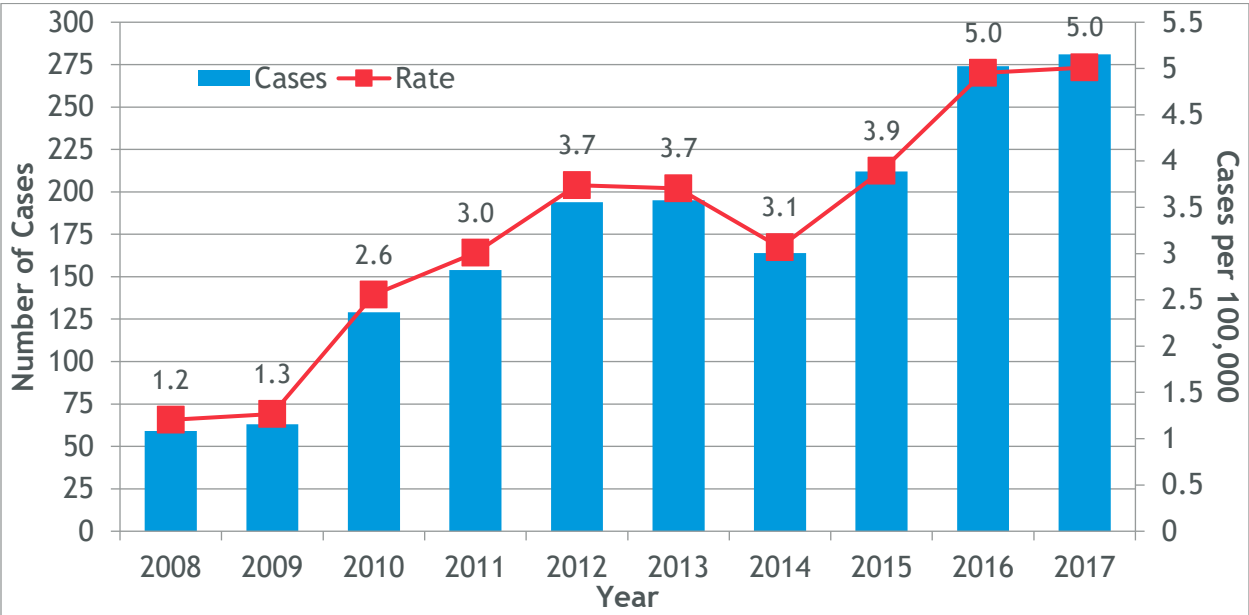
Figure PS.9: Reported Primary and Secondary Syphilis Cases and Percent HIV+ by Year of Diagnosis, Colorado, 2013-2017



Early Latent Syphilis

Early latent syphilis is latent syphilis (no visible signs or symptoms) in which the infection occurred within the past 12 months. There were 281 cases of early latent syphilis diagnosed and reported in 2017, and the rate was 5.0 per 100,000. Compared to 2013 (3.7 per 100,000), the rate in 2017 increased by 35.3 percent as shown in **Figure EL.1**. Similar to the three previous sections, this is an all-time high for Colorado. In the United States, 34,013 (10.5 per 100,000) cases of early latent syphilis were diagnosed and reported for 2017 to the CDC. Like Colorado, this rate for the U.S. is an increase (94.4 percent) compared to 2013 (5.4 per 100,000).⁹

Figure EL.1: Reported Early Latent Syphilis Cases and Rates of Reported Cases, Colorado, 2008-2017

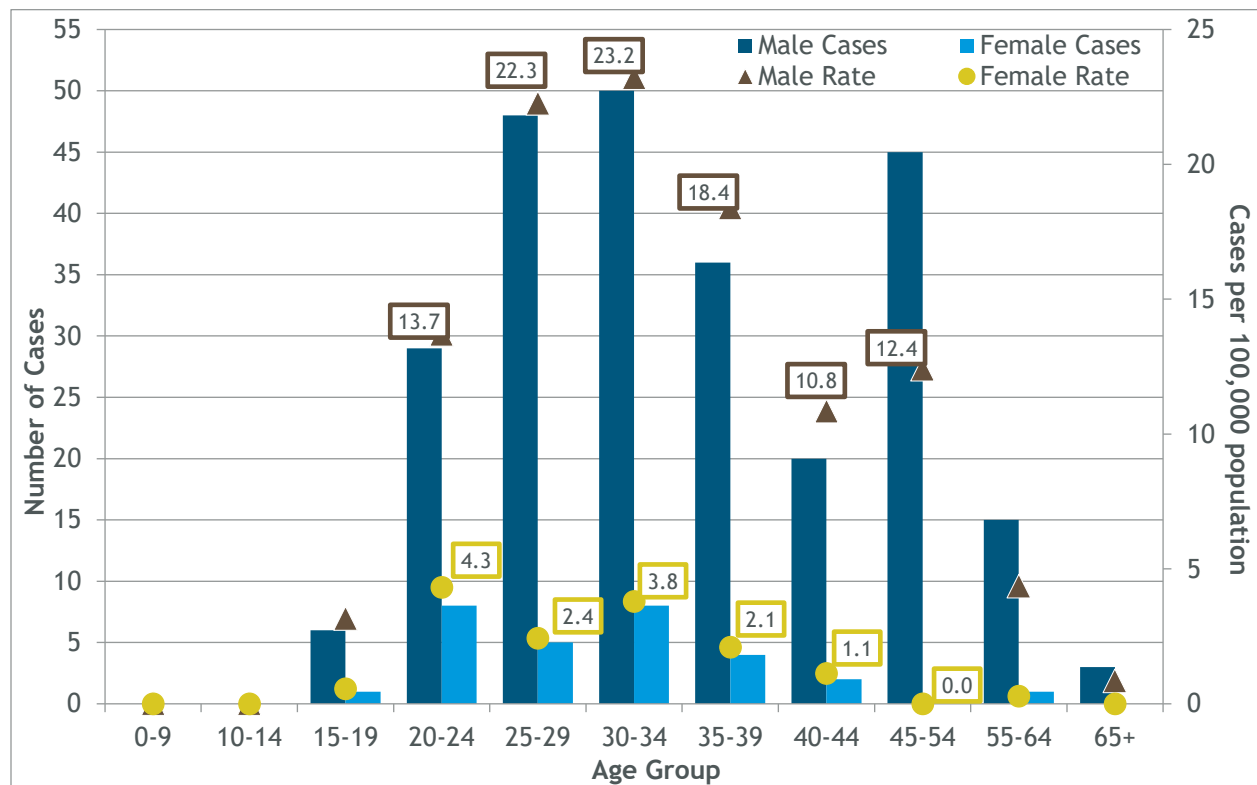


Non-Hispanic White males represent 44.5 percent of reported early latent cases. Additionally, 74.4 percent of cases were among MSM. In 2017, 42.7 percent of early latent syphilis diagnoses were co-infected with HIV; i.e. percent of syphilis cases that were reported among people living with HIV (both previously diagnosed with HIV or diagnosed with HIV at the same time as the syphilis diagnosis), and 49.3 percent of those who reported MSM risk were co-infected with HIV.

⁹ Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2017*. Atlanta: U.S. Department of Health and Human Services; Sept 2018. <http://www.cdc.gov/std/stats>.

Figure EL.2 shows age and sex case counts for early latent syphilis diagnosed in 2017. The mean age at diagnosis was 35.9 with a range of 15 to 76 years of age. Overall from 2008-2017, the highest rates were reported among 30-34 year old males whose rate was 23.1 cases per 100,000. In 2017, 17.8 percent of the cases occurred among 30-34 year old males; followed by 25-29 year old males, which accounted for 17.1 percent of cases.

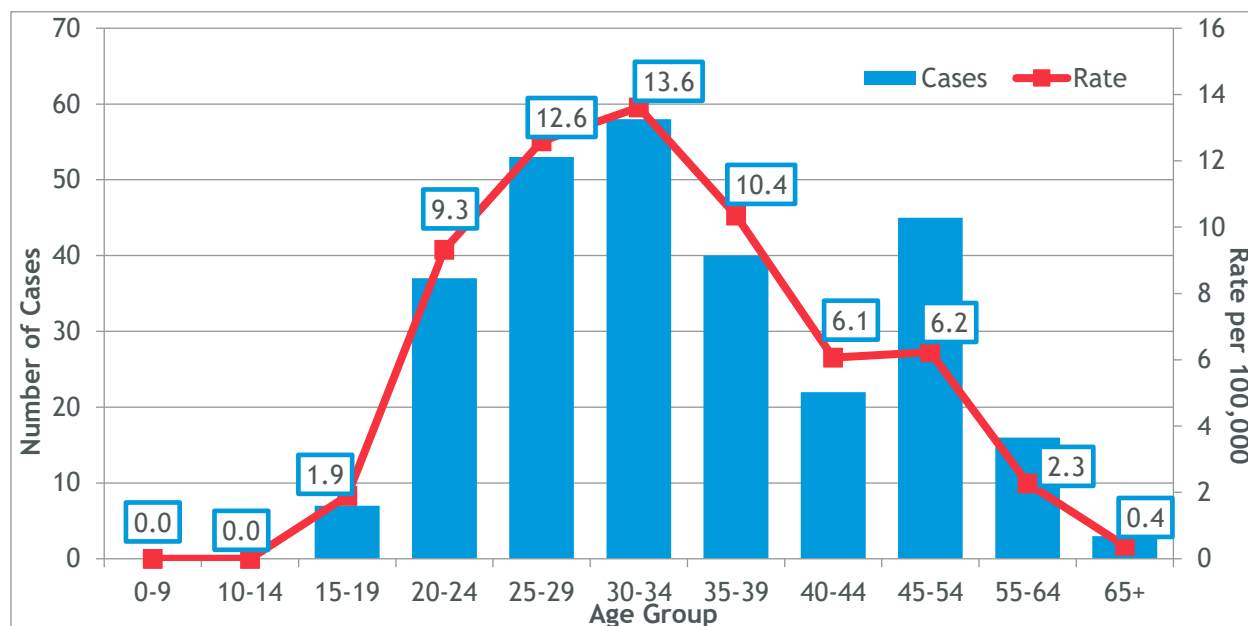
Figure EL.2: Reported Early Latent Syphilis Cases and Rates of Reported Cases by Sex and Age Group, Colorado, 2017



Rates by sex for the other age groups can be found in Table 6. Caution: these rates use small numbers and should be interpreted with caution.

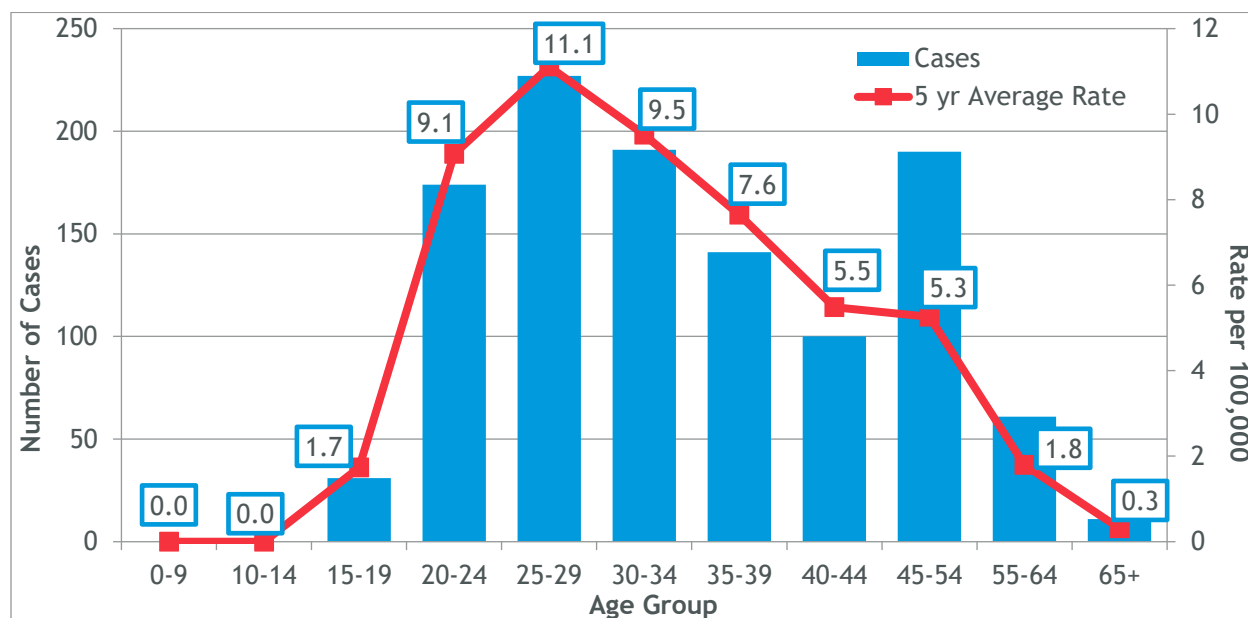
Figure EL.3 and Figure EL.4 below depict age group case counts and rates for early latent syphilis. This five-year average rate helps to stabilize the rate and thus produces a more accurate representation of the rate.

Figure EL.3: Reported Early Latent Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2017



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

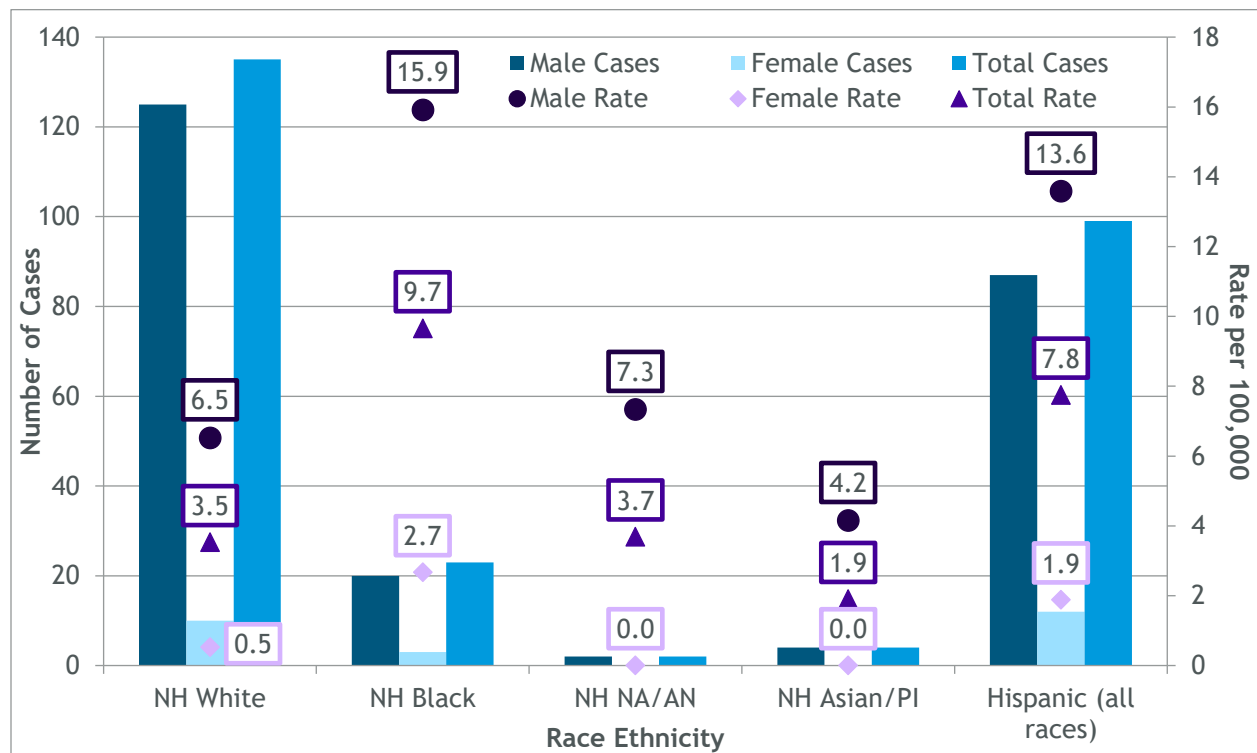
Figure EL.4: Reported Early Latent Syphilis Cases and Rates of Reported Cases by Age Group, Colorado, 2013-2017



More stable than the one-year rate from Figure EL.3

Figure EL.5 shows that the highest rate of early latent syphilis is seen among Non-Hispanic Blacks, 9.7 per 100,000 in 2017. The highest proportion of early latent was among Non-Hispanic Whites, accounting for 48.0 percent, however their rate was one of the lowest at 3.5 per 100,000, only higher than Non-Hispanic Asian/Pacific Islanders, 1.9 per 100,000.

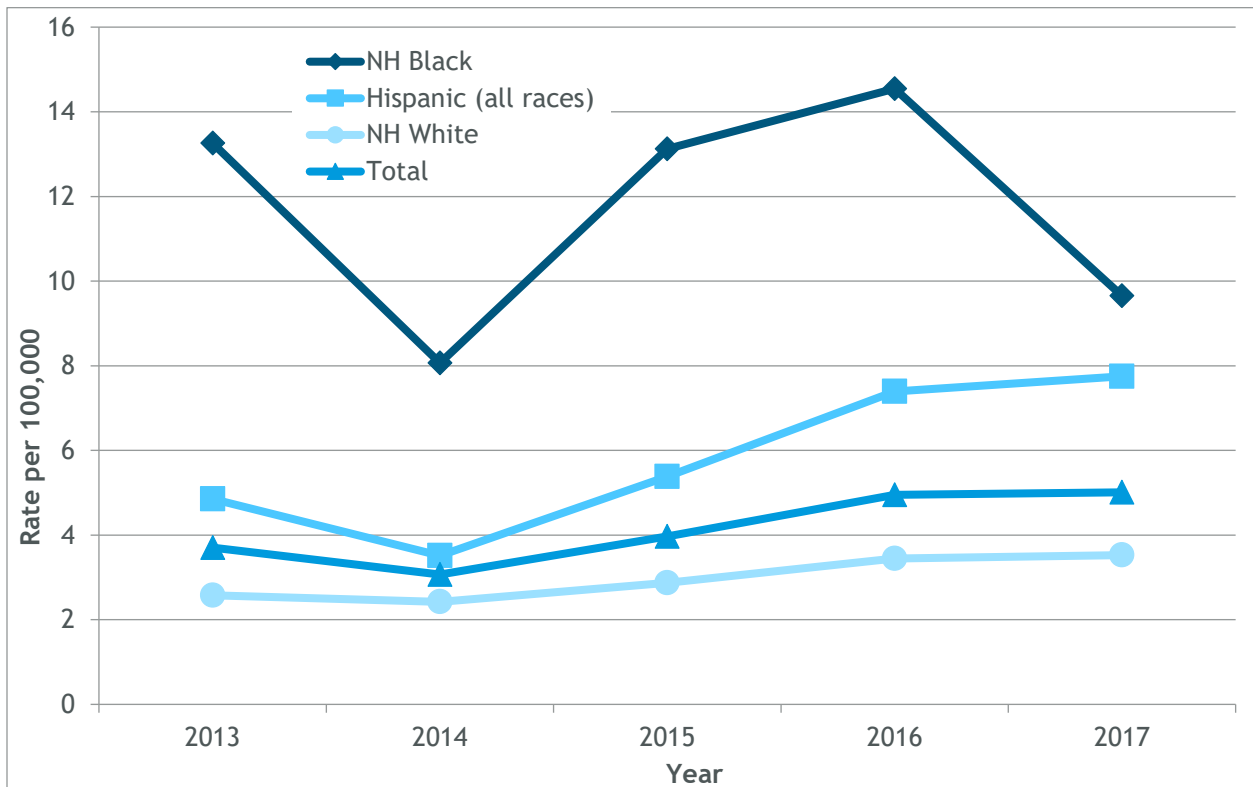
Figure EL.5: Rates of Early Latent Syphilis Cases by Race/Ethnicity and Sex, Colorado, 2017



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 8.1 in 2014 to 14.6 in 2016. Rates among Non-Hispanic Whites and Hispanics have had an overall increasing trend from 2013-2017.

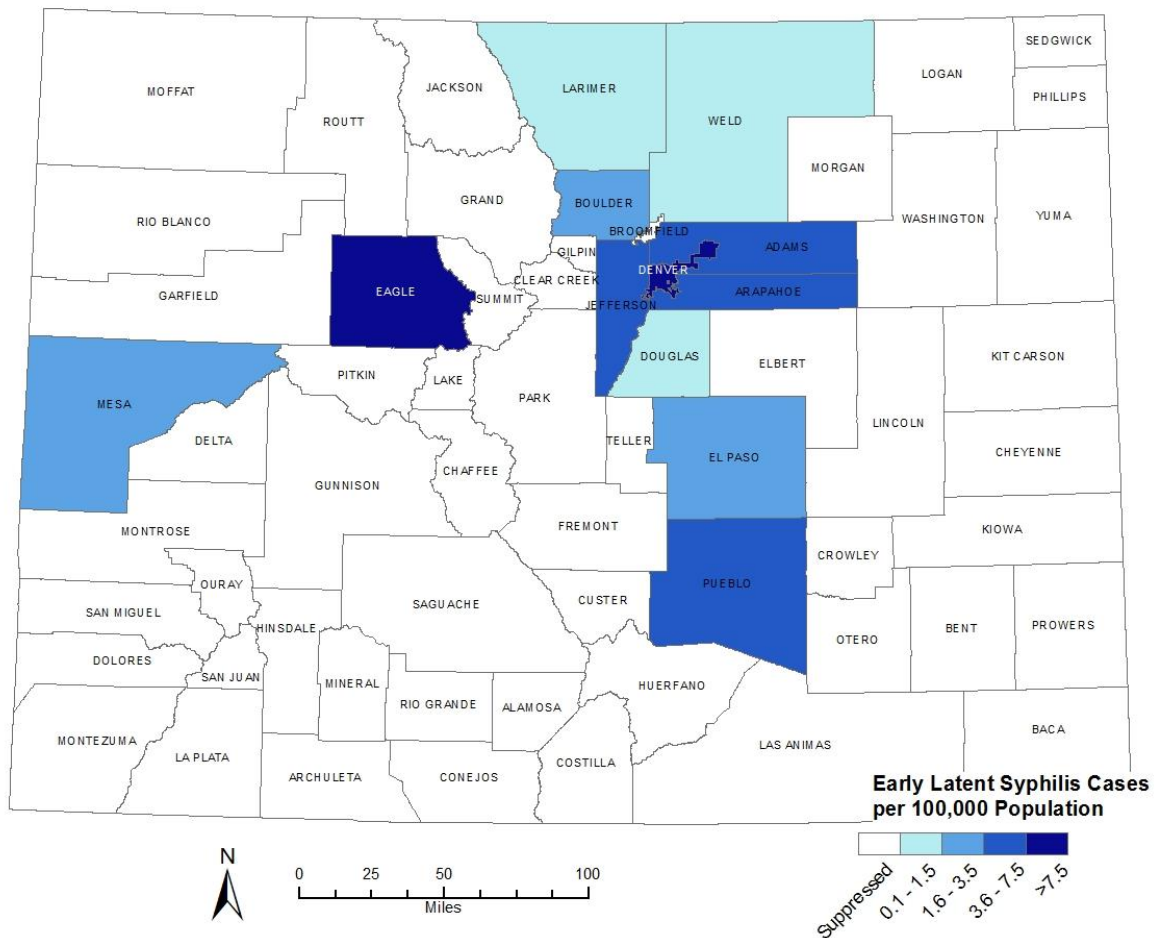
Figure EL.6: Rates of Early Latent Syphilis Cases by Race/Ethnicity, Colorado, 2013-2017



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

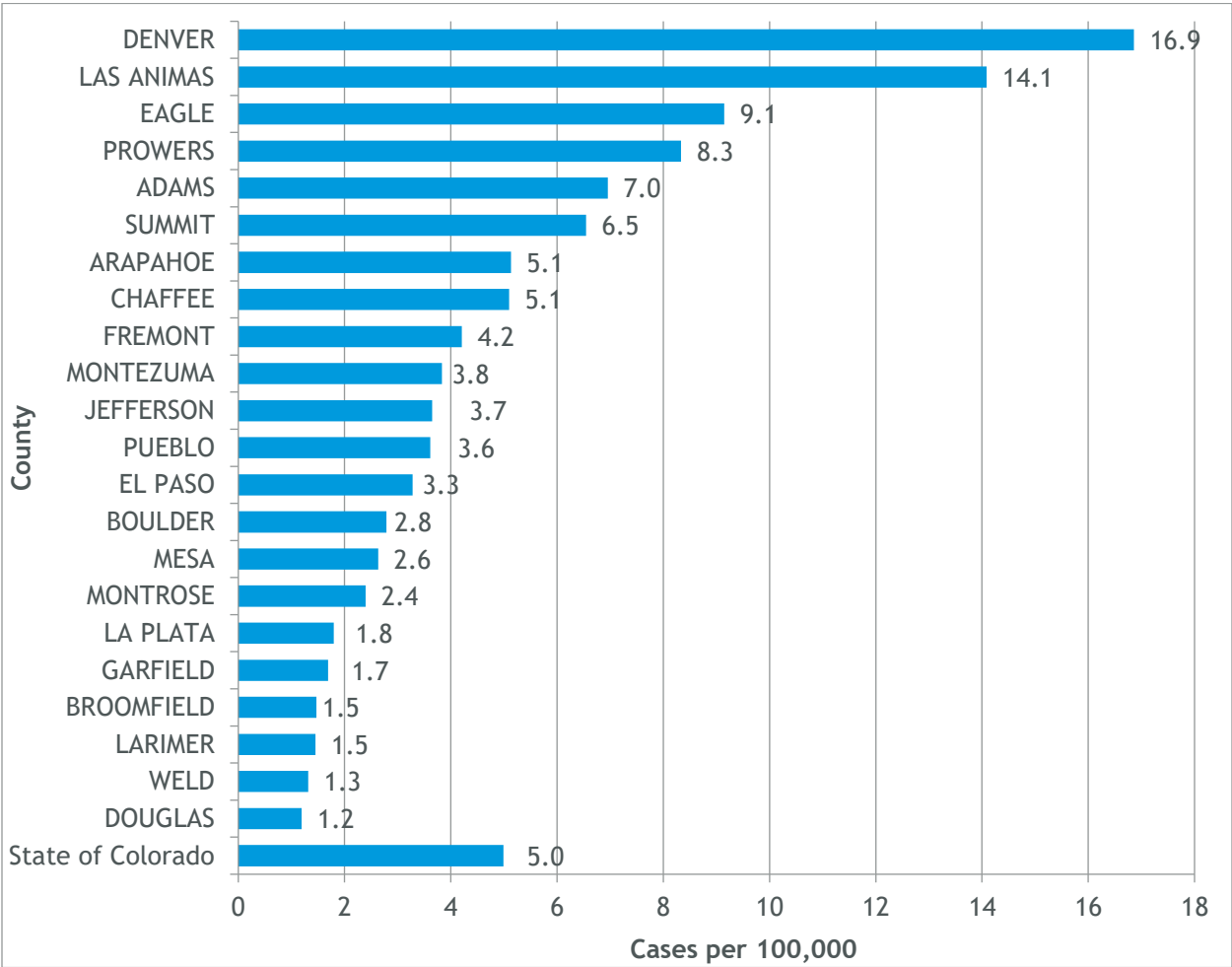
Figure EL.7 and **Figure EL.8** describe the geographical distribution of early latent syphilis rates for Colorado at the county level. The map shows early latent syphilis cases have been diagnosed in residents of 22 of 64 counties with Denver County reporting the highest proportion and highest rate of reported cases, 42.4 percent and 16.9 per 100,000 population in 2017. The next highest rates were in Las Animas and Eagle Counties (**Figure EL.8**). However, the Las Animas and Eagle rates were produced from five or fewer 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 Early Latent Syphilis Cases by County Map, Colorado, 2017



Rates suppressed for counties with less than three cases or a population <15,000. High rates do not necessarily mean high case counts; for further details, see Table 2.

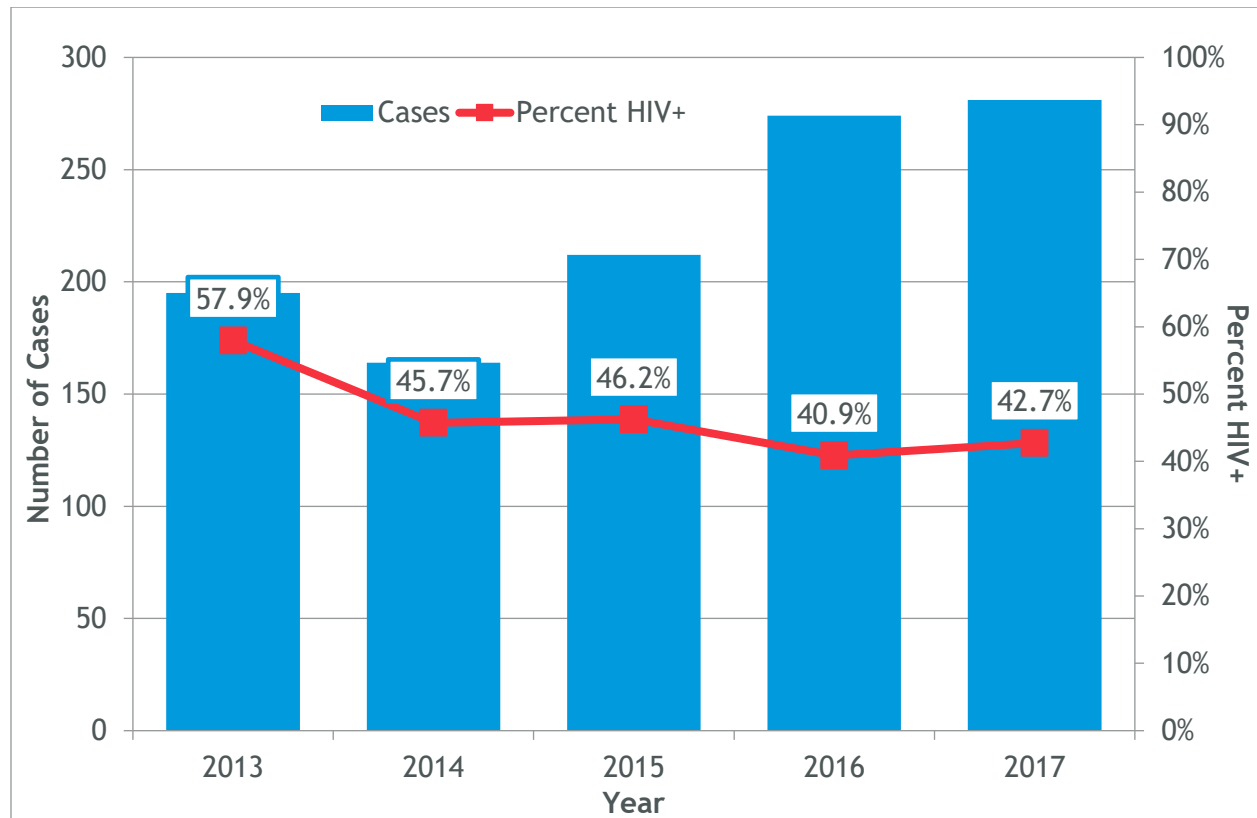
Figure EL.8: Rates of Early Latent Syphilis Cases by County Chart, Colorado, 2017



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

Figure EL.9 shows the rate of early 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 2013-2017. The co-infection rate has ranged from 57.9 percent in 2013 to 40.9 percent in 2016. The five-year average rate for early latent syphilis and HIV co-infections was 46.0 percent.

Figure EL.9: Early Latent Syphilis Reported Cases and Percent HIV+ by Year of Diagnosis, Colorado, 2013-2017

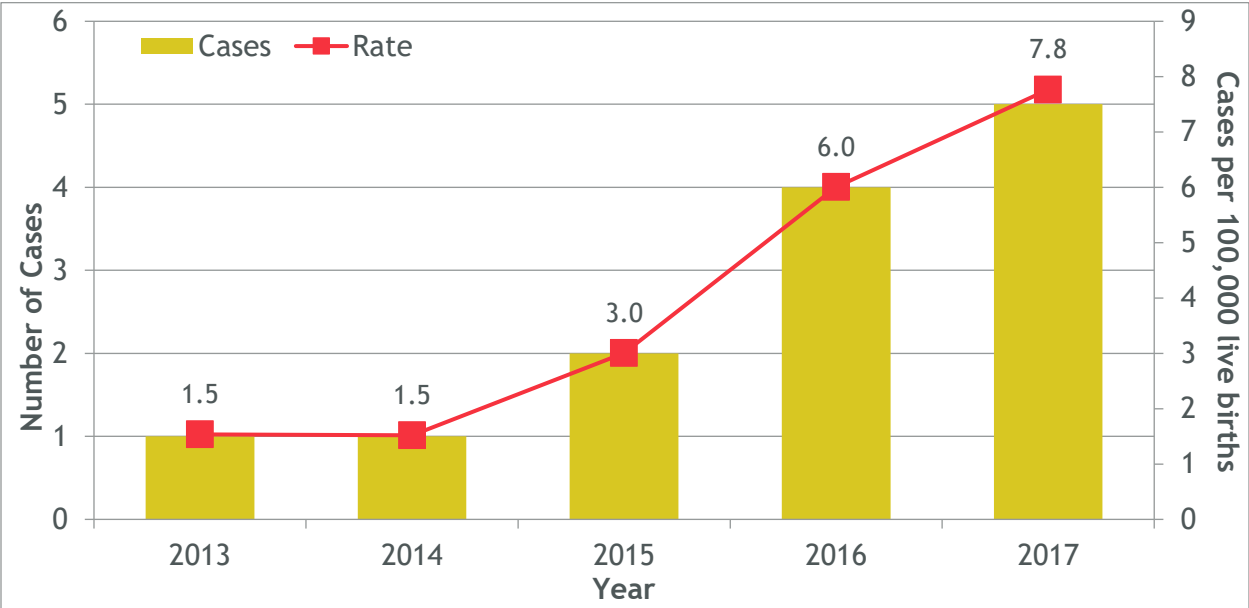


Congenital Syphilis

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 five cases of congenital syphilis reported in Colorado in 2017, and the rate was 7.8 per 100,000 live births.¹⁰ Nationally, there were a total of 918 cases of congenital syphilis (23.3 per 100,000 live births) reported for 2017 to the CDC.¹¹

Figure CS.1: Reported Congenital Syphilis Cases and Rates of Reported Cases, Colorado, 2013-2017



Utilizes the data compiled by the program.

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 2017*. 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, which is defined as 15-44 years of age. For the years 2008 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 2017, 85 cases of syphilis were diagnosed and reported to CDPHE, producing a rate of 7.4 per 100,000.

Figure CS.2: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases, Colorado, 2008-2017

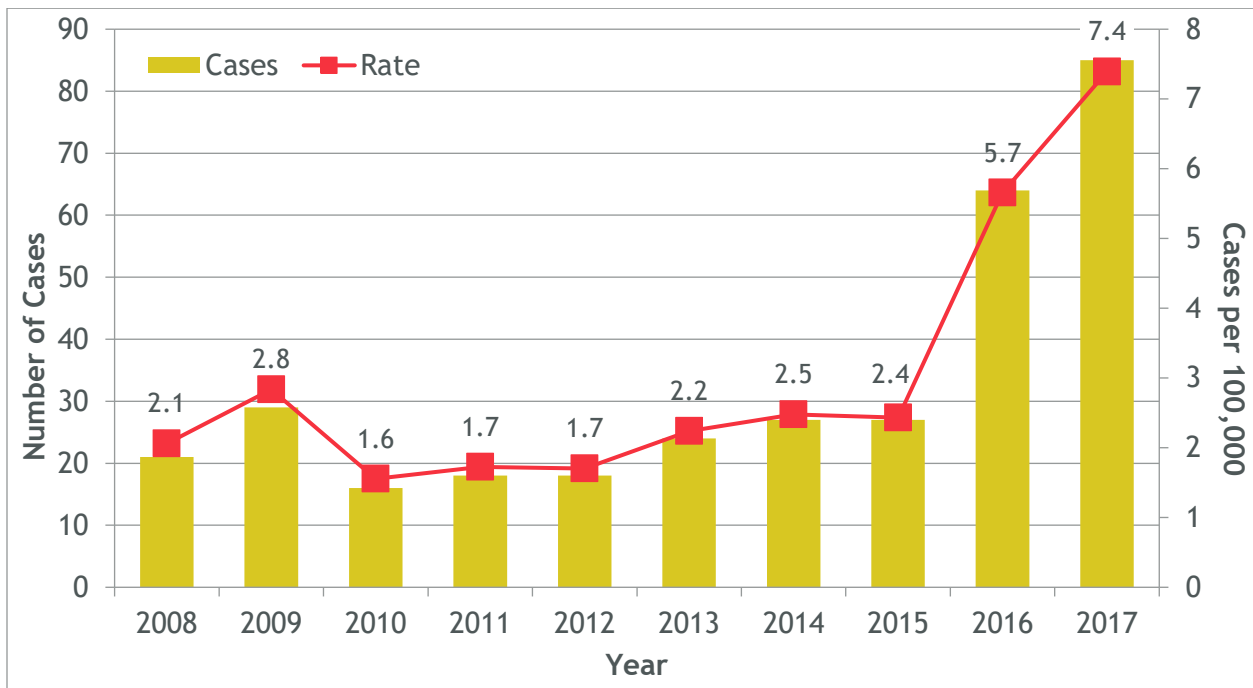
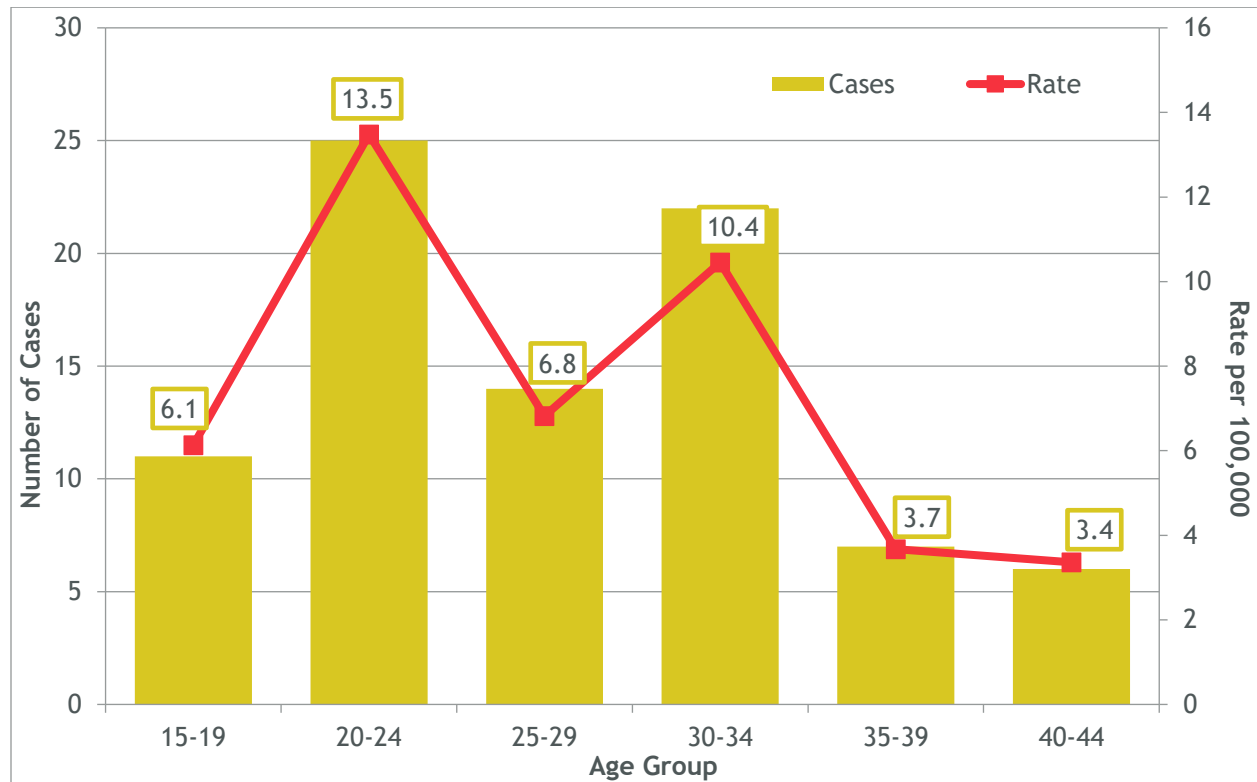


Figure CS.3 shows age group case counts for syphilis among women of reproductive age diagnosed in 2017. The mean age at diagnosis was 27.1 with a range of 15 to 44 years of age. Overall in 2017, the highest rates were reported among 20-24 year olds whose rate was 13.5 cases per 100,000.

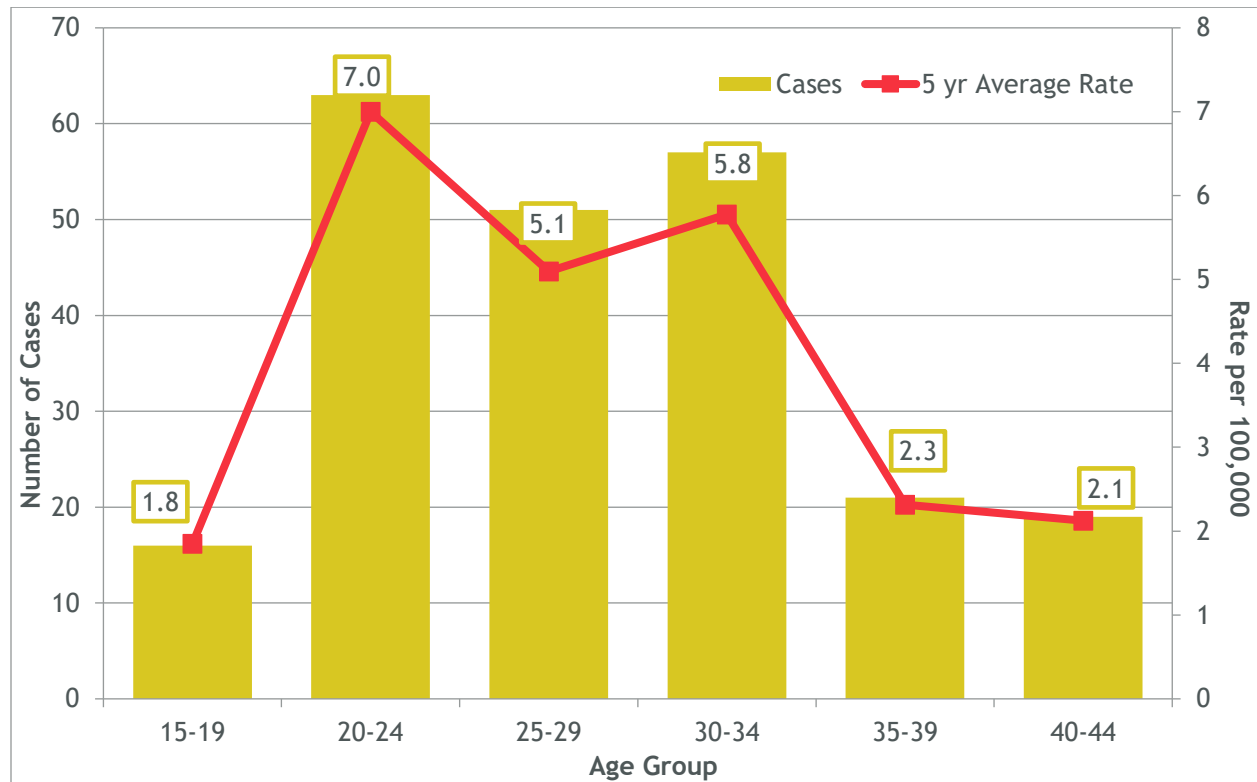
Figure CS.3: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases by Age Group, Colorado, 2017



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

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.

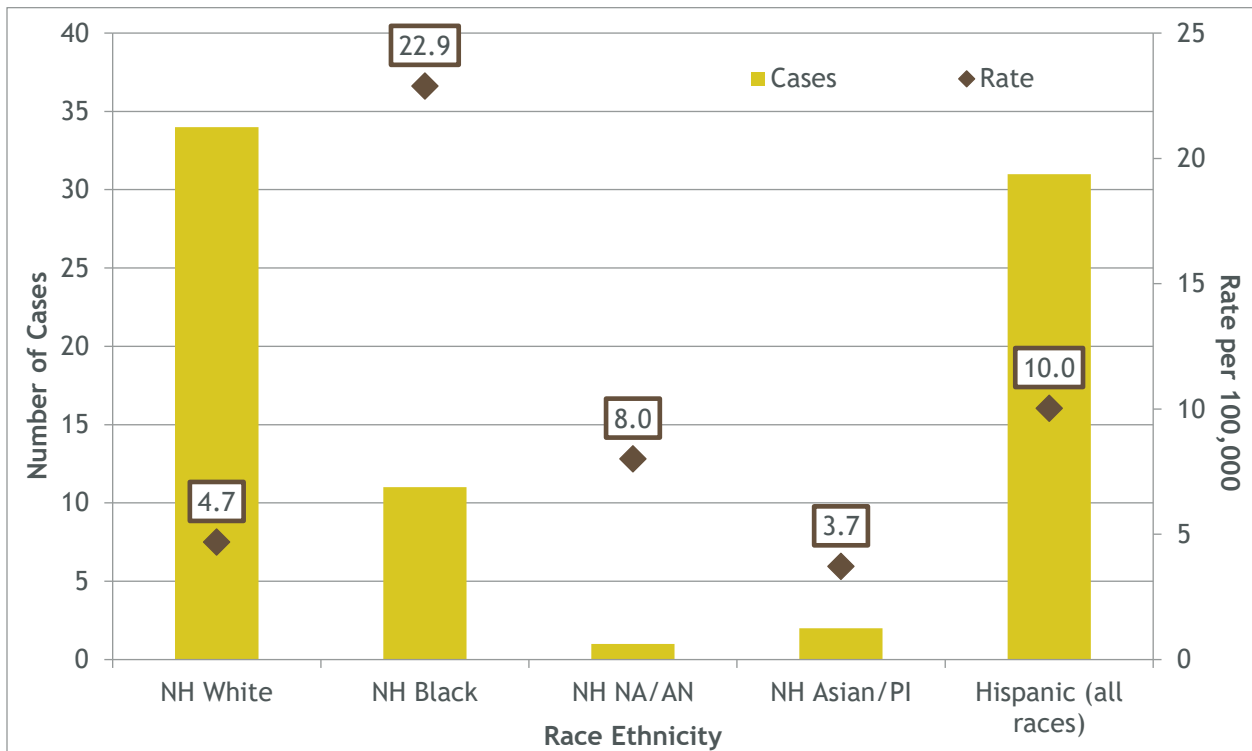
Figure CS.4: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases by Age Group, Colorado, 2013-2017



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, 22.9 per 100,000 in 2017. The highest proportion of cases was among Non-Hispanic Whites, accounting for 40.0 percent, however their rate was one of the lowest at 4.7 per 100,000, only higher than Non-Hispanic Asian/Pacific Islanders, 3.7 per 100,000.

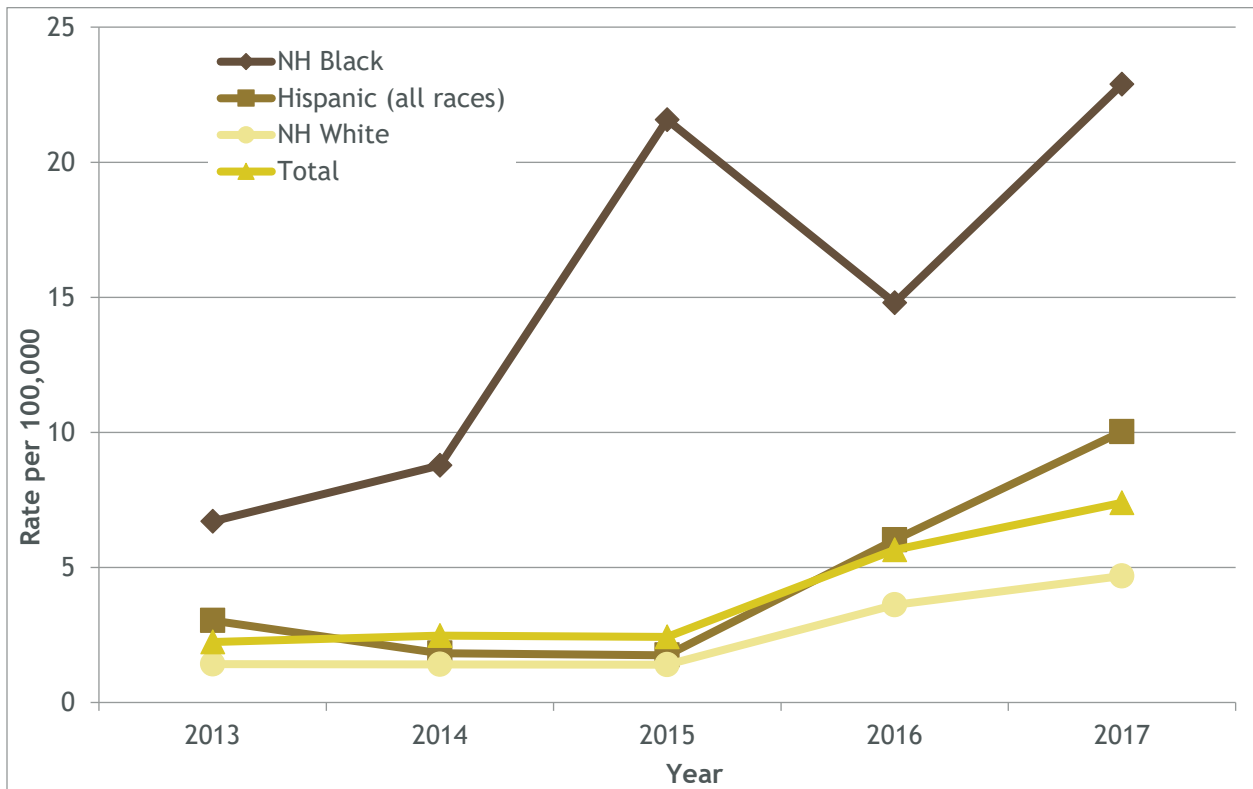
Figure CS.5: Reported Syphilis Cases Among Women of Reproductive Age and Rates of Reported Cases by Race/Ethnicity, Colorado, 2017



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. Rates for Non-Hispanic Blacks have varied over time, ranging from 6.7 in 2013 to 22.9 in 2017. Rates among Non-Hispanic Whites and Hispanics have had an overall increasing trend from 2013-2017.

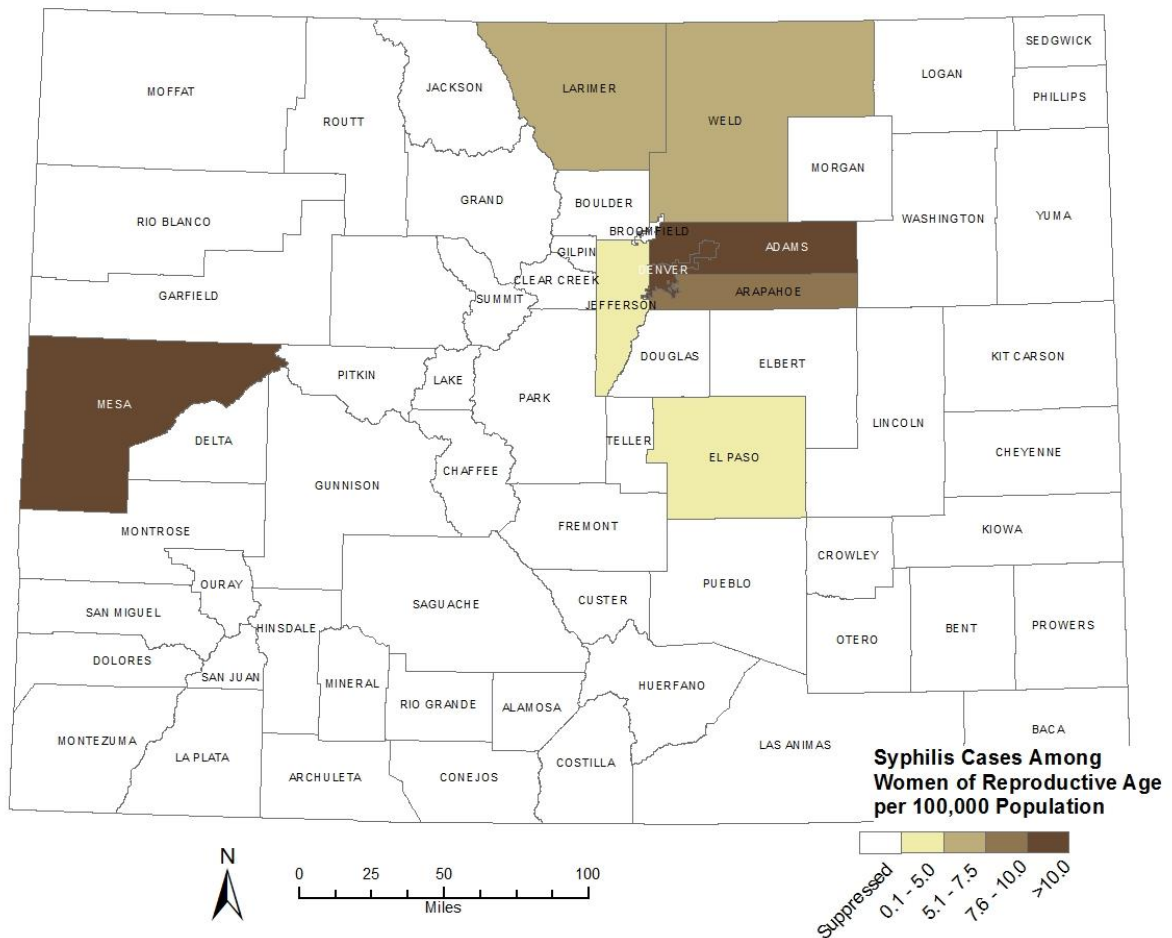
Figure CS.6: Rates of Reported Syphilis Cases Among Women of Reproductive Age by Race/Ethnicity, Colorado, 2013-2017



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

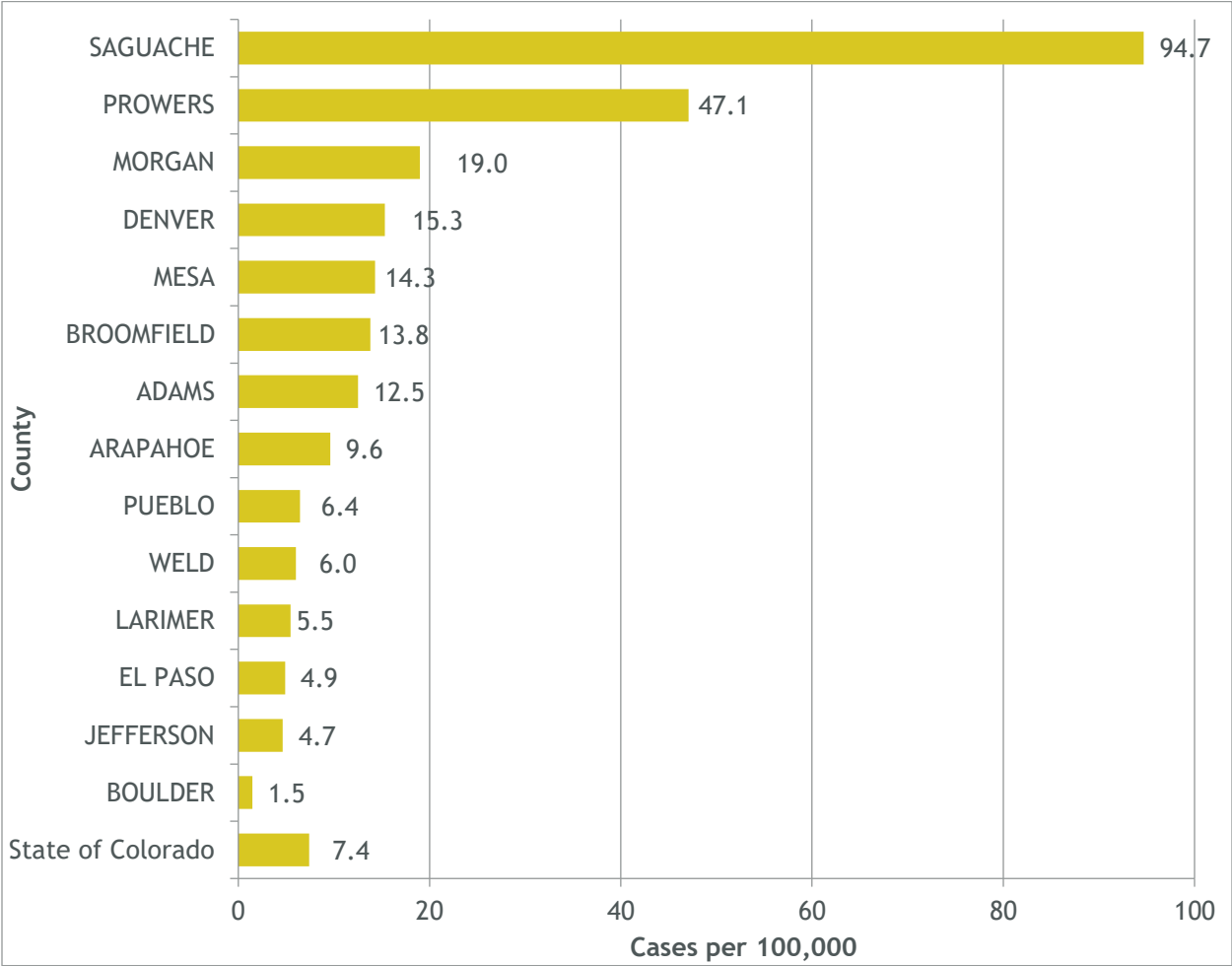
Figure CS.7 and Figure CS.8 describe the geographical distribution of syphilis rates among women of reproductive age for Colorado at the county level. The chart shows syphilis cases have been diagnosed in residents of 14 of 64 counties with Denver County reporting the highest proportion (30.6 percent) in 2017. The top three highest rates were in Saguache, Prowers and Morgan 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, 2017



Rates suppressed for counties with less than three cases or a population <15,000. High rates do not necessarily mean high case counts; for further details, see Table 2.

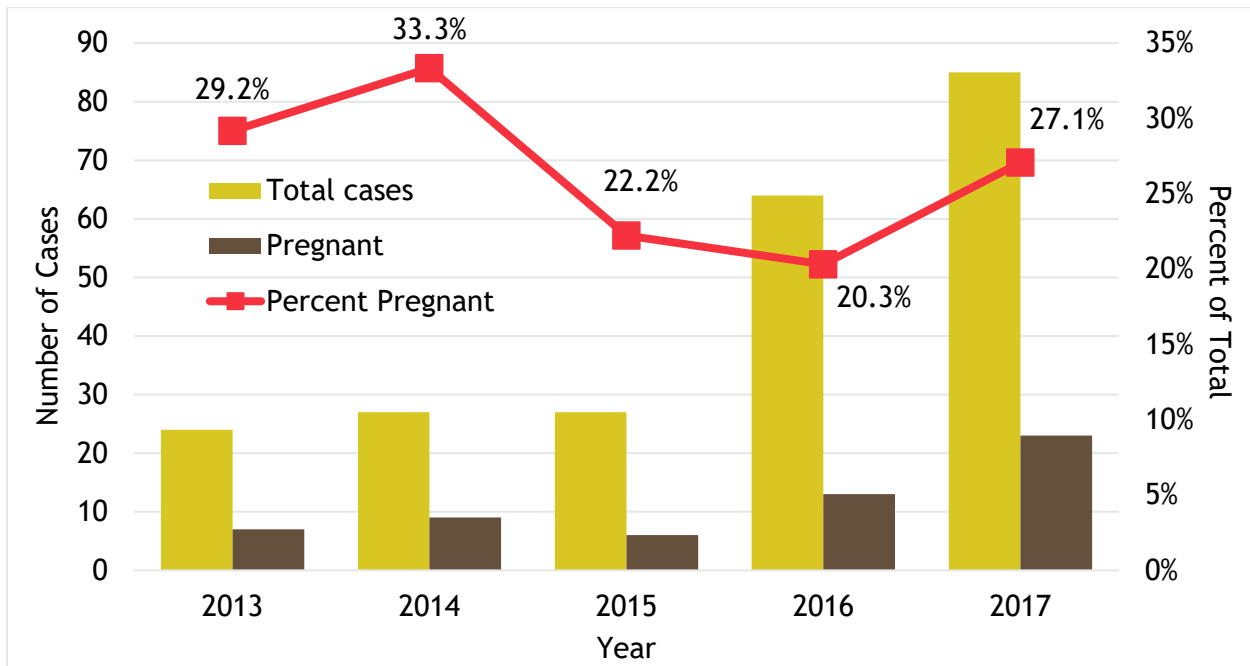
Figure CS.8: Rates of Reported Syphilis Cases Among Women of Reproductive Age by County Chart, Colorado, 2017



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

Figure CS.9 shows the rate of pregnancy and syphilis among women of reproductive age for 2013-2017 reported to CDPHE. The five-year average for percent pregnant and syphilis was 25.6 percent. In 2017, 23 (27.1 percent of the total regardless if pregnancy status was known) women were pregnant at the time of their syphilis diagnosis.

Figure CS.9: Reported Syphilis Cases Among Women of Reproductive Age by Pregnancy Status by Year of Diagnosis, Colorado, 2013-2017



Data tables

Table 1: Reported Chlamydia, Gonorrhea and Early Syphilis Cases and Rates of Reported Cases by Demographic Characteristics, 2017

	2017 Population [^]	Chlamydia			Gonorrhea			Primary & Secondary Syphilis			Early Latent Syphilis		
		Cases	%	Rate†	Cases	%	Rate†	Cases	%	Rate†	Cases	%	Rate†
Total	5,609,171	26,995	100.0	481.3	8,478	100.0	151.1	292	100.0	5.2	281	100.0	5.0
Sex													
Male	2,807,782	9,744	36.1	347.0	5,013	59.1	178.5	274	93.8	9.8	252	89.7	9.0
Female	2,801,389	17,251	63.9	615.8	3,465	40.9	123.7	18	6.2	0.6	29	10.3	1.0
Race/Ethnicity													
Hispanic (all races)	1,277,404	4,970	18.4	389.1	2,057	24.3	161.0	77	26.4	6.0	99	35.2	7.8
NH White	3,828,508	6,101	22.6	159.4	2,194	25.9	57.3	152	52.1	4.0	135	48.0	3.5
NH Black	238,308	1,921	7.1	806.1	1,078	12.7	452.4	31	10.6	13.0	23	8.2	9.7
NH NA/AN	54,220	173	0.6	319.1	81	1.0	149.4	7	2.4	12.9	2	0.7	3.7
NH Asian/PI	210,731	285	1.1	135.2	76	0.9	36.1	4	1.4	1.9	4	1.4	1.9
NH Other	---	579	2.1	---	162	1.9	---	1	0.3	---	1	0.4	---
Unknown	---	12,966	48.0	---	2,830	33.4	---	20	6.8	---	17	6.0	---
Age Group													
0 to 9	678,928	6	0.0	0.9	0	0.0	0.0	1	0.3	0.1	0	0.0	0.0
10 to 14	368,373	134	0.5	36.4	32	0.4	8.7	0	0.0	0.0	0	0.0	0.0
15 to 19	369,074	6,486	24.0	1757.4	1,193	14.1	323.2	13	4.5	3.5	7	2.5	1.9
20 to 24	397,210	9,657	35.8	2431.2	2,195	25.9	552.6	44	15.1	11.1	37	13.2	9.3
25 to 29	420,902	5,300	19.6	1259.2	1,930	22.8	458.5	63	21.6	15.0	53	18.9	12.6
30 to 34	426,023	2,538	9.4	595.7	1,247	14.7	292.7	49	16.8	11.5	58	20.6	13.6
35 to 39	386,414	1,402	5.2	362.8	829	9.8	214.5	30	10.3	7.8	40	14.2	10.4
40 to 44	362,864	695	2.6	191.5	437	5.2	120.4	16	5.5	4.4	22	7.8	6.1
45 to 54	722,380	589	2.2	81.5	457	5.4	63.3	57	19.5	7.9	45	16.0	6.2
55 to 64	704,211	160	0.6	22.7	141	1.7	20.0	18	6.2	2.6	16	5.7	2.3
65+	772,792	25	0.1	3.2	17	0.2	2.2	1	0.3	0.1	3	1.1	0.4
Unknown	---	3	0.0	---	0	0.0	---	0	0.0	---	0	0.0	---

[^]2017 population estimates from the Colorado State Demography Office (SDO), released October 2018. †Rate per 100,000 population
All STI surveillance data reported to the CDPHE for the year of 2017.

Table 2: Reported Chlamydia, Gonorrhea and Early Syphilis Cases and Rate of Reported Cases with Ranking by County & Health Statistics Region (HSR), 2017

	2017 Population [^]	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:	71,406	185	259.1	---	15	36	50.4	---	14	1	1.4	---	16	0	0.0	---	17
Logan	21,906	55	251.1	33	---	11	50.2	31	---	0	0.0	21	---	0	0.0	23	---
Morgan	28,075	99	352.6	24	---	18	64.1	26	---	1	3.6	12	---	0	0.0	23	---
Phillips	4,275	8	187.1	43	---	1	23.4	47	---	0	0.0	21	---	0	0.0	23	---
Sedgwick	2,314	3	129.6	55	---	2	86.4	15	---	0	0.0	21	---	0	0.0	23	---
Washington	4,761	4	84.0	58	---	4	84.0	16	---	0	0.0	21	---	0	0.0	23	---
Yuma	10,075	16	158.8	49	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Region 2:																	
Larimer	343,853	1,219	354.5	23	12	283	82.3	17	10	5	1.5	18	13	5	1.5	19	13
Region 3:																	
Douglas	335,635	568	169.2	46	19	104	31.0	45	20	3	0.9	20	17	4	1.2	22	15
Region 4:																	
El Paso	701,257	3,748	534.5	6	5	1072	152.9	9	7	29	4.1	11	8	23	3.3	13	9
Region 5:																	
Cheyenne	40,109	66	164.6	---	20	16	39.9	---	16	0	0.0	---	18	0	0.0	---	17
Elbert	1,835	2	109.0	57	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Lincoln	25,594	39	152.4	50	---	11	43.0	36	---	0	0.0	21	---	0	0.0	23	---
Kit Carson	7,154	13	181.7	45	---	3	41.9	37	---	0	0.0	21	---	0	0.0	23	---
Region 6:	5,526	12	217.2	38	---	2	36.2	39	---	0	0.0	21	---	0	0.0	23	---
Baca	67,707	265	391.4	---	10	70	103.4	---	9	1	1.5	---	13	3	4.4	---	5
Bent	3,539	4	113.0	56	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Crowley	5,872	25	425.7	15	---	8	136.2	11	---	0	0.0	21	---	0	0.0	23	---
Huerfano	5,755	13	225.9	36	---	10	173.8	6	---	0	0.0	21	---	0	0.0	23	---
Kiowa	6,605	34	514.8	9	---	7	106.0	14	---	0	0.0	21	---	0	0.0	23	---
Las Animas	1,364	3	219.9	37	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Otero	14,198	54	380.3	21	---	10	70.4	23	---	0	0.0	21	---	2	14.1	2	---
Prowers	18,370	69	375.6	22	---	26	141.5	10	---	0	0.0	21	---	0	0.0	23	---
Pueblo	12,004	63	524.8	8	---	9	75.0	20	---	1	8.3	4	---	1	8.3	4	---
Region 7:																	
Pueblo	165,973	949	571.8	4	3	472	284.4	3	2	9	5.4	8	3	6	3.6	12	8
Region 8:																	
Alamosa	46,578	195	418.7	---	8	76	163.2	---	4	1	2.1	---	10	0	0.0	---	17
Conejos	16,056	97	604.1	2	---	46	286.5	2	---	0	0.0	21	---	0	0.0	23	---
Costilla	8,117	20	246.4	34	---	11	135.5	12	---	0	0.0	21	---	0	0.0	23	---
Mineral	3,771	15	397.8	17	---	3	79.6	19	---	0	0.0	21	---	0	0.0	23	---
Rio Grande	752	0	0.0	63	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
	11,251	60	533.3	7	---	15	133.3	13	---	1	8.9	2	---	0	0.0	23	---

	2017 Population [^]	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 *
Saguache	6,631	3	45.2	62	---	1	15.1	51	---	0	0.0	21	---	0	0.0	23	---
Region 9:	97,763	432	441.9	---	6	112	114.6	---	8	5	5.1	---	5	2	2.0	---	12
Archuleta	13,316	20	150.2	52	---	6	45.1	35	---	1	7.5	5	---	0	0.0	23	---
Dolores	2,040	8	392.2	19	---	1	49.0	32	---	0	0.0	21	---	0	0.0	23	---
La Plata	55,619	270	485.4	11	---	45	80.9	18	---	4	7.2	6	---	1	1.8	17	---
Montezuma	26,074	133	510.1	10	---	60	230.1	4	---	0	0.0	21	---	1	3.8	10	---
San Juan	714	1	140.1	54	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Region 10:	102,762	354	344.5	---	13	35	34.1	---	18	0	0.0	---	18	1	1.0	---	16
Delta	30,587	84	274.6	31	---	15	49.0	32	---	0	0.0	21	---	0	0.0	23	---
Gunnison	16,871	72	426.8	14	---	5	29.6	46	---	0	0.0	21	---	0	0.0	23	---
Hinsdale	791	2	252.8	32	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Montrose	41,763	160	383.1	20	---	14	33.5	40	---	0	0.0	21	---	1	2.4	16	---
Ouray	4,783	9	188.2	42	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
San Miguel	7,967	27	338.9	26	---	1	12.6	53	---	0	0.0	21	---	0	0.0	23	---
Region 11:	46,010	91	197.8	---	18	8	17.4	---	21	0	0.0	---	18	0	0.0	---	17
Jackson	1,375	0	0.0	63	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Moffat	13,112	21	160.2	48	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Rio Blanco	6,345	9	141.8	53	---	3	47.3	34	---	0	0.0	21	---	0	0.0	23	---
Routt	25,178	61	242.3	35	---	5	19.9	50	---	0	0.0	21	---	0	0.0	23	---
Region 12:	177,554	543	305.8	---	14	59	33.2	---	19	3	1.7	---	12	8	4.5	---	4
Eagle	54,662	172	314.7	28	---	22	40.2	38	---	0	0.0	21	---	5	9.1	3	---
Garfield	59,165	191	322.8	27	---	12	20.3	49	---	2	3.4	13	---	1	1.7	18	---
Grand	15,297	23	150.4	51	---	5	32.7	42	---	0	0.0	21	---	0	0.0	23	---
Pitkin	17,875	53	296.5	30	---	10	55.9	29	---	0	0.0	21	---	0	0.0	23	---
Summit	30,555	104	340.4	25	---	10	32.7	42	---	1	3.3	14	---	2	6.5	6	---
Region 13:	79,722	178	223.3	---	16	31	38.9	---	17	4	5.0	---	6	3	3.8	---	6
Chaffee	19,614	40	203.9	40	---	4	20.4	48	---	0	0.0	21	---	1	5.1	7	---
Custer	4,859	9	185.2	44	---	0	0.0	54	---	0	0.0	21	---	0	0.0	23	---
Fremont	47,544	94	197.7	41	---	26	54.7	30	---	4	8.4	3	---	2	4.2	9	---
Lake	7,705	35	454.3	12	---	1	13.0	52	---	0	0.0	21	---	0	0.0	23	---
Region 14:																	
Adams	503,243	2,831	562.6	5	4	807	160.4	7	5	34	6.8	7	2	35	7.0	5	2
Region 15:																	
Arapahoe	643,257	3,718	578.0	3	2	1207	187.6	5	3	29	4.5	10	7	33	5.1	7	3
Region 16:	390,802	1,491	381.5	---	11	257	65.8	---	13	6	1.5	---	13	10	2.6	---	10
Boulder	322,633	1,281	397.0	18	---	206	63.8	27	---	4	1.2	19	---	9	2.8	14	---
Broomfield	68,169	210	308.1	29	---	51	74.8	21	---	2	2.9	15	---	1	1.5	19	---

	2017 Population [^]	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 17:	58,142	65	111.8	---	21	27	46.4	---	15	0	0.0	---	18	0	0.0	---	17
Clear Creek	9,625	8	83.1	59	---	3	31.2	44	---	0	0.0	21	---	0	0.0	23	---
Gilpin	6,000	3	50.0	61	---	4	66.7	25	---	0	0.0	21	---	0	0.0	23	---
Park	17,892	14	78.2	60	---	6	33.5	40	---	0	0.0	21	---	0	0.0	23	---
Teller	24,625	40	162.4	47	---	14	56.9	28	---	0	0.0	21	---	0	0.0	23	---
Region 18: Weld	304,435	1,339	439.8	13	7	481	158.0	8	6	6	2.0	17	11	4	1.3	21	14
Region 19: Mesa	151,900	627	412.8	16	9	110	72.4	22	11	8	5.3	9	4	4	2.6	15	10
Region 20: Denver	705,885	6,928	981.5	1	1	2,821	399.6	1	1	133	18.8	1	1	119	16.9	1	1
Region 21: Jefferson	575,178	1,201	208.8	39	17	394	68.5	24	12	15	2.6	16	9	21	3.7	11	7
Unknown	---	2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---
STATEWIDE TOTAL	5,609,171	26,995	481.3	---	---	8,478	151.1	---	---	292	5.2	---	---	281	5.0	---	---

[^]2017 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, 2017

	Chlamydia											
	Male				Female				Total			
	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†
Total	2,807,782	9,744	100.0	347.0	2,801,389	17,251	100.0	615.8	5,609,171	26,995	100.0	481.3
Race/Ethnicity												
Hispanic (all races)	640,510	1,440	14.8	224.8	636,894	3,530	20.5	554.3	1,277,404	4,970	18.4	389.1
NH White	1,917,901	2,402	24.7	125.2	1,910,607	3,699	21.4	193.6	3,828,508	6,101	22.6	159.4
NH Black	125,709	861	8.8	684.9	112,599	1,060	6.1	941.4	238,308	1,921	7.1	806.1
NH NA/AN	27,278	53	0.5	194.3	26,942	120	0.7	445.4	54,220	173	0.6	319.1
NH Asian/PI	96,383	87	0.9	90.3	114,348	198	1.1	173.2	210,731	285	1.1	135.2
NH Other	---	177	1.8	---	---	63	0.4	---	---	240	0.9	---
Unknown	---	4,724	48.5	---	---	8,242	47.8	---	---	12,966	48.0	---
Age Group												
0 to 9	347,057	2	0.0	0.6	331,871	4	0.0	1.2	678,928	6	0.0	0.9
10 to 14	188,190	14	0.1	7.4	180,183	120	0.7	66.6	368,373	134	0.5	36.4
15 to 19	189,663	1,415	14.5	746.1	179,411	5,071	29.4	2826.5	369,074	6,486	24.0	1757.4
20 to 24	211,716	3,173	32.6	1498.7	185,494	6,484	37.6	3495.5	397,210	9,657	35.8	2431.2
25 to 29	215,591	2,290	23.5	1062.2	205,311	3,010	17.4	1466.1	420,902	5,300	19.6	1259.2
30 to 34	215,475	1,230	12.6	570.8	210,548	1,308	7.6	621.2	426,023	2,538	9.4	595.7
35 to 39	195,806	714	7.3	364.6	190,608	688	4.0	361.0	386,414	1,402	5.2	362.8
40 to 44	184,353	400	4.1	217.0	178,511	295	1.7	165.3	362,864	695	2.6	191.5
45 to 54	362,851	363	3.7	100.0	359,529	226	1.3	62.9	722,380	589	2.2	81.5
55 to 64	343,918	123	1.3	35.8	360,293	37	0.2	10.3	704,211	160	0.6	22.7
65+	353,164	18	0.2	5.1	419,628	7	0.0	1.7	772,792	25	0.1	3.2
Unknown	---	2	0.0	---	---	1	0.0	---	---	3	0.0	---

^2017 SDO Population Estimate †Rate per 100,000 population

Table 4: Reported Gonorrhea Cases and Rates of Reported Cases by Demographic Characteristics and Sex, 2017

	Gonorrhea											
	Male				Female				Total			
	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†
Total	2,807,782	5,013	100.0	178.5	2,801,389	3,465	100.0	123.7	5,609,171	8,478	100.0	151.1
Race/Ethnicity												
Hispanic (all races)	640,510	1,049	20.9	163.8	636,894	1,008	29.1	158.3	1,277,404	2,057	24.3	161.0
NH White	1,917,901	1,405	28.0	73.3	1,910,607	789	22.8	41.3	3,828,508	2,194	25.9	57.3
NH Black	125,709	672	13.4	534.6	112,599	406	11.7	360.6	238,308	1,078	12.7	452.4
NH NA/AN	27,278	43	0.9	157.6	26,942	38	1.1	141.0	54,220	81	1.0	149.4
NH Asian/PI	96,383	54	1.1	56.0	114,348	22	0.6	19.2	210,731	76	0.9	36.1
NH Other	---	70	1.4	---	---	92	2.7	---	---	162	1.9	---
Unknown	---	1,720	34.3	---	---	1,110	32.0	---	---	2,830	33.4	---
Age Group												
0 to 9	347,057	0	0.0	0.0	331,871	0	0.0	0.0	678,928	0	0.0	0.0
10 to 14	188,190	5	0.1	2.7	180,183	27	0.8	15.0	368,373	32	0.4	8.7
15 to 19	189,663	441	8.8	232.5	179,411	752	21.7	419.1	369,074	1,193	14.1	323.2
20 to 24	211,716	1,177	23.5	555.9	185,494	1,018	29.4	548.8	397,210	2,195	25.9	552.6
25 to 29	215,591	1,256	25.1	582.6	205,311	674	19.5	328.3	420,902	1,930	22.8	458.5
30 to 34	215,475	799	15.9	370.8	210,548	448	12.9	212.8	426,023	1,247	14.7	292.7
35 to 39	195,806	549	11.0	280.4	190,608	280	8.1	146.9	386,414	829	9.8	214.5
40 to 44	184,353	314	6.3	170.3	178,511	123	3.5	68.9	362,864	437	5.2	120.4
45 to 54	362,851	342	6.8	94.3	359,529	115	3.3	32.0	722,380	457	5.4	63.3
55 to 64	343,918	115	2.3	33.4	360,293	26	0.8	7.2	704,211	141	1.7	20.0
65+	353,164	15	0.3	4.2	419,628	2	0.1	0.5	772,792	17	0.2	2.2
Unknown	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---

^2017 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, 2017

	Primary and Secondary Syphilis											
	Male				Female				Total			
	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†
Total	2,807,782	274	100.0	9.8	2,801,389	18	100.0	0.6	5,609,171	292	100.0	5.2
Race/Ethnicity												
Hispanic (all races)	640,510	75	27.4	11.7	636,894	2	11.1	0.3	1,277,404	77	26.4	6.0
NH White	1,917,901	139	50.7	7.2	1,910,607	13	72.2	0.7	3,828,508	152	52.1	4.0
NH Black	125,709	30	10.9	23.9	112,599	1	5.6	0.9	238,308	31	10.6	13.0
NH NA/AN	27,278	7	2.6	25.7	26,942	0	0.0	0.0	54,220	7	2.4	12.9
NH Asian/PI	96,383	3	1.1	3.1	114,348	1	5.6	0.9	210,731	4	1.4	1.9
NH Other	---	1	0.4	---	---	0	0.0	---	---	1	0.3	---
Unknown	---	19	6.9	---	---	1	5.6	---	---	20	6.8	---
Age Group												
0 to 9	347,057	0	0.0	0.0	331,871	1	5.6	0.3	678,928	1	0.3	0.1
10 to 14	188,190	0	0.0	0.0	180,183	0	0.0	0.0	368,373	0	0.0	0.0
15 to 19	189,663	9	3.3	4.7	179,411	4	22.2	2.2	369,074	13	4.5	3.5
20 to 24	211,716	38	13.9	17.9	185,494	6	33.3	3.2	397,210	44	15.1	11.1
25 to 29	215,591	62	22.6	28.8	205,311	1	5.6	0.5	420,902	63	21.6	15.0
30 to 34	215,475	46	16.8	21.3	210,548	3	16.7	1.4	426,023	49	16.8	11.5
35 to 39	195,806	30	10.9	15.3	190,608	0	0.0	0.0	386,414	30	10.3	7.8
40 to 44	184,353	15	5.5	8.1	178,511	1	5.6	0.6	362,864	16	5.5	4.4
45 to 54	362,851	57	20.8	15.7	359,529	0	0.0	0.0	722,380	57	19.5	7.9
55 to 64	343,918	16	5.8	4.7	360,293	2	11.1	0.6	704,211	18	6.2	2.6
65+	353,164	1	0.4	0.3	419,628	0	0.0	0.0	772,792	1	0.3	0.1
Unknown	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---

^2017 SDO Population Estimate †Rate per 100,000 population

Table 6: Reported Early Latent Syphilis Cases and Rates of Reported Cases by Demographic Characteristics and Sex, 2017

	Early Latent Syphilis											
	Male				Female				Total			
	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†
Total	2,807,782	252	100.0	9.0	2,801,389	29	100.0	1.0	5,609,171	281	100.0	5.0
Race/Ethnicity												
Hispanic (all races)	640,510	87	34.5	13.6	636,894	12	41.4	1.9	1,277,404	99	35.2	7.8
NH White	1,917,901	125	49.6	6.5	1,910,607	10	34.5	0.5	3,828,508	135	48.0	3.5
NH Black	125,709	20	7.9	15.9	112,599	3	10.3	2.7	238,308	23	8.2	9.7
NH NA/AN	27,278	2	0.8	7.3	26,942	0	0.0	0.0	54,220	2	0.7	3.7
NH Asian/PI	96,383	4	1.6	4.2	114,348	0	0.0	0.0	210,731	4	1.4	1.9
NH Other	---	1	0.4	---	---	0	0.0	---	---	1	0.4	---
Unknown	---	13	5.2	---	---	4	13.8	---	---	17	6.0	---
Age Group												
0 to 9	347,057	0	0.0	0.0	331,871	0	0.0	0.0	678,928	0	0.0	0.0
10 to 14	188,190	0	0.0	0.0	180,183	0	0.0	0.0	368,373	0	0.0	0.0
15 to 19	189,663	6	2.4	3.2	179,411	1	3.4	0.6	369,074	7	2.5	1.9
20 to 24	211,716	29	11.5	13.7	185,494	8	27.6	4.3	397,210	37	13.2	9.3
25 to 29	215,591	48	19.0	22.3	205,311	5	17.2	2.4	420,902	53	18.9	12.6
30 to 34	215,475	50	19.8	23.2	210,548	8	27.6	3.8	426,023	58	20.6	13.6
35 to 39	195,806	36	14.3	18.4	190,608	4	13.8	2.1	386,414	40	14.2	10.4
40 to 44	184,353	20	7.9	10.8	178,511	2	6.9	1.1	362,864	22	7.8	6.1
45 to 54	362,851	45	17.9	12.4	359,529	0	0.0	0.0	722,380	45	16.0	6.2
55 to 64	343,918	15	6.0	4.4	360,293	1	3.4	0.3	704,211	16	5.7	2.3
65+	353,164	3	1.2	0.8	419,628	0	0.0	0.0	772,792	3	1.1	0.4
Unknown	---	0	0.0	---	---	0	0.0	---	---	0	0.0	---

^2017 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, 2017

	Syphilis							
	Congenital Syphilis				Among Women of Reproductive Age			
	2017 Live Births *	Cases	%	Rate†	2017 Population ^	Cases	%	Rate†
Total	64,382	5	100.0	7.8	1,149,884	85	100.0	7.4
Sex								
Male	32,739	2	40.0	6.1	---	---	---	---
Female	31,643	3	60.0	9.5	1,149,884	85	100.0	7.4
Race/Ethnicity								
Hispanic (all races)	18,489	3	60.0	16.2	309,220	31	36.5	10.0
NH White	38,552	2	40.0	5.2	726,160	34	40.0	4.7
NH Black	3,626	0	0.0	0.0	48,075	11	12.9	22.9
NH NA/AN	513	0	0.0	0.0	12,489	1	1.2	8.0
NH Asian/PI	3,029	0	0.0	0.0	53,940	2	2.4	3.7
NH Other/Unknown	173	0	0.0	---	---	6	7.1	---
Age Group								
15 to 19	---	---	---	---	179,411	11	12.9	6.1
20 to 24	---	---	---	---	185,494	25	29.4	13.5
25 to 29	---	---	---	---	205,311	14	16.5	6.8
30 to 34	---	---	---	---	210,548	22	25.9	10.4
35 to 39	---	---	---	---	190,608	7	8.2	3.7
40 to 44	---	---	---	---	178,511	6	7.1	3.4
Pregnancy Status								
Pregnant	---	---	---	---	---	23	27.1	---
Not Pregnant	---	---	---	---	---	47	55.3	---
Unknown	---	---	---	---	---	15	17.6	---
County of Residence								
Adams	7,078	1	20.0	14.1	111,759	14	16.5	12.5
Denver	8,949	1	20.0	11.2	169,551	26	30.6	15.3
El Paso	9,492	1	20.0	10.5	143,289	7	8.2	4.9
Jefferson	5,803	1	20.0	17.2	107,479	5	5.9	4.7
Weld	4,244	1	20.0	23.6	66,440	4	4.7	6.0
Other Urban Counties‡	18,038	0	0.0	0.0	416,164	26	30.6	6.2
Rural Counties	10,778	0	0.0	0.0	135,202	3	3.5	2.2

* Live birth data from COHID ^2017 SDO Population Estimate †Rate per 100,000

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