Sexually Transmitted Infections in Colorado





Department of Public Health & Environment

2014 Annual Report

Colorado 2014 Sexually Transmitted Infections Annual Report

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Retrievable from: https://www.colorado.gov/cdphe/sti-and-hiv-data-and-trends

Suggested Citation: Colorado 2014 Sexually Transmitted Infections Annual Report Colorado Department of Public Health and Environment, Denver, CO August, 2016

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Acknowledgements

This Sexually Transmitted Infections Annual Report was produced by the STI/HIV/Viral Hepatitis Branch, Colorado Department of Public Health & Environment.

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Executive Summary

The 2014 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 diseases in Colorado, and are among the world's most common diseases, with an annual incidence exceeded only by diarrheal diseases, malaria, and lower respiratory infections. In 2014, 25,383 cases of chlamydia, gonorrhea and early syphilis were newly reported in Colorado. This report describes trends in reportable STIs in Colorado by person, place, and time.

STI surveillance data are used to detect outbreaks, prioritize resources, develop and target 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 comorbidities such as substance abuse and mental illness. STIs can also serve as a marker to identify health-related disparities that may exist in Colorado communities.

Data Sources, Methods and Limitations

Under Colorado law, 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 seven days and all syphilis cases within 24 hours.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.

Due to a decrease in staffing in the Laboratory Surveillance Unit 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 41.1 percent in 2013 to 41.4 percent in 2014. Due to this proportion of cases having unknown race/ethnicity trends of the rates by this variable are not displayed. Gonorrhea also showed an increase in unknown race/ethnicity form 13.7 percent in 2012 to 20.2 percent in 2013 to 22.7 percent in 2014, but the rates by race/ethnicity are displayed. The proportion missing race/ethnicity may be improved in the future by increased staffing in the Laboratory Surveillance Unit. CDPHE staff

¹ Colorado Department of Public Health and Environment, Disease Control and Environmental Epidemiology Division, 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. Amended Jan 6, 2016.

anticipate that the implementation of the Integrated Disease Reporting Unit will improve the demographic data in the future when chlamydia is included in the diseases for which the unit conducts preliminary missing data investigation.

Beginning in January 2009, Colorado began using a new STI reporting system (PRISM). This system allows for electronic disease reporting and helps to reduce the reporting delays of the former paper-based case reporting processes. 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 incidence rates at a geographic level.

Crude incidence rates in this report are calculated based on cases diagnosed in the calendar year per 100,000 persons. The 2014 disease incidence rates for all Colorado counties are calculated by dividing the number of cases diagnosed for that county in 2014 by the estimated 2014 total census population for each county and multiplying by 100,000.

Crude age and gender-specific incidence rates are presented in this report. The counts presented are summations of all valid data reported in the 2014 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, gender 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 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 2014. They are not for unique persons diagnosed with disease, e.g. a person may have more than on infection in a single year.
- 2. Data in this report are based on cases reported to the STI/HIV Surveillance Program, Disease Control and Environmental Epidemiology Division, CDPHE. These data represent infections 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% complete. Factors that impact 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 STI, e.g. herpes, HPV, genital warts, but does maintain statistics for HIV and Hepatitis C, which are not included in this report.
- 7. Early syphilis comprises of Primary & Secondary (P&S) syphilis, which is symptomatic, and Early Latent (EL) syphilis, which is asymptomatic. Syphilis infectivity varies based on its presentation; while P&S syphilis is considered to be highly infective, EL syphilis is not. For this reason, public health programming may base interventions and evaluation methods on P&S syphilis infection rate alone. That said, given the morbidity of both P&S and EL syphilis, we have included information on both presentations.
- 8. Trends in chlamydia incidence rates are not only influenced by changes in incidence of infection but also changes in screening practices. As chlamydia infection is usually asymptomatic, incidence rate may appear to increase simply because of increases in screening. For this reason, Health People 2020 objectives focus on increasing chlamydia screening rather than decreasing incidence rate. Chlamydia rate changes over time should be interpreted with caution.

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

Chlamydia Infections

Chlamydia remains the most commonly reported STI in Colorado. In 2014, there were 21,863 cases diagnosed and reported for a statewide crude incidence rate of 410.3 per 100,000 persons. Figure 1 shows annual case counts and rates of chlamydia in Colorado from 2005 to 2014. Cases and rates have increased steadily from 2005 to 2014, with two dips that were each statistically insignificant from the prior year. According to the Centers for Disease Control and Prevention (CDC), the US chlamydia rate increased from 446.6 per 100,000 reported in 2013 to 456.1 per 100,000 in 2014.²



Figure 1: Chlamydia Cases and Incidence Rates, Colorado, 2005-2014

Case rates per 100,000 vary significantly by gender and age. The chlamydia incidence rate is more than two times greater among females, 561.0 per 100,000, than males, 260.5 per 100,000 in 2014 (Tables 2). Rates are highest among adolescents and young adults for both males and females.

Figure 2 shows age and gender case counts and rates for chlamydia diagnosed in 2014. The mean age at diagnosis is 24.2 with a range of 0 to 99 years of age. Females account for more than two-thirds (68.2%) of the chlamydia cases. Among 15-19 year olds, the chlamydia rate

² Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2014*. Atlanta: U.S. Department of Health and Human Services; Nov 2015. <u>http://www.cdc.gov/std/stats</u>.

for females, 2,523.3 per 100,000, is over four times greater than the rate for males, 558.7 per 100,000.

The marked difference in case rates by gender is primarily an artifact of 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 generally asymptomatic, and are less likely to access health services and receive routine screening. The result of these factors is the burden of chlamydia infections among males remains largely undiagnosed, untreated and unreported. Rates of reported chlamydia infections among women have been increasing annually since the late 1980s when public programs for screening and treatment of women were first established to prevent pelvic inflammatory disease (PID) and related complications.



Figure 2: Chlamydia Cases and Rates by Gender and Age Group, Colorado, 2014

Rates per 100,000 population on the top of the bar

Persons of color continue to be disproportionately affected by STIs. Non Hispanic Blacks represent 4.2 percent of Colorado's population, but represent 8.4 percent of reported chlamydia cases in 2014.

Figure 3 shows chlamydia infection rates by county for 2014. Denver, Arapahoe and Alamosa counties had the three highest rates of reported chlamydia infections and accounted for 43.3 percent of chlamydia diagnoses in 2014. Figure 4 shows the geographical distribution of chlamydia incidence rates for Colorado at the county level. As shown in both Figures 3 & 4 chlamydia infections were largely concentrated in Denver County. In 2014, only three rural counties had no reported chlamydia infections.



Figure 3: Chlamydia Incidence Rates by County Chart, Colorado, 2014

County



Figure 4: Chlamydia Incidence Rates by County Map, Colorado, 2014

Gonorrhea Infections

Gonorrhea remains the second most commonly reported STI in Colorado with 3,170 cases reported in 2014, yielding a rate of 59.5 per 100,000 population. According to CDC, the US gonorrhea rate increased from 105.3 per 100,000 reported in 2013 to 110.7 per 100,000 in $2014.^2$



Figure 5: Gonorrhea Cases and Incidence Rates, Colorado, 2005-2014

Figure 5 shows cases diagnosed each year and the incidence rate per 100,000 from 2005 to 2014. Over this ten year period, overall gonorrhea rates remained relatively consistent through 2008, with a noted decrease in 2009 followed by another period of consistency, although 2014 potentially shows the start of an increasing trend.

Figure 6 shows age and gender case counts for gonorrhea (GC) diagnosed in 2014. The mean age at diagnosis is 27.5 with a range of 0 to 97 years of age. Males account for 58.4 percent of total cases and rates by gender and age are typically higher for males. However, among 15-19 year olds, the gonorrhea rate for females, 162.9 per 100,000, is two times greater than the rate for males, 80.8 per 100,000.



Figure 6: Gonorrhea Cases and Rates by Gender and Age Group, Colorado, 2014

As seen with chlamydia, Non Hispanic Blacks were disproportionately affected by gonorrhea infections in 2014. They represented 4.2 percent of Colorado's population, but represented 14.7 percent of reported gonorrhea cases. Figure 7 shows gonorrhea case numbers by race/ethnicity for 2014. Racial disparities are seen between Non Hispanic Blacks and other races. The gonorrhea rate for Non Hispanic Blacks compared with Non Hispanic Whites was 7.5 times higher. Compared to Hispanics of all races, the rate for Non Hispanic Blacks was more than 3 times higher.

Rates per 100,000 population on the top of the bar



Figure 7: Gonorrhea Infections and Rates by Race/Ethnicity, Colorado, 2014

Figure 8 shows the 5-year trend in rates for Non Hispanic Whites, Non Hispanic Blacks and Hispanics. Other races were not displayed due to small numbers. The rate for Non Hispanic Blacks peaked in 2012 followed by a sharp decrease trend 2013-2014. Both Non Hispanic Whites and hispanics have had relatively stable rates.



Figure 8: Gonorrhea Infection Rates by Race/Ethnicity, Colorado, 2010-2014

Figures 9 & 10 describe the geographical distribution of gonorrhea incidence rates of Colorado at the county level. The map shows gonorrhea infections are not as widespread as chlamydia. Seventeen rural counties did not report any gonorrhea cases in 2014. A large proportion, 64.6 percent, of all cases were reported in just three counties; Denver, El Paso and Arapahoe, with Denver County accounting for 34.1 percent of reported cases. Denver, Pueblo and Alamosa have the highest rates of gonorrhea infection.







Figure 10: Gonorrhea Incidence Rates by County Map, Colorado, 2014

Primary and Secondary (P&S) Syphilis Infections

There were 186 cases of primary and secondary (P&S) syphilis diagnosed and reported in 2014 and the rate was 3.5 per 100,000. From 2005 to 2014, Colorado reported a three times increase in P&S syphilis cases as shown in Figure 11. According to CDC, the US P&S syphilis rate increased from 5.5 per 100,000 reported in 2013 to 6.3 per 100,000 in 2014.²

The syphilis infections are primarily occurring in Non Hispanic White males, representing 48.9 percent of reported primary and secondary cases. Additionally, 81.2 percent of all cases were among men who have sex with men (MSM). In 2014, 37.6 percent of P&S syphilis diagnoses who reported MSM risk, were co-infected with HIV.



Figure 11: Primary & Secondary Syphilis Cases and Incidence Rates, Colorado, 2005-2014

Figure 12 shows age and gender case counts for P&S syphilis diagnosed in 2014. The mean age at diagnosis is 32.6 with a range of 16 to 68 years of age. The highest rates were reported among 20-24 year old males whose infection rate was 22.5 cases per 100,000. In 2014, 23.7 percent of the cases occurred among 20-24 year old males followed by 25-29 year old males, accounting for 18.3 percent of all reported primary and secondary syphilis cases.



Figure 12: Primary & Secondary Syphilis Cases and Rates by Gender and Age Group, Colorado, 2014

Rates per 100,000 population on the top of the bar. Caution: these rates use small numbers and thus are unstable

Figure 13 below depicts age group case counts and rates for P&S syphilis diagnosed in 2010-14. Since numbers from one year are small, the five-year average rate helps to stabilize the rate and thus produces a more accurate representation of the disease.

Figure 13: Primary & Secondary Syphilis 5-year Cases and Rates by Age Group, Colorado, 2010-2014



More stable than the 1-year incidence rate from Figure 12

Figure 14 shows that the highest rate of P&S syphilis is seen among Non Hispanic Blacks, 7.2 per 100,000 in 2014. The next highest rate is among Hispanics of all races, 5.0 per 100,000. Although Non Hispanic Whites account for the majority of the P&S syphilis cases, 51.1 percent, their infection rate per 100,000 is only higher than Non Hispanic Asian/Pacific Islanders, 1.2 per 100,000, in 2014.



Figure 14: Primary & Secondary Syphilis Incidence Rates by Race/Ethnicity, Colorado, 2014

Figure 15 shows the 5 year trend in rates for Non Hispanic Whites, Non Hispanic Blacks and Hispanics. Other races were not displayed due to small numbers. The rate for Hispanics peaked in 2012 followed by a decrease and subsequent increase in 2013-2014. The rates for Non Hispanic Whites have been relatively stable and the rates for Non Hispanic Blacks been unstable, ranging from 7.9 per 100,000 in 2010 to 4.9 per 100,000 in 2013.

Figure 15: Primary & Secondary Syphilis Infection Rates by Race/Ethnicity, Colorado, 2010-2015



Figures 16 & 17 describe the geographical distribution of P&S syphilis incidence rates for Colorado at the county level. The map shows P&S syphilis infections have been diagnosed in 19 of 64 counties with Denver County reporting the highest proportion and rate of cases, 48.9 percent and 13.6 per 100,000 population in 2014. The next highest rate was Kit Carson and Clear Creek Counties with a rate of 12.9 and 10.9, respectively; however these rates were produced from one case and are not reliable. The next two highest rates occurred in Summit and Arapahoe Counties (Table 1). Use caution when interpreting some of these rates as the county may have a small population and small case numbers.



Figure 16: Primary & Secondary Syphilis Incidence Rates by County Chart, Colorado, 2014

Figure 17: Primary & Secondary Syphilis Incidence Rate by County Map, Colorado, 2014



Figure 18 shows the rate of P&S syphilis and HIV co-infections, i.e. percent of syphilis cases with HIV, for 2010-2014. The co-infection rate has ranged from 63.8 percent in 2010 to 38.2 percent in 2014 producing a downward trend. The five-year average for P&S syphilis and HIV co-infections is 52.7 percent.

Figure 18: Primary & Secondary Syphilis Cases and Percent HIV+ by Year of Diagnosis, Colorado, 2010-2014



Early Latent Syphilis Infections

There were 164 cases of early latent (EL) syphilis diagnosed and reported in 2014. Early latent syphilis is latent (no visible signs or symptoms) syphilis where the infection occurred within the past 12 months. From 2005 to 2014, Colorado reported a 5 times increase in early latent syphilis cases, as shown in Figure 19.

The syphilis epidemic is primarily occurring in Non Hispanic White males, representing 53.7 percent of reported early latent cases. Additionally, 84.1 percent of cases were among men who have sex with men (MSM). In 2014, 45.7 percent of early latent syphilis diagnoses who reported MSM risk were co-infected with HIV.

Figure 19: Early Latent Syphilis Cases and Incidence Rates, Colorado, 2005-2014



Figure 20 shows age and gender case counts for early latent syphilis diagnosed in 2014. The mean age at diagnosis is 35.2 with a range of 18 to 69 years of age. The highest rates were reported among 25-29 year old males whose infection rate was 15.3 cases per 100,000. In 2014, 17.7 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 20: Early Latent Syphilis Cases and Rates by Gender and Age Group, Colorado, 2014

Rates per 100,000 population on the top of the bar. Caution: these rates use small numbers and may be unstable.

Figure 21 below depicts age group case counts and rates for early latent syphilis diagnosed in 2010-14. This five-year average rate helps to stabilize the rate and thus produces a more accurate representation of the disease.

Figure 21: Early Latent Syphilis 5-year Cases and Rates by Age Group, Colorado, 2010-2014



More stable than the 1-year incidence rate from Figure 20

Figure 22 shows that the highest rate of early latent syphilis is seen among Non Hispanic Blacks, 8.1 per 100,000 in 2014. The highest proportion of early latent is among Non Hispanic Whites, accounting for 54.9 percent, however their infection rate is one of the lowest at 2.4 per 100,000, only higher than Non Hispanic Asian/Pacific Islanders, 1.2 per 100,000.



Figure 22: Early Latent Syphilis Incidence Rates by Race/Ethnicity, Colorado, 2014

Figure 23 shows the 5 year trend in rates for Non Hispanic Whites, Non Hispanic Blacks and Hispanics. Other races were not displayed due to small numbers. The rates have been slightly increasing for Non Hispanic Whites. Non Hispanic Blacks have been unstable, ranging from 4.8 in 2010 to 14.2 in 2013. Hispanics peaked in 2012 followed by two years of decreases.

Figure 23: Early Latent Syphilis Infection Rates by Race/Ethnicity, Colorado, 2010-2014



Figures 24 & 25 describe the geographical distribution of early latent syphilis incidence rates for Colorado at the county level. The map shows early latent syphilis infections have been diagnosed in residents of 14 of 64 counties with Denver County reporting the highest proportion and highest stable rate of cases, 53.0 percent and 13.2 per 100,000 population in 2014. The highest rate was Crowley County with a rate of 18.1 per 100,000, however this rate is calculated with only one case and thus is unstable. The next three highest rates are in Archuleta, Pitkin and Arapahoe Counties (Table 1). Use caution when interpreting some of these rates as the county may have a small population and small case numbers.



Figure 24: Early Latent Syphilis Incidence Rates by County Chart, Colorado, 2014

Figure 25: Early Latent Syphilis Incidence Rate by County Map, Colorado, 2014



Figure 26 shows the rate of early latent syphilis and HIV co-infections for 2010-2014. The coinfection rate has ranged from 59.7 percent in 2011 to 45.7 percent in 2014, showing a fairly consistent trend followed by a decrease in 2014. The five-year average for early latent syphilis and HIV co-infections is 56.0 percent.

Figure 26: Early Latent Syphilis Cases and Percent HIV+ by Year of Diagnosis, Colorado, 2010-2014



Data Tables

Table 1: Chlamydia, Gonorrhea and Early Syphilis Count and Incidence Rate with Ranking by County & Health Statistics Region (HSR), 2014

		Chlamydia				Gonorrhea				Primary & Secondary Syphilis				Early Latent Syphilis			
					HSR				HSR				HSR				HSR
	2014 Popu-			County	Rank			County	Rank			County	Rank			County	Rank
	lation†	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^
Region 1:	71,270	177	248.4		13	8	11.2		20	1	1.4		13	0	0.0		13
Logan	21,878	59	269.7	24		1	4.6	45		0	0.0	20		0	0.0	15	
Morgan	28,037	81	288.9	18		7	25.0	26		1	3.6	8		0	0.0	15	
Phillips	4,300	10	232.6	31		0	0.0	48		0	0.0	20		0	0.0	15	
Sedgwick	2,280	5	219.3	34		0	0.0	48		0	0.0	20		0	0.0	15	
Washington	4,734	4	84.5	60		0	0.0	48		0	0.0	20		0	0.0	15	
Yuma	10,041	18	179.3	42		0	0.0	48		0	0.0	20		0	0.0	15	
Region 2:																	
Larimer	322,064	910	282.6	19	12	73	22.7	29	12	6	1.9	12	9	6	1.9	8	4
Region 3:																	
Douglas	313,964	509	162.1	44	19	47	15.0	36	18	1	0.3	19	15	5	1.6	9	5
Region 4:																	
El Paso	662,463	2,512	379.2	10	5	514	77.6	4	3	6	0.9	18	14	6	0.9	12	10
Region 5:	39,130	48	122.7		20	6	15.3		17	2	5.1		2	0	0.0		13
Cheyenne	1,845	0	0.0	62		0	0.0	48		0	0.0	20		0	0.0	15	
Elbert	24,083	33	137.0	47		5	20.8	32		1	4.2	6		0	0.0	15	
Lincoln	7,747	7	90.4	58		0	0.0	48		1	12.9	2		0	0.0	15	
Kit Carson	5,455	8	146.7	46		1	18.3	34		0	0.0	20		0	0.0	15	
Region 6:	66,298	191	288.1		11	13	19.6		14	0	0.0		16	1	1.5		6
Baca	3,553	4	112.6	51		0	0.0	48		0	0.0	20		0	0.0	15	
Bent	5,498	13	236.4	28		3	54.6	7		0	0.0	20		0	0.0	15	
Crowley	5,526	13	235.3	29		2	36.2	11		0	0.0	20		1	18.1	1	
Huerfano	6,334	12	189.5	40		3	47.4	10		0	0.0	20		0	0.0	15	
Kiowa	1,351	0	0.0	62		0	0.0	48		0	0.0	20		0	0.0	15	
Las Animas	13,921	41	294.5	16		4	28.7	20		0	0.0	20		0	0.0	15	
Otero	18,227	56	307.2	14		1	5.5	44		0	0.0	20		0	0.0	15	
Prowers	11,888	52	437.4	8		0	0.0	48		0	0.0	20		0	0.0	15	
Region 7:																	
Pueblo	160,552	780	485.8	4	3	221	137.7	2	2	5	3.1	10	5	0	0.0	15	13
Region 8:	45,850	172	375.1		7	22	48.0		6	0	0.0		16	0	0.0		13
Alamosa	15,799	78	493.7	3		15	94.9	3		0	0.0	20		0	0.0	15	
Conejos	8,167	24	293.9	17		1	12.2	38		0	0.0	20		0	0.0	15	

			Chlamydia				Gonorrhea				'y & Sec	ondary Sy	/philis	Early Latent Syphilis			
					HSR				HSR				HSR				HSR
	2014 Popu-			County	Rank			County	Rank			County	Rank			County	Rank
	lation†	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^
Costilla	3,532	7	198.2	38		0	0.0	48		0	0.0	20		0	0.0	15	
Mineral	684	3	438.6	7		0	0.0	48		0	0.0	20		0	0.0	15	
Rio Grande	11,481	52	452.9	6		6	52.3	8		0	0.0	20		0	0.0	15	
Saguache	6,187	8	129.3	48		0	0.0	48		0	0.0	20		0	0.0	15	
Region 9:	94,171	337	357.9		9	41	43.5		7	0	0.0		16	1	1.1		9
Archuleta	12,180	25	205.3	36		4	32.8	14		0	0.0	20		1	8.2	3	
Dolores	1,919	2	104.2	57		0	0.0	48		0	0.0	20		0	0.0	15	
La Plata	53,754	185	344.2	13		18	33.5	13		0	0.0	20		0	0.0	15	
Montezuma	25,601	123	480.4	5		19	74.2	5		0	0.0	20		0	0.0	15	
San Juan	717	2	278.9	21		0	0.0	48		0	0.0	20		0	0.0	15	
Region 10:	99,047	231	233.2		15	5	5.0		21	0	0.0		16	0	0.0		13
Delta	29,743	57	191.6	39		1	3.4	46		0	0.0	20		0	0.0	15	
Gunnison	15,626	44	281.6	20		1	6.4	42		0	0.0	20		0	0.0	15	
Hinsdale	785	0	0.0	62		0	0.0	48		0	0.0	20		0	0.0	15	
Montrose	40,502	112	276.5	22		1	2.5	47		0	0.0	20		0	0.0	15	
Ouray	4,573	5	109.3	55		0	0.0	48		0	0.0	20		0	0.0	15	
San Miguel	7,818	13	166.3	43		2	25.6	25		0	0.0	20		0	0.0	15	
Region 11:	44,578	80	179.5		18	8	17.9		16	1	2.2		8	0	0.0		13
Jackson	1,367	1	73.2	61		0	0.0	48		0	0.0	20		0	0.0	15	
Moffat	12,810	34	265.4	26		4	31.2	17		0	0.0	20		0	0.0	15	
Rio Blanco	6,573	7	106.5	56		2	30.4	19		0	0.0	20		0	0.0	15	
Routt	23,828	38	159.5	45		2	8.4	41		1	4.2	6		0	0.0	15	
Region 12:	171,609	414	241.2		14	33	19.2		15	4	2.3		7	2	1.2		8
Eagle	52,797	138	261.4	27		5	9.5	40		1	1.9	12		0	0.0	15	
Garfield	57,337	155	270.3	23		15	26.2	24		1	1.7	14		0	0.0	15	
Grand	14,479	17	117.4	49		4	27.6	21		0	0.0	20		0	0.0	15	
Pitkin	17,613	36	204.4	37		4	22.7	29		0	0.0	20		1	5.7	4	
Summit	29,383	68	231.4	33		5	17.0	35		2	6.8	4		1	3.4	6	
Region 13:	75,950	162	213.3		17	16	21.1		13	0	0.0		16	0	0.0		13
Chaffee	18,314	33	180.2	41		4	21.8	31		0	0.0	20		0	0.0	15	
Custer	4,356	5	114.8	50		1	23.0	28		0	0.0	20		0	0.0	15	
Fremont	45,946	107	232.9	30		9	19.6	33		0	0.0	20		0	0.0	15	
Lake	7,334	17	231.8	32		2	27.3	22		0	0.0	20		0	0.0	15	
Region 14:																	
Adams	478,921	2,017	421.2	9	4	233	48.7	9	5	16	3.3	9	4	11	2.3	7	3
Region 15:																	
Arapahoe	615,467	3,473	564.3	2	2	453	73.6	6	4	29	4.7	5	3	33	5.4	5	2

			Chlamydia				Gonorrhea				Primary & Secondary Syphilis				Early Latent Syphilis			
					HSR				HSR				HSR				HSR	
	2014 Popu-			County	Rank			County	Rank			County	Rank			County	Rank	
	lation†	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^	Cases	Rate	Rank*	^	
Region 16:	373,769	1,119	299.4		10	105	28.1		10	6	1.6		11	3	0.8		11	
Boulder	312,174	955	305.9	15		85	27.2	23		5	1.6	15		2	0.6	13		
Broomfield	61,595	164	266.3	25		20	32.5	15		1	1.6	15		1	1.6	9		
Region 17:	54,647	59	108.0		21	7	12.8		19	1	1.8		10	0	0.0		13	
Clear Creek	9,136	10	109.5	54		1	10.9	39		1	10.9	3		0	0.0	15		
Gilpin	5,822	5	85.9	59		2	34.4	12		0	0.0	20		0	0.0	15		
Park	16,345	18	110.1	53		1	6.1	43		0	0.0	20		0	0.0	15		
Teller	23,344	26	111.4	52		3	12.9	37		0	0.0	20		0	0.0	15		
Region 18:																		
Weld	275,047	996	362.1	12	8	66	24.0	27	11	4	1.5	17	12	1	0.4	14	12	
Region 19:																		
Mesa	147,235	558	379.0	11	6	45	30.6	18	9	0	0.0	20	16	0	0.0	15	13	
Region 20:																		
Denver	660,769	5,919	895.8	1	1	1,080	163.4	1	1	90	13.6	1	1	87	13.2	2	1	
Region 21:																		
Jefferson	555,412	1,198	215.7	35	16	174	31.3	16	8	14	2.5	11	6	8	1.4	11	7	
Unknown		1				0				0				0				
STATEWIDE																		
TOTAL	5,328,213	21,863	410.3			3,170	59.5			186	3.5			164	3.1			

*Rate per 100,000 population

SCounties ranked by STI incidence rate per 100,000 population

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

†2014 population estimate from the Colorado State Demographer Office (SDO)

All STI surveillance data reported to the Colorado Department of Public Health and Environment for the year of 2014.

		Chlamydia		G	onorrhe	a	Primar	y & Sec Syphilis	ondary	Early Latent Syphilis			
	2014												
	Population*	Cases	%	Rate†	Cases	%	Rate†	Cases	%	Rate†	Cases	%	Rate†
Total	5,328,213	21,863	100.0	410.3	3,170	100.0	59.5	186	100.0	3.5	164	100.0	3.1
Gender													
Male	2,671,116	6,957	31.8	260.5	1,852	58.4	69.3	180	96.8	6.7	156	95.1	5.8
Female	2,657,097	14,906	68.2	561.0	1,318	41.6	49.6	6	3.2	0.2	8	4.9	0.3
Race/Ethnicity													
Hispanic (all races)	1,167,655	4,813	22.0	412.2	782	24.7	67.0	58	31.2	5.0	41	25.0	3.5
NH White	3,698,607	5,473	25.0	148.0	1,085	34.2	29.3	95	51.1	2.6	90	54.9	2.4
NH Black	222,769	1,841	8.4	826.4	467	14.7	209.6	16	8.6	7.2	18	11.0	8.1
NH AI/AN	34,613	167	0.8	482.5	31	1.0	89.6	1	0.5	2.9	2	1.2	5.8
NH Asian/PI	166,627	208	1.0	124.8	30	0.9	18.0	2	1.1	1.2	2	1.2	1.2
NH Other	37,942	305	1.4	803.9	55	1.7	145.0	2	1.1	5.3	1	0.6	2.6
Unknown		9,056	41.4		720	22.7		12	6.5		10	6.1	
Age Group													
0 to 9	695,714	6	0.0	0.9	2	0.1	0.3	0	0.0	0.0	0	0.0	0.0
10 to 14	362,257	136	0.6	37.5	8	0.3	2.2	0	0.0	0.0	0	0.0	0.0
15 to 19	356,265	5,392	24.7	1513.5	430	13.6	120.7	8	4.3	2.2	3	1.8	0.8
20 to 24	372,818	8,516	39.0	2284.2	1,013	32.0	271.7	46	24.7	12.3	28	17.1	7.5
25 to 29	358,691	4,064	18.6	1133.0	751	23.7	209.4	36	19.4	10.0	31	18.9	8.6
30 to 34	393,557	1,931	8.8	490.7	430	13.6	109.3	29	15.6	7.4	29	17.7	7.4
35 to 39	365,104	867	4.0	237.5	203	6.4	55.6	18	9.7	4.9	21	12.8	5.8
40 to 44	366,435	450	2.1	122.8	154	4.9	42.0	21	11.3	5.7	16	9.8	4.4
45 to 54	727,414	370	1.7	50.9	134	4.2	18.4	23	12.4	3.2	23	14.0	3.2
55 to 64	674,229	86	0.4	12.8	34	1.1	5.0	3	1.6	0.4	11	6.7	1.6
65+	655,729	31	0.1	4.7	11	0.3	1.7	2	1.1	0.3	2	1.2	0.3
Unknown		14	0.1		0	0.0		0	0.0		0	0.0	

Table 2: Chlamydia, Gonorrhea and Early Syphilis Cases Diagnosed by Demographic Characteristics, 2014

	Chlamydia											
		Male				Female				Total		
	2014				2014				2014			
	Population^	Cases	%	Rate†	Population^	Cases	%	Rate†	Population^	Cases	%	Rate†
Total	2,671,116	6,957	100.0	260.5	2,657,097	14,906	100.0	561.0	5,328,213	21,863	100.0	410.3
Race/Ethnicity												
Hispanic (all												
races)	589,943	1,319	19.0	223.6	577,712	3,494	23.4	604.8	1,167,655	4,813	22.0	412.2
NH White	1,852,106	2,096	30.1	113.2	1,846,501	3,377	22.7	182.9	3,698,607	5,473	25.0	148.0
NH Black	117,233	734	10.6	626.1	105,536	1,107	7.4	1048.9	222,769	1,841	8.4	826.4
NH AI/AN	17,290	52	0.7	300.8	16,961	115	0.8	678.0	34,251	167	0.8	487.6
NH Asian/PI	76,568	65	0.9	84.9	90,787	143	1.0	157.5	167,355	208	1.0	124.3
NH Other	17,976	84	1.2	467.3	19,600	221	1.5	1127.6	37,576	305	1.4	811.7
Unknown		2,607	37.5			6,449	43.3			9,056	41.4	
Age Group												
0 to 9	355,878	1	0.0	0.3	339,836	5	0.0	1.5	695,714	6	0.0	0.9
10 to 14	183,892	15	0.2	8.2	178,365	121	0.8	67.8	362,257	136	0.6	37.5
15 to 19	183,117	1,023	14.7	558.7	173,148	4,369	29.3	2523.3	356,265	5,392	24.7	1513.5
20 to 24	195,629	2,510	36.1	1283.0	177,189	6,006	40.3	3389.6	372,818	8,516	39.0	2284.2
25 to 29	182,806	1,601	23.0	875.8	175,885	2,463	16.5	1400.3	358,691	4,064	18.6	1133.0
30 to 34	201,182	856	12.3	425.5	192,375	1,075	7.2	558.8	393,557	1,931	8.8	490.7
35 to 39	186,761	405	5.8	216.9	178,343	462	3.1	259.1	365,104	867	4.0	237.5
40 to 44	187,788	230	3.3	122.5	178,647	220	1.5	123.1	366,435	450	2.1	122.8
45 to 54	363,065	230	3.3	63.3	364,349	140	0.9	38.4	727,414	370	1.7	50.9
55 to 64	329,894	57	0.8	17.3	344,335	29	0.2	8.4	674,229	86	0.4	12.8
65+	301,104	23	0.3	7.6	354,625	8	0.1	2.3	655,729	31	0.1	4.7
Unknown		6	0.1			8	0.1			14	0.1	

Table 3: Chlamydia Demographic Characteristics by Gender, 2014

	Gonorrhea											
		Male			F	emale				Total		
	2014				2014				2014			
	Population ^	Cases	%	Rate†	Population ^	Cases	%	Rate†	Population ^	Cases	%	Rate†
Total	2,671,116	1,852	100.0	69.3	2,657,097	1,318	100.0	49.6	5,328,213	3,170	100.0	59.5
Race/Ethnicity												
Hispanic (all												
races)	589,943	418	22.6	70.9	577,712	364	27.6	63.0	1,167,655	782	24.7	67.0
NH White	1,852,106	741	40.0	40.0	1,846,501	344	26.1	18.6	3,698,607	1,085	34.2	29.3
NH Black	117,233	276	14.9	235.4	105,536	191	14.5	181.0	222,769	467	14.7	209.6
NH AI/AN	17,290	16	0.9	92.5	16,961	15	1.1	88.4	34,251	31	1.0	90.5
NH Asian/PI	76,568	18	1.0	23.5	90,787	12	0.9	13.2	167,355	30	0.9	17.9
NH Other	17,976	32	1.7		19,600	23	1.7		37,576	55	1.7	
Unknown		351	19.0			369	28.0			720	22.7	
Age Group												
0 to 9	355,878	0	0.0	0.0	339,836	2	0.2	0.6	695,714	2	0.1	0.3
10 to 14	183,892	0	0.0	0.0	178,365	8	0.6	4.5	362,257	8	0.3	2.2
15 to 19	183,117	148	8.0	80.8	173,148	282	21.4	162.9	356,265	430	13.6	120.7
20 to 24	195,629	531	28.7	271.4	177,189	482	36.6	272.0	372,818	1,013	32.0	271.7
25 to 29	182,806	486	26.2	265.9	175,885	265	20.1	150.7	358,691	751	23.7	209.4
30 to 34	201,182	291	15.7	144.6	192,375	139	10.5	72.3	393,557	430	13.6	109.3
35 to 39	186,761	133	7.2	71.2	178,343	70	5.3	39.3	365,104	203	6.4	55.6
40 to 44	187,788	118	6.4	62.8	178,647	36	2.7	20.2	366,435	154	4.9	42.0
45 to 54	363,065	106	5.7	29.2	364,349	28	2.1	7.7	727,414	134	4.2	18.4
55 to 64	329,894	30	1.6	9.1	344,335	4	0.3	1.2	674,229	34	1.1	5.0
65+	301,104	9	0.5	3.0	354,625	2	0.2	0.6	655,729	11	0.3	1.7
Unknown		0	0.0			0	0.0			0	0.0	

Table 4: Gonorrhea Demographic Characteristics by Gender, 2014

	Primary and Secondary Syphilis											
		Male			F	emale				Total		
	2014				2014				2014			
	Population ^	Cases	%	Rate†	Population ^	Cases	%	Rate†	Population ^	Cases	%	Rate†
Total	2,671,116	180	100.0	6.7	2,657,097	6	100.0	0.2	5,328,213	186	100.0	3.5
Race/Ethnicity												
Hispanic (all												
races)	589,943	57	31.7	9.7	577,712	1	16.7	0.2	1,167,655	58	31.2	5.0
NH White	1,852,106	91	50.6	4.9	1,846,501	4	66.7	0.2	3,698,607	95	51.1	2.6
NH Black	117,233	16	8.9	13.6	105,536	0	0.0	0.0	222,769	16	8.6	7.2
NH AI/AN	17,290	0	0.0	0.0	16,961	1	16.7	5.9	34,251	1	0.5	2.9
NH Asian/PI	76,568	2	1.1	2.6	90,787	0	0.0	0.0	167,355	2	1.1	1.2
NH Other	17,976	2	1.1	11.1	19,600	0	0.0	0.0	37,576	2	1.1	5.3
Unknown		12	6.7			0	0.0			12	6.5	
Age Group												
0 to 9	355,878	0	0.0	0.0	339,836	0	0.0	0.0	695,714	0	0.0	0.0
10 to 14	183,892	0	0.0	0.0	178,365	0	0.0	0.0	362,257	0	0.0	0.0
15 to 19	183,117	8	4.4	4.4	173,148	0	0.0	0.0	356,265	8	4.3	2.2
20 to 24	195,629	44	24.4	22.5	177,189	2	33.3	1.1	372,818	46	24.7	12.3
25 to 29	182,806	34	18.9	18.6	175,885	2	33.3	1.1	358,691	36	19.4	10.0
30 to 34	201,182	29	16.1	14.4	192,375	0	0.0	0.0	393,557	29	15.6	7.4
35 to 39	186,761	18	10.0	9.6	178,343	0	0.0	0.0	365,104	18	9.7	4.9
40 to 44	187,788	20	11.1	10.7	178,647	1	16.7	0.6	366,435	21	11.3	5.7
45 to 54	363,065	22	12.2	6.1	364,349	1	16.7	0.3	727,414	23	12.4	3.2
55 to 64	329,894	3	1.7	0.9	344,335	0	0.0	0.0	674,229	3	1.6	0.4
65+	301,104	2	1.1	0.7	354,625	0	0.0	0.0	655,729	2	1.1	0.3
Unknown		0	0.0			0	0.0			0	0.0	

Table 5: Primary & Secondary Syphilis Demographic Characteristics by Gender, 2014

	Early Latent Syphilis													
		Male			F	emale				Total				
	2014				2014				2014					
	Population ^	Cases	%	Rate†	Population ^	Cases	%	Rate†	Population ^	Cases	%	Rate†		
Total	2,671,116	156	100.0	5.8	2,657,097	8	100.0	0.3	5,328,213	164	100.0	3.1		
Race/Ethnicity			-	-		-				-				
Hispanic (all														
races)	589,943	41	26.3	6.9	577,712	0	0.0	0.0	1,167,655	41	25.0	3.5		
NH White	1,852,106	88	56.4	4.8	1,846,501	2	25.0	0.1	3,698,607	90	54.9	2.4		
NH Black	117,233	16	10.3	13.6	105,536	2	25.0	1.9	222,769	18	11.0	8.1		
NH AI/AN	17,290	2	1.3	11.6	16,961	0	0.0	0.0	34,251	2	1.2	5.8		
NH Asian/PI	76,568	1	0.6	1.3	90,787	1	12.5	1.1	167,355	2	1.2	1.2		
NH Other	17,976	1	0.6	5.6	19,600	0	0.0	0.0	37,576	1	0.6	2.7		
Unknown		7	4.5			3	37.5			10	6.1			
Age Group														
0 to 9	355,878	0	0.0	0.0	339,836	0	0.0	0.0	695,714	0	0.0	0.0		
10 to 14	183,892	0	0.0	0.0	178,365	0	0.0	0.0	362,257	0	0.0	0.0		
15 to 19	183,117	2	1.3	1.1	173,148	1	12.5	0.6	356,265	3	1.8	0.8		
20 to 24	195,629	27	17.3	13.8	177,189	1	12.5	0.6	372,818	28	17.1	7.5		
25 to 29	182,806	28	17.9	15.3	175,885	3	37.5	1.7	358,691	31	18.9	8.6		
30 to 34	201,182	29	18.6	14.4	192,375	0	0.0	0.0	393,557	29	17.7	7.4		
35 to 39	186,761	20	12.8	10.7	178,343	1	12.5	0.6	365,104	21	12.8	5.8		
40 to 44	187,788	15	9.6	8.0	178,647	1	12.5	0.6	366,435	16	9.8	4.4		
45 to 54	363,065	23	14.7	6.3	364,349	0	0.0	0.0	727,414	23	14.0	3.2		
55 to 64	329,894	10	6.4	3.0	344,335	1	12.5	0.3	674,229	11	6.7	1.6		
65+	301,104	2	1.3	0.7	354,625	0	0.0	0.0	655,729	2	1.2	0.3		
Unknown		0	0.0			0	0.0			0	0.0			

Table 6: Early Latent Syphilis Demographic Characteristics by Gender, 2014