

**Colorado
2008 - 2009**



**Colorado Department
of Public Health
and Environment**

**Sexually
Transmitted
Infections
Annual Report**

**Disease Control and Environmental Epidemiology Division
STI/HIV Surveillance Program**

Colorado 2008-2009 Sexually Transmitted Infection Morbidity

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Sexually Transmitted Infections ~ 2008-2009

The State of Colorado

Table of Contents

Executive Summary	4
Data Sources, Methods and Limitations	4
Guidelines to Prevent Misuse of Data	5
Chlamydia Infections	6
Figure 1. Chlamydia Cases and Incidence Rate, Colorado, 2000-2009	
Figure 2a. Chlamydia and Gonorrhea Rates by Age and Gender, Colorado, 2008	
Figure 2b. Chlamydia and Gonorrhea Rates by Age and Gender, Colorado, 2009	
Table 1. Chlamydia, Gonorrhea and Primary and Secondary Syphilis Cases Diagnosed and Incidence Rate with Rankings by County, 2008	
Table 2. Chlamydia, Gonorrhea and Primary and Secondary Syphilis Cases Diagnosed and Incidence Rate with Rankings by County, 2009	
Figure 3. Map of Chlamydia Infection Incidence Rates by County, Colorado, 2008-2009	
Figure 4. Chlamydia Infection Incidence Rates by County, Colorado, 2009	
Gonorrhea	14
Figure 5. Gonorrhea Cases and Incidence, Colorado, 2000-2009	
Figure 6. Gonorrhea Incidence Rate by Race, Colorado, 2005-2009	
Figure 7. Map of Gonorrhea Incidence Rates by County, Colorado, 2008-2009	
Syphilis	17
Figure 8. Primary & Secondary Syphilis Cases and Incidence Rate, Colorado, 2000-2009	
Figure 9. Primary & Secondary Syphilis Incidence Rates by Race, Colorado, 2005-2009	
Figure 10. Map of Primary & Secondary Syphilis Incidence Rates by County, Colorado, 2008-2009	
Figure 11. Primary & Secondary Syphilis Cases and Percent HIV+ by Year of Diagnosis, Colorado, 2005-2009	
Figure 12. Primary & Secondary Syphilis Incidence Rate by Gender and Age Group, Colorado, 2009	
Figure 13. Primary & Secondary Syphilis Cases and Incidence Rates by Age Group, Colorado 2000-2009	
Data Tables and Graphs	23
Table 3. Chlamydia and Gonorrhea Cases Diagnosed and Incidence Rate with Rankings by Health Statistics Region (HSR), 2009	
Table 4. Chlamydia, Gonorrhea and Primary & Secondary Syphilis cases diagnosed by demographic characteristics, 2008	
Table 5. Chlamydia, Gonorrhea and Primary & Secondary Syphilis cases diagnosed by demographic characteristics, 2009	
Figure 14. Chlamydia Incidence Rate by Gender and Age Group, Colorado, 2009	
Figure 15. Gonorrhea Incidence Rate by Gender and Age Group, Colorado, 2009	
Bibliography	28

Executive Summary

The 2008-2009 Sexually Transmitted Infection Surveillance 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 2008, 23,065 persons in Colorado were reported as having chlamydia, gonorrhea or syphilis and 22,934 persons were reported with one or more of these infections in 2009. 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. Among the reasons for preventing and controlling STIs include high rates of complications and adverse health outcomes, STIs facilitate the transmission of HIV and are closely related to other co-morbidities such as substance abuse and mental illness.

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. 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 major laboratories report STIs electronically via secure data networks.

The completeness, quality and accuracy of specific data elements can vary widely. Although race and Hispanic origin are treated as separate categories in calculating rates, this information is often missing on case reports for a number of reasons. For example, the majority of chlamydia cases are reported without race and Hispanic origin indicated. In 2008, 63 percent of reported chlamydia cases were missing race and 70 percent were missing Hispanic origin. Likewise, in 2009, 72 percent of reported chlamydia cases were missing race and 70 percent did not indicate Hispanic origin therefore disease rates for these demographic variables were not calculated. Redistributing unknown cases based on proportions of cases reported with race and Hispanic origin identified would be unreliable due to the high percentage of missing data.

Beginning in January 2009, Colorado began using a new STI reporting system. 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 2009 disease incidence rates for all Colorado counties are calculated by dividing the number of cases diagnosed for that county in 2009 by the estimated 2009 population for each county and multiplying by 100,000.

Official population estimates, the denominators, derive from the State Demography Office (SDO), Colorado's primary state agency for population and demographic information. Their intercensal population estimates, occurring between censuses, e.g. 2008 - 2009 are more accurate than the U.S. Census Bureau because the SDO incorporates annual population updates from local governments to derive their population estimates.

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 with small cell sizes. Crude age and gender-specific incidence rates are used for this report. The counts presented in this report are summations of all valid data reported in the 2008-2009 reporting years.

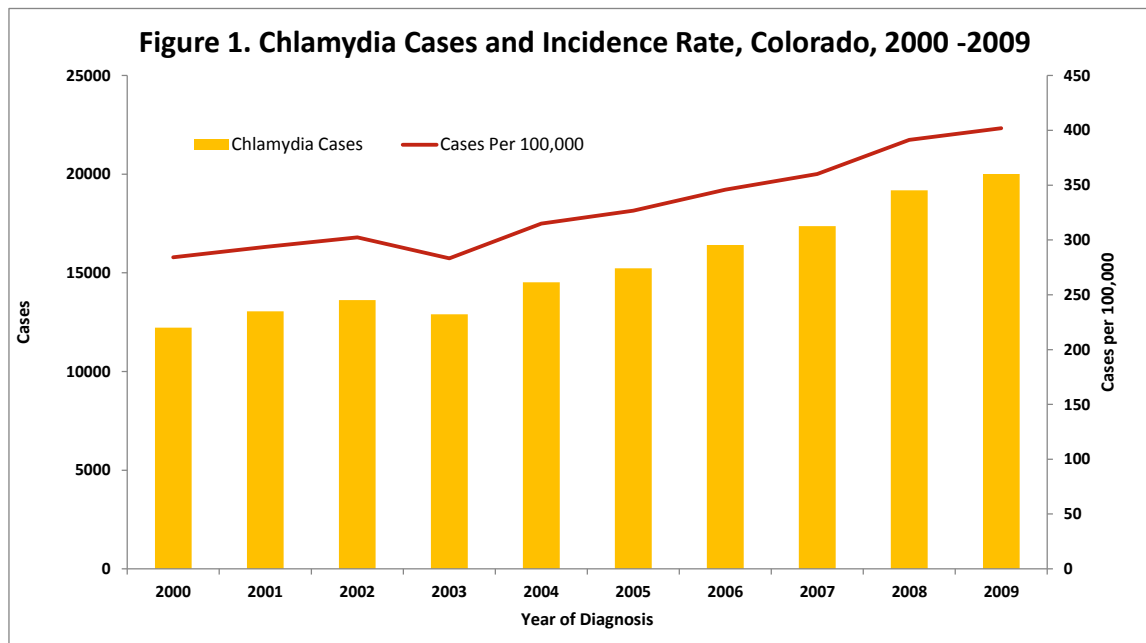
Guidelines to Prevent Misuse of Data

The following guidelines are provided to help prevent data misuse and misunderstanding and should always be considered when reviewing data from any source.

1. Data in this report are primarily reported for new cases of STIs diagnosed during 2008-2009. They are not for unique persons diagnosed with disease, e.g. a person may have more than one 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, Colorado Department of Public Health and Environment. 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. While 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. Factors that impact the completeness and accuracy of STI data include:
 - Level of STI screening by health care providers
 - Individual test-seeking behavior
 - 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. The Colorado Department of Public Health and Environment does not maintain statistics for other, non-reportable STIs, e.g. herpes, HPV/genital warts.
7. We encourage anyone with questions about how these data should be interpreted to contact the STI/HIV Surveillance Program at 303.692.2700

Chlamydia Infections

Chlamydia continues to be the most commonly reported STI in Colorado. In 2008, there were 19,180 cases diagnosed for a statewide crude incidence rate of 385 per 100,000 persons. Consistent with a decade long upward trend, there were 20,006 cases reported in 2009 for a crude incidence rate of 402 per 100,000 persons. **Figure 1** shows annual rates of chlamydia in Colorado from 2005 to 2009. Cases and rates have increased steadily from 2005 through 2009.



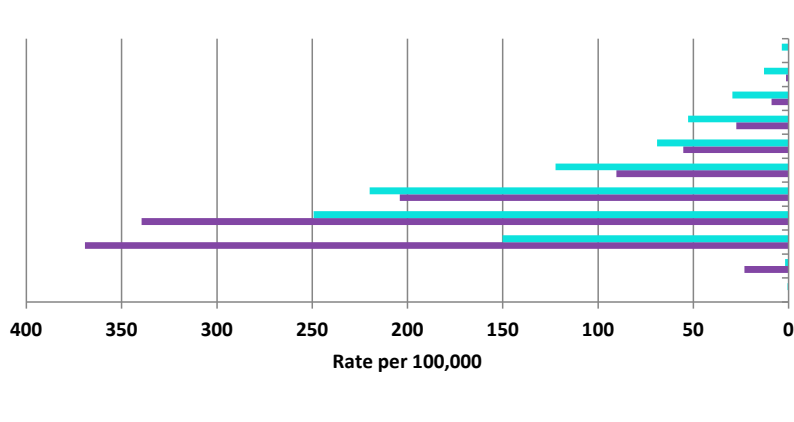
Case rates per 100,000 vary significantly by gender and age. The chlamydia incidence rate is two and a half times greater among females, 558 per 100,000, than males, 212 per 100,000 in 2008. The gender difference grew wider in 2009, 586 per 100,000 females versus 205 per 100,000 males.

Figure 2a shows age and gender specific rates for chlamydia and gonorrhea diagnosed in 2008. Females account for nearly three-quarters, 72 percent, of the chlamydia cases and 53 percent of the gonorrhea cases in 2008. Among 20-24 year-olds, the chlamydia rate for females, 2,986 per 100,000, is three times greater than the rate for males, 968 per 100,000.

Figure 2b shows age and gender specific rates for chlamydia and gonorrhea diagnosed in 2009. Among 15-19 year-olds, the chlamydia rate for females, 2,944 per 100,000, is five times greater than the rate for males, 581 per 100,000. Adolescents and young adults, ages 15-24, accounted for 69 percent of chlamydia and 61 percent of gonorrhea cases diagnosed in Colorado. Seventy-eight percent of chlamydia and 61 percent of gonorrhea cases diagnosed among adolescents and young adults were females.

The marked difference in case rates between males and females 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 not generally symptomatic, 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 2a. Gonorrhea Incidence Rate by Gender and Age Group, Colorado, 2008



Chlamydia Incidence Rate by Gender and Age Group, Colorado, 2008

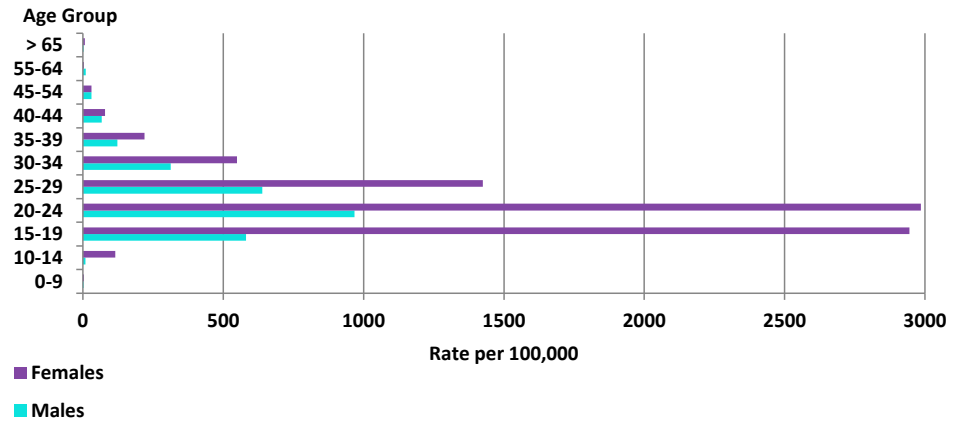
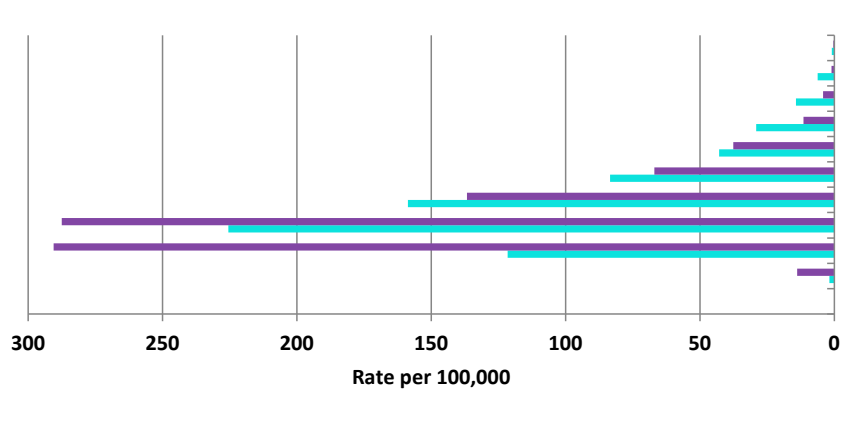
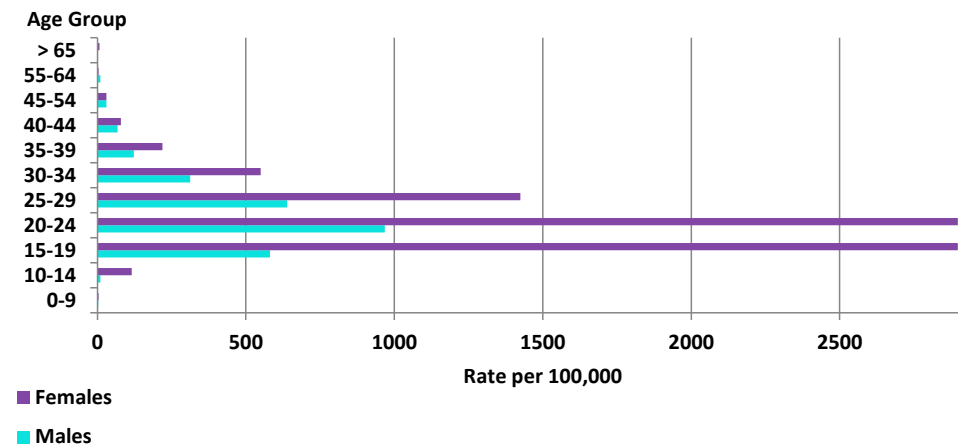


Figure 2b. Gonorrhea Incidence Rate by Gender and Age Group, Colorado, 2009



Chlamydia Incidence Rate by Gender and Age Group, Colorado, 2009



While the upward trends in chlamydia reporting may reflect a true increase in morbidity, the Centers for Disease Control and Prevention (CDC) attributes more recent increases to changes in diagnostic, screening and reporting practices rather than of actual trends in disease incidence.¹ Laboratories have expanded their use of more sensitive tests, e.g. nucleic acid amplification tests (NAATs), which may lead to more accurate and timely diagnosis.

Tables 1 and 2 show chlamydia infection rates by county for 2008 and 2009. Denver, El Paso and Arapahoe counties had the three highest rates of reported chlamydia infections and accounted for 57 percent of chlamydia diagnoses in 2009. **Figure 3** shows the chlamydia incidence rate for Colorado at the county level for the 2-year period, 2008-2009. The map shows chlamydia infections are widespread with variable disease rates between counties. In 2009, only four rural counties reported no chlamydia infections. Denver, Pueblo and El Paso counties lead the state in chlamydia infection incidence rates over this 2-year period, as shown in **Figure 4**.

Table 1. Chlamydia, Gonorrhea and Primary and Secondary Syphilis Cases Diagnosed and Incidence Rate with Rankings by County, 2008

County	2008 population	Chlamydia cases	Chlamydia rate	Chlamydia rank	Gonorrhea cases	Gonorrhea rate	Gonorrhea rank	P&S Syphilis cases	P&S Syphilis rate	P&S Syphilis rank
ADAMS	431064	1864	427	7	280	64	7	14	3.0	4
ALAMOSA	15858	62	405	9	12	78	6	0	---	---
ARAPAHOE	560599	2538	448	5	588	104	3	14	2.0	5
ARCHULETA	12551	20	168	33	0	0	---	0	---	---
BACA	4112	3	79	48	0	---	---	0	---	---
BENT	6153	9	139	39	1	15	22	0	---	---
BOULDER	299367	671	229	24	57	19	19	2	1.0	6
BROOMFIELD	54824	110	199	28	21	38	10	0	---	---
CHAFFEE	17156	11	62	53	2	11	26	0	---	---
CHEYENNE	1998	1	55	55	1	55	9	0	---	---
CLEAR CREEK	9373	2	22	59	0	---	---	0	---	---
CONEJOS	8317	13	158	36	2	24	16	0	---	---
COSTILLA	3473	4	114	44	0	0	---	0	---	---
CROWLEY	6106	2	34	57	0	---	---	0	---	---
CUSTER	4001	3	72	50	0	0	---	0	---	---
DELTA	31533	44	144	38	2	7	28	0	---	---
DENVER	601973	4919	826	1	1480	249	1	60	10.0	1
DOLORES	1970	0	---	---	0	---	---	0	---	---
DOUGLAS	284712	352	125	42	53	19	19	6	2.0	5
EAGLE	53096	94	182	31	2	4	30	1	2.0	5
ELBERT	23333	14	61	54	1	4	30	0	---	---
EL PASO	595902	2714	446	6	583	96	4	4	1.0	6
FREMONT	48334	56	120	43	14	30	14	0	---	---
GARFIELD	56185	174	314	16	8	14	23	1	2.0	5
GILPIN	5252	4	74	49	0	0	---	0	---	---
GRAND	14496	10	68	51	0	0	---	0	---	---
GUNNISON	15251	42	275	19	2	13	24	0	---	---
HINSDALE	834	2	242	23	0	---	---	0	---	---
HUERFANO	7890	33	492	3	4	60	8	0	---	---
JACKSON	1441	1	72	50	0	---	---	0	---	---
JEFFERSON	542313	1183	222	25	200	38	10	9	2.0	5
KIOWA	1399	2	144	38	0	---	---	0	---	---
KIT CARSON	8362	16	193	29	0	---	---	0	---	---

Table 1. Chlamydia, Gonorrhea and Primary and Secondary Syphilis Cases Diagnosed and Incidence Rate with Rankings by County, 2008, cont.

County	2008 population	Chlamydia cases	Chlamydia rate	Chlamydia rank	Gonorrhea cases	Gonorrhea rate	Gonorrhea rank	P&S Syphilis cases	P&S Syphilis rate	P&S Syphilis rank
LAKE	8275	27	376	11	1	14	23	0	---	---
LA PLATA	50868	131	258	22	11	22	17	0	---	---
LARIMER	293955	771	259	21	74	25	15	8	3.0	4
LAS ANIMAS	16476	29	187	30	5	32	13	1	6.0	2
LINCOLN	5610	9	165	34	0			0	---	---
LOGAN	21423	49	218	26	5	22	17	0	---	---
MESA	143037	574	396	10	29	20	18	0	---	---
MINERAL	980	0	---	---	0	---	---	0	---	---
MOFFAT	14091	43	317	15	4	30	14	0	---	---
MONTEZUMA	25477	105	414	8	3	12	25	0	---	---
MONTROSE	41161	83	204	27	8	20	18	1	2.0	5
MORGAN	28147	76	271	20	10	36	11	0	---	---
OTERO	18944	67	356	12	3	16	21	0	---	---
OURAY	4710	1	23	58	0	---	---	0	---	---
PARK	16982	10	63	52	1	6	29	0	---	---
PHILLIPS	4514	2	45	56	0	---	---	0	---	---
PITKIN	17053	28	164	35	1	6	29	0	---	---
PROWERS	13228	40	318	14	2	16	21	0	---	---
PUEBLO	157171	788	501	2	131	83	5	0	---	---
RIO BLANCO	6514	29	459	4	2	32	13	0	---	---
RIO GRANDE	12626	35	292	18	15	125	2	0	---	---
ROUTT	23622	25	107	45	4	17	20	0	---	---
SAGUACHE	7011	8	131	41	0	---	---	0	---	---
SAN JUAN	583	1	146	37	0	---	---	0	---	---
SAN MIGUEL	7683	13	179	32	1	14	23	0	---	---
SEDGWICK	2510	2	84	47	0	---	---	0		
SUMMIT	28734	85	306	17	1	4	30	1	4.0	3
TELLER	22643	32	138	40	4	17	20	0	---	---
UNKNOWN	---	---	---	---	0	---	---	0	---	---
WASHINGTON	4646	4	84	47	0	---	---	0	---	---
WELD	249822	796	320	13	86	35	12	3	1.0	6
YUMA	9893	9	90	46	1	10	27	0	---	---
2008 TOTALS	4,987,617	18,845	378		3,715	74		125	3	

Table 1. Chlamydia, Gonorrhea and Primary and Secondary Syphilis Cases Diagnosed and Incidence Rate with Rankings by County, 2009

County	2009 population	Chlamydia cases	Chlamydia rate	Chlamydia rank	Gonorrhea cases	Gonorrhea rate	Gonorrhea rank	P&S Syphilis cases	P&S Syphilis rate	P&S Syphilis rank
ADAMS	436323	1783	409	6	177	41	9	8	1.8	4
ALAMOSA	15301	56	366	8	5	33	11	0	---	---
ARAPAHOE	566480	2787	492	3	458	81	2	8	1.4	5
ARCHULETA	11899	15	126	37	2	17	17	0	---	---
BACA	3814	11	288	15	0	---	---	0	---	---
BENT	6481	13	201	26	1	15	19	0	---	---
BOULDER	293641	706	240	23	47	16	18	1	0.3	9
BROOMFIELD	55378	109	197	27	11	20	15	0	---	---
CHAFFEE	17604	11	62	44	1	6	26	0	---	---
CHEYENNE	1833	1	55	45	0	---	---	0	#VALUE!	---
CLEAR CREEK	9060	4	44	48	0	---	---	0	---	---
CONEJOS	8210	13	158	32	0	---	---	0	---	---
COSTILLA	3505	4	114	38	2	57	4	0	---	---
CROWLEY	5803	8	138	35	0	---	---	0	---	---
CUSTER	4166	2	48	46	2	48	5	0	---	---
DELTA	30625	51	167	31	3	10	23	0	---	---
DENVER	595573	5672	952	1	1169	196	1	67	11.2	2
DOLORES	2052	0	---	---	0	---	---	0	---	---
DOUGLAS	282163	375	133	36	29	10	23	4	1.4	5
EAGLE	51520	87	169	30	2	4	27	1	1.9	3
ELBERT	22890	23	100	41	1	4	27	0	---	---
EL PASO	608518	3041	500	2	472	78	3	4	0.7	8
FREMONT	46635	67	144	34	5	11	22	0	---	---
GARFIELD	55400	104	188	29	6	11	22	1	1.8	4
GILPIN	5396	6	111	39	1	19	16	0	---	---
GRAND	14664	15	102	40	2	14	20	0	---	---
GUNNISON	15266	48	314	11	1	7	25	0	---	---
HINSDALE	827	0	---	---	0	---	---	0	---	---
HUERFANO	6710	25	373	7	3	45	6	0	---	---
JACKSON	1386	1	72	43	0	---	---	0	---	---
JEFFERSON	532606	1043	196	28	147	28	12	5	0.9	7
KIOWA	1392	1	72	43	0	---	---	0	---	---
KIT CARSON	8269	14	169	30	0	---	---	0	---	---

Table 1. Chlamydia, Gonorrhea and Primary and Secondary Syphilis Cases Diagnosed and Incidence Rate with Rankings by County, 2009, cont.

County	2009 population	Chlamydia cases	Chlamydia rate	Chlamydia rank	Gonorrhea cases	Gonorrhea rate	Gonorrhea rank	P&S Syphilis cases	P&S Syphilis rate	P&S Syphilis rank
LAKE	7174	18	251	21	0	---	---	0	---	---
LA PLATA	50759	147	290	14	19	37	10	0	---	---
LARIMER	297502	720	242	22	41	14	20	3	1.0	6
LAS ANIMAS	15477	32	207	24	0	---	---	0	---	---
LINCOLN	5463	8	146	33	0	---	---	0	---	---
LOGAN	22517	58	258	19	1	4	27	0	---	---
MESA	144795	617	426	5	24	17	17	0	---	---
MINERAL	714	0	---	---	0	---	---	0	---	---
MOFFAT	13544	44	325	10	2	15	19	0	---	---
MONTEZUMA	25365	108	426	5	11	43	7	3	11.8	1
MONTROSE	40680	68	167	31	1	2	28	0	---	---
MORGAN	28026	84	300	13	2	7	25	0	---	---
OTERO	18844	52	276	16	3	16	18	0	---	---
OURAY	4372	2	46	47	1	23	14	0	---	---
PARK	15971	7	44	48	2	13	21	0	---	---
PHILLIPS	4454	9	202	25	0	---	---	0	---	---
PITKIN	17053	17	100	41	0	---	---	0	---	---
PROWERS	12576	34	270	17	6	48	5	0	---	---
PUEBLO	157324	764	486	4	90	57	4	0	---	---
RIO BLANCO	6317	16	253	20	0	---	---	0	---	---
RIO GRANDE	11995	32	267	18	5	42	8	0	---	---
ROUTT	23325	46	197	27	0	---	---	0	---	---
SAGUACHE	6126	2	33	50	0	---	---	0	---	---
SAN JUAN	687	0	---	---	0	---	---	0	---	---
SAN MIGUEL	7267	6	83	42	0	---	---	0	---	---
SEDGWICK	2376	3	126	37	0	---	---	0	---	---
SUMMIT	27783	87	313	12	2	7	25	0	---	---
TELLER	23205	48	207	24	2	9	24	0	---	---
UNKNOWN	---	23	---	---	4	---	---	0	---	---
WASHINGTON	4777	6	126	37	0	---	---	0	---	---
WELD	248959	848	341	9	60	24	13	0	---	---
YUMA	10036	4	40	49	0	---	---	0	---	---
2009 TOTALS	4,976,853	20,006	394		2,823	56		105	2	

Figure 3. Chlamydia Incidence Rate by County, Colorado, 2008-2009

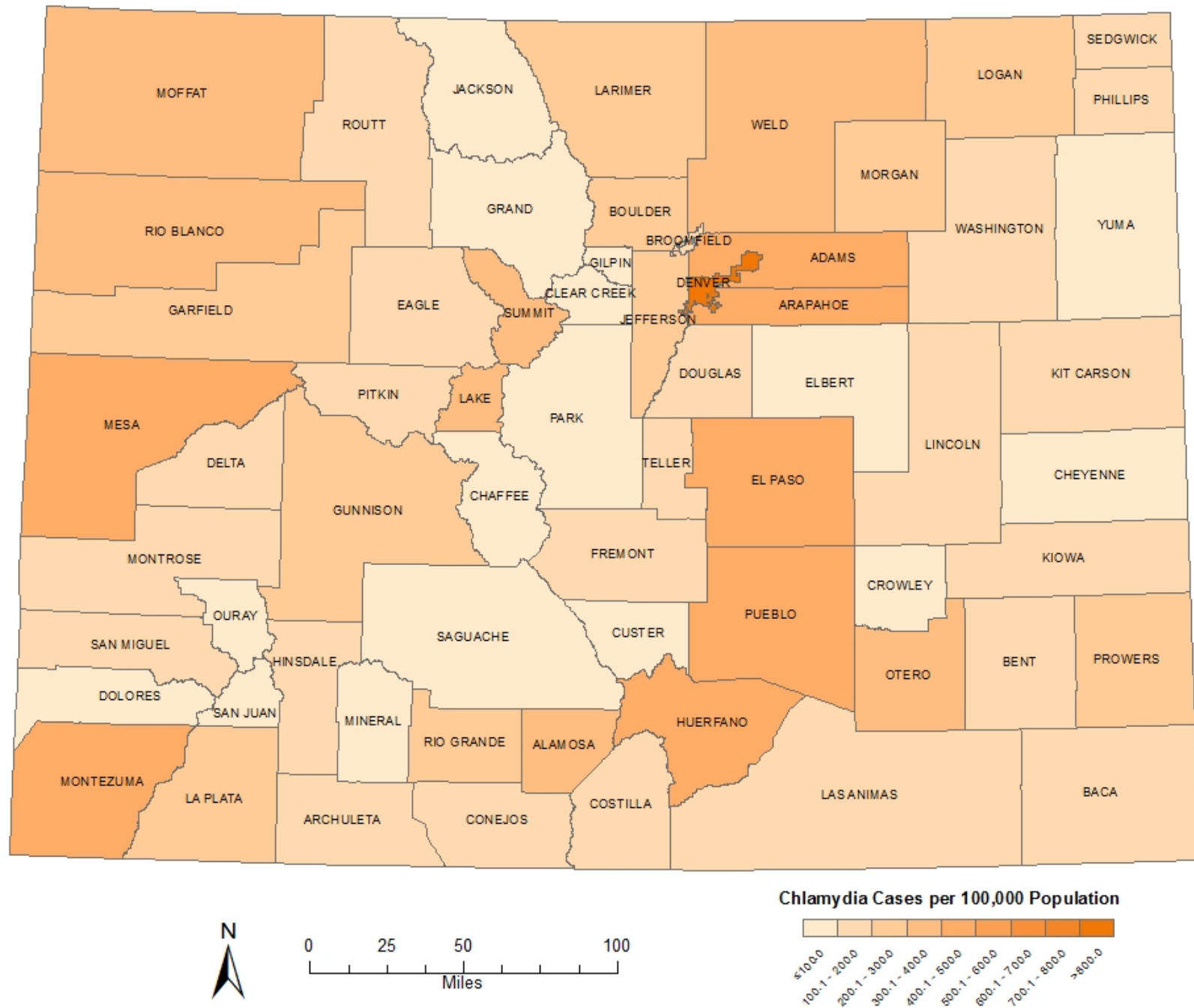
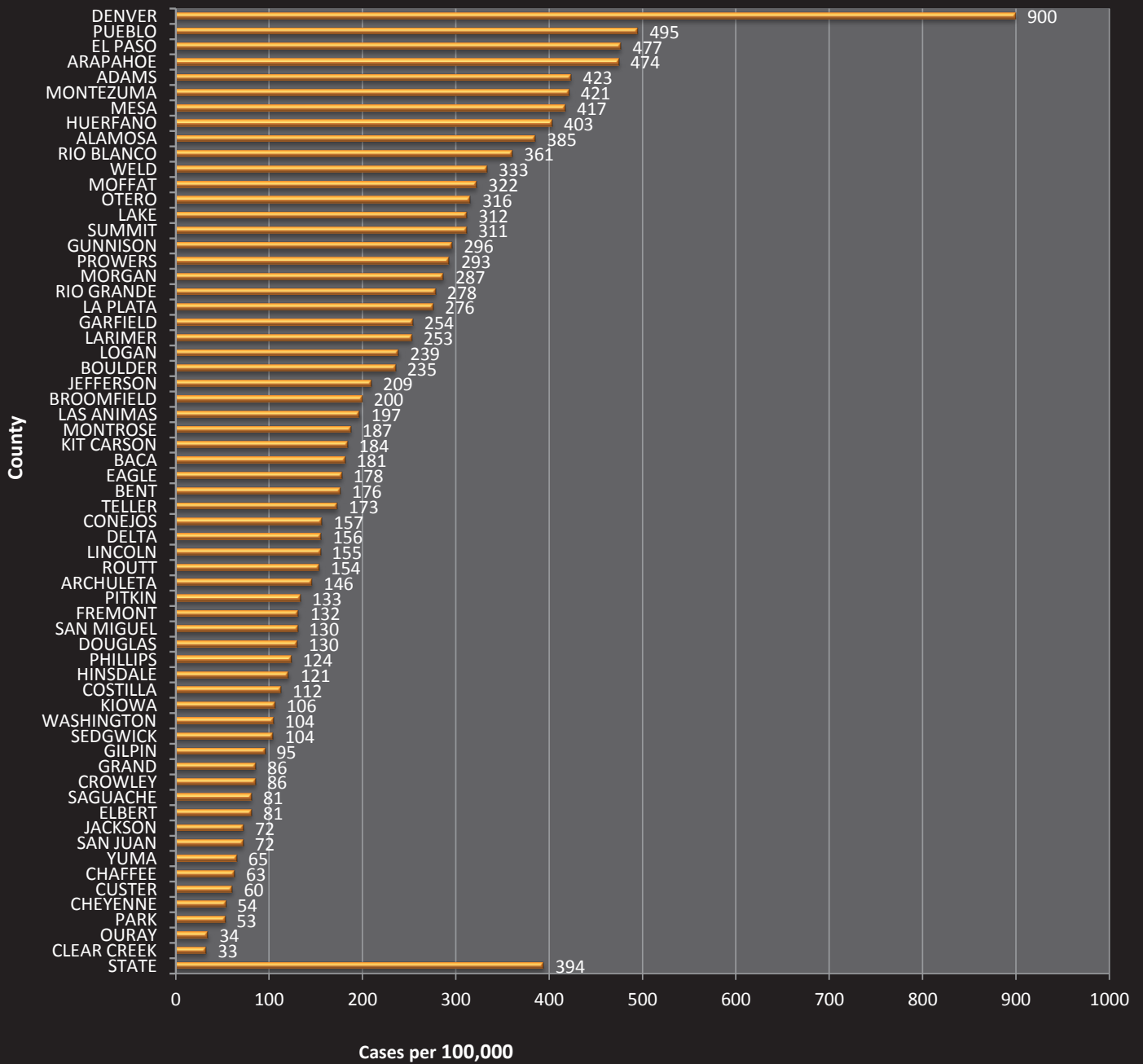


Figure 4. Chlamydial Infection Incidence Rate by County, Colorado, 2009



Gonorrhea

Gonorrhea remains the second most commonly reported STI in Colorado with 3,757 cases reported in 2008, yielding a rate of 75 cases per 100,000 population as previously shown in **Table 2**. Compared to 2008, Colorado saw a 25 percent decrease in reported gonorrhea cases in 2009 when 2,823 cases were reported for a rate of 56 per 100,000 population. According to the CDC, gonorrhea rate decreases were seen in 42 of 50 states during 2008–2009 when a 21 percent drop in gonorrhea cases was reported nationally.

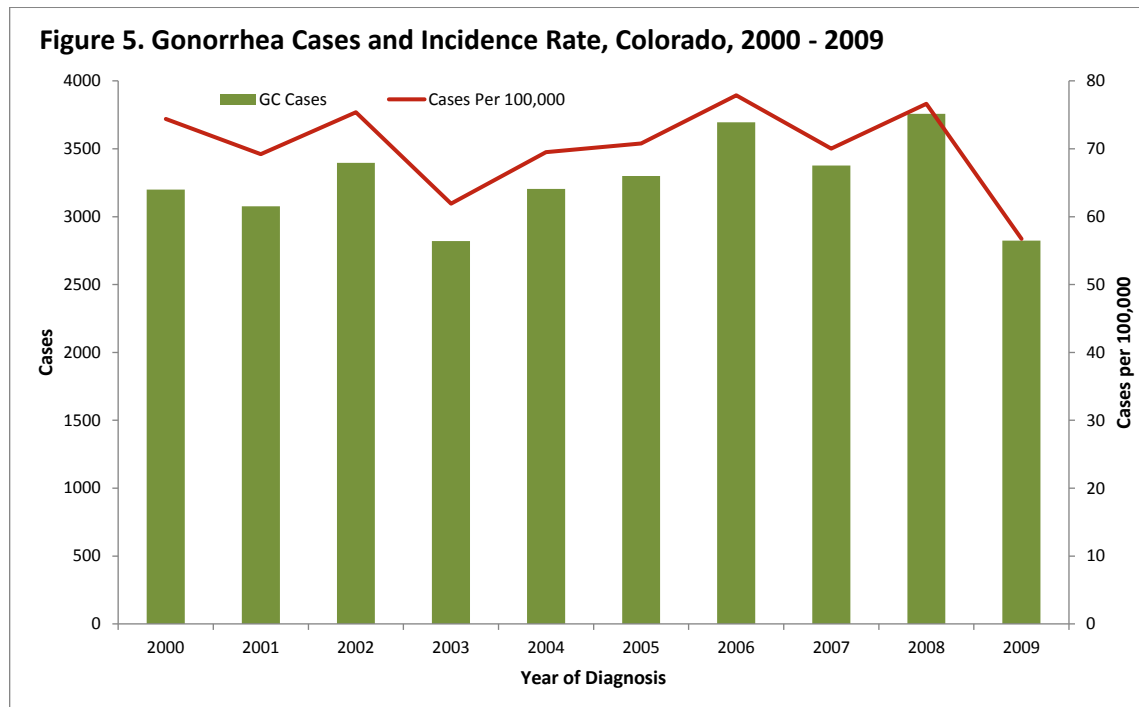


Figure 5 shows cases diagnosed each year and the incidence rate per 100,000 from 2000 to 2009. Over this ten year period, overall gonorrhea rates remained relatively consistent through 2008, with a noted decrease in 2009. Persons of color continue to be disproportionately affected by STIs. Blacks represent less than four percent of Colorado’s population, but represented 24 percent of reported gonorrhea cases in 2009. In 2008, gonorrhea rates were 19 times higher for Blacks compared to Whites, 600 cases per 100,000, for Blacks and 32 cases per 100,000 for Whites.

Figure 6 shows trends in gonorrhea rates by race for 2005 through 2009. Racial disparities are seen between Blacks and other races. The five-year average gonorrhea rate for Blacks compared with Whites is 18 times higher. Compared to American Indian/Native Alaskans, the rate for Blacks is five times higher. Interpretation of gonorrhea rates by Hispanic origin are unreliable due to the high percentage of missing information on Hispanic origin.

Figure 6. Gonorrhea Incidence Rate by Race, Colorado, 2005 - 2009

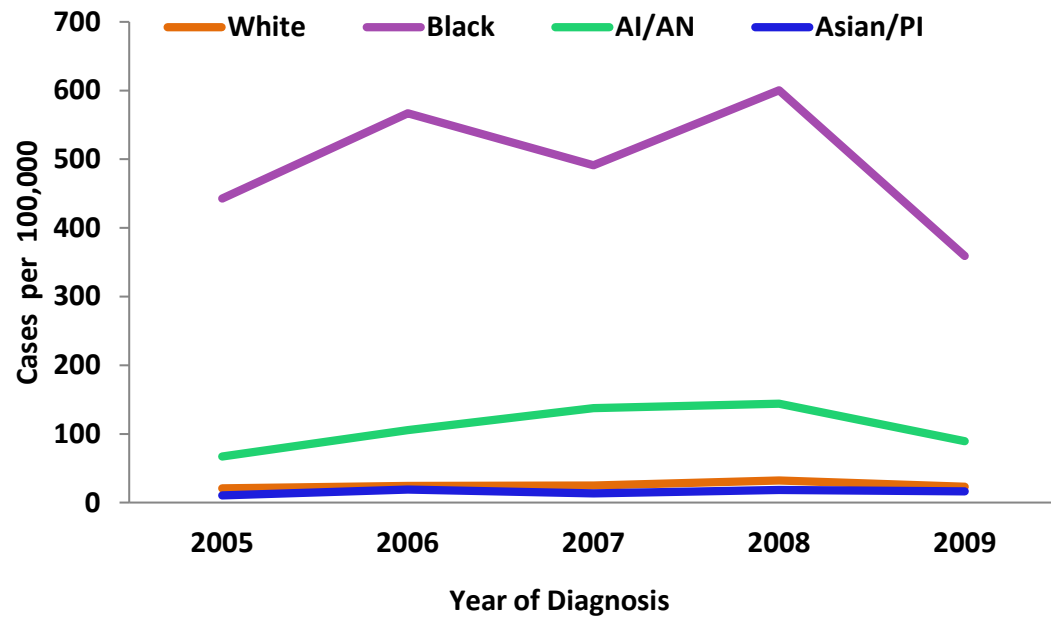
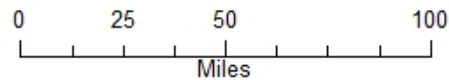
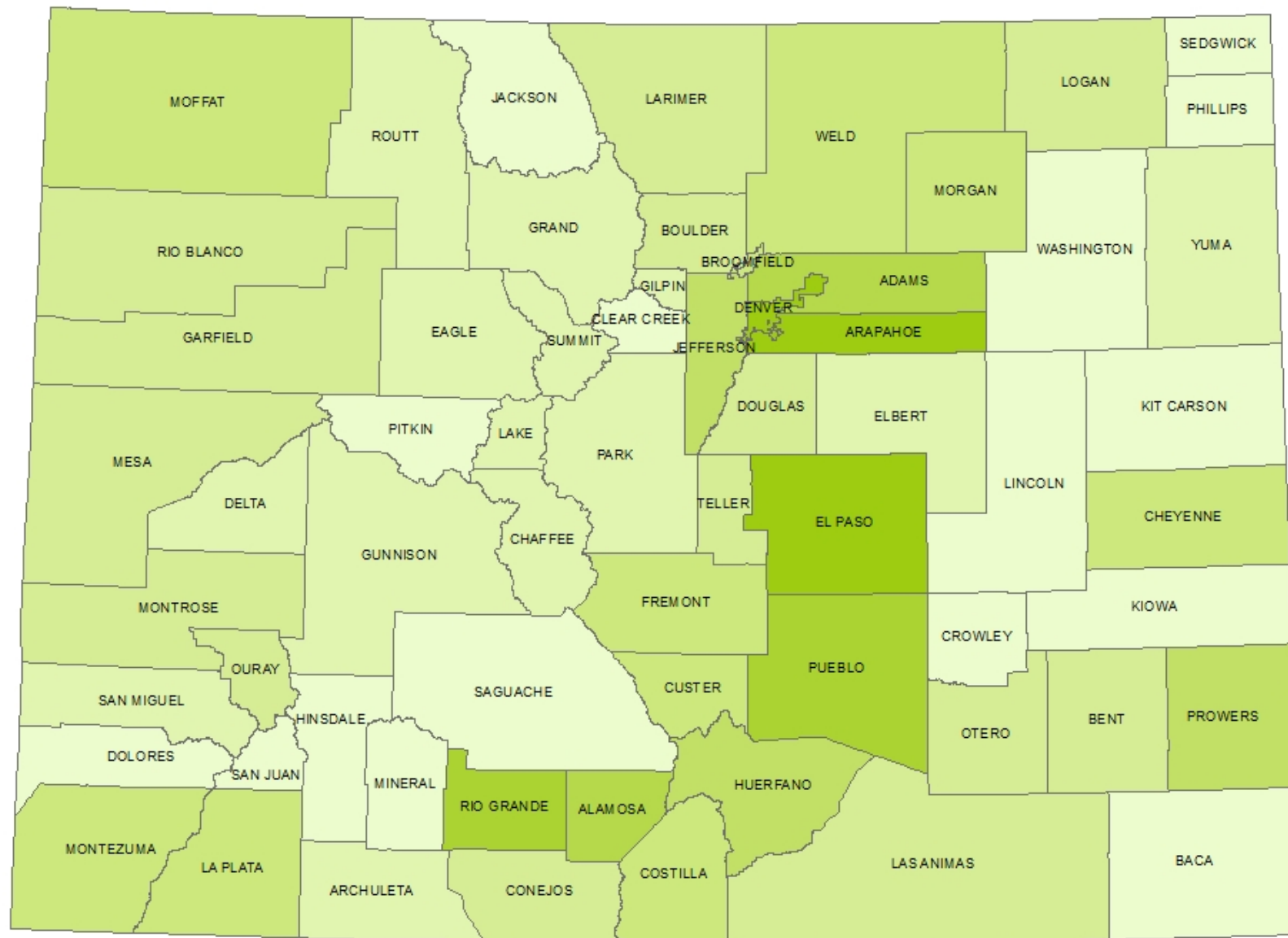


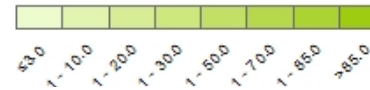
Figure 7 shows gonorrhea incidence rates for Colorado at the county level for 2008-2009. The map shows that gonorrhea has not been reported widely throughout Colorado. Twenty-five rural counties did not report any gonorrhea cases in 2009. Seventy-four percent of gonorrhea cases were reported in just three counties: Denver, El Paso and Arapahoe with Denver County accounting for 41 percent of gonorrhea diagnoses in 2009.

The distribution of cases by type of clinic is often useful for interpreting disease trends. Where adolescents and young adults, ages 15-29, access care differs by gender. STI specific clinics reported 42 percent of gonorrhea diagnoses for males, but accounted for only 14 percent of female cases.

Figure 7. Gonorrhea Incidence Rate by County, Colorado, 2008-2009



Gonorrhea Cases per 100,000 Population



Syphilis

There were 105 cases of primary and secondary (P&S) syphilis diagnosed and reported in 2009, representing an 18 percent decrease from 2008 with 128 cases reported. However, this temporary decrease does not accurately reflect the reality of the current syphilis epidemic among men who have sex with men (MSM). From 2000 to 2009, Colorado reported an alarming 775 percent increase in primary and secondary syphilis cases, as shown in **Figure 8**.

The syphilis epidemic is primarily occurring in non-Hispanic White males, representing 54 percent of reported cases. Additionally, 89 percent of cases report MSM exposure. In 2009, 56 percent of P&S syphilis diagnoses who reported MSM risk, were co-infected with HIV.

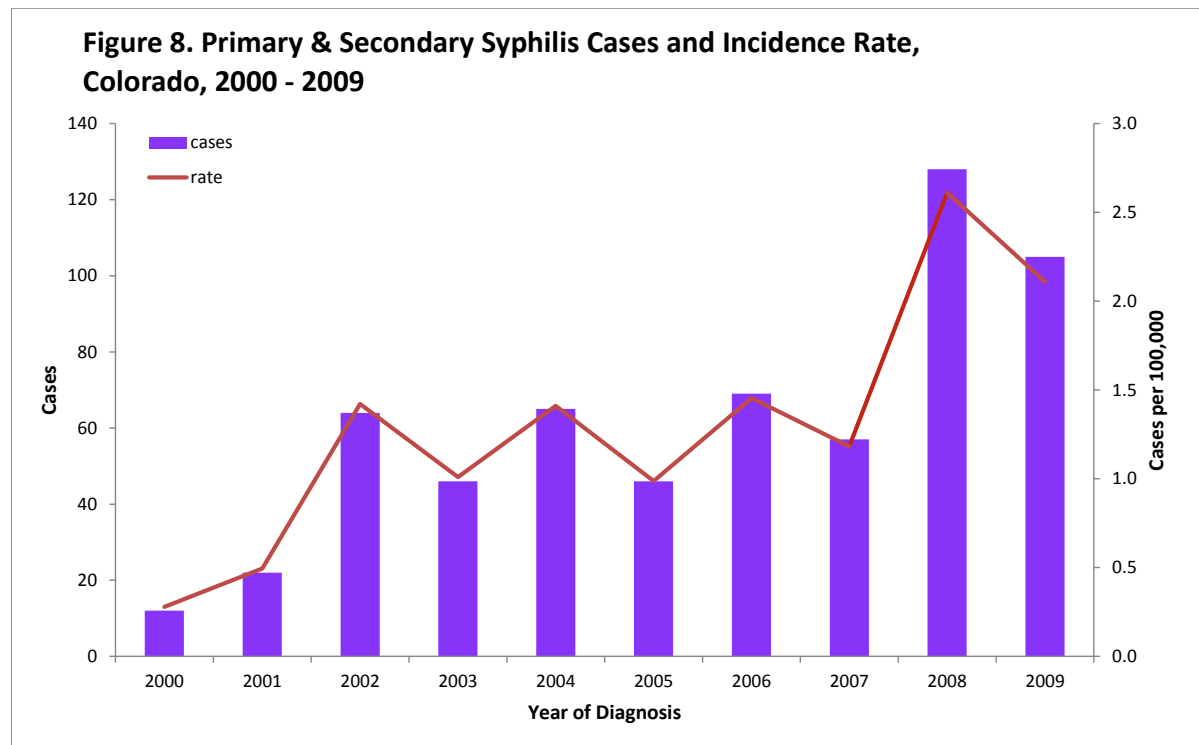


Figure 9 shows that the highest rates of P&S syphilis are seen among Blacks, 6.4 per 100,000 in 2008 and 5.8 per 100,000 in 2009. Although Whites account for the majority of the P&S syphilis cases, 69 percent in 2008 and 71 percent in 2009, their infection rates per 100,000 are two and a half times lower, 2.5 per 100,000 in 2008 and 2.1 in 2009. Individuals of Non-Hispanic origin account for the majority of diagnoses, 65 percent, 2008-2009, of P&S syphilis cases. However, crude incidence rates are equal for individuals of both Hispanic and Non-Hispanic origin, with two per 100,000.

Figure 9. Primary & Secondary Syphilis Incidence Rates by Race, Colorado, 2005-2009

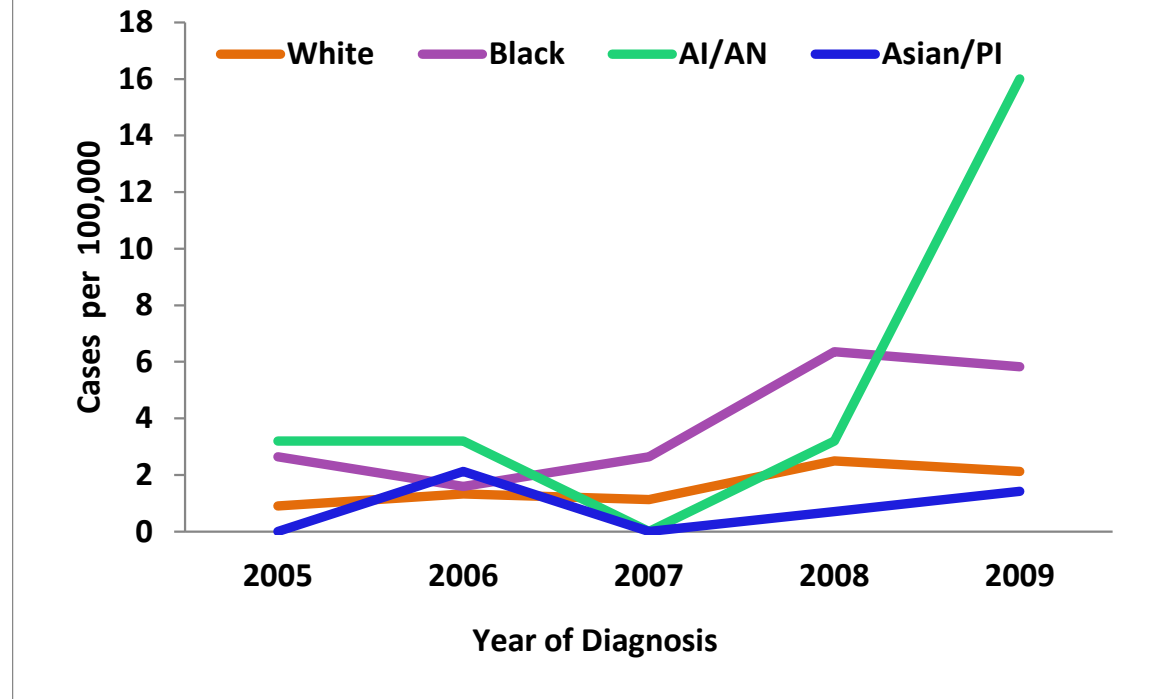


Figure 10 shows the P&S syphilis incidence rate for Colorado at the county level for 2008-2009. The map shows P&S syphilis infections have been diagnosed in 14 of 64 counties with Denver County reporting the highest proportion of cases, 47 percent in 2008 and 64 percent in 2009. In 2009, the P&S syphilis crude incidence rate in Denver County, 11.2 per 100,000, was six times greater than any county except Montezuma, 11.8 per 100,000. Due to its small population, the rate for Montezuma County is statistically unreliable and should be interpreted with caution.

Figure 11 shows the rate of P&S syphilis and HIV co-infections for 2005-2009. The co-infection rate has ranged from 45 percent to 63 percent throughout this time period. The five-year average for P&S syphilis and HIV co-infections is 52 percent.

Figure 10 . Primary & Secondary Syphilis Incidence Rate by County, Colorado, 2008-2009

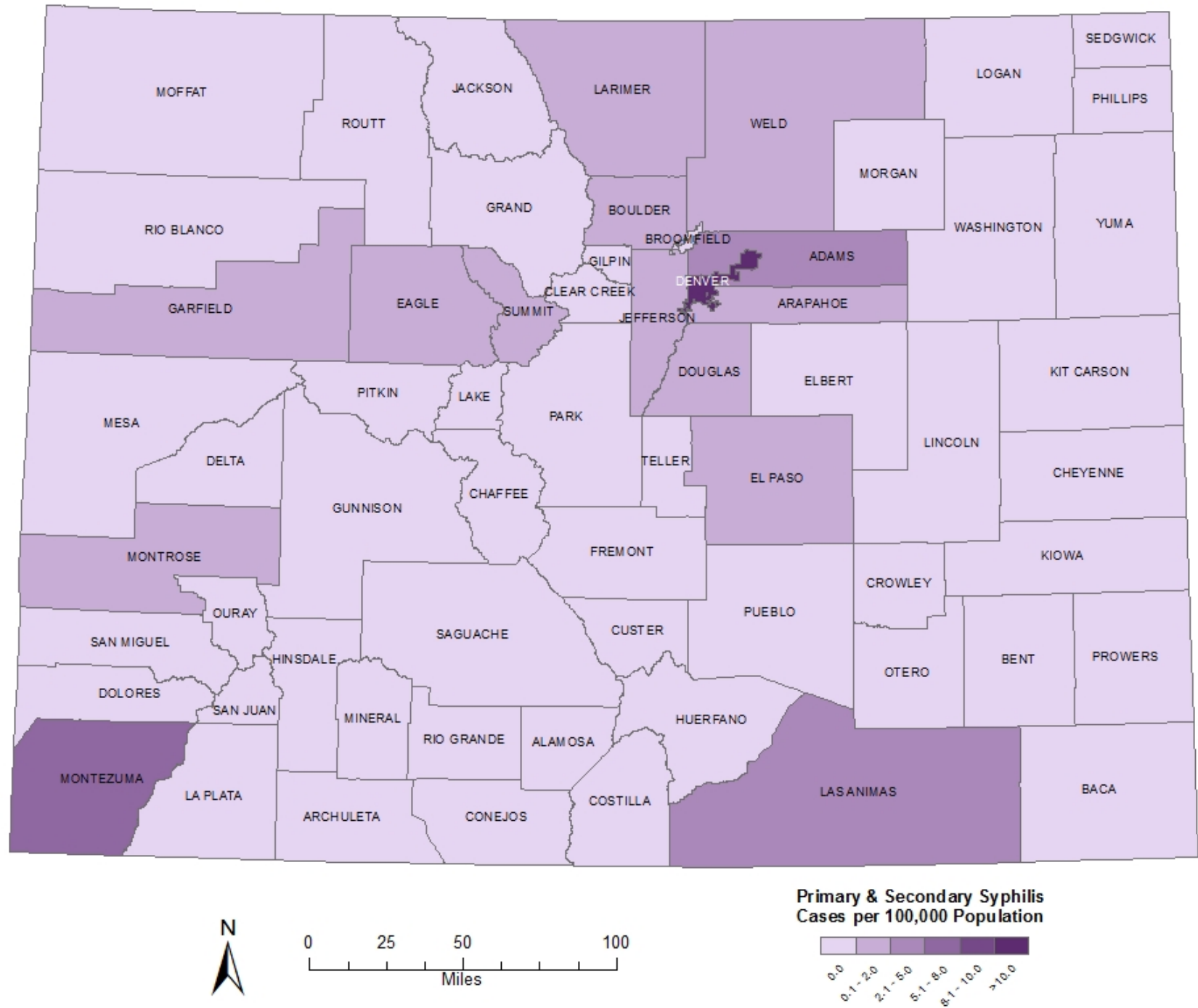
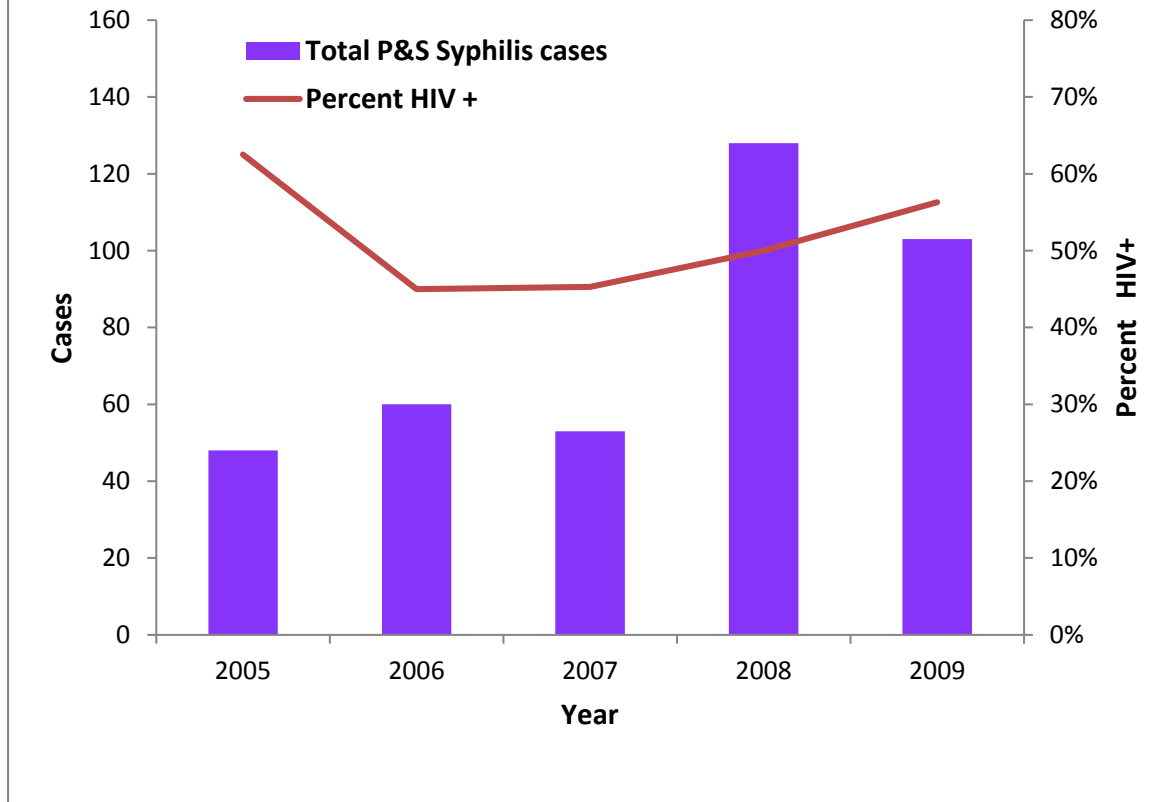


Figure 11. P&S Syphilis Cases and Percent HIV+ by Year of Diagnosis, Colorado 2005 - 2009



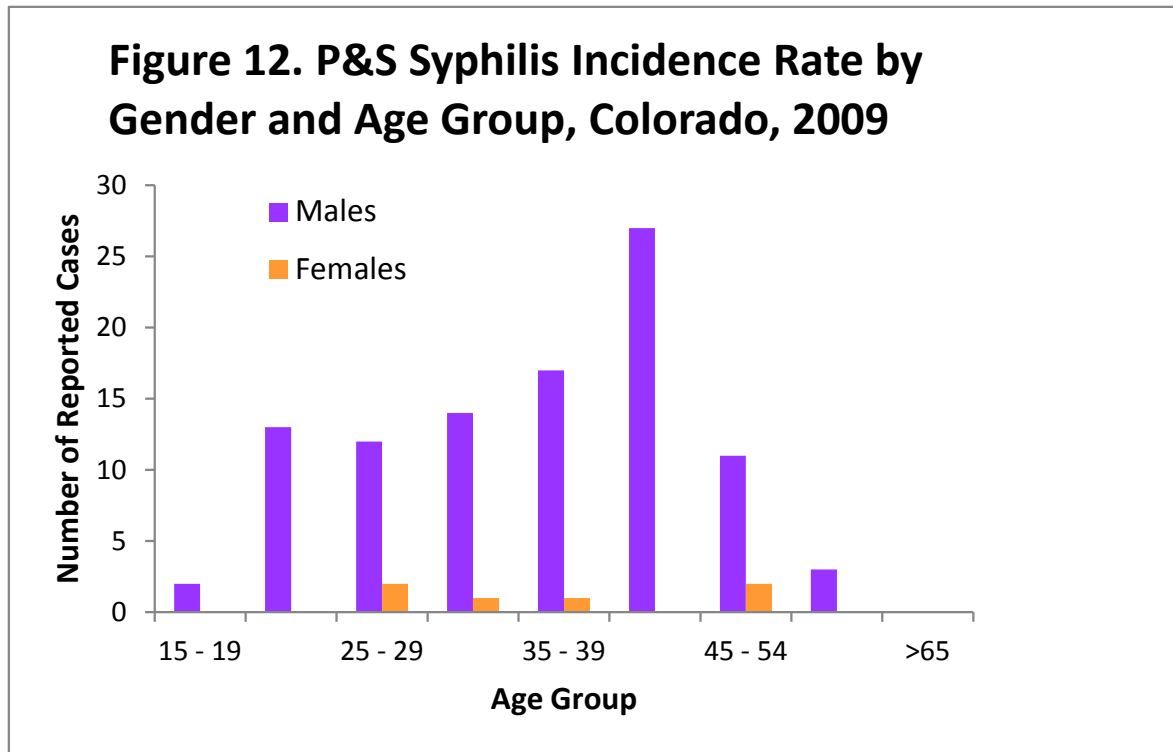


Figure 12 shows age and gender specific rates for P&S syphilis diagnosed in 2009. The mean age at diagnosis is 35 with a range of 17 to 63 years of age. The highest rates were reported among 40-44 year-old males whose infection rate of 15 cases per 100,000, is more than twice the rate for 20-29 year-old males, at 6.7 per 100,000. In 2009, 43 percent of the cases occurred among 35-44 year old males while 20-29 year olds accounted for 27 percent of cases. For the five-year period, 2005-2009, the highest age-specific incidence rate was among 40-44 year-olds, 41 per 100,000, as shown in **Figure 13**.

**Figure 13. P&S Syphilis Cases and Incidence Rates by Age Group, Colorado
2000 - 2009**

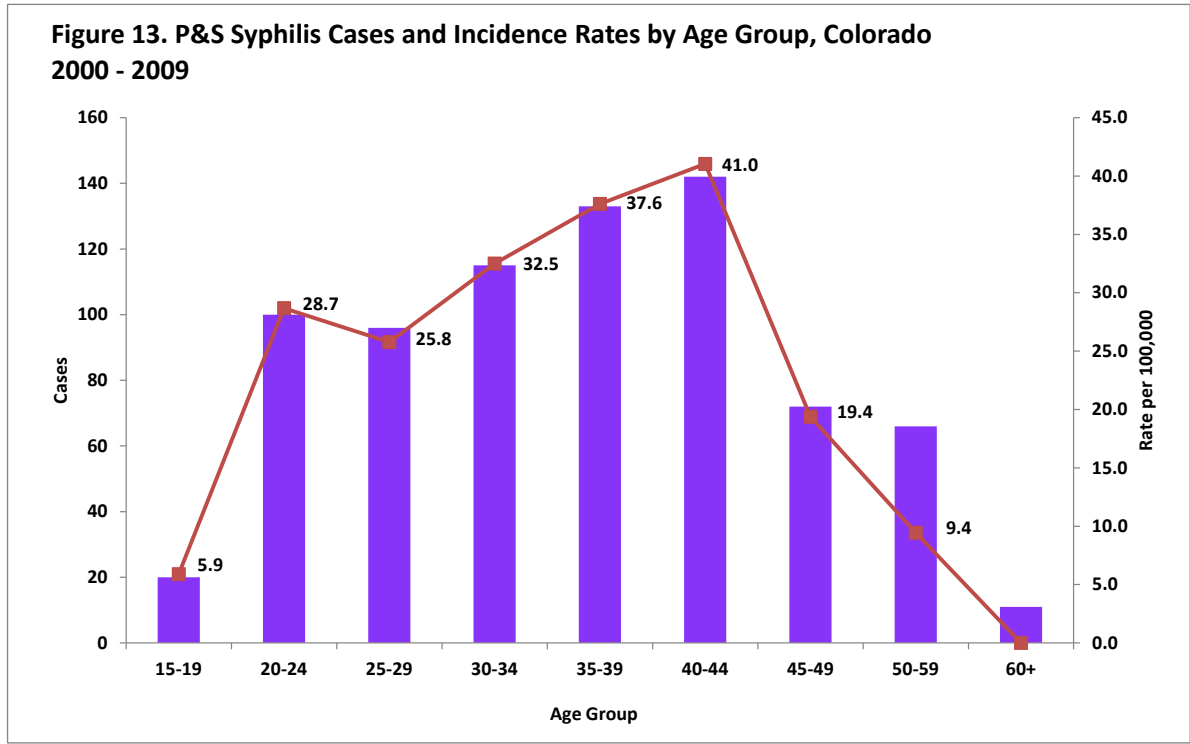


Table 3. Chlamydia and Gonorrhea Cases Diagnosed and Incidence Rate with Rankings by Health Statistics Region (HSR), 2009

	2009 Population	Chlamydia				Gonorrhea			
		Cases	Rate	County Rank*	HSR Rank^	Cases	Rate	County Rank†	HSR Rank‡
Region 1:	72,186	164	227		15	3	4	---	19
Logan	22,517	58	258	20	---	1	4	41	---
Morgan	28,026	84	300	17	---	2	7	33	---
Phillips	4,454	9	202	43	---	0	0	---	---
Sedgwick	2,376	3	126	52	---	0	0	---	---
Washington	4,777	6	126	49	---	0	0	---	---
Yuma	10,036	4	40	51	---	0	0	---	---
Region 2: Larimer	297,502	720	242	8	9	41	14	9	9
Region 3: Douglas	282,163	375	133	11	11	29	10	10	10
Region 4: El Paso	608,518	3039	499	2	2	472	78	2	2
Region 5:	38,455	46	120		21	1	3	0	21
Cheyenne	1,833	1	55	57	---	0	0	---	---
Elbert	22,890	23	100	32	---	1	4	40	---
Lincoln	8,269	14	169	38	---	0	0	---	---
Kit Carson	5,463	8	146	45	---	0	0	---	---
Region 6:	71,097	176	248		13	13	18		13
Baca	3,814	11	288	42	---	0	0	---	---
Bent	6,481	13	201	40	---	1	15	39	---
Crowley	5,803	8	138	44	---	0	0	---	---
Huerfano	6,710	25	373	31	---	3	45	23	---
Kiowa	1,392	1	72	56	---	0	0	---	---
Las Animas	15,477	32	207	30	---	0	0	---	---
Otero	18,844	52	276	22	---	3	16	22	---
Prowers	12,576	34	270	28	---	6	48	15	---
Region 7: Pueblo	157,324	763	485	7	8	90	57	6	8
Region 8:	45,851	105	229		18	12	26	---	12
Alamosa	15,301	56	366	21	---	5	33	19	---
Conejos	8,210	13	158	39	---	0	0	---	---
Costilla	3,505	4	114	50	---	2	57	32	---
Mineral	714	0	0	---	---	0	0	---	---
Rio Grande	11,995	32	267	29	---	5	42	18	---
Saguache	6,126	0	0	---	---	0	0	---	---
Region 9:	90,762	132	145		16	13	14		17
Archuleta	11,899	0	0	---	---	2	17	31	---
Dolores	2,052	0	0	---	---	0	0	---	---
La Plata	50,759	18	35	34	---	0	0	---	---
Montezuma	25,365	108	426	13	---	11	43	14	---
San Juan	687	6	873	48	---	0	0	---	---

* Counties ranked by chlamydia rate per 100,000 population

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

† Counties ranked by gonorrhea rate per 100,000 population

‡ Health Statistics Regions ranked by gonorrhea rate per 100,000 population

Table 3. Chlamydia and Gonorrhea Cases Diagnosed and Incidence Rate with Rankings by Health Statistics Region (HSR), 2009, cont.

	2009 Population§	Chlamydia				Gonorrhea			
		Cases	Rate	County Rank*	HSR Rank^	Cases	Rate	County Rank†	HSR Rank‡
Region 9:	90,762	132	145		16	13	14		17
Montezuma	25,365	108	426	13	---	11	43	14	---
San Juan	687	6	873	48	---	0	0	---	---
Region 10:	99,037	169	171		14	6	6		17
Delta	30,625	51	167	23	---	3	10	21	---
Gunnison	15,266	48	314	25	---	1	7	38	---
Hinsdale	827	0	0	---	---	0	0	0	---
Montrose	40,680	68	167	18	---	1	2	37	---
Ouray	4,372	2	46	54	---	1	23	36	---
San Miguel	7,267	0	0	---	---	0	0	42	---
Region 11:	44,572	107	240		17	2	4		20
Jackson	1,386	1	72	55	---	0	0	---	---
Moffat	13,544	44	325	27	---	2	15	30	---
Rio Blanco	6,317	16	253	36	---	0	0	---	---
Routt	23,325	46	197	26	---	0	0	---	---
Region 12:	166,420	310	186		12	12	7		6
Eagle	51,520	87	169	16	---	2	4	29	---
Garfield	55,400	104	188	14	---	6	11	14	---
Grand	14,664	15	102	37	---	2	14	28	---
Pitkin	17,053	17	100	35	---	0	0	---	---
Summit	27,783	87	313	15	---	2	7	27	---
Region 13:	75,579	80	106		19	27	36		4
Chaffee	17,604	11	62	41	---	1	6	35	---
Custer	4,166	2	48	53	---	2	48	26	---
Fremont	46,635	67	144	19	---	5	11	17	---
Lake	7,174	0	0	---	---	19	265	12	---
Region 14: Adams	436,323	1783	409		4	177	41		2
Region 15: Arapahoe	566,480	2786	492		3	457	81		3
Region 16:	349,019	815	234		7	58	17		5
Boulder	293,641	706	240	9	---	47	16	8	---
Broomfield	55,378	109	197	12	---	11	20	13	---
Region 17:	53,632	61	114		20	5	9		18
Clear Creek	9,060	0	0	---	---	0	0	---	---
Gilpin	5,396	6	111	47	---	1	19	34	---
Park	15,971	7	44	46	---	2	13	25	---
Teller	23,205	48	207	24	---	2	9	24	---
Region 18: Weld	248,959	848	341		6	60	24		16
Region 19: Mesa	144,795	617	426		10	24	17		7
Region 20: Denver	595,573	5671	952		1	1168	196		1
Region 21: Jefferson	532,606	1043	196		5	147	28		10
STATEWIDE TOTAL									

§ Official Colorado population estimates (SDO 2009)

* Counties ranked by chlamydia rate per 100,000 population

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

† Counties ranked by gonorrhea rate per 100,000 population

‡ Health Statistics Regions ranked by gonorrhea rate per 100,000 population

Table 4. Chlamydia, Gonorrhea and Primary & Secondary Syphilis cases diagnosed by demographic characteristics, 2008

2008	2008 Population [^]	Chlamydia			Gonorrhea			Syphilis*		
		Cases	%	Rate [‡]	Cases	%	Rate	Cases	%	Rate
Total	4,987,526	19,180	100%	385	3,757	100%	75	128	100%	3
Gender										
Male	2,509,264	5,319	28%	212	1,777	47%	71	125	98%	5
Female	2,478,262	13,825	72%	558	1,978	53%	80	3	2%	-
Unknown	-	36	-	-	2	-	-	-	-	-
Race										
White	4,537,575	4,742	25%	191	1,137	30%	32	88	69%	2.5
Black	220,576	2,072	11%	939	1,133	30%	600	12	9%	6.4
American Indian	79,408	182	1%	229	45	1%	144	1	1%	3.2
Asian/PI	150,059	118	1%	79	26	1%	18	1	1%	0.7
Other/Unknown	-	12,066	63%	-	1,416	38%	-	26	20%	-
Hispanic Origin										
Hispanic	986,259	2,809	15%	285	667	18%	68	29	23%	3
NonHispanic	3,948,954	3,443	18%	87	1,435	38%	36	85	66%	2
Unknown	-	12,914	67%	-	1,655	44%	-	14	11%	-
Age Group										
0 to 9	701,737	38	0%	5	3	0%	0	-	-	-
10 to 14	324,558	97	1%	30	40	1%	12	-	-	-
15 to 19	361,100	4,474	23%	1239	931	25%	258	4	3%	1
20 to 24	383,320	7,601	40%	1983	1,131	30%	295	25	20%	7
25 to 29	318,652	3,770	20%	1183	708	19%	222	24	19%	8
30 to 34	343,697	1,591	8%	463	361	10%	105	14	11%	4
35 to 39	379,822	799	4%	210	237	6%	62	19	15%	5
40 to 44	361,200	396	2%	110	147	4%	41	17	13%	5
45+	1,813,440	412	2%	23	199	5%	11	25	20%	1

[^] Official Colorado population estimates (SDO, 2010)

* Primary and Secondary Syphilis

[†] Demographic information not reported for diseases with fewer than 5 reported cases.

[‡] Crude incidence rate per 100,000, based on cases diagnosed in 2008.

Table 5. Chlamydia, Gonorrhea and Primary & Secondary Syphilis cases diagnosed by demographic characteristics, 2009

2009	Chlamydia			Gonorrhea			Syphilis*			
	2009 Population [^]	Cases	%	Rate [‡]	Cases	%	Rate	Cases	%	Rate
Total	5,074,476	20,006	100%	394	2,823	100%	56	105	100%	2
Gender										
Male	2,554,111	5,232	26%	205	1,319	47%	52	99	94%	4
Female	2,520,365	14,769	74%	586	1,502	53%	60	6	6%	-
Unknown	-	5	-	-	2	-	-	-	-	-
Race										
White	4,608,588	3,665	18%	145	816	29%	23	75	71%	2.1
Black	228,351	1,579	8%	691	678	24%	359	11	10%	5.8
American Indian	82,229	117	1%	142	28	1%	90	5	5%	16
Asian/PI	155,400	149	1%	96	23	1%	16	2	2%	1.4
Other/Unknown	-	14,496	72%	-	1,278	45%	-	12	11%	-
Hispanic Origin										
Hispanic	1,018,204	2,936	15%	288	494	17%	49	22	21%	2
NonHispanic	4,006,544	2,469	12%	62	955	34%	24	66	63%	2
Unknown	-	14,587	73%	-	1,370	49%	-	17	16%	-
Age Group										
0 to 9	712,127	18	0%	3	-	-	-	-	-	-
10 to 14	328,260	300	1%	91	25	1%	8	-	-	-
15 to 19	362,420	7,908	40%	2182	740	26%	204	2	2%	1
20 to 24	386,401	6,926	35%	1792	986	35%	255	13	12%	3
25 to 29	333,485	2,849	14%	854	494	17%	148	14	13%	4
30 to 34	337,737	1,135	6%	336	256	9%	76	15	14%	4
35 to 39	379,264	501	3%	132	153	5%	40	18	17%	5
40 to 44	360,098	177	1%	49	74	3%	21	27	26%	7
45+	1,874,684	191	1%	10	95	3%	5	16	15%	1

[^] Official Colorado population estimates (SDO, 2010)

* Primary and Secondary Syphilis

[†] Demographic information not reported for diseases with fewer than 5 reported cases.

[‡] Crude incidence rate per 100,000, based on cases diagnosed in 2009.

Figure 14. Chlamydia Incidence Rate by Gender and Age Group, Colorado, 2009

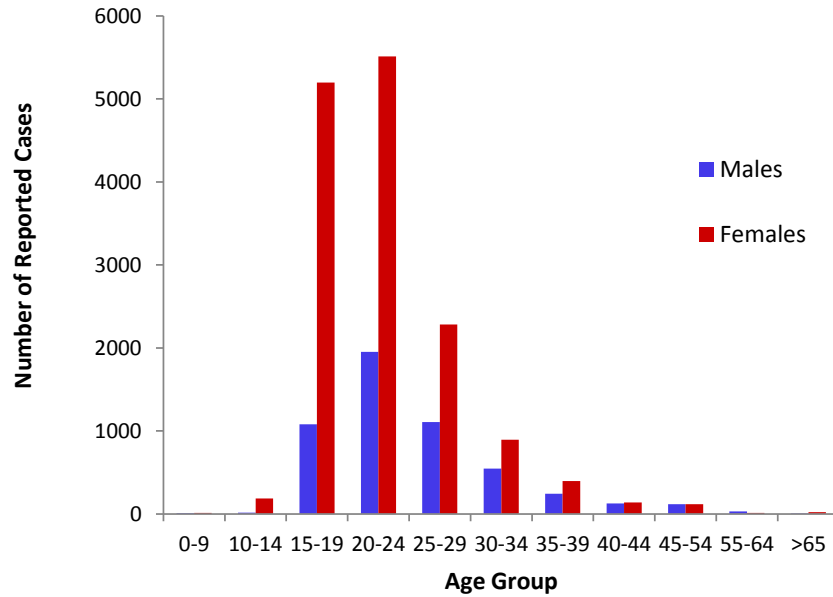
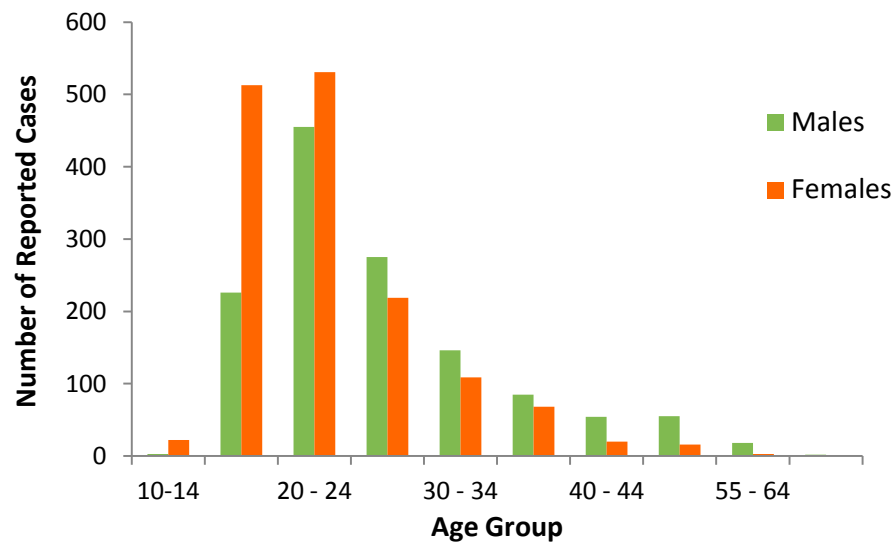


Figure 15. Gonorrhea Incidence Rate by Gender and Age Group, Colorado, 2009



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Acknowledgements and Contact Information

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