



2013 Minnesota Sexually Transmitted Disease Statistics

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Overall Summary

The 2013 Sexually Transmitted Disease (STD) Statistics include a summary of surveillance data for Minnesota's reportable STDs: chlamydia, gonorrhea, syphilis, and chancroid. In Minnesota, STDs are the most commonly reported communicable diseases and account for nearly 70% of all notifiable diseases reported to the Minnesota Department of Health (MDH). In 2013 the number of reported bacterial STDs increased to 23,133 cases, representing an overall increase of 10% from the previous year. The change in incidence rates varied by disease, with chlamydia increasing by 4%, gonorrhea increasing by 26%, and primary/secondary syphilis increasing by 64%.

This report provides a comprehensive review of STD trends and current morbidity in Minnesota; data are also available in a slide presentation at: <http://www.health.state.mn.us/divs/idepc/dtopics/stds/stdstatistics.html>

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Sources of Data

STD Case Reporting

Under state law (Minnesota Rule 4605.7040), both physicians and laboratories must report laboratory-confirmed infections of chlamydia, gonorrhea, syphilis, and chancroid to the MDH within one working day. Other common sexually transmitted conditions such as herpes simplex virus (HSV) and human papillomavirus (HPV) are not reported to the MDH.

MDH Partner Services Program

All early syphilis cases, and many untreated chlamydia or gonorrhea cases reported to the MDH are referred to the Partner Services Program to ensure treatment of patients and their sexual partners. Additional surveillance data is collected through this process including information on sexual behavior and drug use.

Gonococcal Isolate Surveillance Project (GISP)

As part of the national Gonococcal Isolate Surveillance Project (GISP) funded by the Centers for Disease Control and Prevention (CDC), the MDH monitors antimicrobial susceptibilities of *Neisseria gonorrhoeae*. A Minneapolis STD clinic submits isolates on a monthly basis to the MDH. Sociodemographic and behavioral data for each case are also submitted. As of 2008, the MDH ceased routine susceptibility testing for GISP isolates, but still collaborates with the CDC to perform susceptibility testing.

Limitations of Data

Several factors impact the completeness and accuracy of the MDH's STD surveillance data, including compliance with and completeness of case reporting among healthcare providers and laboratories. Clinically diagnosed cases, presumptively treated cases, and asymptomatic cases with no STD-related illnesses may be under-reported through the STD surveillance system. Furthermore, STD cases reported by laboratories lacking subsequent provider reporting were excluded from the STD surveillance database prior to 2012. The majority of laboratory reports originate from facilities that do not routinely collect demographic and clinical information required for STD surveillance. In 2002, the MDH implemented an active surveillance process whereby providers are reminded to submit demographic and clinical information missing from cases reported solely through laboratories. Additional factors affecting validity of the STD surveillance data include STD screening coverage, individual test-seeking behavior, and accuracy of diagnostic tests. Thus, changes in STD rates may be due to one or more of these factors or due to actual changes in the incidence of STDs in the population.

Population counts used to calculate incidence rates by residence (i.e., state, counties, Minneapolis, and Saint Paul), by age, by gender, and by race/ethnicity were obtained from the U.S. Census Bureau. Incident rates (number of reported cases per 100,000 persons) were calculated using yearly case data and population counts from the decennial census. Population counts for 1991 to 1999 were estimated by interpolation between the 1990 and 2000 census data. Rates for 2013 were calculated using population counts from the 2010 Census, the most recent year for which counts by race, age, gender, and residence were available at the time of calculation and preparation. This 2013 data release includes rates calculated using population estimates for the calendar years between the 2000 and 2010 U.S. Censuses.

Chlamydia

Chlamydia is the most commonly reported communicable disease in Minnesota. From an all-time low of 115 cases per 100,000 in 1996, the incidence of chlamydia has tripled to 353 per 100,000 in 2013. Over these years, increases were seen across all gender, age and geographical groups. The rates have quadrupled among men (54 to 220 per 100,000) and more than doubled among females (175 to 484 per 100,000). Among 30-39 year-olds, the incidence rate is over five times higher in 2013 compared to 1996. Rates have doubled among American Indians, Blacks, and Hispanics and almost tripled among Whites and Asian/Pacific Islanders. In addition to an increase of disease in the population, other factors may have contributed to the increases seen during these years including increased reporting by providers, use of improved STD diagnostic tools, improved screening practices by clinicians, counting only lab reports as cases and the addition of an active surveillance component to the MDH's STD surveillance system.

In 2013, the chlamydia rate increased by 4% overall and remained highest among women (484 per 100,000), Blacks (1,517 per 100,000), and 20-24 year-olds (2,142 per 100,000). The rates increased by 7% among males and 3% among females. Adolescents (15-19 year-olds) and young adults (20-24 year-olds) have the highest rates and comprise the majority of cases, rates among males increased the most among those over 50+ years (35%), and rates among females increased the most among those 45-49 years (30%). Across geographic areas, the City of Minneapolis had the highest incidence rate (933 per 100,000). However, Greater Minnesota experienced the greatest increase in chlamydia cases between 2012 and 2013 (7%); followed by St. Paul (5%), Minneapolis (1%), and the Suburban area (seven-county metro excluding the cities of Minneapolis and St. Paul) experienced a decrease of 2%. Racial disparities in chlamydia continue to persist in Minnesota with the incidence rate among Blacks being 10 times that among Whites. Other racial/ethnic groups are disproportionately affected by chlamydia; incidence rates among American Indians, Asian/Pacific Islanders and Hispanics were 4.4, 1.8, and 2.4 times higher than the rate among Whites, respectively.

Gonorrhea

In 2013, Minnesota experienced another increase (26%) in the rate of reported gonorrhea, after rates increased in 2011 for the first time since 2007. From 2003 to 2013, the incidence of gonorrhea in Minnesota increased from 64 to 73 per 100,000 persons (14%). However, as with chlamydia, the incidence of infection was higher among

some segments of the population compared to others. Rates during the past decade have increased by 23% among males and 7% among females. The rates decreased among Hispanics and Blacks (41% and 15%, respectively) while rates among Whites, American Indians, & Asian/Pacific Islanders increased or remained stable. However, during this period Blacks continued to have gonorrhea incidence rates far higher than other race groups.

In 2013 the incidence rate of gonorrhea increased by 26% from 58 to 73 per 100,000 persons. As with chlamydia, gonorrhea rates were highest among females (76 per 100,000), Blacks (611 per 100,000), and 20-24 year-olds (360 per 100,000). Adolescents and young adults continue to account for a disproportionate amount (58%) of all gonorrhea cases. The Cities of Minneapolis and Saint Paul accounted for the highest rates of infection (359 and 230 cases per 100,000 persons, respectively). The greatest increase in cases from 2012 to 2013 (28%) was seen in Minneapolis, whereas, gonorrhea cases in Greater Minnesota increased by 27%, St. Paul increased by 25%, and the Suburban area (seven-county metro excluding the cities of Minneapolis and St. Paul) increased 21%, during this same time. Compared to chlamydia, greater racial disparities in gonorrhea infections continue to persist in Minnesota with an incidence rate among Blacks being 26.5 times that among Whites. These racial disparities are also evident among American Indians and Hispanics, whose rates are 7.0 and 2.3 times those of Whites.

The emergence of *quinolone-resistant Neisseria Gonorrhea* (QRNG) in recent years has become a particular concern. Due to the high prevalence of QRNG in Minnesota as well as nationwide, quinolones are no longer recommended for the treatment of gonococcal infections. Additionally, the CDC changed the treatment guidelines for gonococcal infections in August of 2012. CDC no longer recommends cefixime at any dose as a first-line regimen for treatment of gonococcal infections. If cefixime is used as an alternative agent, then the patient should return in one week for a test-of-cure at the site of infection.

Syphilis

Incidence rates of primary/secondary syphilis in Minnesota remained stable from 1998 until 2002 when an outbreak was observed among men who have sex with men (MSM) and the overall rate increased from 0.2 to 1.2 per 100,000 persons. Since 2002, primary/secondary syphilis rates have fluctuated but remained elevated. In addition, the number of early syphilis cases (primary, secondary, and early latent stages) increased from 94 in 2003 to 332 in 2013, with MSM accounting for 88% of all cases among males in 2013. The disparity in early syphilis rates between males and females has remained large and reflects the greater burden within the MSM community; however the rates among females continue to increase.

In 2013, the overall incidence rate of primary/secondary syphilis increased from 2.2 to 3.6 cases per 100,000 persons. The number of cases among males increased from 111 in 2012 to 178 in 2013 while among females, the number increased from 7 to 12. Increases in cases were observed across all geographic areas; however the City of Minneapolis remains to account for the majority of cases (52%). The incidence of primary/secondary syphilis infection increased in every age group, except among persons 15-19 years of age. Whites comprised the majority (62%) of cases in 2013, while Asian/Pacific Islanders saw an increase of primary/secondary syphilis rates of 620% from 2012 to 2013. Also, Blacks comprised 27% of all primary/secondary syphilis cases in 2013 and have a rate of primary/secondary syphilis that is over 7 times higher than that among Whites.

The number of early syphilis cases increased in 2013 (332 versus 214 in 2012). The number of cases among women increased from 18 cases in 2012 to 30 cases in 2013. Early syphilis cases among men increased from 196 to 298 (52%). Of all early syphilis cases reported in 2013, 90% were among males and 88% of these were MSM. Of the MSM early syphilis cases 46% were co-infected with HIV.

Chancroid

Chancroid remains extremely rare in Minnesota. The last case reported in Minnesota was in 1999.

Summary Points

- Over the past decade (2003-2013), Minnesota's chlamydia rates showed an overall increase of 65% while the rate of gonorrhea has fluctuated but has overall shown an increase of 14%. Rates of primary/secondary syphilis have increased 260%. Minnesota has seen a resurgence in syphilis since 2002, with men who have sex with men being especially impacted. The co-infection rate with HIV continues to remain high. Racial disparities in STDs continue to persist in Minnesota with communities of color having the highest rates.
- Between 2012 and 2013, the chlamydia incidence rate increased by 4%, while the gonorrhea rate increased by 26%. Cases of primary/secondary syphilis increased by 64%. The greatest growth was seen among late latent syphilis cases, which increased by 71%. In 2013, incidence rates of chlamydia increased by 7% among males and 3% among females; gonorrhea increased by 23% among males and 7% among females.
- STD rates continued to be highest in the City of Minneapolis. However, the Twin Cities suburbs and Greater Minnesota accounted for a large percentage of STD cases.
- Adolescents and young adults (ages 15-24) accounted for 68% of chlamydia and 58% of gonorrhea cases reported in 2013.
- In 2013, men who have sex with men account for 88% of all male early syphilis cases, and rates of primary/secondary syphilis increased 620% among Asian/Pacific Islanders.

**Table 1. Number of Cases and Rates (per 100,000 persons) of
Chlamydia, Gonorrhea, Syphilis, and Chancroid -- Minnesota, 2009 - 2013**

Disease	2009		2010		2011		2012		2013	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Chlamydia	14,369	272	15,509	292	16,898	319	18,048	340	18,724	353
Gonorrhea	2,328	44	2,149	41	2,283	43	3,082	58	3,872	73
All Stages of Syphilis	215	4.1	351	6.6	366	6.9	335	6.3	537	10.1
Primary/Secondary Syphilis	71	1.3	150	2.8	139	2.6	118	2.2	193	3.6
Early Latent Syphilis	46	0.9	74	1.4	121	2.3	96	1.8	139	2.6
Late Latent Syphilis	97	1.8	126	2.4	106	2.0	120	2.3	205	3.9
Other Syphilis ^I	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Congenital Syphilis ^{II}	1	1.4	1	1.5	0	0.0	1	1.5	0	0.0
Chancroid	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Note: Data exclude cases diagnosed in federal or private correctional facilities.

U.S. Census Intercensal and U.S. 2010 data is used to calculate rates.

^IIncludes unstaged neurosyphilis, latent syphilis of unknown duration, and late syphilis with clinical manifestations.

^{II} Congenital syphilis rate per 100,000 live births

Table 2a. Number of Cases and Rates (per 100,000 persons) of Chlamydia by Residence, Age, Race/Ethnicity and Gender-- Minnesota, 2013

Group	Chlamydia						
	Males		Females		Total ^{VI}		
	Cases	%	Cases	%	Cases	%	Rate
Residence^I							
Minneapolis	1,383	24%	2,186	17%	3,570	19%	933
St. Paul	715	12%	1,662	13%	2,377	13%	834
Suburban ^{II}	1,588	27%	3,767	29%	5,355	29%	245
Greater Minnesota	1,575	27%	4,425	34%	6,000	32%	244
Age							
< 15 yrs	21	0%	120	1%	141	1%	13
15-19 yrs	1,023	18%	4,103	32%	5,126	27%	1,394
20-24 yrs	2,193	38%	5,424	42%	7,617	41%	2,142
25-29 yrs	1,208	21%	1,932	15%	3,141	17%	843
30-34 yrs	623	11%	690	5%	1,313	7%	383
35-39 yrs	283	5%	355	3%	638	3%	194
40-44 yrs	193	3%	168	1%	361	2%	102
45-49 yrs	116	2%	71	1%	187	1%	46
50-54 yrs	70	1%	42	0%	112	1%	28
55+ yrs	61	1%	27	0%	588	3%	45
Race/Ethnicity							
White	2,045	35%	5,271	41%	7,317	39%	162
Black	1,583	27%	2,680	21%	4,263	23%	1,554
American Indian	77	1%	396	3%	473	3%	776
Asian/PI	169	3%	469	4%	638	3%	295
Other ^{III, IV}	93	2%	292	2%	385	2%	x
Unknown ^{IV}	1,824	31%	3,824	30%	5,666	30%	x
Hispanic ^V	290	5%	663	5%	949	5%	379
Total	5,791		12,932		18,742		353

Note: Data exclude cases diagnosed in federal or private correctional facilities.

U.S. Census 2010 data is used to calculate rates.

^I Residence missing for 1422 cases of chlamydia.

^{II} Suburban is defined as the seven-county metropolitan area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties, excluding the cities of Minneapolis and St. Paul).

^{III} Includes persons reported with more than one race.

^{IV} No comparable population data available to calculate rates.

^V Persons of Hispanic origin may be of any race.

^{VI} Total includes 1 case of chlamydia diagnosed in transgendered persons(male to female)

Table 2b. Number of Cases and Rates (per 100,000 persons) of Gonorrhea by Residence, Age, Race/Ethnicity and Gender-- Minnesota, 2013

Group	Gonorrhea						
	Males		Females		Total ^I		
	Cases	%	Cases	%	Cases	%	Rate
Residence^{II}							
Minneapolis	741	40%	632	31%	1,374	35%	359
St. Paul	272	15%	385	19%	657	17%	230
Suburban ^{III}	504	27%	576	28%	1,080	28%	49
Greater Minnesota	207	11%	360	18%	567	15%	23
Age							
< 15 yrs	8	0%	32	2%	40	1%	4
15-19 yrs	287	16%	696	34%	983	25%	267
20-24 yrs	554	30%	725	36%	1,279	33%	360
25-29 yrs	360	20%	298	15%	659	17%	177
30-34 yrs	229	12%	153	8%	382	10%	111
35-39 yrs	131	7%	66	3%	197	5%	60
40-44 yrs	95	5%	37	2%	132	3%	37
45-49 yrs	80	4%	15	1%	95	2%	23
50-54 yrs	47	3%	10	0%	57	1%	14
55+ yrs	44	2%	4	0%	48	1%	4
Race/Ethnicity							
White	569	31%	496	24%	1,065	28%	24
Black	807	44%	910	45%	1,718	44%	626
American Indian	32	2%	79	4%	111	3%	182
Asian/PI	32	2%	38	2%	70	2%	32
Other ^{IV,V}	8	0%	14	1%	22	1%	x
Unknown ^V	387	21%	499	25%	886	23%	x
Hispanic ^{VI}	56	3%	76	4%	132	3%	53
Total	1,835		2,036		3,872		73

Note: Data exclude cases diagnosed in federal or private correctional facilities.

U.S. Census 2010 data is used to calculate rates.

^I Total includes 1 case of gonorrhea diagnosed in transgendered persons(male to female).

^{II} Residence missing for 194 cases of gonorrhea.

^{III} Suburban is defined as the seven-county metropolitan area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties, excluding the cities of Minneapolis and St. Paul).

^{IV} Includes persons reported with more than one race.

^V No comparable population data available to calculate rates.

^{VI} Persons of Hispanic origin may be of any race.

Table 2c. Number of Cases and Rates (per 100,000 persons) of Primary/Secondary Syphilis by Residence, Age, Race/Ethnicity and Gender-- Minnesota, 2013

Group	Primary & Secondary Syphilis						
	Males		Females		Total ^v		
	Cases	%	Cases	%	Cases	%	Rate
Residence							
Minneapolis	91	51%	6	0%	100	52%	26.1
St. Paul	18	10%	2	0%	20	10%	7.0
Suburban ⁱ	54	30%	1	0%	55	28%	2.5
Greater Minnesota	15	8%	3	0%	18	9%	0.7
Age							
< 15 yrs	0	0%	0	0%	0	0%	0.0
15-19 yrs	2	1%	0	0%	2	1%	0.5
20-24 yrs	30	17%	3	0%	33	17%	9.3
25-29 yrs	35	20%	4	0%	42	22%	11.3
30-34 yrs	26	15%	1	0%	27	14%	7.9
35-39 yrs	22	12%	1	0%	23	12%	7.0
40-44 yrs	16	9%	2	0%	18	9%	5.1
45-49 yrs	19	11%	0	0%	19	10%	4.7
50-54 yrs	16	9%	1	0%	17	9%	4.2
55+ yrs	12	7%	0	0%	12	6%	0.9
Race/Ethnicity							
White	107	60%	3	0%	111	58%	2.5
Black	40	22%	6	0%	48	25%	17.5
American Indian	2	1%	0	0%	2	1%	3.3
Asian/PI	7	4%	1	0%	8	4%	3.7
Other ^{ii, iii}	4	2%	0	0%	4	2%	x
Unknown ⁱⁱⁱ	18	10%	2	0%	20	10%	x
Hispanic ^{iv}	9	5%	0	0%	9	5%	3.6
Total	178		12		193		3.6

Note: Data exclude cases diagnosed in federal or private correctional facilities.

U.S. Census 2010 data is used to calculate rates.

ⁱ Suburban is defined as the seven-county metropolitan area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties, excluding the cities of Minneapolis and St. Paul).

ⁱⁱ Includes persons reported with more than one race.

ⁱⁱⁱ No comparable population data available to calculate rates.

^{iv} Persons of Hispanic origin may be of any race.

^v Total includes 3 cases of primary/secondary syphilis diagnosed in transgendered persons(male to female).

Table 3. Number of Cases and Rates¹ (per 100,000 persons) of Chlamydia and Gonorrhea by County of Residence -- Minnesota, 2013

County	Chlamydia		Gonorrhea		County	Chlamydia		Gonorrhea	
	Cases	Rate	Cases	Rate		Cases	Rate	Cases	Rate
Aitkin	17	105	2	-	Marshall	12	127	0	-
Anoka	884	267	157	47	Martin	50	240	2	-
Becker	74	228	4	-	Meecker	28	120	4	-
Beltrami	210	473	23	52	Mille Lacs	70	268	2	-
Benton	101	263	21	55	Morrison	69	208	9	27
Big Stone	11	209	1	-	Mower	140	357	21	54
Blue Earth	303	473	16	25	Murray	5	57	0	-
Brown	22	85	1	-	Nicollet	51	156	2	-
Carlton	102	288	8	23	Nobles	50	234	3	-
Carver	130	143	10	11	Norman	12	175	1	-
Cass	83	291	10	35	Olmsted	501	347	44	31
Chippewa	13	104	1	-	Otter Tail	78	136	8	14
Chisago	87	161	3	-	Pennington	30	215	4	-
Clay	177	300	37	63	Pine	74	249	7	24
Clearwater	20	230	2	-	Pipestone	11	115	1	-
Cook	7	135	0	-	Polk	58	184	22	70
Cottonwood	12	103	1	-	Pope	16	146	2	-
Crow Wing	137	219	8	13	Ramsey	2786	548	732	144
Dakota	1005	252	144	36	Red Lake	19	465	3	-
Dodge	55	274	4	-	Redwood	25	156	0	-
Douglas	46	128	0	-	Renville	24	153	1	-
Faribault	25	172	4	-	Rice	130	203	10	16
Fillmore	38	182	3	-	Rock	16	165	2	-
Freeborn	113	362	10	32	Roseau	37	237	2	-
Goodhue	136	294	10	22	St. Louis	729	364	88	44
Grant	10	166	1	-	Scott	269	207	25	19
Hennepin	5765	500	1983	172	Sherburne	213	241	26	29
Houston	24	126	1	-	Sibley	16	105	1	-
Hubbard	22	108	0	-	Stearns	448	297	38	25
Isanti	63	167	7	19	Steele	94	257	7	19
Itasca	100	222	12	27	Stevens	5	51	1	-
Jackson	20	195	1	-	Swift	5	51	1	-
Kanabec	25	154	1	-	Todd	36	145	1	-
Kandiyohi	136	322	6	14	Traverse	3	-	1	-
Kittson	8	176	0	-	Wabasha	39	180	0	-
Koochiching	21	158	0	-	Wadena	19	137	0	-
Lac qui Parle	5	69	0	-	Waseca	45	235	4	-
Lake	16	147	0	-	Washington	456	191	56	24
Lake of the Woods	8	198	0	-	Watsonwan	30	268	2	-
Le Sueur	47	170	5	18	Wilkin	7	106	0	-
Lincoln	6	102	3	-	Winona	185	359	7	14
Lyon	51	197	2	-	Wright	197	158	25	20
McLeod	60	164	4	-	Yellow Medicine	9	86	2	-
Mahnomen	15	277	2	-					

Note: Data exclude cases diagnosed in federal or private correctional facilities.
County data missing for 1425 chlamydia cases and 197 gonorrhea cases.

¹ Rates not calculated for counties with fewer than 5 cases.

U.S. Census 2010 data is used to calculate rates.