



Minnesota
Department
of Health

2015 Minnesota Sexually Transmitted Disease Statistics

Minnesota Department of Health, STD/HIV/TB Section

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Overall Summary

The 2015 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 2015 the number of reported bacterial STDs increased to 25,986 cases, representing an overall increase of 6% from the previous year. The change in incidence rates varied by disease, with chlamydia increasing by 7%, gonorrhea remaining at a stable incidence rate compared to 2014, and primary/secondary syphilis decreasing by 4%.

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/stats/index.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, all gonorrhea/HIV co-infected cases (where the HIV was diagnosed in the last 12 months), 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. GISP also collects sociodemographic and behavioral data for each case. As of 2008, the MDH ceased routine susceptibility testing for GISP isolates, but still collaborates with the CDC to perform susceptibility testing.

STD Surveillance Network (SSuN)

As part of the national STD Surveillance Network (SSuN) funded by the Centers for Disease Control and Prevention (CDC), the MDH randomly selects cases of gonorrhea to participate in a standardized interview. By interviewing a random sample of cases extra information pertaining to gonorrhea risk can be analyzed to improve STD services in Minnesota. When diagnosing a patient with a gonorrhea infection, providers should always inform their patients that the infection will be reported to the MDH. However, now providers can also inform patients of the possibility of being contacted by MDH for an SSuN interview.

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 2015 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 2015 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 nearly quadrupled to 400 per 100,000 in 2015. Over these years, increases were seen across all gender, age and geographical groups. The rates have increased more than five times among men (54 to 271 per 100,000) and have tripled among females (175 to 528 per 100,000). Among 30-39 year-olds, the incidence rate is over seven times higher in 2015 compared to 1996. Rates have nearly doubled among Blacks and Hispanics and almost tripled among Whites, American Indians, 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 2015, the chlamydia rate increased by 7% overall and remained highest among women (528 per 100,000), Blacks (1,701 per 100,000), and 20-24 year-olds (2,336 per 100,000). The rates increased by 11% among males and 5% 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 40-44 years (24%), and rates among females increased the most among those 40-44 years (26%).

Across geographic areas, the city of Minneapolis had the highest incidence rate (1,124 per 100,000). The city of Minneapolis had an increase of 13% in the chlamydia rate between 2014 and 2015; followed by the Suburban area (seven-county metro excluding the cities of Minneapolis and Saint Paul) (7%), Saint Paul (6%), and Greater Minnesota (3%).

Racial disparities in chlamydia continue to persist in Minnesota with the incidence rate among Blacks being nearly 9 times higher than the rate 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 2.7 times the rate among Whites, respectively.

Gonorrhea

In 2015, the gonorrhea rate remained stable at 77 per 100,000 compared to 2014. The rates had previously increased in 2011 for the first time since 2007. From 2004 to 2015, the incidence of gonorrhea in Minnesota increased from 58 to 77 per 100,000 persons (33%). 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 56% among males and have remained relatively stable among females. The rates have increased among American Indians (131%), Whites (132%), and Asian/Pacific Islanders (100%) but decreased among Blacks (55%) while rates among Hispanics have remained relatively stable. However, Blacks continue to have gonorrhea incidence rates far higher than other race groups.

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.

In 2015 the incidence rate of gonorrhea remained stable at 77 per 100,000. Males had a higher gonorrhea rate than females (92 per 100,000 vs 63 per 100,000). As with chlamydia, gonorrhea rates were highest among Blacks (531 per 100,000) and 20-24 year-olds (352 per 100,000). Adolescents and young adults continue to account for a disproportionate amount (47%) of all gonorrhea cases.

The Cities of Minneapolis and Saint Paul accounted for the highest rates of infection (376 and 230 cases per 100,000 persons, respectively). The only area of Minnesota to see an increase in gonorrhea cases from 2014 to 2015 was the Greater Minnesota area with a 15% increase in cases. Reported cases in Minneapolis remained stable compared to 2014 with only a small 0.01% decrease in 2015 cases. All other areas of Minnesota reported a decrease in cases. Reported cases in Saint Paul and the Suburban area (seven-county metro excluding the cities of Minneapolis and Saint Paul) decreased by 3% and 4% respectively.

Compared to chlamydia, greater racial disparities in gonorrhea infections continue to persist in Minnesota with an incidence rate among Blacks being 16 times higher than the rate among Whites. These racial disparities are also evident among American Indians and Hispanics, whose rates are 6.6 and 2.4 times those of Whites.

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 49 in 2004 to 431 in 2015, with MSM accounting for 65% of all cases among males in 2015. 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 have continued to increase over the past two years. With the increasing rates among females, specifically females of child-bearing age, there were three cases of congenital syphilis reported in 2015.

In 2015, the overall incidence rate of primary/secondary syphilis decreased from 4.8 to 4.6 cases per 100,000 persons compared to 2014. The number of cases among males decreased from 235 in 2014 to 207 in 2015 while among females, the number increased from 21 to 39.

Increases in cases, compared to 2014, were only observed across the Greater Minnesota area; however the city of Minneapolis remains to account for the majority of cases (52%).

The incidence of primary/secondary syphilis infection increased in age groups; 10-14 (0.3%), 30-39 (2%) and 40-49 (29%). However, the incidence of primary/secondary syphilis decreased by 60% for the 20-24 age category.

Whites comprised the majority (57%) of cases in 2015, while American Indians saw an increase of primary/secondary syphilis rates of 300% from 2014 to 2015. Also, Blacks comprised 33% of all primary/secondary syphilis cases in 2015 and have a rate of primary/secondary syphilis that is 9.5 times higher than the rate among Whites.

The number of early syphilis cases increased in 2015 (431 versus 416 in 2014). The number of cases among women increased from 41 cases in 2014 to 88 cases in 2015. Early syphilis cases among men decreased from 374 to 341 (9%). Of all early syphilis cases reported in 2015, 80% were among males and 65% of these were MSM. Of the MSM early syphilis cases 56% 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 (2005-2015), Minnesota's chlamydia rates showed an overall increase of 61% while the rate of gonorrhea has fluctuated but has shown an overall increase of 8%. Rates of primary/secondary syphilis have increased 246%. 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 2014 and 2015, the chlamydia incidence rate increased by 7%, while the gonorrhea rate remained stable. Cases of primary/secondary syphilis decreased by 4%.
- In 2015, incidence rates of chlamydia increased by 11% among males and 5% among females; gonorrhea increased by 7% among males and decreased 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 64% of chlamydia and 47% of gonorrhea cases reported in 2015.
- In 2015, men who have sex with men account for 65% of all male early syphilis cases, and rates of primary/secondary syphilis increased 300% among American Indians.

**Table 1. Number of Cases and Rates (per 100,000 persons) of
Chlamydia, Gonorrhea, Syphilis, and Chancroid -- Minnesota, 2011 - 2015**

Disease	2011		2012		2013		2014		2015	
	Cases	Rate								
Chlamydia	16,898	319	18,048	340	18,724	353	19,897	375	21,238	400
Gonorrhea	2,283	43	3,082	58	3,872	73	4,073	77	4,097	77
All Stages of Syphilis	366	6.9	335	6.3	537	10.1	629	11.9	654	12.3
Primary/Secondary Syphilis	139	2.6	118	2.2	193	3.6	257	4.8	246	4.6
Early Latent Syphilis	121	2.3	96	1.8	139	2.6	159	3.0	185	3.5
Late Latent Syphilis	106	2.0	120	2.3	205	3.9	213	4.0	220	4.1
Congenital Syphilis ¹	0	0.0	1	1.5	0	0.0	0	0.0	3	4.3
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.

¹ 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, 2015

Group	Chlamydia						
	Males		Females		Total ^I		
	Cases	%	Cases	%	Cases	%	Rate
Residence^{II}							
Minneapolis	1,887	26%	2,411	17%	4,302	20%	1,124
St. Paul	826	12%	1,646	12%	2,473	12%	868
Suburban ^{III}	2,163	30%	4,599	33%	6,763	32%	310
Greater Minnesota	1,831	26%	4,760	34%	6,593	31%	269
Unknown ^{IV}	415	6%	691	5%	1,107	5%	x
Age							
< 15 yrs	9	0%	140	1%	149	1%	14
15-19 yrs	1,057	15%	4,102	29%	5,160	24%	1,403
20-24 yrs	2,561	36%	5,745	41%	8,309	39%	2,336
25-29 yrs	1,621	23%	2,328	17%	3,953	19%	1,061
30-34 yrs	854	12%	1,005	7%	1,859	9%	542
35-39 yrs	407	6%	429	3%	837	4%	255
40-44 yrs	266	4%	192	1%	458	2%	130
45-49 yrs	147	2%	88	1%	235	1%	58
50-54 yrs	107	2%	58	0%	165	1%	41
55+ yrs	93	1%	20	0%	113	1%	9
Race/Ethnicity							
White	2,823	40%	5,874	42%	8,701	41%	192
Black	1,846	26%	2,819	20%	4,667	22%	1,701
American Indian	133	2%	426	3%	559	3%	918
Asian/PI	198	3%	540	4%	738	3%	341
Other ^{V,VI}	180	3%	405	3%	585	3%	x
Unknown ^V	1,942	27%	4,043	29%	5,988	28%	x
Hispanic ^{VI}	395	6%	875	6%	1,270	6%	507
Total	7,122		14,107		21,238		400

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

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

^ITotal includes 9 cases of chlamydia diagnosed in transgendered persons, 4 (Female to Male), 5 (Male to Female)

^{II} Residence missing for 1,107 cases of chlamydia.

^{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 2b. Number of Cases and Rates (per 100,000 persons) of Gonorrhea by Residence, Age, Race/Ethnicity and Gender-- Minnesota, 2015

	Gonorrhea						
	Males		Females		Total ^I		
Group	Cases	%	Cases	%	Cases	%	Rate
Residence^{II}							
Minneapolis	1,025	42%	412	25%	1,438	35%	376
St. Paul	347	14%	310	19%	657	16%	230
Suburban ^{III}	625	26%	445	27%	1,071	26%	49
Greater Minnesota	341	14%	451	27%	792	19%	32
Unknown ^V	82	3%	57	3%	139	3%	x
Age							
< 15 yrs	2	0%	22	1%	24	1%	2
15-19 yrs	210	9%	430	26%	640	16%	174
20-24 yrs	676	28%	574	34%	1,251	31%	352
25-29 yrs	561	23%	324	19%	886	22%	238
30-34 yrs	332	14%	177	11%	509	12%	148
35-39 yrs	236	10%	83	5%	319	8%	97
40-44 yrs	137	6%	27	2%	164	4%	46
45-49 yrs	120	5%	18	1%	138	3%	34
50-54 yrs	93	4%	14	1%	107	3%	27
55+ yrs	53	2%	6	0%	59	1%	4
Race/Ethnicity							
White	1,042	43%	486	29%	1,529	37%	34
Black	802	33%	653	39%	1,456	36%	531
American Indian	45	2%	102	6%	147	4%	241
Asian/PI	63	3%	34	2%	97	2%	45
Other ^{IV,V}	70	3%	26	2%	96	2%	x
Unknown ^V	290	12%	251	15%	541	13%	x
Hispanic ^{VI}	146	6%	56	3%	202	5%	81
Total	2,420		1,675		4,097		77

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

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

^I Total includes 2 cases of gonorrhea diagnosed in transgendered persons, 1 Male to Female, 1 Female to Male.

^{II} Residence missing for 139 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, 2015

	Primary & Secondary Syphilis						
	Males		Females		Total ^I		
Group	Cases	%	Cases	%	Cases	%	Rate
Residence							
Minneapolis	109	53%	20	51%	129	52%	33.7
St. Paul	18	9%	5	13%	23	9%	8.1
Suburban ^{II}	57	28%	11	28%	68	28%	3.1
Greater Minnesota	23	11%	3	8%	19	8%	0.8
Age							
< 15 yrs	0	0%	1	3%	1	0%	0.1
15-19 yrs	5	2%	5	13%	10	4%	2.7
20-24 yrs	20	10%	1	3%	21	9%	5.9
25-29 yrs	41	20%	9	23%	50	20%	13.4
30-34 yrs	28	14%	5	13%	33	13%	9.6
35-39 yrs	26	13%	5	13%	31	13%	9.4
40-44 yrs	26	13%	6	15%	32	13%	9.1
45-49 yrs	18	9%	3	8%	21	9%	5.2
50-54 yrs	21	10%	0	0%	21	9%	5.2
55+ yrs	22	11%	4	10%	26	11%	2.0
Race/Ethnicity							
White	127	61%	12	31%	139	57%	3.1
Black	62	30%	18	46%	80	33%	29.2
American Indian	3	1%	5	13%	8	3%	13.1
Asian/PI	5	2%	2	5%	7	3%	3.2
Other ^{III, IV}	3	1%	1	3%	4	2%	x
Unknown ^{IV}	7	3%	1	3%	8	3%	x
Hispanic ^V	28	14%	2	5%	30	12%	12.0
Total	207		39		246		4.6

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

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

^I Total includes 2 cases of primary/secondary syphilis diagnosed in transgendered persons(male

^{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.

Table 3. Number of Cases and Rates¹ (per 100,000 persons) of Chlamydia and Gonorrhea by County of Residence -- Minnesota, 2015

County	Chlamydia		Gonorrhea		County	Chlamydia		Gonorrhea	
	Cases	Rate	Cases	Rate		Cases	Rate	Cases	Rate
Aitkin	17	105	5	31	Marshall	13	138	1	-
Anoka	1,079	326	154	47	Martin	48	230	1	-
Becker	68	209	11	34	Meeker	47	202	3	-
Beltrami	213	479	27	61	Mille Lacs	49	188	8	31
Benton	140	364	22	57	Morrison	47	142	1	-
Big Stone	9	171	0	-	Mower	117	299	21	54
Blue Earth	304	475	26	41	Murray	8	92	1	-
Brown	57	220	2	-	Nicollet	79	241	7	21
Carlton	91	257	11	31	Nobles	74	346	13	61
Carver	185	203	14	15	Norman	11	161	0	-
Cass	109	382	26	91	Olmsted	575	399	100	69
Chippewa	22	177	2	-	Otter Tail	74	129	15	26
Chisago	136	252	13	24	Pennington	42	302	2	-
Clay	262	444	37	63	Pine	70	235	8	27
Clearwater	14	161	3	-	Pipestone	12	125	0	-
Cook	5	97	3	-	Polk	85	269	12	38
Cottonwood	20	171	4	-	Pope	12	109	0	-
Crow Wing	137	219	18	29	Ramsey	2,995	589	731	144
Dakota	1,343	337	156	39	Red Lake	6	147	1	-
Dodge	29	144	3	-	Redwood	14	87	0	-
Douglas	67	186	1	-	Renville	19	121	0	-
Faribault	29	199	0	-	Rice	150	234	12	19
Fillmore	38	182	2	-	Rock	14	145	0	-
Freeborn	89	285	7	22	Roseau	29	186	2	-
Goodhue	99	214	18	39	St. Louis	741	370	92	46
Grant	12	199	1	-	Scott	351	270	41	32
Hennepin	7,016	609	2,008	174	Sherburne	226	255	34	38
Houston	8	42	1	-	Sibley	26	171	2	-
Hubbard	52	255	2	-	Stearns	529	351	89	59
Isanti	75	198	11	29	Steele	108	295	10	27
Itasca	109	242	18	40	Stevens	14	144	1	-
Jackson	19	185	1	-	Swift	8	82	0	-
Kanabec	41	252	4	-	Todd	40	161	2	-
Kandiyohi	84	199	0	-	Traverse	4	-	0	-
Kittson	3	-	0	-	Wabasha	56	258	4	-
Koochiching	19	143	1	-	Wadena	13	94	0	-
Lac qui Parle	7	96	0	-	Waseca	51	267	5	26
Lake	10	92	0	-	Washington	565	237	62	26
Lake of the Woods	4	-	0	-	Watsonwan	43	384	1	-
Le Sueur	53	191	3	-	Wilkin	5	76	3	-
Lincoln	9	153	0	-	Winona	201	391	7	14
Lyon	34	131	1	-	Wright	289	232	27	22
McLeod	86	235	4	-	Yellow Medicine	17	163	1	-
Mahnomen	47	868	18	333					

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

County data missing for 1,111 chlamydia cases and 139 gonorrhea cases.

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

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