



2010 Minnesota Sexually Transmitted Disease Statistics

Minnesota Department of Health, STD and HIV Section

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Overall Summary

The 2010 Sexually Transmitted Disease (STD) Statistics includes 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 2010 the number of reported bacterial STDs increased to 17,760 cases, representing an overall increase of 5% from the previous year. The change in incidence rates varied by disease, with chlamydia increasing by 6%, primary/secondary syphilis increasing by 110% and gonorrhea decreasing by 9%.

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 any 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.

Minnesota Infertility Prevention Project (MIPP)

Minnesota participates in the national Infertility Prevention Project funded by the CDC. Through MIPP, the MDH funds clinics across the state – including STD, family planning, adolescent, and community clinics – to provide testing and treatment for chlamydia and gonorrhea to men and women ages 15-24. Participating clinics submit to MDH demographic and clinical data on every test performed. With information on positive as well as negative tests, prevalence (or positivity) rates for chlamydia and gonorrhea can be calculated and monitored.

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 may be excluded from the STD surveillance database. 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. Subsequent (2000-2010) rates were calculated using population counts from the 2000 Census, the most recent year for which counts by race, age, gender, and residence were available at the time of calculation and preparation. Essentially, the denominator in rate calculations for 2000-2010 has remained stable while cases have increased. As a result, rates for these years – especially the most recent ones – may be inflated. Furthermore, the 2000 Census data on race include the number of persons by race alone, or in combination with one or more races. Thus, persons who identified themselves by more than one race are overrepresented in the denominators. Data will be updated later in 2011 when intercensal population counts are released and when data for all subpopulations contained within this report are finalized for the 2010 US Census counts.

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 more than doubled to 311 per 100,000 in 2010. Over these years, increases were seen across all gender, age, race and geographical groups. The rates tripled among men (54 to 178 per 100,000) and more than doubled among females (175 to 441 per 100,000). Among 25-39 year-olds, the incidence rate more than tripled. American Indians experienced rate increases of 57%, while rates doubled among Whites, Blacks, and Hispanics and almost tripled among 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 and the addition of an active surveillance component to the MDH's STD surveillance system.

In 2010, the chlamydia rate increased by 6% overall and remained highest among women (441 per 100,000), Blacks (2,186 per 100,000), and 20-24 year-olds (1,800 per 100,000). The rates increased by 7% among males and 6% among females. Although 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 for those over the age of 50 years (40%), and among females for those 40-44 years (19%). Across geographic areas, the City of Minneapolis had the highest incidence rate (815 per 100,000). However, the Suburban area (seven-county metro

excluding the cities of Minneapolis and St. Paul) experienced the greatest increase in chlamydia rates between 2009 and 2010 (12%), followed by Minneapolis (10%), Greater Minnesota (4%), and finally St. Paul (1%). Communities of color showed smaller increases in chlamydia rates than Whites. From 2009 to 2010 Whites saw an increase of 13%, followed by Asian/Pacific Islanders with an increase of 12%, Hispanics with an increase of 8%, and Blacks with an increase of 7%. American Indians showed a 6% decrease during this same time period. Racial disparities in chlamydia continue to persist in Minnesota with the incidence rate among Blacks being 15 times that among Whites. Other racial/ethnic groups are disproportionately affected by chlamydia; incidence rates among American Indians, Asian/Pacific Islanders and Hispanics were 3.3, 2.5, and 4.7 times higher than the rate among Whites, respectively.

Gonorrhea

In 2010, Minnesota experienced the lowest rate of reported gonorrhea ever. From 2000 to 2010, the incidence of gonorrhea in Minnesota decreased from 65 to 43 per 100,000 persons (34%). However, as with chlamydia, the incidence of infection was higher among some segments of the population compared to others. Rates during this decade decreased by 41% among males and 27% among females. The rates also decreased among all racial/ethnic groups, with the largest drops among Blacks and Asians (22% and 48%, respectively). However, during this period Blacks continued to have gonorrhea incidence rates far higher than other race groups.

In 2010 the incidence rate of gonorrhea decreased by 9% from 47 to 43 per 100,000 persons. As with chlamydia, gonorrhea rates were highest among females (50 per 100,000), Blacks (506 per 100,000), and 20-24 year-olds (236 per 100,000). Adolescents and young adults continue to account for a disproportionate amount (65%) of all gonorrhea cases. The Cities of Minneapolis and Saint Paul accounted for the highest rates of infection (195 and 97 cases per 100,000 persons, respectively). However, the greatest decrease from 2009 to 2010 (31%) was seen in St. Paul whereas gonorrhea rates in Minneapolis increased by 3% 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 34 times that among Whites. These racial disparities are also evident among American Indians and Hispanics, whose rates are 3.9 and 3.3 times those of Whites. On a promising note, rates of gonorrhea among American Indian, Hispanic, and Blacks decreased 28%, 18% and 9% respectively from 2009 to 2010 compared to only a 4% decrease among whites during this same time period.

The emergence of *quinolone-resistant Neisseria Gonorrhoea* (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.

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 83 in 2002 to 221 in 2010, with MSM accounting for 89% of all cases among males in 2010. While the disparity in early syphilis rates between males and females has remained large and reflects the greater burden within the MSM community, early syphilis among women showed an increase from 2009 to 2010 as well.

In 2010, the overall incidence rate of primary/secondary syphilis increased from 1.4 to 3.0 cases per 100,000 persons. The number of cases among males nearly doubled from 71 in 2009 to 140 in 2010 while among females, the number increased from 0 to 9. Primary/secondary syphilis cases among MSM, who comprised 89% of male cases in 2010, increased by 98%. Increases in cases were observed across all geographic areas; however the City of Minneapolis remains to account for the majority of cases (54%). The incidence of primary/secondary syphilis infection increased in every age group, except among persons 55 years of age or older, and among those under the age of 15 (no cases of primary/secondary syphilis in this age group in either 2009 or 2010). Cases of primary/secondary syphilis among 30-34 year olds and 15-19 year olds increased by 263% and 250% respectively. Whites comprised the majority (62%) of cases in 2010, but Blacks saw an increase of primary/secondary syphilis of 264% from 2009 to 2010. Also, Blacks comprised 27% of all

primary/secondary syphilis cases in 2010 compared to 15% in 2009, and have a rate of primary/secondary syphilis that is almost 10 times higher than that among Whites.

The number of early syphilis cases also increased in 2010 (221 versus 117 in 2009). The number of cases among women increased from 9 cases in 2009 to 14 cases in 2010 (56%), with 64% of cases at the primary or secondary stage in 2010 compared to 0% in 2009. Early Syphilis cases among men increased from 107 to 208 (94%). Of all early syphilis cases reported in 2010, 94% were among males and 89% of these were MSM. Most (65%) of the MSM cases were White, but a disproportionate number (26%) were Black, representing twice the proportion seen in 2009. Increases were seen among all age groups, with the greatest growth among 55-64 year olds and 20-24 year olds. Over half of all early syphilis cases were residents of Minneapolis.

Chancroid

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

Summary Points

- Over the past decade (2000-2010), Minnesota's chlamydia rate showed an overall increase of 88 % while the rate of gonorrhea has fluctuated but has overall shown a decrease of 34%. Rates of primary/secondary syphilis have increased 831%.
- Minnesota has seen a resurgence in syphilis since 2002, with men who have sex with men being especially impacted.
- Racial disparities in STDs continue to persist in Minnesota with communities of color having the highest rates.
- Between 2009 and 2010, the chlamydia incidence rate increased by 6% while the gonorrhea rate decreased by 9%. Cases of primary/secondary syphilis more than doubled in 2010 compared to 2009, increasing by 110%. The greatest growth was seen among secondary syphilis cases (data not shown).
- In 2010, incidence rates of chlamydia increased by 7% among males and 6% among females; gonorrhea decreased by 16% among males and 3% 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 69% of chlamydia and 65% of gonorrhea cases reported in 2010.
- In 2010, primary/secondary syphilis cases increased by 98% among men who have sex with men, and 264% among Blacks.

**Table 1. Number of Cases and Rates (per 100,000 persons) of
Chlamydia, Gonorrhea, Syphilis, and Chancroid -- Minnesota, 2006 - 2010**

Disease	2006		2007		2008		2009		2010	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Chlamydia	12,975	264	13,480	274	14,414	293	14,370	292	15,294	311
Gonorrhea	3,316	67	3,479	71	3,054	62	2,328	47	2,119	43
All Stages of Syphilis	188	3.8	186	3.8	263	5.3	214	4.4	347	7.1
Primary/Secondary Syphilis	47	1.0	59	1.2	116	2.4	71	1.4	149	3.0
Early Latent Syphilis	58	1.2	55	1.1	47	1.0	46	0.9	72	1.5
Late Latent Syphilis	81	1.6	72	1.5	100	2.0	96	2.0	125	2.0
Other Syphilis ^I	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Congenital Syphilis ^{II}	2	2.8	0	0.0	0	0.0	1	1.4	1	1.4
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 2000 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, 2010

Group	Chlamydia						
	Males		Females		Total		
	Cases	%	Cases	%	Cases	%	Rate
Residence^I							
Minneapolis	1,059	24%	2,059	19%	3,118	20%	815
St. Paul	539	12%	1,458	13%	1,997	13%	695
Suburban ^{II}	1,414	33%	3,733	34%	5,149	34%	261
Greater Minnesota	1,099	25%	3,267	30%	4,366	29%	192
Age							
< 15 yrs	7	0%	108	1%	115	1%	11
15-19 yrs	868	20%	3,899	36%	4,767	31%	1,273
20-24 yrs	1,543	36%	4,261	39%	5,804	38%	1,800
25-29 yrs	933	22%	1,631	15%	2,564	17%	802
30-34 yrs	451	10%	570	5%	1,022	7%	289
35-39 yrs	231	5%	267	2%	498	3%	121
40-44 yrs	129	3%	123	1%	252	2%	61
45-49 yrs	91	2%	51	0%	142	1%	39
50-54 yrs	47	1%	32	0%	80	1%	27
55+ yrs	27	1%	23	0%	50	0%	5
Race/Ethnicity							
White	1,632	38%	4,830	44%	6,463	42%	150
Black	1,480	34%	2,956	27%	4,436	29%	2,186
American Indian	60	1%	330	3%	390	3%	481
Asian/PI	161	4%	451	4%	612	4%	364
Other ^{III, IV}	167	4%	523	5%	691	5%	x
Unknown ^{IV}	827	19%	1,875	17%	2,702	18%	x
Hispanic ^V	266	6%	714	7%	980	6%	683
Total	4,327	100%	10,965	100%	15,294	100%	311

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

U.S. Census 2000 data is used to calculate rates.

^I Residence missing for 664 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.

Table 2b. Number of Cases and Rates (per 100,000 persons) of Gonorrhea by Residence, Age, Race/Ethnicity and Gender-- Minnesota, 2010

Group	Gonorrhea						
	Males		Females		Total ^I		
	Cases	%	Cases	%	Cases	%	Rate
Residence^{II}							
Minneapolis	353	41%	392	31%	745	35%	195
St. Paul	110	13%	168	13%	278	13%	97
Suburban ^{III}	240	28%	375	30%	615	29%	31
Greater Minnesota	133	15%	251	20%	384	18%	17
Age							
< 15 yrs	2	0%	17	1%	19	1%	2
15-19 yrs	163	19%	451	36%	614	29%	164
20-24 yrs	294	34%	466	37%	760	36%	236
25-29 yrs	168	19%	182	15%	350	17%	109
30-34 yrs	89	10%	64	5%	153	7%	43
35-39 yrs	66	8%	35	3%	101	5%	24
40-44 yrs	43	5%	21	2%	64	3%	16
45-49 yrs	25	3%	8	1%	33	2%	9
50-54 yrs	14	2%	3	0%	17	1%	6
55+ yrs	7	1%	1	0%	8	0%	1
Race/Ethnicity							
White	277	32%	384	31%	661	31%	15
Black	428	49%	599	48%	1,027	48%	506
American Indian	12	1%	35	3%	47	2%	58
Asian/PI	9	1%	19	2%	28	1%	17
Other ^{IV,V}	42	5%	71	6%	113	5%	x
Unknown ^V	103	12%	140	11%	243	11%	x
Hispanic ^{VI}	33	4%	37	3%	70	3%	49
Total	871	100%	1,248	100%	2,119	100%	43

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

U.S. Census 2000 data is used to calculate rates.

^I Total includes 1 cases of gonorrhea diagnosed in transgendered persons.

^{II} Residence missing for 97 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, 2010

Group	Primary & Secondary Syphilis						
	Males		Females		Total		
	Cases	%	Cases	%	Cases	%	Rate
Residence							
Minneapolis	78	53%	3	0%	81	54%	21.2
St. Paul	17	12%	1	0%	18	12%	6.3
Suburban ¹	38	26%	1	0%	39	26%	2.0
Greater Minnesota	7	5%	4	0%	11	7%	0.5
Age							
< 15 yrs	0	0%	0	0%	0	0%	0.0
15-19 yrs	6	4%	1	0%	7	5%	1.9
20-24 yrs	33	23%	1	0%	34	23%	10.5
25-29 yrs	17	12%	1	0%	18	12%	5.6
30-34 yrs	27	18%	2	0%	29	19%	8.2
35-39 yrs	19	13%	1	0%	14	9%	3.4
40-44 yrs	13	9%	1	0%	14	9%	3.4
45-49 yrs	14	10%	1	0%	15	10%	4.1
50-54 yrs	9	6%	1	0%	10	7%	3.3
55+ yrs	8	5%	0	0%	8	5%	0.8
Race/Ethnicity							
White	87	60%	6	0%	93	62%	2.2
Black	37	25%	3	0%	40	27%	19.7
American Indian	1	1%	0	0%	1	1%	1.2
Asian/PI	1	1%	0	0%	1	1%	0.6
Other ^{2, 3}	14	10%	0	0%	14	9%	x
Unknown ³	0	0%	0	0%	0	0%	x
Hispanic ⁴	12	8%	0	0%	0	0%	0.0
Total	146	100%	9	0%	149	100%	3.0

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

U.S. Census 2000 data is used to calculate rates.

¹ 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).

² Includes persons reported with more than one race.

³ No comparable population data available to calculate rates.

⁴ 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, 2010

County	Chlamydia		Gonorrhea		County	Chlamydia		Gonorrhea	
	Cases	Rate	Cases	Rate		Cases	Rate	Cases	Rate
Aitkin	9	59	0	-	Marshall	7	69	0	-
Anoka	910	305	87	29	Martin	20	92	1	-
Becker	30	100	2	-	Meeker	25	110	2	-
Beltrami	143	361	24	61	Mille Lacs	52	233	0	-
Benton	42	123	6	18	Morrison	35	110	2	-
Big Stone	3	-	0	-	Mower	102	264	11	28
Blue Earth	243	434	15	27	Murray	3	-	0	-
Brown	36	134	1	-	Nicollet	35	118	2	-
Carlton	57	180	4	-	Nobles	45	216	0	-
Carver	87	124	5	7	Norman	3	-	0	-
Cass	74	273	12	44	Olmsted	435	350	57	46
Chippewa	15	115	3	-	Otter Tail	51	89	3	-
Chisago	95	231	1	-	Pennington	15	110	0	-
Clay	131	256	11	21	Pine	37	139	0	-
Clearwater	5	59	0	-	Pipestone	4	-	0	-
Cook	7	135	0	-	Polk	40	128	5	16
Cottonwood	15	123	0	-	Pope	8	71	0	-
Crow Wing	113	205	11	20	Ramsey	2481	485	339	66
Dakota	949	267	89	25	Red Lake	4	-	2	-
Dodge	35	197	1	-	Redwood	12	71	1	-
Douglas	36	110	1	-	Renville	32	187	7	41
Faribault	13	80	0	-	Rice	86	152	4	-
Fillmore	38	180	6	28	Rock	9	93	0	-
Freeborn	92	282	8	25	Roseau	23	141	3	-
Goodhue	90	204	3	-	St. Louis	501	250	34	17
Grant	8	127	0	-	Scott	205	229	15	17
Hennepin	5242	470	1073	96	Sherburne	112	174	3	-
Houston	22	112	2	-	Sibley	15	98	0	-
Hubbard	15	82	0	-	Stearns	368	276	58	44
Isanti	40	128	2	-	Steele	71	211	8	24
Itasca	54	123	9	20	Stevens	10	99	0	-
Jackson	5	44	0	-	Swift	10	84	3	-
Kanabec	22	147	1	-	Todd	19	78	0	-
Kandiyohi	93	226	10	24	Traverse	3	-	0	-
Kittson	2	-	0	-	Wabasha	52	241	1	-
Koochiching	13	91	3	-	Wadena	5	36	0	-
Lac qui Parle	2	-	1	-	Waseca	27	138	2	-
Lake	12	109	0	-	Washington	390	194	30	15
Lake of the Woods	6	133	0	-	Watsonwan	22	185	1	-
Le Sueur	38	149	5	20	Wilkin	4	-	0	-
Lincoln	2	-	0	-	Winona	108	216	10	20
Lyon	43	169	5	20	Wright	184	204	11	12
McLeod	52	149	4	-	Yellow Medicine	12	108	1	-
Mahnomen	9	173	1	-					

Note: Data exclude cases diagnosed in federal or private correctional facilities.
County data missing for 664 chlamydia cases and 97 gonorrhea cases.

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

U.S. Census 2000 data is used to calculate rates.