



## 2009 Minnesota Sexually Transmitted Disease Statistics

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### Overall Summary

The 2009 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 over 60% of all notifiable diseases reported to the Minnesota Department of Health (MDH). In 2009 the number of reported bacterial STDs declined to 16,702 cases reported, representing an overall decrease of 5.8% from the previous year. The change in incidence rates varied by disease, with chlamydia decreasing by 2%, primary/secondary syphilis decreasing by 39%, and gonorrhea decreasing by 24%.

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>

#### *Tables included in this report:*

**Table 1.** Number of Cases and Rates (per 100,000 persons) of Chlamydia, Gonorrhea, Syphilis (All Stages) and Chancroid— Minnesota, 2005-2009

**Table 2a.** Chlamydia: Number of Cases and Rates (per 100,000 persons) by Residence, Age, Race/Ethnicity and Gender— Minnesota, 2009

**Table 2b.** Gonorrhea: Number of Cases and Rates (per 100,000 persons) by Residence, Age, Race/Ethnicity and Gender— Minnesota, 2009

**Table 2c.** Primary/Secondary Syphilis: Number of Cases and Rates (per 100,000 persons) by Residence, Age, Race/Ethnicity and Gender— Minnesota, 2009

**Table 3.** Number of Chlamydia and Gonorrhea Cases and Rates (per 100,000 persons) by County— Minnesota, 2009

### 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 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 (2000-2009) 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. Essentially, the denominator in rate calculations for 2000-2009 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.

### **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 288 per 100,000 in 2009. Over these years, increases were seen across all gender, age, race and geographical groups. The rates tripled among men (54 to 162 per 100,000) and more than doubled among females (175 to 410 per 100,000). Among 25-39 year-olds, the incidence rate more than tripled. Blacks and American Indians experienced rate increases of 45% and 40%, respectively, while rates doubled among Whites 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 2009, the chlamydia rate decreased modestly by 2% overall and remained highest among women (410 per 100,000), Blacks (2,038 per 100,000), and 20-24 year-olds (1,652 per 100,000). The rates decreased slightly by 3% among males and 1% 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 increased the most among 40-44 year-olds (17%). Across geographic areas, the City of Minneapolis had the highest incidence rate (741 per 100,000), but experienced the greatest decrease in chlamydia rates between 2008 and 2009 (6%). Chlamydia cases showed a modest increase only in suburban areas in 2009 (1%). Communities of color showed larger decreases in chlamydia rates than whites (range, 5-15%), while Whites saw a smaller 3% decrease. However, racial disparities in chlamydia continue to persist in Minnesota with the incidence rate among Blacks being 16 times

that among Whites. Other racial/ethnic groups are disproportionately affected by chlamydia; incidence rates among American Indians, Asian/Pacific Islanders and Hispanics were 4.0, 2.5, and 4.9 times higher than the rate among Whites, respectively.

### **Gonorrhea**

In 2009, Minnesota experienced the lowest rate of reported gonorrhea ever. From 1999 to 2009, the incidence of gonorrhea in Minnesota decreased from 58 to 47 per 100,000 persons. However, as with chlamydia, the incidence of infection was higher among some segments of the population compared to others. The rates decreased by 26% among males and 24% among females. The rates 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 2009 the incidence rate of gonorrhea decreased by 24% from 62 to 47 per 100,000 persons. As with chlamydia, gonorrhea rates were highest among females (51 per 100,000), Blacks (546 per 100,000), and 20-24 year-olds (237 per 100,000). Adolescents and young adults continue to account for a disproportionate amount (60%) of all gonorrhea cases. The Cities of Minneapolis and Saint Paul accounted for the highest rates of infection (188 and 141 cases per 100,000 persons, respectively). Compared to chlamydia, greater racial disparities in gonorrhea infections continue to persist in Minnesota with an incidence rate among Blacks being 36 times that among Whites. These racial disparities are also evident among American Indians and Hispanics, whose rates are 5.3 and 3.8 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.

### **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 117 in 2009, with MSM accounting for 91% of all cases among males in 2009. Meanwhile, early syphilis among women showed a slight decrease from 12 cases in 2002 to 9 cases in 2009. Therefore, the disparity in early syphilis rates between males and females has remains large and reflects the greater burden within the MSM community.

In 2009, the overall incidence rate of primary/secondary syphilis decreased from 2.4 to 1.4 cases per 100,000 persons. The number of cases among males decreased from 111 in 2008 to 71 in 2009 while among females, the number decreased from 5 to 0. Primary/secondary syphilis cases among MSM, who comprised 89% of male cases in 2009, decreased by 37%. Decreases in cases were observed across all geographic areas; however the City of Minneapolis remains to account for majority of cases (54%). The incidence of primary/secondary syphilis infection decreased in every age group, except among 35-39 year olds. Whites comprised the majority (75%) of cases in 2009, but African Americans still have a rate of primary/secondary syphilis that is almost 5 times higher than that among Whites.

The number of early syphilis cases also increased in 2009 (117 versus 163 in 2008). The number of cases among women increased slightly (from 5 to 9), while cases among men decreased from 157 to 106 (32%). Of all cases reported, 91% were among males and 91% of these were MSM. Most (76%) of the MSM cases were White, but a disproportionate number (13%) were Black. Over half were residents of Minneapolis. Among all early syphilis cases, the largest decrease in a single age group was among persons 20-24 years old (33 cases in 2008; 15 cases in 2009).

### **Chancroid**

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

## **Summary Points**

- Over the past decade (1999-2009), Minnesota's chlamydia rate showed an overall increase of 88% while the rate of gonorrhea fluctuated but increased slightly.
- 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 2008 and 2009, the chlamydia incidence rate decreased modestly by 1% while the gonorrhea rate decreased by 24%. Cases of primary/secondary syphilis also decreased among males (89% of whom were men who have sex with men); no female primary/secondary cases were reported in 2009.
- In 2009, incidence rates of chlamydia decreased by 3% among males and 1% among females; gonorrhea decreased by 26% among males and 24% among females.
- STD rates continue to be highest in the City of Minneapolis. However, the Twin Cities suburbs and Greater Minnesota account for a large percentage of STD cases.
- Adolescents and young adults (ages 15-24) accounted for 69% of chlamydia and 60% of gonorrhea cases reported in 2009.
- In 2009, primary/secondary syphilis cases decreased by 37% among men who have sex with men.

**Table 1. Number of Cases and Rates (per 100,000 persons) of  
Chlamydia, Gonorrhea, Syphilis, and Chancroid -- Minnesota, 2005 - 2009**

Disease	2005		2006		2007		2008		2009	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Chlamydia	12,355	251	12,975	264	13,480	274	14,414	293	14,186	288
Gonorrhea	3,505	71	3,316	67	3,479	71	3,054	62	2,302	47
All Stages of Syphilis	210	4.3	188	3.8	186	3.8	263	5.3	214	4.4
Primary/Secondary Syphilis	71	1.4	47	1.0	59	1.2	116	2.4	71	1.4
Early Latent Syphilis	48	1.0	58	1.2	55	1.1	47	1.0	46	0.9
Late Latent Syphilis	88	1.8	81	1.6	72	1.5	100	2.0	96	2.0
Other Syphilis <sup>I</sup>	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Congenital Syphilis <sup>II</sup>	2	2.8	2	2.8	0	0.0	0	0.0	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.

<sup>I</sup>Includes unstaged neurosyphilis, latent syphilis of unknown duration, and late syphilis with clinical manifestations.

<sup>II</sup> 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, 2009**

Group	Chlamydia						
	Males		Females		Total		
	Cases	%	Cases	%	Cases	%	Rate
<b>Residence<sup>I</sup></b>							
Minneapolis	941	24%	1,893	19%	2,834	20%	741
St. Paul	557	14%	1,415	14%	1,972	14%	687
Suburban <sup>II</sup>	1,284	32%	3,305	32%	4,589	32%	233
Greater Minnesota	1,034	26%	3,176	31%	4,210	30%	185
<b>Age</b>							
< 15 yrs	13	0%	133	1%	146	1%	14
15-19 yrs	850	21%	3,628	36%	4,478	32%	1,196
20-24 yrs	1,464	37%	3,862	38%	5,326	38%	1,652
25-29 yrs	825	21%	1,514	15%	2,339	16%	731
30-34 yrs	367	9%	602	6%	969	7%	274
35-39 yrs	220	6%	243	2%	463	3%	112
40-44 yrs	124	3%	103	1%	227	2%	55
45-49 yrs	76	2%	57	1%	133	1%	37
50-54 yrs	28	1%	32	0%	60	0%	20
55+ yrs	25	1%	20	0%	45	0%	5
<b>Race/Ethnicity</b>							
White	1,385	35%	4,335	43%	5,720	40%	132
Black	1,480	37%	2,656	26%	4,136	29%	2,038
American Indian	54	1%	360	4%	414	3%	511
Asian/PI	124	3%	422	4%	546	4%	324
Other <sup>III, IV</sup>	124	3%	483	5%	607	4%	x
Unknown <sup>IV</sup>	825	21%	1,938	19%	2,763	19%	x
Hispanic <sup>V, VI</sup>	275	7%	632	6%	907	6%	633
<b>Total</b>	<b>3,992</b>	<b>100%</b>	<b>10,194</b>	<b>100%</b>	<b>14,186</b>	<b>100%</b>	<b>288</b>

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

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

<sup>I</sup> Residence missing for 581 cases of chlamydia.

<sup>II</sup> 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).

<sup>III</sup> Includes persons reported with more than one race.

<sup>IV</sup> No comparable population data available to calculate rates.

<sup>V</sup> Persons of Hispanic origin may be of any race.

<sup>VI</sup> Ethnicity missing for one case of chlamydia.

**Table 2b. Number of Cases and Rates (per 100,000 persons) of Gonorrhea by Residence, Age, Race/Ethnicity and Gender-- Minnesota, 2009**

Group	Gonorrhea						
	Males		Females		Total <sup>I</sup>		
	Cases	%	Cases	%	Cases	%	Rate
<b>Residence<sup>II</sup></b>							
Minneapolis	392	38%	329	26%	721	31%	188
St. Paul	176	17%	228	18%	404	18%	141
Suburban <sup>III</sup>	288	28%	350	28%	639	28%	32
Greater Minnesota	140	14%	305	24%	445	19%	20
<b>Age</b>							
< 15 yrs	1	0%	19	1%	20	1%	2
15-19 yrs	183	18%	427	34%	610	26%	163
20-24 yrs	313	30%	450	35%	764	33%	237
25-29 yrs	214	21%	213	17%	427	19%	134
30-34 yrs	120	12%	97	8%	217	9%	61
35-39 yrs	83	8%	28	2%	111	5%	27
40-44 yrs	38	4%	20	2%	58	3%	14
45-49 yrs	56	5%	9	1%	65	3%	18
50-54 yrs	17	2%	5	0%	22	1%	7
55+ yrs	7	1%	1	0%	8	0%	1
<b>Race/Ethnicity</b>							
White	296	29%	377	30%	673	29%	16
Black	537	52%	570	45%	1,108	48%	546
American Indian	8	1%	57	4%	65	3%	80
Asian/PI	13	1%	13	1%	26	1%	15
Other <sup>IV,V</sup>	35	3%	65	5%	100	4%	x
Unknown <sup>V</sup>	143	14%	187	15%	330	14%	x
Hispanic <sup>VI</sup>	42	4%	41	3%	83	4%	58
<b>Total</b>	<b>1,032</b>	<b>100%</b>	<b>1,269</b>	<b>100%</b>	<b>2,302</b>	<b>100%</b>	<b>47</b>

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

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

<sup>I</sup> Total includes 1 case of gonorrhea diagnosed in transgendered person.

<sup>II</sup> Residence missing for 93 cases of gonorrhea.

<sup>III</sup> 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).

<sup>IV</sup> Includes persons reported with more than one race.

<sup>V</sup> No comparable population data available to calculate rates.

<sup>VI</sup> 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, 2009**

Group	Primary & Secondary Syphilis						
	Males		Females		Total		
	Cases	%	Cases	%	Cases	%	Rate
<b>Residence</b>							
Minneapolis	38	54%	0	0%	38	54%	9.9
St. Paul	10	14%	0	0%	10	14%	3.5
Suburban <sup>1</sup>	18	25%	0	0%	18	25%	0.9
Greater Minnesota	5	7%	0	0%	5	7%	0.2
<b>Age</b>							
< 15 yrs	0	0%	0	0%	0	0%	0.0
15-19 yrs	2	3%	0	0%	2	3%	0.5
20-24 yrs	12	17%	0	0%	12	17%	3.7
25-29 yrs	11	15%	0	0%	11	15%	3.4
30-34 yrs	8	11%	0	0%	8	11%	2.3
35-39 yrs	12	17%	0	0%	12	17%	2.9
40-44 yrs	12	17%	0	0%	12	17%	2.9
45-49 yrs	6	8%	0	0%	6	8%	1.6
50-54 yrs	4	6%	0	0%	4	6%	1.3
55+ yrs	8	11%	0	0%	8	11%	0.8
<b>Race/Ethnicity</b>							
White	53	75%	0	0%	53	75%	1.2
Black	11	15%	0	0%	11	15%	5.4
American Indian	1	1%	0	0%	1	1%	1.2
Asian/PI	0	0%	0	0%	0	0%	0.0
Other <sup>11, 111</sup>	6	8%	0	0%	6	8%	x
Unknown <sup>111</sup>	0	0%	0	0%	0	0%	x
Hispanic <sup>1V</sup>	6	8%	0	0%	6	8%	4.2
<b>Total</b>	<b>71</b>	<b>100%</b>	<b>0</b>	<b>0%</b>	<b>71</b>	<b>100%</b>	<b>1.4</b>

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

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

<sup>1</sup> 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).

<sup>11</sup> Includes persons reported with more than one race.

<sup>111</sup> No comparable population data available to calculate rates.

<sup>1V</sup> Persons of Hispanic origin may be of any race.



**Table 3. Number of Cases and Rates<sup>1</sup> (per 100,000 persons) of Chlamydia and Gonorrhea by County of Residence -- Minnesota, 2009**

County	Chlamydia		Gonorrhea		County	Chlamydia		Gonorrhea	
	Cases	Rate	Cases	Rate		Cases	Rate	Cases	Rate
Aitkin	19	124	0	-	Marshall	6	59	1	-
Anoka	730	245	79	27	Martin	14	64	3	-
Becker	43	143	4	-	Meeker	22	97	1	-
Beltrami	144	363	28	71	Mille Lacs	50	224	2	-
Benton	44	129	7	20	Morrison	28	88	3	-
Big Stone	6	103	0	-	Mower	105	272	17	44
Blue Earth	238	425	22	39	Murray	7	76	0	-
Brown	39	145	2	-	Nicollet	36	121	5	17
Carlton	60	189	2	-	Nobles	62	298	2	-
Carver	105	150	8	11	Norman	9	121	0	-
Cass	52	192	5	18	Olmsted	389	313	88	71
Chippewa	17	130	5	38	Otter Tail	52	91	3	-
Chisago	71	173	5	12	Pennington	33	243	0	-
Clay	134	262	13	25	Pine	41	155	1	-
Clearwater	16	190	1	-	Pipestone	4	-	0	-
Cook	2	-	0	-	Polk	38	121	2	-
Cottonwood	16	132	2	-	Pope	9	80	1	-
Crow Wing	111	201	6	11	Ramsey	2393	468	472	92
Dakota	883	248	91	26	Red Lake	6	140	0	-
Dodge	40	226	7	39	Redwood	19	113	2	-
Douglas	27	82	3	-	Renville	28	163	1	-
Faribault	21	130	0	-	Rice	119	210	3	-
Fillmore	24	114	3	-	Rock	8	82	0	-
Freeborn	76	233	7	21	Roseau	23	141	4	-
Goodhue	70	159	4	-	St. Louis	475	237	47	23
Grant	4	-	0	-	Scott	183	204	16	18
Hennepin	4737	424	1050	94	Sherburne	97	151	9	14
Houston	23	117	0	-	Sibley	9	59	1	-
Hubbard	21	114	2	-	Stearns	324	243	51	38
Isanti	30	96	1	-	Steele	62	184	2	-
Itasca	54	123	11	25	Stevens	4	-	0	-
Jackson	11	98	0	-	Swift	10	84	2	-
Kanabec	26	173	3	-	Todd	14	57	0	-
Kandiyohi	114	277	6	15	Traverse	1	-	0	-
Kittson	2	-	0	-	Wabasha	48	222	2	-
Koochiching	11	77	0	-	Wadena	17	124	1	-
Lac qui Parle	6	74	2	-	Waseca	34	174	1	-
Lake	13	118	1	-	Washington	364	181	48	24
Lake of the Woods	3	-	1	-	Watsonwan	19	160	1	-
Le Sueur	34	134	2	-	Wilkin	4	-	0	-
Lincoln	1	-	0	-	Winona	82	164	7	14
Lyon	48	189	9	35	Wright	169	188	10	11
McLeod	35	100	2	-	Yellow Medicine	10	90	4	-
Mahnomen	17	328	2	-					

Note: Data exclude cases diagnosed in federal or private correctional facilities.  
County data missing for 581 chlamydia cases and 93 gonorrhea cases.

<sup>1</sup> Rates not calculated for counties with fewer than 5 cases.

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