2006 Minnesota Sexually Transmitted Disease Statistics

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Overall Summary:

The 2006 Sexually Transmitted Disease (STD) Statistics includes summary of surveillance data for Minnesota's reportable STDs, chlamydia, gonorrhea, syphilis, and chancroid. In Minnesota, sexually transmitted diseases 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 2006 the number of reported bacterial sexually transmitted diseases reached their highest level ever with 16,428 cases reported. This represents an overall increase of two percent from the previous year and is part of a continued trend observed over the past ten years. In 2006, the change in incidence rate varied by disease, with chlamydia rates increasing by 5percent and gonorrhea and primary/secondary syphilis decreasing by 6 and 34 percent, respectively.

The 2006 STD surveillance data provides a comprehensive view of STD trends and current morbidity in Minnesota; a more detailed summary of data is available in a slide presentation at: http://www.health.state.mn.us/divs/idepc/dtopics/stds/stdstatistics.html

List of tables included in this report:

Sources of Data:

STD Case Reporting

In Minnesota, laboratory-confirmed infections of chlamydia, gonorrhea, syphilis, and chancroid are monitored by the MDH through a combined physician and laboratory-based surveillance system. State law (Minnesota Rule 4605.7040) requires both physicians and laboratories to report diagnosed cases for these four bacterial STDs directly to the MDH. Other common sexually transmitted conditions such as herpes simplex virus (HSV) and human papillomavirus (HPV) are not reported to the MDH.

Partner Services Program

All early syphilis cases reported to the MDH are referred to the Partner Services Program for a follow up to conduct medical evaluation and 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), the MDH collects antimicrobial resistance data on *Neisseria Gonorrhea* to monitor changes in trend overtime. The MDH collaborates with two STD clinics, Red Door Clinic in Minneapolis and Room 111 in Saint Paul, to submit gonococcal isolates on a

monthly basis. Additional data including socio-demographic, sexual behavioral, and drug use among patients selected are also submitted to the MDH on a monthly basis.

Minnesota Infertility Prevention Project (MIPP)
Minnesota participates in the national Infertility Prevention Project (IPP) funded by Centers for Disease Control and Prevention (CDC) to monitor the prevalence of chlamydia trachomatis in a select age group. The MDH funds clinics across MN, including STD, family planning, adolescent, and community clinics that screen15 to 24 year olds for chlamydia and gonorrhea. Data collected by all participating clinics in Minnesota is reported to the MDH and include socio-demographic data as well as number and results of all tests performed.

Limitations of Data:

Several factors impact the completeness and accuracy of 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 statistics. Majority of laboratory case reports originate from laboratories that do not routinely collect demographic and clinical information required for STD surveillance. In 2002, the MDH implemented a process by which providers are actively reminded to submit demographic and clinical information missing from cases reported solely through laboratories. Additional factors affecting validity of the STD surveillance data include: level of STD screening, 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/population) were calculated using yearly case data and population counts from the 2000 census. Population counts for 1991 to 1999 were estimated by interpolation between the 1990 and 2000 census data. 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 "over counted" in the denominators.

Chlamydia:

Chlamydia is the most commonly reported communicable disease in Minnesota. Between 1996 and 2006, the incidence of chlamydia in Minnesota has more than doubled from 115 to 263 per 100,000 persons. In this same time period, increases were seen across all gender, geographical areas, age and race groups. The rates almost tripled among men (54 to 152 per 100,000 persons) and more than doubled among females (175 to 372 per 100,000 persons). Among 25 to 29 year olds, the incidence rate increased from 214 to 723 per 100,000 persons. In addition, the incidence rates doubled among whites, Hispanics and Pacific Islanders and increased by 61% and 67% among blacks and American Indians, respectively. In addition to an increase of disease in the population, other factors may have contributed to the increases seen over the past 10 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 2006, the overall incidence rates of chlamydia increased by 5% and were highest among women (372 per 100,000), blacks (1,778 per 100,000), and 20 to 24 year olds (1,549 per 100,000). The rates increased by 8% among males and 3% among females. Among adolescents (15-19 year olds) and young adults (20 to 24 year olds), the rates increased by 3% and 2%, respectively. Greatest increase across age groups was seen among 25-29 year olds where the incidence rates increased by 15% (628 to 723 per 100,000 persons). Across geographic areas, the City of Minneapolis had the highest incidence rate (717 per 100,000), but the greatest increases in 2006 were seen in Saint Paul (11%) and the Suburban counties (9%). Although rates increased across all race groups with the exception of American Indians, highest increases were seen among blacks (12%) and Hispanics (8%). Thus, racial disparities continue to persist in Minnesota with the incidence of chlamydia among blacks

being 15 times that among whites. Disparities are also evident among other racial/ethnic groups compared to whites; incidence rates among American Indians, Asian/Pacific Islanders and Hispanics were 4, 3, and 6 times higher than the rate among whites, respectively.

Gonorrhea:

In ten years, the overall incidence of gonorrhea in Minnesota increased steadily from 56 per 100,000 persons in 1996 to 67 per 100,000 persons in 2006. As with chlamydia, the incidence of infection was higher among some populations compared to others. The rates increased by 11% among males and 28% among females. Across age groups, the rates increased by 41% among 20 to 24 year olds and 58% among 25 to 29 year olds. The overall rates also increased among all race groups except blacks with 29%, 44%, 53%, and 41% increase seen among whites, American Indians, Asians/Pacific Islanders and Hispanics, respectively. During this period, blacks continued to have the highest gonorrhea incidence rates compared to other race groups.

In 2006 the incidence rate of gonorrhea decreased by 6% from 71 per 100,000 persons to 67 per 100,000 persons. As with chlamydia, gonorrhea rates were highest among females (73 per 100,000), blacks (842 per 100,000), and 20 to 24 years olds (325 per 100,000). The rates decreased by 6% among both males and females. Among adolescents (15 to 19 year olds) and young adults (20-24 year olds), the rates increased by 1%. Although the Cities of Minneapolis and Saint Paul accounted for the highest rates of infection, incidence rates decreased across all geographic areas; the greatest decrease was seen in Greater Minnesota where the rates decreased by 15%. Compared to Chlamydia, greater racial disparities in gonococcal infections continue to persist in Minnesota with an incidence rate among blacks being 47 times that among whites. These racial disparities are also evident among other racial/ethnic minorities where the incidence rates among American Indian, Asian/Pacific Islander, and Hispanics are 7, 1.5, and 6 times greater than whites, respectively.

Although the overall incidence of gonorrhea infection in Minnesota remained stable over the past ten years, the emergence of *quinolone-resistant Neisseria Gonorrhea* (QRNG) has become a particular concern. The first QRNG isolates were identified in 2002 when 4 of the 268 isolates tested through the Gonococcal Isolate Surveillance Project (GISP) were resistant to Ciprofloxacin. Subsequently, the overall prevalence of QRNG increased from 1.5% in 2002 to 5.8% in 2006. Between 2005 and 2006, the prevalence of QRNG decreased by 1%. In 2006, all QRNG cases identified were male, 68% were white and 68% were 29 years old or younger. In addition, 89% of the cases were among gay/bisexual males with a QRNG prevalence of 27% compared to a prevalence of 0.8% among heterosexuals. Thus, sexual behavior continues to be an important risk factor that drives the overall prevalence of QRNG in Minnesota.

Primary and Secondary Syphilis:

Since 1996 the incidence rates of primary/secondary syphilis in Minnesota remained stable until 2002 when an outbreak was observed among gay/bisexual males and the overall rate increased from 0.7 to 1.2 per 100,000 persons. Subsequently, the rates decreased to 0.5 per 100,000 persons in 2004 and in 2005, once again the rates increased and almost tripled from 0.5 to 1.4 per 100,000 persons. In addition, the number of early syphilis cases (primary, secondary, and early latent stages) increased from 48 in 2004 to 115 in 2005. Gay/bisexual males accounted for majority (92%) of cases among males. During this time period, the disparity between males and females continued and demonstrated that the incidence of syphilis in Minnesota was primarily driven by gay/bisexual males.

In 2006, the overall incidence rate of primary/secondary syphilis decreased from 1.4 to 1.0 per 100,000 persons. The number of cases among males decreased from 68 in 2005 to 43 in 2006 while among females, the number increased from 2 to 4 cases. Decreases in cases were observed across all geographic areas, however compared to other areas, the City of Minneapolis remains to account for majority of cases (62%). The incidence of primary/secondary syphilis infection also decreased across most age groups with the greatest decrease seen among 40-49 year olds, from 20 cases in 2005 to 11 in 2006. Although the incidence of primary/secondary syphilis decreased across all racial groups, whites continued to account for most cases (73%) reported in 2006.

The overall number of early syphilis cases also decreased in 2006, however, the number of early latent cases increased by 23%. The incidence doubled among women and decreased by 18% among males. Of all cases

reported, 88% were among males and 89% of these were gay/bisexual males. 78% of all gay/bisexual males were white and 55% were between the ages of 25 and 39 years old with a mean age of 34. In addition, 76% of them lived in Hennepin County and 65% in the City of Minneapolis.

Summary Points:

- Between 2005 and 2006, the incidence rates of chlamydia increased by 5%; gonorrhea and primary/secondary syphilis rates decreased by 6% and 34%, respectively.
- The incidence rates of chlamydia increased by 8% among males and 3% among females; gonorrhea rates decreased by 6% both among males and females.
- Although STD rates continue to be highest in the City of Minneapolis, the highest increase of chalmydia rates were seen in Saint Paul (11%) and the Suburban Counties (9%).
- STD racial disparities continue to persist in Minnesota with highest rates being reported among persons of color.
- Adolescents and young adults accounted for 69% of chlamydia and 56% of gonorrhea cases reported in 2006.
- While the overall number of early syphilis cases decreased in 2006, the number of early latent cases increased by 23%. The incidence doubled among women and decreased by 18% among males.
- Gay/bisexual males continue to drive the incidence of syphilis in Minnesota and accounted for 89% of all early syphilis cases reported among males.
- In 2006, the overall prevalence of *quinolone-resistant Neisseria Gonorrhea* (QRNG) decreased by 1%; 89% of the cases were among gay/bisexual males with a QRNG prevalence of 27%; among heterosexuals, the overall QRNG prevalence was 0.8%.

Table 1. Number of Cases and Rates (per 100,000 persons) of Chlamydia, Gonorrhea, Syphilis, and Chancroid -- Minnesota, 2002 - 2006

	2002		2003		2004		2005		2006	
Disease	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Chlamydia	10,118	206	10,803	220	11,647	237	12,359	251	12935	263
Gonorrhea	3,050	62	3,237	66	2,975	60	3,504	71	3303	67
All Stages of Syphilis	149	3.0	198	4.0	148	3.0	210	4.3	190	3.9
Primary/Secondary Syphilis	59	1.2	48	1.0	27	0.5	71	1.4	47	1.0
Early Latent Syphilis	23	0.5	45	0.9	21	0.4	47	1.0	58	1.2
Late Latent Syphilis	64	1.3	101	2.1	95	1.9	85	1.7	79	1.6
Other Syphilis[I]	2	0.0	4	0.1	4	0.1	5	0.1	4	0.1
Congenital Syphilis[II]	1	1.5	0	0.0	1	1.4	2	2.8	2	2.8
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

[I]Includes neurosyphilis and unknown latent stages of syphilis

[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, 2006

	Chlamydia						
	Males		Females		Total[I]		
Group	Cases	%	Cases	%	Cases	%	Rate
Residence [II]							
Minneapolis	997	27%	1,866	20%	2,863	22%	*748*
St. Paul	573	16%	1,353	15%	1,926	15%	*671*
Suburban[III]	1,124	30%	2,901	31%	4,026	31%	*204*
Greater Minnesota	842	23%	2,752	30%	3,595	28%	*158*
Age							
< 15 yrs	20	1%	109	1%	129	1%	*12*
15-19 yrs	666	18%	3,195	35%	3,862	30%	*1032*
20-24 yrs	1,354	37%	3,642	39%	4,996	39%	*1549*
25-29 yrs	879	24%	1,432	15%	2,312	18%	*723*
30-34 yrs	376	10%	490	5%	866	7%	*245*
35-39 yrs	172	5%	208	2%	380	3%	*92*
40-44 yrs	105	3%	96	1%	201	2%	*49*
45-49 yrs	75	2%	38	0%	113	1%	*31*
50-54 yrs	23	1%	22	0%	45	0%	*15*
55+ yrs	21	1%	10	0%	31	0%	*3*
Race /Ethnicity							
White	1,308	35%	4,121	45%	5,430	42%	*126*
Black	1,360	37%	2,248	24%	3,609	28%	*1778*
American Indian	58	2%	357	4%	415	3%	*512*
Asian/PI	116	3%	389	4%	505	4%	*300*
Other[IV, V]	116	3%	387	4%	503	4%	*x*
Unknown[V]	737	20%	1,737	19%	2,474	19%	*x*
Hispanic[VI]	325	9%	672	7%	997	8%	*695*
Total	3,691	100%	9,242	100%	12,935	100%	*263*

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

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

[I] Total includes 2 cases of chlamydia diagnosed in transgendered persons

[II] Residence missing for 525 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, 2006

	Gonorrhea						
	Males		Females		Total		
Group	Cases	%	Cases	%	Cases	%	Rate
Residence [I]							
Minneapolis	665	45%	602	33%	1,267	38%	*331*
St. Paul	279	19%	365	20%	644	19%	*224*
Suburban[II]	337	23%	493	27%	830	25%	*42*
Greater Minnesota	139	9%	281	15%	420	13%	*18*
Age							
< 15 yrs	3	0%	34	2%	37	1%	*3*
15-19 yrs	210	14%	599	33%	809	24%	*216*
20-24 yrs	416	28%	631	35%	1,047	32%	*325*
25-29 yrs	320	21%	283	16%	603	18%	*189*
30-34 yrs	192	13%	117	6%	309	9%	*87*
35-39 yrs	124	8%	69	4%	193	6%	*47*
40-44 yrs	105	7%	47	3%	152	5%	*37*
45-49 yrs	71	5%	25	1%	96	3%	*26*
50-54 yrs	24	2%	6	0%	30	1%	*10*
55+ yrs	24	2%	3	0%	27	1%	*3*
Race /Ethnicity							
White	290	19%	506	28%	796	24%	*18*
Black	879	59%	830	46%	1,709	52%	*842*
American Indian	21	1%	83	5%	104	3%	*128*
Asian/PI	13	1%	30	2%	43	1%	*26*
Other[III, IV]	41	3%	80	4%	121	4%	*x*
Unknown[IV]	245	16%	285	16%	530	16%	*x*
Hispanic[V]	70	5%	82	5%	152	5%	*106*
Total	1,489	100%	1,814	100%	3,303	100%	*67*

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 142 cases of gonorrhea

[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 2c. Number of Cases and Rates (per 100,000 persons) of Primary/Secondary Syphilis by Residence, Age, Race/Ethnicity and Gender-- Minnesota, 2006

	Primary & Secondary Syphilis						
	Males		Females		Total		
Group	Cases	%	Cases	%	Cases	%	Rate
Residence [I]							
Minneapolis	28	65%	1	25%	29	62%	*7.6*
St. Paul	4	9%	0	0%	4	9%	*1.4*
Suburban[II]	8	19%	2	50%	10	21%	*0.5*
Greater Minnesota	1	2%	1	25%	2	4%	*0.1*
Age							
< 15 yrs	0	0%	0	0%	0	0%	*0.0*
15-19 yrs	0	0%	2	50%	2	4%	*0.5*
20-24 yrs	5	12%	0	0%	5	11%	*1.6*
25-29 yrs	10	23%	0	0%	10	21%	*3.1*
30-34 yrs	6	14%	2	50%	8	17%	*2.3*
35-39 yrs	8	19%	0	0%	8	17%	*1.9*
40-44 yrs	8	19%	0	0%	8	17%	*1.9*
45-49 yrs	3	7%	0	0%	3	6%	*0.8*
50-54 yrs	2	5%	0	0%	2	4%	*0.7*
55+ yrs	1	2%	0	0%	1	2%	*0.1*
Race /Ethnicity							
White	34	79%	0	0%	34	72%	*0.8*
Black	4	9%	3	75%	7	15%	*3.4*
American Indian	1	2%	0	0%	1	2%	*1.2*
Asian/PI	1	2%	0	0%	1	2%	*0.6*
Other[III, IV]	0	0%	1	25%	1	2%	*x*
Unknown[IV]	3	7%	0	0%	3	6%	*x*
Hispanic[V]	2	5%	1	25%	5	11%	*3.5*
Total	43	100%	4	100%	47	100%	*1.0*

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 2 cases of P&S syphilis

[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 Rates[1] (per 100,000 persons) of Chlamydia and Gonorrhea by County of Residence -- Minnesota, 2006

	Chlamydia		Gonorrhea			Chlamydia		Gonorrha	
County	Cases	Rate	Cases	Rate	County	Cases	Rate	Cases	Rate
Aitkin	12	39	2	-	Marshall	5	49	0	-
Anoka	615	178	82	41	Martin	28	128	3	-
Becker	23	130	5	-	Meeker	17	75	3	-
Beltrami	141	454	13	55	Mille Lacs	35	157	2	-
Benton	38	131	8	15	Morrison	26	82	1	-
Big Stone	8	-	0	-	Mower	87	225	21	54
Blue Earth	185	400	28	80	Murray	7	76	0	-
Brown	20	67	1	-	Nicollet	23	77	1	-
Carlton	50	129	5	22	Nobles	58	278	4	-
Carver	88	73	17	9	Norman	2	-	0	-
Cass	49	184	5	-	Olmsted	255	205	46	37
Chippewa	23	115	6	-	Otter Tail	33	58	1	-
Chisago	96	207	4	19	Pennington	14	103	2	-
Clay	52	135	7	16	Pine	30	113	1	-
Clearwater	7	119	2	-	Pipestone	1	-	0	-
Cook	8	-	0	-	Polk	34	108	5	16
Cottonwood	14	164	0	-	Pope	11	98	0	-
Crow Wing	94	125	6	29	Ramsey	2315	453	726	142
Dakota	721	193	146	40	Red Lake	4	-	0	-
Dodge	15	73	0	-	Redwood	19	113	4	-
Douglas	21	52	4	-	Renville	18	105	3	-
Faribault	23	148	1	-	Rice	104	184	9	16
Fillmore	29	76	0	-	Rock	2	-	0	-
Freeborn	59	141	1	-	Roseau	12	73	1	-
Goodhue	77	181	4	18	St. Louis	483	241	95	47
Grant	4	-	1	-	Scott	185	207	30	34
Hennepin	4576	386	1688	155	Sherburne	72	112	6	9
Houston	26	96	0	-	Sibley	3	-	0	-
Hubbard	27	87	0	-	Stearns	381	286	50	38
Isanti	39	74	1	19	Steele	59	175	6	18
Itasca	69	164	8	16	Stevens	6	60	1	-
Jackson	6	80	0	-	Swift	15	125	2	-
Kanabec	16	60	0	-	Todd	17	70	0	-
Kandiyohi	79	286	7	19	Traverse	0	-	0	-
Kittson	0	-	0	-	Wabasha	24	111	0	-
Koochiching	18	111	0	-	Wadena	3	-	0	-
Lac qui Parle	4	62	0	-	Waseca	32	164	5	26
Lake	7	136	0	-	Washington	315	157	52	26
Lake of the Woods	1	111	0	-	Watonwan	16	135	1	-
Le Sueur	19	87	2	-	Wilkin	1	-	1	-
Lincoln	3	-	0	-	Winona	76	152	1	-
Lyon	55	193	12	24	Wright	117	130	7	8
McLeod	30	86	1	-	Yellow Medicine	11	99	2	-
Mahnomen	7	96	2	-					