Sexually Transmitted Disease (STD) Surveillance Report, 2015

Minnesota Department of Health STD Surveillance System
Introduction

- Under Minnesota law, physicians and laboratories must report all laboratory-confirmed cases of chlamydia, gonorrhea, syphilis, and chancroid to the Minnesota Department of Health (MDH) within one working day.

- The MDH does not maintain statistics for other, non-reportable STDs (ex: herpes, HPV/genital warts).

- This slide set describes trends in reportable STDs in Minnesota by person, place, and time.

- Analyses exclude cases reported from federal and private prisons.
Introduction

- STD surveillance is the systematic collection of data from cases for the purpose of monitoring the frequency and distribution of STDs in a given population.

- STD surveillance data are used to detect problems, prioritize resources, develop and target interventions, and evaluate the effectiveness of interventions.
Factors that impact the completeness and accuracy of STD data include:

- Level of STD screening by healthcare providers
- Individual test-seeking behavior
- Sensitivity of diagnostic tests
- Compliance with case reporting
- Completeness of case reporting
- Timeliness of case reporting

Increases and decreases in STD rates can be due to actual changes in disease occurrence and/or changes in one or more of the above factors.
Interpreting STD Surveillance Data

- The surveillance system only includes cases with a positive laboratory test. Cases diagnosed solely on symptoms are not counted.

- Since 2012 we have included cases that had only a lab report and no corresponding case report form. This has increased the number of unknowns in some variables.

- Surveillance data represent cases of infection, not individuals. A person with multiple infections in a given year will be counted more than once.

- Caution is warranted when interpreting changes in STD numbers that can seem disproportionately large when the number of cases is small.
National Context
Chlamydia — Rates of Reported Cases by State, United States and Outlying Areas, 2014

NOTE: The total rate of reported cases of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 452.6 per 100,000 population.
Gonorrhea — Rates of Reported Cases by State, United States and Outlying Areas, 2014

NOTE: The total rate of reported cases of gonorrhea for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 109.6 per 100,000 population.
NOTE: The total rate of primary and secondary syphilis for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 6.4 per 100,000 population.
Overview of STDs in Minnesota
STDs in Minnesota
Rate per 100,000 by Year of Diagnosis, 2005-2015

* P&S = Primary and Secondary
STDs in Minnesota: Number of Cases Reported in 2015

- Total of 25,989 STD cases reported to MDH in 2015:
  - 21,238 Chlamydia cases
  - 4,097 Gonorrhea cases
  - 654 Syphilis cases (all stages)
  - 0 Chancroid cases
CHLAMYDIA
Rate per 100,000 persons

<table>
<thead>
<tr>
<th>Rate Range</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 75</td>
<td></td>
</tr>
<tr>
<td>76 - 150</td>
<td></td>
</tr>
<tr>
<td>151 - 300</td>
<td></td>
</tr>
<tr>
<td>&gt; 300</td>
<td></td>
</tr>
</tbody>
</table>

2015 Minnesota Chlamydia Rates by County

City of Minneapolis: 1124
City of St. Paul: 868
Suburban#: 310
Greater Minnesota: 269

(1,107 cases missing residence information)

# 7-county metro area, excluding the cities of Minneapolis and St. Paul
Chlamydia Infections by Residence at Diagnosis Minnesota, 2015

Total Number of Cases = 21,238

- Minneapolis: 20%
- St. Paul: 12%
- Greater MN: 31%
- Suburban: 32%
- Unknown: 5%

Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.
Chlamydia Rates by Gender
Minnesota, 2005-2015

Rate per 100,000 persons

Year


Males
Females
Overall
Age-Specific Chlamydia Rates by Gender
Minnesota, 2015

RATE PER 100,000 PERSONS

AGE IN YEARS


Males  Females
Chlamydia Rates by Race/Ethnicity
Minnesota, 2005-2015

2015 rates compared with Whites:
Black = 9x higher
American Indian = 4x higher
Asian/PI = 2x higher
Hispanic = 3x higher

* Persons of Hispanic ethnicity can be of any race.
Chlamydia Rates by Race/Ethnicity
Minnesota, 2005-2015

* Persons of Hispanic ethnicity can be of any race.
GONORRHEA
2015 Minnesota Gonorrhea Rates by County

Rate per 100,000 persons

- 0 - 10
- 11 - 29
- 30 - 100
- > 100

City of Minneapolis: 376
City of St. Paul: 230
Suburban*: 49
Greater Minnesota: 32

(139 cases missing residence information)

* 7-county metro area, excluding the cities of Minneapolis and St. Paul
Gonorrhea Infections in Minnesota by Residence at Diagnosis, 2015

Total Number of Cases = 4,097

- Minneapolis: 35%
- St. Paul: 16%
- Suburban: 26%
- Greater MN: 19%
- Unknown: 4%

Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.
Gonorrhea Rates by Gender
Minnesota, 2005-2015
Gonorrhea Rates by Age
Minnesota, 2005-2015

Year
Rate per 100,000 persons
15-19
285 285 297 275 214 214 165 169 216 217 227 290 360 362 352
20-24
210 214 228 214 216 217 169 159 213 213 218 267 267 238
25-29
194 178 186 146 117 117 95 105 142 177 177 218 218 174
30-39
84 75 83 69 50 38 45 65 86 103 123 123 123
Age-Specific Gonorrhea Rates by Gender
Minnesota, 2015

Rate per 100,000 persons

Age in Years


Males
Females
Gonorrhea Rates by Race/Ethnicity
Minnesota, 2005-2015

2015 rates compared with Whites:
Black = 16x higher
American Indian = 7x higher
Asian/PI = 0x higher
Hispanic = 2x higher

* Persons of Hispanic ethnicity can be of any race.
Gonorrhea Rates by Race/Ethnicity
Minnesota, 2005-2015

* Persons of Hispanic ethnicity can be of any race.
SYPHILIS
Syphilis Rates by Stage of Diagnosis Minnesota, 2005-2015

* P&S = Primary and Secondary
2015 Minnesota Primary & Secondary Syphilis Rates by County

Rate per 100,000 persons

- 0 – 0.5
- 0.6 – 1.0
- 1.1 - 2.0
- > 2.0

City of Minneapolis 33.7 (129 cases)
City of St. Paul 8.1 (23 cases)
Suburban# 3.1 (68 cases)
Greater Minnesota 1.1 (26 cases)

# 7-county metro area, excluding the cities of Minneapolis and St. Paul
Primary & Secondary Syphilis Infections in Minnesota by Residence at Diagnosis, 2015

Total Number of Cases = 246

- Minneapolis: 52%
- Suburban: 28%
- St. Paul: 9%
- Greater MN: 11%
- Unknown: 0%

Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.
Primary & Secondary Syphilis Rates by Gender
Minnesota, 2005-2015

Rate per 100,000 persons
Primary & Secondary Syphilis Rates by Age
Minnesota, 2005-2015

Year

Rate per 100,000 persons

- 15-19
- 20-24
- 25-29
- 30-39
- 40-49


Rate per 100,000 persons
Age-Specific Primary & Secondary Syphilis Rates by Gender, Minnesota, 2015
Primary & Secondary Syphilis Cases by Race
Minnesota, 2015

Total Number of Cases = 246

- White: 56%
- Black: 33%
- Asian/PI: 3%
- American Indian: 3%
- Other*: 2%
- Unknown: 3%

*Includes persons reported with more than one race
Primary & Secondary Syphilis Rates by Race/Ethnicity
Minnesota, 2005-2015

* Persons of Hispanic ethnicity can be of any race.
CHLAMYDIA AND GONORRHEA AMONG ADOLESCENTS & YOUNG ADULTS

Minnesota Department of Health STD Surveillance System
Chlamydia Disproportionately Impacts Youth

MN Population in 2010
(n = 5,303,925)

- 25-34 yrs: 13%
- 35+ yrs: 53%
- 15-24 yrs: 14%
- <15 yrs: 20%

Chlamydia Cases in 2015
(n = 21,238)

- 25-29 yrs: 19%
- 30-44 yrs: 15%
- 45+ yrs: 2%
- 15-24 yrs: 63%
- <15 yrs: 1%
Gonorrhea Disproportionately Impacts Youth

MN Population in 2010
(n = 5,303,925)

- 25-34 yrs: 13%
- <15 yrs: 20%
- 35+ yrs: 53%
- 15-24 yrs: 14%

Gonorrhea Cases in 2015
(n = 4,097)

- 25-29 yrs: 22%
- 30-44 yrs: 24%
- 45+ yrs: 7%
- <15 yrs: 1%
- 15-24 yrs: 46%
### Characteristics of Adolescents & Young Adults† Diagnosed With Chlamydia or Gonorrhea in 2015

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Cases</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4,504</td>
<td>29%</td>
</tr>
<tr>
<td>Female</td>
<td>10,851</td>
<td>71%</td>
</tr>
<tr>
<td>Transgender</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>5,799</td>
<td>38%</td>
</tr>
<tr>
<td>Black</td>
<td>3,985</td>
<td>26%</td>
</tr>
<tr>
<td>Am Indian</td>
<td>424</td>
<td>3%</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>439</td>
<td>3%</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>4,713</td>
<td>31%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15,360</td>
<td></td>
</tr>
</tbody>
</table>

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
### Characteristics of Adolescents & Young Adults†
*Diagnosed With Chlamydia or Gonorrhea in 2015*

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>885</td>
<td>6%</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>8,573</td>
<td>56%</td>
</tr>
<tr>
<td>Unknown</td>
<td>5,902</td>
<td>38%</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>2,925</td>
<td>19%</td>
</tr>
<tr>
<td>St. Paul</td>
<td>1,917</td>
<td>12%</td>
</tr>
<tr>
<td>Suburban MN</td>
<td>4,699</td>
<td>31%</td>
</tr>
<tr>
<td>Greater MN</td>
<td>4,988</td>
<td>32%</td>
</tr>
<tr>
<td>Unknown</td>
<td>831</td>
<td>5%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15,360</td>
<td></td>
</tr>
</tbody>
</table>

Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Chlamydia Rates Among Adolescents & Young Adults† by Gender in Minnesota, 2005-2015

Rate per 100,000 persons

Year

Rate=Cases per 100,000 persons based on 2010 U.S. Census counts.
† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Chlamydia Cases Among Adolescents and Young Adults† by Gender and Race, Minnesota, 2015

Males (n = 3,618)

- White: 34%
- Black: 30%
- Amer Indian: 2%
- Asian/PI: 2%
- Other: 3%
- Unknown: 29%

Females (n = 9,847)

- White: 41%
- Black: 21%
- Amer Indian: 3%
- Asian/PI: 3%
- Other: 3%
- Unknown: 29%

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Chlamydia Rate Among Adolescents and Young Adults† by Race, Minnesota, 2015

Rate per 100,000 persons

- White
- Black
- American Indian
- Asian/PI
- Hispanic

Rate=Cases per 100,000 persons based on 2010 U.S. Census counts.

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Gonorrhea Rates Among Adolescents & Young Adults† by Gender in Minnesota, 2005-2015

Rate=Cases per 100,000 persons based on 2010 U.S. Census counts.
† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Gonorrhea Cases Among Adolescents and Young Adults† by Gender and Race, 2015

Males (n = 886)
- White: 30%
- Black: 43%
- Amer Indian: 6%
- Asian/PI: 3%
- Other: 3%
- Unknown: 18%

Females (n = 1004)
- Black: 45%
- Amer Indian: 6%
- Asian / PI: 2%
- Other: 2%
- Unknown: 21%
- White: 24%

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Gonorrhea Rate Among Adolescents and Young Adults† by Race, Minnesota, 2015

Rate per 100,000 persons

Rate=Cases per 100,000 persons based on 2010 U.S. Census counts.

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Summary of Chlamydia and Gonorrhea Among Adolescents and Young Adults†, Minnesota, 2015

- Adolescents and young adults accounted for 63% of chlamydia and 46% of gonorrhea cases diagnosed in Minnesota.
- 71% of chlamydia or gonorrhea cases diagnosed among adolescents and young adults were females.
- Whites and Blacks accounted for 39% and 26% of chlamydia or gonorrhea cases, respectively.
- 32% of gonorrhea or chlamydia cases were in the Cities of Minneapolis and Saint Paul.

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.
Topic of Interest: Early Syphilis Among Men Who Have Sex With Men in Minnesota

Minnesota Department of Health STD Surveillance System
Number of Early Syphilis† Cases by Gender Minnesota, 2005-2015

MSM=Men who have sex with men.

Figure does not include cases diagnosed in transgender persons (1 each in 2005, 2007, 2009, 4 in 2013, 1 in 2014, 2 in 2015).

† Early Syphilis includes primary, secondary, and early latent stages of syphilis.
Early Syphilis† Cases by Stage at Diagnosis
Minnesota, 2005-2015

† Early Syphilis includes primary, secondary, and early latent stages of syphilis.
## Early Syphilis† by Gender and Sexual Behavior

**Minnesota, 2005-2015**

<table>
<thead>
<tr>
<th>Year</th>
<th>Early Syphilis Cases</th>
<th>Male Cases (%)</th>
<th>MSM Cases (% of males)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>116</td>
<td>109 (94)</td>
<td>100 (92)</td>
</tr>
<tr>
<td>2006</td>
<td>104</td>
<td>90 (88)</td>
<td>80 (89)</td>
</tr>
<tr>
<td>2007</td>
<td>114</td>
<td>111 (97)</td>
<td>103 (93)</td>
</tr>
<tr>
<td>2008</td>
<td>163</td>
<td>158 (97)</td>
<td>140 (89)</td>
</tr>
<tr>
<td>2009</td>
<td>117</td>
<td>106 (91)</td>
<td>96 (91)</td>
</tr>
<tr>
<td>2010</td>
<td>221</td>
<td>207 (94)</td>
<td>185 (89)</td>
</tr>
<tr>
<td>2011</td>
<td>260</td>
<td>246 (95)</td>
<td>218 (89)</td>
</tr>
<tr>
<td>2012</td>
<td>214</td>
<td>196 (92)</td>
<td>158 (81)</td>
</tr>
<tr>
<td>2013</td>
<td>332</td>
<td>298 (90)</td>
<td>261 (88)</td>
</tr>
<tr>
<td>2014</td>
<td>416</td>
<td>374 (90)</td>
<td>283 (76)</td>
</tr>
<tr>
<td>2015</td>
<td>431</td>
<td>341 (79)</td>
<td>222 (65)</td>
</tr>
</tbody>
</table>

MSM=Men who have sex with men

† Early Syphilis includes primary, secondary, and early latent stages of syphilis.
Early Syphilis† Cases Among MSM by Age
Minnesota, 2015 (n=222)

Mean Age = 36 years
Range: 18 to 68 years

MSM=Men who have sex with men
† Early Syphilis includes primary, secondary, and early latent stages of syphilis.
Early Syphilis† (ES) Cases Co-infected with HIV, 2007-2015

- All ES Cases
- MSM ES Cases

Year

Percent HIV Positive


41% 40% 46% 49% 49% 47% 38% 37% 32%

45% 45% 54% 57% 57% 59% 46% 50% 56%

46% 49% 49% 47% 38% 37% 32%

MSM=Men who have sex with men
† Early Syphilis includes primary, secondary, and early latent stages of syphilis.
Characteristics of Early Syphilis† Cases Among MSM, Minnesota, 2015

- Gay and bisexual men account for 65% of cases among men.
- 75% of cases among MSM are White, but a disproportionate number of cases (14%) are African American.
- 51% in the City of Minneapolis and 27% live in the suburbs.
- 56% of cases are also infected with HIV.

MSM=Men who have sex with men
† Early Syphilis includes primary, secondary, and early latent stages of syphilis.
Topic of Interest: Syphilis Among Females and Congenital Syphilis in Minnesota

Minnesota Department of Health STD Surveillance System
Syphilis Among Females, Minnesota, 2015

- Primary Syphilis – 18 cases
- Secondary Syphilis – 21 Cases
- Early Latent Syphilis – 49 cases
- Late Latent Syphilis – 85 cases
Female Early Syphilis Cases

NUMBER OF FEMALE EARLY SYPHILIS CASES

Year


109 83 74 52 22 17 12 9 6 8 14 2 5 9 14 13 18 30 41 88

Number of Cases
Early Syphilis Infections in Women in Minnesota by Residence at Diagnosis, 2015

Total Number of Cases = 88

- Minneapolis: 51%
- St. Paul: 12%
- Suburban: 30%
- Greater MN: 7%
- Unknown: 0%

Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (excluding Minneapolis), Ramsey (excluding St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties outside the seven-county metro area.
Early Syphilis Cases in Females by Race
Minnesota, 2015

Total Number of Cases = 88

- **White**: 31%
- **Black**: 41%
- **American Indian**: 19%
- **Asian/PI**: 3%
- **Other***: 1%
- **Unknown**: 5%

*Includes persons reported with more than one race
What’s Being Done in Minnesota?

- The MDH Partner Services Program continues to follow up on early syphilis cases and their sex partners and all pregnant syphilis cases.

- All HIV/Syphilis co-infected cases are assigned to Partner Services for follow-up.

- Physicians are encouraged to screen men who have sex with men at least annually and to ask about sex partners.

- All pregnant females should be screened for syphilis at first prenatal visit, 28 weeks’ gestation (at minimum 28-36 weeks), and at delivery.
STD Surveillance Summary

Minnesota Department of Health STD Surveillance System
Summary of STD Trends in Minnesota

- From 2005-2015, the chlamydia rate increased by 66%. The rate of gonorrhea remained the same between 2014 & 2015. Rates of reported syphilis increased in 2015 compared to 2014 by 3%.

- Minnesota has seen a resurgence of syphilis over the past decade, with men who have sex with men and those co-infected with HIV being especially impacted. However, the number of females is at a record high for the last decade.

- Persons of color continue to be disproportionately affected by STDs.

- STD rates are highest in the cities of Minneapolis and Saint Paul. However, chlamydia and gonorrhea cases in the Twin Cities suburbs and Greater Minnesota account for 63% of the reported cases in 2015.

- Adolescents and young adults (15-24 years) have the highest rates of chlamydia and gonorrhea, making up 61% of new infections in 2015.

- Between 2014 and 2015, early syphilis cases increased by 4%. Men who have sex with men comprised 65% of all male cases in 2015; cases among women are continuing to increase.
Future Updates to STD Reporting

- New case report form to accommodate changes in treatment guidelines
- Case report form is able to be filled out on a computer and printed to be mailed or faxed in
- All cases co-infected with HIV (diagnosed in the last year)/Gonorrhea, HIV/Syphilis, and Early Syphilis will be continue to be assigned to MDH Partner Services for follow-up
- All Gonorrhea cases continue to have the potential for being contacted by MDH for additional follow-up
For more information, contact:

- STD Surveillance Data
  
  Dawn.Ginzl@state.mn.us, 651-201-4041

- MDH Partner Services Program
  
  Brian.Kendrick@state.mn.us, 651-201-4021