SEXUALLY TRANSMITTED DISEASE (STD) SURVEILLANCE REPORT, 2014

Minnesota Department of Health
STD Surveillance System

www.health.state.mn.us/std
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.
Interpreting STD Surveillance Data

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, 2013

NOTE: The total rate of reported cases of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 443.5 per 100,000 population.
Gonorrhea — Rates of Reported Cases by State, United States and Outlying Areas, 2013

NOTE: The total rate of reported cases of gonorrhea for the United States and outlying area (Guam, Puerto Rico, and Virgin Islands) was 104.9 per 100,000 population.
Primary and Secondary Syphilis—Rates of Reported Cases by State, United States and Outlying Areas, 2013

NOTE: The total rate of primary and secondary syphilis for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 5.6 per 100,000 population.
Overview of STDs in Minnesota
STDs in Minnesota
Rate per 100,000 by Year of Diagnosis, 2004-2014

Data Source: Minnesota STD Surveillance System

* P&S = Primary and Secondary

STDs in Minnesota: Annual Review
STDs in Minnesota: Number of Cases Reported in 2014

- Total of 24,599 STD cases reported to MDH in 2014:
  - 19,897 Chlamydia cases
  - 4,073 Gonorrhea cases
  - 629 Syphilis cases (all stages)
  - 0 Chancroid cases

Data Source: Minnesota STD Surveillance System
CHLAMYDIA
2014 Minnesota Chlamydia Rates By County

Rate per 100,000 persons

0-75
76-150
151-300
>300

City of Minneapolis 999
City of St. Paul 818
Suburban# 291
Greater Minnesota 261

(988 cases missing residence information)

# 7-county metro area, excluding the cities of Minneapolis and St. Paul
Chlamydia Infections by Residence at Diagnosis
Minnesota, 2014

Total Number of Cases = 19,897

- 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.

Data Source: Minnesota STD Surveillance System
Chlamydia Rates by Gender
Minnesota, 2004-2014

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Chlamydia Rates by Age
Minnesota, 2004-2014

Data Source: Minnesota STD Surveillance System
Age-Specific Chlamydia Rates by Gender
Minnesota, 2014

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Chlamydia Rates by Race/Ethnicity
Minnesota, 2004-2014

* Persons of Hispanic ethnicity can be of any race.

2014 rates compared with Whites:
Black = 9x higher
American Indian = 4x higher
Asian/PI = 2x higher
Hispanic = 2.5x higher

Data Source: Minnesota STD Surveillance System
STDs in Minnesota: Annual Review
Chlamydia Rates by Race/Ethnicity
Minnesota, 2004-2014

* Persons of Hispanic ethnicity can be of any race.

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
GONORRHEA
2014 Minnesota Primary and Secondary Syphilis Rates By County

Rate per 100,000 persons
- 0-0.2
- 0.21-1.0
- >1.0

City of Minneapolis: 34.0 (130 cases)
City of St. Paul: 12.3 (35 cases)
Suburban#: 3.3 (73 cases)
Greater Minnesota: 0.8 (19 cases)

# 7-county metro area, excluding the cities of Minneapolis and St. Paul
Gonorrhea Infections in Minnesota by Residence at Diagnosis, 2014

Total Number of Cases = 4,073

- Unknown: 4%
- Greater MN: 17%
- Minneapolis: 35%
- Suburban: 27%
- St. Paul: 17%

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.

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Gonorrhea Rates by Age
Minnesota, 2004-2014

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Age-Specific Gonorrhea Rates by Gender
Minnesota, 2014

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Gonorrhea Rates by Race/Ethnicity
Minnesota, 2004-2014

* Persons of Hispanic ethnicity can be of any race.

2014 rates compared with Whites:
Black = 18x higher
American Indian = 7x higher
Asian/PI = 0x higher
Hispanic = 2x higher

Data Source: Minnesota STD Surveillance System
STDs in Minnesota: Annual Review
Gonorrhea Rates by Race/Ethnicity
Minnesota, 2004-2014

* Persons of Hispanic ethnicity can be of any race.
Syphilis Rates by Stage of Diagnosis
Minnesota, 2004-2014

* P&S = Primary and Secondary

Data Source: Minnesota STD Surveillance System
2014 Minnesota Gonorrhea Rates By County

Rate per 100,000 persons

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

City of Minneapolis          377
City of St. Paul                 238
Suburban#                     51
Greater Minnesota            28

(149 cases missing residence information)

# 7-county metro area, excluding the cities of Minneapolis and St. Paul
Primary & Secondary Syphilis Infections in Minnesota by Residence at Diagnosis, 2014

Total Number of Cases = 257

- Minneapolis: 52%
- St. Paul: 14%
- Suburban: 28%
- 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.

Data Source: Minnesota STD Surveillance System STDs in Minnesota: Annual Review
Age-Specific Primary & Secondary Syphilis Rates by Gender, Minnesota, 2014

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Primary & Secondary Syphilis Cases by Race
Minnesota, 2014

Total Number of Cases = 257

- White: 65%
- Black: 26%
- American Indian: 1%
- Asian/PI: 6%
- Other*: 0%
- Unknown: 2%

*Includes persons reported with more than one race

Data Source: Minnesota STD Surveillance System
Primary & Secondary Syphilis Rates by Race/Ethnicity
Minnesota, 2004-2014

Rate per 100,000 persons

* Persons of Hispanic ethnicity can be of any race.

Data Source: Minnesota STD Surveillance System
CHLAMYDIA AND GONORRHEA AMONG ADOLESCENTS & YOUNG ADULTS

(15-19 year olds)  (20-24 year olds)
Chlamydia Disproportionately Impacts Youth

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

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

Chlamydia Cases in 2014
(n = 19,897)

- <15 yrs 1%
- 15-24 yrs 66%
- 25-29 yrs 17%
- 30-44 yrs 14%
- 45+ yrs 2%

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Gonorrhea Disproportionately Impacts Youth

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

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

Gonorrhea Cases in 2014
(n = 4,073)

- 25-29 yrs: 20%
- 30-44 yrs: 21%
- 45+ yrs: 7%
- <15 yrs: 1%
- 15-24 yrs: 51%

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
## Characteristics of Adolescents & Young Adults† Diagnosed With Chlamydia or Gonorrhea in 2014

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4,333</td>
<td>28%</td>
</tr>
<tr>
<td>Female</td>
<td>10,887</td>
<td>72%</td>
</tr>
<tr>
<td>Transgender</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>5,877</td>
<td>39%</td>
</tr>
<tr>
<td>Black</td>
<td>4,034</td>
<td>26%</td>
</tr>
<tr>
<td>Am Indian</td>
<td>412</td>
<td>3%</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>404</td>
<td>3%</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>4,500</td>
<td>29%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15,227</strong></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 2014

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Cases</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>778</td>
<td>5%</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>8,651</td>
<td>57%</td>
</tr>
<tr>
<td>Unknown</td>
<td>5,798</td>
<td>38%</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>2,940</td>
<td>19%</td>
</tr>
<tr>
<td>St. Paul</td>
<td>1,937</td>
<td>13%</td>
</tr>
<tr>
<td>Suburban MN</td>
<td>4,656</td>
<td>31%</td>
</tr>
<tr>
<td>Greater MN</td>
<td>4,931</td>
<td>32%</td>
</tr>
<tr>
<td>Unknown</td>
<td>763</td>
<td>5%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15,227</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, 2004-2014

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.

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Chlamydia Cases Among Adolescents and Young Adults† by Gender and Race, Minnesota, 2014

Males (n = 3,411)

- White: 37%
- Black: 29%
- Amer Indian: 2%
- Unknown: 28%
- Other: 2%
- Asian/PI: 2%

Females (n = 9,722)

- White: 42%
- Black: 21%
- Amer Indian: 3%
- Asian/PI: 3%
- Other: 3%
- Unknown: 28%

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

Data Source: Minnesota STD Surveillance System
Chlamydia Rate Among Adolescents and Young Adults† by Race, Minnesota, 2014

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.

Data Source: Minnesota STD Surveillance System
Gonorrhea Rates Among Adolescents & Young Adults† by Gender in Minnesota, 2004-2014

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.

Data Source: Minnesota STD Surveillance System
Gonorrhea Cases Among Adolescents and Young Adults† by Gender and Race, 2014

Males (n = 922)

- White: 29%
- Black: 45%
- Amer Indian: 2%
- Asian/PI: 2%
- Other: 2%
- Unknown: 20%

Females (n = 1165)

- Black: 48%
- Amer Indian: 4%
- Asian/PI: 1%
- Other: 2%
- Unknown: 23%

† Adolescents defined as 15-19 year-olds; Young Adults defined as 20-24 year-olds.

Data Source: Minnesota STD Surveillance System
Gonorrhea Rate Among Adolescents and Young Adults† by Race, Minnesota, 2014

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.

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Summary of Chlamydia and Gonorrhea Among Adolescents and Young Adults†, Minnesota, 2014

- Adolescents and young adults accounted for 66% of chlamydia and 51% of gonorrhea cases diagnosed in Minnesota.

- 72% 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
Number of Early Syphilis† Cases by Gender
Minnesota, 2004-2014

MSM=Men who have sex with men.
Figure does not include cases diagnosed in transgender persons (1 each in 2004, 2005, 2007, 2009, 4 in 2013, 1 in 2014).
† Early Syphilis includes primary, secondary, and early latent stages of syphilis.

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Early Syphilis† Cases by Stage at Diagnosis
Minnesota, 2004-2014

† Early Syphilis includes primary, secondary, and early latent stages of syphilis.

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
### Early Syphilis† by Gender and Sexual Behavior

**Minnesota, 2004-2014**

<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>2004</td>
<td>48</td>
<td>41 (85)</td>
<td>34 (83)</td>
</tr>
<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>
</tbody>
</table>

**MSM=Men who have sex with men**

† Early Syphilis includes primary, secondary, and early latent stages of syphilis.

Data Source: Minnesota STD Surveillance System
Early Syphilis† Cases Among MSM by Age
Minnesota, 2014 (n=283)

Mean Age = 36 years
Range: 17 to 72 years

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

Data Source: Minnesota STD Surveillance System
Early Syphilis† (ES) Cases
Co-infected with HIV, 2006-2014

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

Data Source: Minnesota STD Surveillance System
STDs in Minnesota: Annual Review
Characteristics of Early Syphilis\textsuperscript{†} Cases Among MSM, Minnesota, 2014

- Gay and bisexual men account for 76% of cases among men.

- 79\% of cases among MSM are White, but a disproportionate number of cases (11\%) are African American.

- 56\% in the City of Minneapolis and 26\% live in the suburbs

- 50\% of cases are also infected with HIV.

\textsuperscript{†} Early Syphilis includes primary, secondary, and early latent stages of syphilis.

Data Source: Minnesota STD Surveillance System
What's Being Done in Minnesota?

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

• 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.
SURVEILLANCE SUMMARY
Summary of STD Trends in Minnesota

• From 2004-2014, the chlamydia rate increased by 64%. The rate of gonorrhea increased by 5% between 2013 and 2014. Rates of reported syphilis increased in 2014 compared to 2013 by 18%.

• 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.

• 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 61% of the reported cases in 2014.

• Adolescents and young adults (15-24 years) have the highest rates of chlamydia and gonorrhea, making up 64% of new infections in 2014.

• Between 2013 and 2014, early syphilis cases increased by 24%. Men who have sex with men comprised 76% of all male cases in 2014; cases among women are continuing to increase.

Data Source: Minnesota STD Surveillance System
Future Updates to STD Reporting

- New case report form to accommodate changes in treatment guidelines will be available when CDC releases the changes.

- 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/Gonorrhea, HIV/Syphilis, and Early Syphilis will continue to be assigned to MDH Partner Services for follow-up.

- Starting in April 2015, all Gonorrhea cases have the potential for being contacted by MDH for additional follow-up.