Announcements
STDs in Minnesota
Rate per 100,000 by Year of Diagnosis, 2004-2014

* P&S = Primary and Secondary

Data Source: Minnesota STD Surveillance System
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
Chlamydia in Minnesota
Rate per 100,000 by Year of Diagnosis, 2004-2014

Data Source: Minnesota STD Surveillance System
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
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*

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

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

*Persons of Hispanic ethnicity can be of any race.*
GONORRHEA
Gonorrhea in Minnesota
Rate per 100,000 by Year of Diagnosis, 2004-2014
Gonorrhea Infections in Minnesota by Residence at Diagnosis, 2014
Total Number of Cases= 4,073

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

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
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

2014 rates compared with Whites:
Black = 18x 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, 2004-2014

* Persons of Hispanic ethnicity can be of any race.

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Syphilis Rates by Stage of Diagnosis
Minneapolis, 2004-2014

Data Source: Minnesota STD Surveillance System

* P&S = Primary and Secondary
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
Age-Specific Primary & Secondary Syphilis Rates by Gender, Minnesota, 2014

Data Source: Minnesota STD Surveillance System

STDs in Minnesota: Annual Review
Topics in the spotlight:

- Chlamydia and Gonorrhea among Adolescents and Young Adults (15-24 years of age)
- Early Syphilis Among Men Who Have Sex With Men in Minnesota
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: 66%
- 15-24 yrs: 14%
- 25-29 yrs: 17%
- 30-44 yrs: 14%
- 45+ yrs: 2%

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

*Males*, *Females*

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 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.
Topic of Interest:

Early Syphilis Among Men Who Have Sex With Men in Minnesota
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>
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<tbody>
<tr>
<td>2004</td>
<td>48</td>
<td>41 (85)</td>
<td>34 (83)</td>
</tr>
<tr>
<td>2005</td>
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<td>2010</td>
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<td>298 (90)</td>
<td>261 (88)</td>
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<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

STDs in Minnesota: Annual Review
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

Data Source: Minnesota STD Surveillance System

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

MSM=Men who have sex with men
Characteristics of Early Syphilis† 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.

MSM=Men who have sex with men
† Early Syphilis includes primary, secondary, and early latent stages of syphilis.
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.
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 be 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
For more information, contact:

- STD Surveillance Data
  
  [Dawn.Ginzl@state.mn.us](mailto:Dawn.Ginzl@state.mn.us), 651-201-4041

- MDH Partner Services Program
  
  [Brian.Kendrick@state.mn.us](mailto:Brian.Kendrick@state.mn.us), 651-201-4021
SYPHILIS: DECIPHERING THE GREAT IMITATOR

Cynthia Lind-Livingston
Syphilis Lab Surveillance Coordinator

STD/HIV and TB Section
Minnesota Department of Health
Objectives

- Transmission
- Staging
- Diagnosis
- Testing
- Treatment
Transmission

- Contact with infectious, moist lesion(s), most commonly during oral, anal or vaginal sex

- 30-50% risk of infection per exposure to early (primary or secondary) syphilis

- Less common through casual skin to skin contact

- Cannot be spread by use of toilet seats, swimming pools, hot tubs, shared clothing or eating utensils.
Transmission (cont)

• Mother-to-child transmission

• Perinatal transmission can occur:
  • At any time during pregnancy
  • At any stage of the disease

• Chance of vertical transmission by stage of infection
  • Primary syphilis = 50%
  • Early latent syphilis = 40%
  • Late latent syphilis = 10%
  • Tertiary syphilis = 10%
Stages of Syphilis

• Primary:
  • Chancre
  • Appears 10-90 days after infection, on average 21 days
  • Typically single, painless, clean-based lesion with rolled edges
  • Appears at site where infected person’s lesion contacted person
  • Resolves/heals without treatment
Stages of Syphilis (cont)

• Secondary:
  • Occurs 3-6 weeks after primary chancre
  • Rash (75-90%)
  • Generalized lymphadenopathy (70-90%)
  • Constitutional symptoms (headache, nausea, weight loss, vomiting, sore throat, slight fever) (50-80%)
  • Mucous patches (5-30%)
  • Condyloma lata (5-25%)
  • Patchy alopecia or hair loss (10-15%)
  • Symptoms of neuro-involvement (1-2%)
Stages of Syphilis (cont)

- **Latent (Early & Late):**
  - No clinical symptoms: only evidence is positive serologic test
  - 60-85% remain asymptomatic for years without treatment
  - Divided into two stages for treatment purposes

- **Early Latent Syphilis**: <1 year in duration:
  - Prior negative test result in past year
  - Documented exposure to an early case of syphilis
  - Symptoms consistent with primary and/or secondary syphilis in the past 12 months
  - Two (2) dilution sustained increase in titer
Stages of Syphilis (cont)

• Late Latent Syphilis: >1 year in duration:
  • **No** prior negative test result in past year
  • **No** documented exposure to an early case of syphilis
  • **No** symptoms consistent with primary and/or secondary syphilis in the past 12 months
  • **No** two (2) dilution sustained increase in titer
Stages of Syphilis (cont)

• Tertiary Syphilis
  • 70% of untreated patients remain asymptomatic
  • 30% of untreated patients progress to tertiary stage in 5-20 years
    ▪ Gummas: destructive lesions of soft tissue, cartilage, internal organs and bone
    ▪ Cardiovascular involvement: aortic aneurysm, aortic insufficiency
    ▪ Central nervous system involvement: memory loss, vision issues, unsteady gate, hyporeflexia, hearing loss

• Neuro-involvement
  • Neuro-involvement can occur at any stage of disease
  • Lumbar puncture
Syphilis & HIV

- Syphilis is a marker for HIV risk

- Atypical presentation of disease sometimes occurs
  - Multiple ulcers, overlapping stages
  - Higher non-treponemal titers

- Syphilis facilitates HIV transmission
  - Increased the number of receptor cells
  - Increases HIV viral load in genital lesions, semen or both
Syphilis Diagnosis

- Clinical Suspicion
- High Risk Population
- HIV Positive
- Annual Physical / STD Screen
- Pregnant
Syphilis Testing

- Microscopy
  - Darkfield
  - Biopsy

- Serologic Test for Syphilis (STS)
  - Nontreponemal
  - Treponemal
Syphilis Testing (cont)

- Nontreponemal (VDRL, RPR, USR)
  - Measures antibodies which are not specific to Treponema pallidum
  - Quantitative
  - Reflects disease activity

- Advantages:
  - Rapid & inexpensive for screening
  - Easy to perform
  - Use in evaluation of patients with symptoms or possible re-infection
  - Use for follow-up assessment after treatment
Syphilis Testing (cont)

- Disadvantages:
  - Biological false positive reactions (BFPs)
    - Acute infections (Mononucleosis, herpes, viral illness)
    - Chronic Infections (TB, lupus, rheumatoid arthritis)
    - Intravenous drug use
  - False negative reactions
    - Prozone effect
    - Early primary and late latent stages
Syphilis Testing (cont)

- Treponemal tests (TPPA, FTA-abs, EIA)
  - Specific to T. pallidum
  - More sensitive and specific than non-trep tests
  - More expensive and labor intensive
  - Usually remains positive for lifetime
    - However 15-25% treated during primary state revert to seronegative after 2-3 years
- Does not correlate with disease activity or treatment
Syphilis Reverse Serology Laboratory Algorithm for Syphilis

TREPEIA/CIA – REACTIVE
RPR/VDRL/USR – NON-REACTIVE
TPPA/FTA-ABS - REACTIVE

Yes
Patient has a history of adequately treated syphilis

No
A second blood draw should be done to determine if patient was recently infected or if result reflects old untreated infection

Yes
Change in Titer?

No
Patient presents with signs and/or symptoms of late syphilis?

Yes
Two dilution increase or greater

No
Syphilis >1 year duration: treat with benzathine penicillin G, 2.4 m.u IM weekly x 3 weeks

No
Evaluate for late syphilis: confirmed or probable diagnosis of Neurosyphilis

Yes
Syphilis <1 year duration: treat with benzathine penicillin G, 2.4 m.u IM weekly one time, recheck titer in six months

Report to MDH

Treat with aqueous crystalline penicillin G, 18-24 m.u IV x 10-14 days
Treatment

• Early Syphilis
  • Benzathine PCN G 2.4 million units IM once
  • PCN-allergic:
    • Non-Pregnant
      • Doxycycline 100 mg po BID x 14 days
    • Pregnant:
      • Desensitize
      • Benzathine PCN G 2.4 millions units IM once

• Alternative Therapies
  • Tetracycline 500 mg po QID x 14 days
  • Ceftriaxone 1 gm IM/IV QD x 8-10 days
Treatment (cont)

• Late-Latent and Unknown Duration:
  • Benzathine PCN G 7.2 million units, administered as 3 doses of 2.4 million units IM, at 1 week intervals

• Neuro-involvement
  • 18-24 million units daily, administered as 3-4 million units IV q 4 hours x 10-14 days
Treatment Response

• Jarisch-Herxheimer reaction

• Healing of skin and mucosal lesions

• Expected four-fold decrease in non-treponemal test titers in 6-12 months, depending on stage
Reporting

• Providers must report syphilis cases within one working day by completing a Minnesota Confidential STD Case Report (CRC).

• Reports of reactive results with symptoms consistent with primary or secondary syphilis can be called in immediately to MDH at 651-201-4024.
Resources Available

• Materials available on our website: [www.health.state.mn.us/sep](http://www.health.state.mn.us/sep)
  
  • Resources for clinicians, including toolkit for syphilis testing and treatment;
  
  • Dear Colleague letters and health notices;
  
  • Resources for the community
  
  • Archives of provider presentations and links to current awareness campaign materials
Caring & Connecting:
Exceptional Sexual Health Services for Adolescents
Objectives

I. Describe foundations of exceptional adolescent-centered sexual health care

II. Provide overview of Hennepin County’s MyClinic project and Standards & Best Practices for Comprehensive Adolescent Sexual and Reproductive Health Care.
Better Together Hennepin Initiative

**SYSTEMS CHANGE**
- Sex Education Expansion
- Adolescent Reproductive Health Care Access
- Hennepin County Consulting

**EVIDENCE-BASED PROGRAMS**
- TP3
- TOP
- SSI
- Harrison Education Center Project

**KEY SUPPORTS FOR YOUNG PEOPLE**
- Healthy youth development opportunities
- Connections to caring adults
- Evidence-based sexuality education
- Accessible reproductive health services

healthy communities – healthy youth
Adolescent-centered care: what makes it unique?
Exceptional, adolescent-centered care:

» Confidential
» Welcoming
» Convenient & affordable
» Respectful & nonjudgmental
» Comprehensive
Services are confidential

- Clinic makes every effort to guarantee confidentiality and respects young person’s right to consent by:
  - Informing young person of their right to consent
  - Ensuring young person understands consent process
  - Taking every precaution possible in billing for confidential services
  - Allowing for private conversations between client and provider
  - Protecting confidential services when using electronic health records
Young people feel welcome

- Young people feel welcome physically and emotionally in the following ways:
  - All staff show enthusiasm for working with young people
  - Physical environment of clinic is welcoming to adolescents (Posters, magazines, signage)
  - Services offered reflect needs of adolescent clients
  - Young people see their cultural backgrounds and customs reflected in environment and staff
Services are convenient & affordable

• Clinic hours reflect young people’s availability:
  » After-school, evening, weekend hours
  » Walk-in hours available

• Fee schedules and billing procedures reflect young people’s income and insurance status:
  » Sliding fee scale
  » MFPP offered
  » Confidentiality in billing practices
Young people feel respected and heard

- Clinicians use welcoming and sensitive, non-judgmental questions and language when interviewing, counseling and treating adolescents.
- When interacting with adolescent clients, clinicians consider the young person’s
  » culture
  » religion
  » ethnicity
  » language
  » sex & gender
  » sexual orientation
  » developmental stage & educational level
Young people get the services they need

- Clinic staff follow the most current clinical guidelines with regard to pregnancy prevention and STI/HIV prevention and care.
- Each clinic visit is taken as an opportunity to address the broad range of health care concerns most common to adolescents, including:
  » STI & pregnancy
  » Mental health
  » Substance use
  » Relationship issues
  » Typical growth & development
MyClinic: Standards of Care for Comprehensive Adolescent Sexual and Reproductive Health Care
Standards of Care

When providing sexual and reproductive health care to adolescents, providers should:

① Guarantee confidentiality and adolescents’ rights to consent to sexual and reproductive health care.
② Make services accessible and facilities welcoming to adolescents.
③ Deliver patient-centered care that is sensitive to each adolescent’s culture, ethnicity, community values, religion, language, educational level, sex, gender and sexual orientation.
④ Screen all adolescents for sexual and reproductive health issues, including substance use and mental health concerns, and provide appropriate education, counseling, care or referral.
⑤ Provide contraceptive methods, including emergency contraception (EC), to adolescents at risk for unintended pregnancy.
⑥ Provide prevention, testing and treatment of sexually transmitted infections.
⑦ Offer information, assistance and support for all decisions regarding pregnancy.

http://www.hennepin.us/bettertogether
Standard 1: Guarantee confidentiality & adolescents’ right to consent to sexual and reproductive health care

Best Practices:

» Every visit includes an opportunity for a confidential conversation between clinician and adolescent client.
» Health care records, whether electronic or paper, are set up to protect client confidentiality.
» Billing procedures are established to ensure client confidentiality.
» Staff is routinely trained on Minnesota’s minor’s consent and confidentiality laws
» Confidential contact information for adolescent patients is routinely collected and updated
» Adolescent clients are encouraged to involve trusted adults in their care.
» Clinic has a process for obtaining informed consent regarding services covered by MN minor’s consent and confidentiality laws (pregnancy, contraception, STIs, mental health and substance use)
» Minnesota adolescent consent laws are prominently displayed.
Changing clinic practice to adapt to the Standards: MyClinic Self-Assessment Tool
MyClinic Self Assessment Tool

Better Together Hennepin has an on-line tool to help providers assess their practice

30+ clinics have completed the assessment tool

Key findings to date:
• All clinics found it helpful
• Most benefit came from completing tool as a team
• Even clinics doing great adolescent-centered work found areas for improvement
• General practice clinics found it a useful starting place
• Easy to use

Contact Katherine Meerse for information about accessing the tool
Contact Information

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Katherine.Meerse@hennepin.us
612-596-0996
Thank you!
For more information, contact:

• STD Surveillance Data
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• MDH Partner Services Program
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