Why Screen for Chlamydia
School Health Center
Quality Improvement Project

Illinois Department of Public Health
STD & Office of Women’s Health, SHC Programs
SHC Regional Meetings, Spring 2016
Objectives

• Discuss current STD trends and epidemiology of chlamydia infection
• Discuss importance of chlamydia screening
• Identify strategies to reduce STD infections and complications
Background

- Approximately 20 million new STI infections* reported annually - almost half are among youth aged 15-24
  - Chlamydia: more than half are among youth aged 15-24

- In Fall 2015, CDC announced for the first time since 2006, the rates for all three reportable STDs (chlamydia, gonorrhea, and syphilis) all increased.

*STI: chlamydia, gonorrhea, syphilis, HIV, HPV, herpes, trichomoniasis
Illinois STD Statistics: Chlamydia

2014 CDC National Chlamydia Data

Total Illinois:
- Ranked 12th in chlamydia infections by rate per 100,000 population
- Ranked 5th by overall by case count

Cook County:
- Ranked 2nd among all U.S. counties for total cases of chlamydia

2014 Illinois Chlamydia Data

Chlamydia:
- 66,593 total cases
- 4% increase from 2013
- Chicago reported 41% of cases
Illinois STD Statistics: Chlamydia

2014 Illinois Chlamydia Data

Illinois Reported Chlamydia Cases by Sex
Illinois STD Statistics: Chlamydia

By Sex
- 15 to 19: 2%
- 20 to 24: 5%
- 25 to 29: 1%
- 30 to 34: 0%
- 35/+: 1%

By Age Group
- 20 to 24: 42%
- 30 to 34: 22%
- 35/+: 1%
- 25 to 29: 12%
- 15 to 19: 21%

By Race/Ethnicity
- White/NH: 30%
- Black/NH: 0%
- Hispanic: 7%
- Unk: 1%

IDPH Illinois Department of Public Health
Illinois STD Statistics: Chlamydia

By Sex
70% Female 30% Male

By Age Group
40% 15-19 29% 25-29 16% 30-34 7% 35+

By Race/Ethnicity
42% White NH 22% Black NH 12% Hispanic 21% Unknown 7% AI/AN NH 7% Other NH

IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH
• Adolescents and young adults may be at higher risk for STI acquisition: behavioral and biological reasons including:

  - limited access to healthcare and information regarding STIs (12 yrs and older may consent for STD testing and treatment)

  - participation in high risk activities: drug use, unprotected sex, multiple sex partners/serial monogamous relationships

  - for females: cervical epithelial cells that are susceptible to STIs are more prominent in females during puberty (cervical ectopy)
Adolescent females have large area of exposed cervical columnar epithelial cells (cervical ectopy) which are target cells for chlamydia and gonorrhea.
STDs are Sexist

- Transmission efficiency greater male to female than the reverse
- More women asymptomatic or with atypical, nonspecific symptoms; delayed care
- Diagnosis more difficult in women
- Complications more frequent in women, often severe or permanent
Chlamydia: Why Should We Care?

- Most commonly reported infectious disease in the US (approximately 3 million cases annually)

- Health impact severe and costly – Pelvic Inflammatory Disease (PID), infertility, ectopic pregnancy
  - Inflammation facilitates HIV transmission

- High Prevalence and Incidence in Adolescents and Young Adults

- Rate in women 3 times higher than men
Untreated Chlamydia trachomatis

- 3-5 fold increased risk of HIV
- 1 in 5 – Infertile
- 1 in 5 – Chronic pelvic pain
- 1 in 10 – ectopic pregnancy
- 3 to 5 fold increase risk of acquiring HIV
- CT is one of most common causes of eye infections and Pneumonia in infants
- 50% of pregnant women with chlamydia deliver an infected baby
Complication of Reinfections: Retesting as a priority

Reinfection is associated with an increased risk of reproductive complications:
- Ascension of CT/GC into the upper genital tract
- Ectopic Pregnancy
- Pelvic Inflammatory Disease

Relative to 1st infection...
- 2nd infection
  - 4x risk of PID
  - 2x risk of ectopic pregnancy
- 3/+ infections
  - 6x risk of PID
  - 5x risk of ectopic pregnancy


SHC Chlamydia Screening Initiative

• Increase CT/GC screening at SHCs

• Identify strategies to increase chlamydia screening at SHCs

• Improve timeliness to treatment for CT

• Increase/encourage HPV vaccinations & vaccination rates

• Increase/encourage EPT usage and reporting
HEDIS Chlamydia Screening Measure

• Healthcare Effectiveness Data and Information Set (HEDIS) used by > 90% of health plans measures performance on important dimensions of care/services
• HEDIS consists of 81 measures across 5 domains of care
• Proportion of sexually active females ages of 16 and 24 who were screened for CT annually.
• Chlamydia screening is a HEDIS measure because it is:
  – a grade “A” U.S. Preventive Services Task Force service for women <25 years of age;
  – it is cost effective;
  – it can prevent PID that leads to infertility, and;
  – it is an indicator of adolescent and maternal health.

HEDIS is a component of National Committee for Quality Assurance (NCQA) accreditation process
School Health Centers & IDPH STD Program

• Medications (no charge)
  – Same as for STD clinics
  – Educational literature
  – Condoms
  – Partner Referral Cards

• GC/CT Testing through IDPH Lab (no charge)
  – Urine testing is available

• Urine screening
  – One-hour Internet training
    • http://idph.adobeconnect.com/specimen-collection-training2015/
  – 30-day outdate on urines (date of collection to date of lab testing)
  – Pelvic exam – submit cervical swab, 30-day outdate
# Illinois School Based Health Center

## PID & Infertility Rates Avoided by Screening

### Cases of PID and Infertility Avoided by Chlamydia Screening - 2014

<table>
<thead>
<tr>
<th></th>
<th>Total Females Tested</th>
<th>Total New Chlamydia Cases</th>
<th>Expected cases of PID in untreated without screening</th>
<th>Cases of PID Avoided by Screening</th>
<th>Expected cases of infertility in untreated without screening</th>
<th>Cases of Infertility Avoided by Screening</th>
<th>PID Yearly Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Illinois SHCs</td>
<td>5,373</td>
<td>583</td>
<td>175</td>
<td>158</td>
<td>35</td>
<td>32</td>
<td>$315,210</td>
</tr>
<tr>
<td>Total Tested at the IDPH Laboratory</td>
<td>62,580</td>
<td>5,428</td>
<td>1,628</td>
<td>1,468</td>
<td>326</td>
<td>294</td>
<td>$2,928,660</td>
</tr>
<tr>
<td>Illinois Aggregate Laboratory STD Testing</td>
<td>678,697</td>
<td>35,564</td>
<td>10,669</td>
<td>9,617</td>
<td>2,134</td>
<td>1,923</td>
<td>$19,185,915</td>
</tr>
</tbody>
</table>

- It is assumed that the risk of PID is 30% among women with untreated or unsuccessfully treated acute infection.
- The following assumptions is made that 20% of women who experience pelvic inflammatory disease will become infertile.
- Average cost per case of PID - $1,995
### Illinois SHC Clinics
Chlamydia Screening Data FY2015

<table>
<thead>
<tr>
<th></th>
<th>Percent Female Aged 12-19 Screened for CT FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females Seen</td>
</tr>
<tr>
<td>12-14 years</td>
<td>2,593</td>
</tr>
<tr>
<td>15-19 years</td>
<td>7,240</td>
</tr>
<tr>
<td>Total Female</td>
<td>9,833</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Percent Males Aged 12-19 Screened for CT FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males Seen</td>
</tr>
<tr>
<td>12-14 years</td>
<td>2,429</td>
</tr>
<tr>
<td>15-19 years</td>
<td>5,508</td>
</tr>
<tr>
<td>Total Male</td>
<td>7,937</td>
</tr>
</tbody>
</table>
Illinois SHC Clinics
Chlamydia Positivity Rates FY2015

<table>
<thead>
<tr>
<th></th>
<th>Total Tests</th>
<th>Positive Tests</th>
<th>% Positivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females 12-14</td>
<td>396</td>
<td>27</td>
<td>6.8%</td>
</tr>
<tr>
<td>Females 15-19</td>
<td>3,230</td>
<td>410</td>
<td>12.7%</td>
</tr>
<tr>
<td>Males 12-14</td>
<td>294</td>
<td>14</td>
<td>4.8%</td>
</tr>
<tr>
<td>Males 15-19</td>
<td>1,539</td>
<td>130</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

Positivity rates >2% are considered effective screening practices.
Recommendations

- Annual CT/GC screening for sexually active adolescents:
  - unless they have an identifiable risk factor which warrants more frequent testing.

- Re-test students treated for chlamydia 3-4 months post treatment (Don’t test sooner than 21 days, may get false positive test)
  - Students at very high risk, multiple sex partners-offer monthly screening

- Male screening – initiate sex sooner and have more partners than females

- High prevalence of CT and GC among symptomatic students suggest universal screening is justified
# CDC Screening Recommendations

## Chlamydia

### Women
- Sexually active women under 25 years of age\(^1\)
- Sexually active women aged 25 years and older if at increased risk\(^2\)
- Retest approximately 3 months after treatment\(^3\)

### Pregnant Women
- All pregnant women under 25 years of age\(^1\)
- Pregnant women, aged 25 and older if at increased risk\(^2\)
- Retest during the 3rd trimester for women under 25 years of age or at risk\(^3,4\)
- Pregnant women with chlamydial infection should have a test-of-cure 3-4 weeks after treatment and be retested within 3 months\(^1\)

### Men
- Consider screening young men in high prevalence clinical settings\(^5\) or in populations with high burden of infection (e.g. MSM)\(^6\)

### Men Who have Sex With Men (MSM)
- At least annually for sexually active MSM at sites of contact (urethra, rectum) regardless of condom use\(^6\)
- Every 3 to 6 months if at increased risk\(^7\)

### Persons with HIV
- For sexually active individuals, screen at first HIV evaluation, and at least annually thereafter\(^8\)
- More frequent screening for might be appropriate depending on individual risk behaviors and the local epidemiology\(^8\)

Discussion

SHC Questionnaire to:

1. Verify/understand STD screening background of site
2. Confirm population served by SHC site
3. Encounter activities and documents (RA, health surveys)
4. Explain STD Screening procedures at your clinic

How can we increase CT screening in adolescents in your clinic?
## Barriers/Facilitators to Providing STD Services in School Health Clinics

<table>
<thead>
<tr>
<th>Facilitators</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having IDPH provided STD testing (not having to bill for services and get back to parents)</td>
<td>Small school – confidentiality</td>
</tr>
<tr>
<td>Having IDPH provided medications, condoms and educational literature</td>
<td>Cannot provide condoms</td>
</tr>
<tr>
<td>Parents are not typically at school during visit</td>
<td>If parents accompany student</td>
</tr>
<tr>
<td>Students can agree to STD screen and treatment w/o parental consent</td>
<td>Patient honesty (sexual activity)</td>
</tr>
<tr>
<td>Trust between students and clinic staff members (confidentiality)</td>
<td>Cannot administer /provide birth control</td>
</tr>
<tr>
<td>Free transportation to offsite clinics (via grants)</td>
<td>No bathroom in SCH clinic, have to use hallway bathroom</td>
</tr>
<tr>
<td>Making STD screening a part of a routine visit</td>
<td>SHC facility is not located within the school</td>
</tr>
</tbody>
</table>
Solutions/Strategies to Increase CT screening

• Opt-out chlamydia/gonorrhea testing on all health clinic visits
  – the student is tested for chlamydia as part of routine health services (swab or urine)
  – the student will be tested unless (s)he declines or opts-out of chlamydia testing

• Pregnancy test urines could be screened for CT/GC

• Advertise STI screening before and after prom & homecoming

• Birth Control Refill Visits

• School Health Day

• Work with principals/coaches to encourage screening

• Sports Physicals

• Work with Health teachers to advertise STI and other SHC services

• Educate students during health class

• Participate in Get Yourself Tested (GYT)
  • www.gytnow.org
  • https://npin.cdc.gov/STDawareness/GYT.aspx
  • http://www.itsyoursexlife.com/standards-testing-gyt
National Chlamydia Coalition Resource

- Commit to CT screening all eligible females
- Inform patients CT screening is recommended like immunizations and PAPs
- Work with office staff to implement screening
- Use routine visits e.g. physicals
- If pelvic exams are done add the CT swab with PAP test
- If pelvic exams are not done use a urine specimen

Reduces pelvic inflammatory disease (PID)
Reduces infertility, ectopic pregnancy, and chronic pelvic pain
Prevents complications in newborns

# Illinois School Health Centers

Client Chlamydia Treatment Rates

<table>
<thead>
<tr>
<th>Percent Clients Treated for Chlamydia Seen at SHC Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Percent of Total Cases Treated</strong>*</td>
</tr>
<tr>
<td>2014 Illinois SHC - All</td>
</tr>
<tr>
<td>2014 Illinois SHC - DS</td>
</tr>
<tr>
<td>2014 Goal</td>
</tr>
<tr>
<td>2015 Illinois SHC – All</td>
</tr>
<tr>
<td>2015 Illinois SHC - DS</td>
</tr>
<tr>
<td>2015 Goal</td>
</tr>
</tbody>
</table>

*Clients tested and treated at the same site

Source: IDPH STD Section
GC Treatment Update

- Increased resistance to antibiotics
  - 2006 – Fluoroquinolones (Cipro) no longer recommended for GC treatment
  - Cefpodoxime is no longer available from IDPH due to increased resistance
  - Dual Therapy

- 2015 CDC STD Treatment Guidelines
  - Recommended Regimen
    - Ceftriaxone 250 mg IM in a single dose
    - 1 gm Azithromycin
  - Alternative Regimens (only if ceftriaxone is not available)
    - Cefixime 400 mg orally in a single dose PLUS
    - 1 g Azithromycin orally
    - **MUST BE TAKEN TOGETHER**

*CDC No longer recommends the use of cefixime or other oral cephalosporins as a first-line regimen due to multiple treatment failures*

Human Papillomavirus:
A Vaccine Opportunity!
HPV and Cancer

<table>
<thead>
<tr>
<th>Cancer Site</th>
<th>Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)</th>
<th>Percentage probably caused by HPV</th>
<th>Number probably caused by HPV†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Male)</td>
<td>(Female)</td>
<td>(Both Sexes)</td>
</tr>
<tr>
<td>Anus</td>
<td>1,549</td>
<td>2,821</td>
<td>4,370</td>
</tr>
<tr>
<td>Cervix</td>
<td>0</td>
<td>11,422</td>
<td>11,422</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>9,974</td>
<td>2,443</td>
<td>12,417</td>
</tr>
<tr>
<td>Penis</td>
<td>1,048</td>
<td>0</td>
<td>1,048</td>
</tr>
<tr>
<td>Vagina</td>
<td>0</td>
<td>735</td>
<td>735</td>
</tr>
<tr>
<td>Vulva</td>
<td>0</td>
<td>3,168</td>
<td>3,168</td>
</tr>
<tr>
<td>TOTAL</td>
<td>12,571</td>
<td>20,589</td>
<td>33,160</td>
</tr>
</tbody>
</table>

†Individual cells may not sum to total due to rounding.

Source CDC HPV and associated cancers
HPV Vaccine

- Gardasil (Merck) quadrivalent HPV types **6, 11** (90% of genital warts), **16, 18** (70% of cervical, anal, and genital cancers)
  - Three doses: 0, 2, and 6 months
- Gardasil 9 (Merck) 12/11/2014: **FDA approves Merck's 9-strain HPV vaccine**
  - HPV types **16, 18, 6 and 11**, which are the four strains in Gardasil
  - HPV types **31, 33, 45, 52, and 58** (five strains cause about 20% of cervical cancers).
In 2012, Illinois ranked 48\textsuperscript{th} among all states, ahead of only Arkansas and Mississippi, in the percentage of teens girls who have received three HPV vaccine doses.

– In 2014, improvements in vaccination rates and Illinois is ranked 11\textsuperscript{th} among all states (47.7%)

• The Advisory Committee on Immunization Practices (ACIP) recommends the HPV vaccine for 9-26 year-old males and females.

• It is important that healthcare providers recommend and provide the HPV vaccine to eligible clients.

• Immunizations section – HPV vaccine campaign
# HPV Vaccination Rates / I-CARE Data

## Illinois School Health Center Clinics

Data provided by IDPH I-CARE

* Patients seen is a count of adolescent active patients, who received at least one dose of any vaccine for the time period.

## 2014 HPV Vaccination Adolescents 9-18 yrs

<table>
<thead>
<tr>
<th></th>
<th>Patients Seen*</th>
<th>HPV Shots (unduplicated patients)</th>
<th>HPV Total Shots</th>
<th>HPV Vaccination %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>5,561</td>
<td>2,528</td>
<td>3,291</td>
<td>45.4%</td>
</tr>
<tr>
<td>Females</td>
<td>6,021</td>
<td>2,660</td>
<td>3,387</td>
<td>44.2%</td>
</tr>
</tbody>
</table>

## 2015 HPV Vaccination Adolescents 9-18 yrs (preliminary)

<table>
<thead>
<tr>
<th></th>
<th>Patients Seen*</th>
<th>HPV Shots (unduplicated patients)</th>
<th>HPV Total Shots</th>
<th>HPV Vaccination %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>6,701</td>
<td>3,166</td>
<td>3,996</td>
<td>46.5%</td>
</tr>
<tr>
<td>Females</td>
<td>7,024</td>
<td>3,126</td>
<td>4,003</td>
<td>44.5%</td>
</tr>
</tbody>
</table>
Expeditied Partner Therapy
Expedited Partner Therapy (EPT)

- EPT – prescribe, dispense, furnish or otherwise provide prescription drugs to the partner or partners of persons diagnosed with Chlamydia or gonorrhea (last 60 days) without physical examination of the partners.

EPT has been legal in Illinois since January 2010
Expedited Partner Therapy (EPT)

• Purpose: to treat partners of clients with Chlamydia and gonorrhea who are unable or unlikely to seek care

• Goals:
  – Decrease new CT/GC infections in community
  – Reduce CT/GC re-infection rates
  – Decrease complications from untreated CT and GC
Reporting EPT Usage

Very important to report any & all EPT prescriptions dispensed on the Morbidity Report Form and/or in INEDSS.
Reporting EPT in INEDSS

Case Links
- Diagnosis
- Laboratory Tests
- Expedited Partner Therapy
- Additional Surveillance Details

Expedited Partner Therapy (EPT)
Was Expedited Partner Therapy given to patient?
- Yes
  - If yes, for how many partners?
  - Comments:

Save  Cancel
Questions

Danucha Brikshavana – Section Chief
Dawn Nims - STD Staff

IDPH STD Program
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