Effective Integration of STI & HIV Prevention Programs

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Key Points

• STIs are really common among those at highest risk of HIV

• This presents a uniquely focused opportunity to intervene with “biobehavioral interventions”
  – Comprise evidence-based behavioral & newer biomedical interventions (PrEP, PEP, referral)
  – IAS-USA Guidelines in development; anticipated release early 2014

• STI are common and often remain undiagnosed in the HIV care setting
Data from 557 adults in a prospective cohort of contemporary HIV-infected adults in primary care in 4 cities

Screened/treated for STD at enrollment and at 6 months

13% with STD at enrollment; 7% incident STD at 6 months
  – Excluding trichomoniasis, 94% of incident STDs were in MSM
  – Most common in men: rectal chlamydia, oropharyngeal gonorrhea
  – Risks: polysubstance use, > 4 partners in 6 months

20% of MSM diagnosed with an STD by 6 months: most were asymptomatic

Mayer et al. Sex Transm Dis 2012
STD Surveillance Network (SSuN)—Proportion of MSM* Attending STD Clinics with Primary and Secondary Syphilis, Gonorrhea or Chlamydia by HIV Status, 2010

* MSM = men who have sex with men.
† HIV negative status includes persons of unknown status for this analysis.
‡ GC urethral and CT urethral include results from both urethral and urine specimens.

See also Ganesan 2012; Spaulding 2012: military cohort data
Barriers to Bacterial STI Screening of HIV+ Men who have Sex with Men in HIV Primary Care Settings

Lindley A. Barbee, Shireesha Dhanireddy, Susana Tat, Amy Radford, Jeanne M. Marrazzo

ISSTDR 2013 – Vienna, Austria
Background

• CDC-funded initiative to increase bacterial STI screening among HIV+ MSM

• Seattle STD/HIV Prevention Training Center

• Madison Clinic – HIV Primary Care Clinic
  – 2,570 patients ➔ 81% Men ➔ 66% MSM
  – University of Washington
  – Ryan White Funded
Objectives

1) Quantify current STI testing coverage among MSM at Madison Clinic

2) Identify patient and provider related barriers to STI screening
Results: STI Testing Coverage

1,456 MSM

March 2011 – September 2012

- 72% Syphilis serology
- 40% Urine GC/CT NAAT
- 32% Throat GC (culture or NAAT)
- 29% Rectal GC/CT (culture or NAAT)
Methods: Patient Barriers

- Anonymous written survey
- Offered to all male patients in waiting room
- Over 3 week period in May 2012
- 110 HIV+ MSM responded
Results: Patient Survey (N=110)

- In the past two months:
  - 69% sexually active in last 2 months
  - Median of 1 sex partner (range 1-20)

- In the past 12 months:
  - 16.4% methamphetamine use or IVDU
  - 25.5% bacterial STI
Results: Care Seeking Choices (N=110)

- 28% seek STI care outside of HIV Primary Care

**Why MSM Seek STD Testing Outside of HIV Primary Care**

- 42% "Easier"
- 21% Anonymity
- 16% More Frequent
- <3% Cost
- <3% Convenience
Methods: Provider Barriers

- Anonymous electronic survey
- All HIV care providers
  - Residents, Fellows, Attending Physicians, ARNPs
- 28 / 33 (85%) responded
- 23 / 28 (82%) attending physicians
Results:
Provider Knowledge Barriers (n=28)

• 25% unaware of NAAT for extra-genital GC/CT

• 32% unsure of CDC STI screening guidelines

• 25% incorrectly identified the CDC recommended two-drug therapy when presented with a case of pharyngeal gonorrhea
Provider Reported Barriers to Routine STI Screening

Of those reporting Patient Reluctance:
- 55% “unprepared”
- 82% “test elsewhere”
- 27% “prefer same-sex provider”

Lack of time
Patient reluctance
Uncomfortable with sexual history/exam
Unsure of how to collect specimens
Lack of support (staff)
Results:
Provider Suggestions for Improvement

- 82% tracking system
- 71% access to results from STD Clinic
- 57% self-collected specimens
- 32% individualized QI reports
Summary

• High-risk sexual activity is common among HIV+ MSM engaged in care

• Comprehensive STI screening remains low in HIV primary care

• Patients want easy, convenient and anonymous testing

• Many providers lack STI testing and treatment knowledge, are uncomfortable with sexual history & genital exam, and most are pressed for time.
Interventions to Overcome Barriers

• Provider Education

• Linkage to STD Clinic Results

• STI Self-Testing Program
STI Self-Testing Program

- 75 ♂ tested in first 3 months

- Complete testing data on 49 ♂

- 12 MSM with at least one STD (24.5%)
  - 6 pharyngeal GC (13%)
  - 5 rectal GC (12%)
  - 4 syphilis (11%)
  - 3 rectal CT (7%)
Population-based HIV Incidence among Men Diagnosed with Infectious Syphilis, 2000-2011 (Pathela et al)

- Objective: measure HIV incidence after P/S
- Cases reported to HIV and STD surveillance registries were matched using a deterministic algorithm
- Measured annual HIV incidence among men following P&S syphilis diagnoses between January 2000-June 2010
  - Excluded men with known HIV at time of syphilis diagnosis, or within 60 days after
- Estimates for risk of new HIV diagnosis by key characteristics
Study Population

- **Subsequent STD***: Includes diagnoses of chlamydia, gonorrhea, and lymphogranuloma venereum.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Other</th>
<th>MSM</th>
<th>MSW</th>
<th>Other risk</th>
<th>Syphilis only</th>
<th>Concurrent STD*</th>
<th>Subsequent STD*</th>
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<tbody>
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<td>13-19</td>
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<td>40-44</td>
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* Includes diagnoses of chlamydia, gonorrhea, and lymphogranuloma venereum.
Follow-up for HIV

• 2,805 men with syphilis contributed 11,714 person-years of follow-up

• 423 (15.1%) subsequently acquired HIV

• Median time to HIV diagnosis was 582 days (range 60-3150)
## Results – HIV incidence

<table>
<thead>
<tr>
<th>Age</th>
<th>P&amp;S syphilis cases</th>
<th>Newly diagnosed HIV</th>
<th>Person-years at risk</th>
<th>Annual HIV incidence (%)</th>
<th>95% CI (HIV incidence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2805</td>
<td>423</td>
<td>11714.18</td>
<td>3.61</td>
<td>3.27-3.97</td>
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<tr>
<td>Age</td>
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<tr>
<td>13-19</td>
<td>178</td>
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<td>20-24</td>
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<td>35-39</td>
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<td>2.64-4.14</td>
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<td>40-44</td>
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<td>43</td>
<td>1511.29</td>
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<td>2.08-3.80</td>
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<tr>
<td>45-49</td>
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<td>50+</td>
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<td>10</td>
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<td>1.15</td>
<td>0.58-2.05</td>
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<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>P&amp;S syphilis cases</th>
<th>Newly diagnosed HIV</th>
<th>Person-years at risk</th>
<th>Annual HIV incidence (%)</th>
<th>95% CI (HIV incidence)</th>
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<tbody>
<tr>
<td>White</td>
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<td>126</td>
<td>3064.03</td>
<td>4.11</td>
<td>3.44-4.88</td>
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<td>Black</td>
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<td>169</td>
<td>3597.64</td>
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<td>4.03-5.45</td>
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<tr>
<td>Hispanic</td>
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<td>94</td>
<td>2480.61</td>
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<td>3.08-4.62</td>
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<tr>
<td>Other</td>
<td>222</td>
<td>34</td>
<td>960.85</td>
<td>3.54</td>
<td>2.49-4.89</td>
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</table>
### Results - HIV incidence

<table>
<thead>
<tr>
<th>Sexual behavior/risk</th>
<th>P&amp;S syphilis cases</th>
<th>Newly diagnosed HIV</th>
<th>Person-years at risk</th>
<th>Annual HIV incidence (%)</th>
<th>95% CI (HIV incidence)</th>
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<tr>
<td>MSM</td>
<td>1884</td>
<td>389</td>
<td>7000.55</td>
<td>5.56</td>
<td>5.02-6.13</td>
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<tr>
<td>MSW</td>
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<td>20</td>
<td>1661.05</td>
<td>1.20</td>
<td>0.76-1.83</td>
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<tr>
<td>Other, IDU, or unk</td>
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<td>14</td>
<td>3052.57</td>
<td>0.46</td>
<td>0.26-0.75</td>
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<table>
<thead>
<tr>
<th>Syphilis stage</th>
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<tbody>
<tr>
<td>Primary</td>
<td>859</td>
<td>103</td>
<td>3905.50</td>
<td>2.64</td>
<td>2.16-3.18</td>
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<tr>
<td>Secondary</td>
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<td>320</td>
<td>7808.68</td>
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<table>
<thead>
<tr>
<th>Bacterial infections</th>
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</thead>
<tbody>
<tr>
<td>Syphilis only</td>
<td>2310</td>
<td>281</td>
<td>9718.04</td>
<td>2.89</td>
<td>2.57-3.24</td>
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<td>Syphilis w/concurrent STD*</td>
<td>103</td>
<td>12</td>
<td>348.96</td>
<td>3.44</td>
<td>1.86-5.85</td>
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<tr>
<td>Syphilis &amp; subsequent STD*</td>
<td>392</td>
<td>130</td>
<td>1647.18</td>
<td>7.89</td>
<td>6.62-9.24</td>
</tr>
</tbody>
</table>
Implications

• On a population level, one in 20 NYC MSM with syphilis are diagnosed with HIV within a year
• Not likely much different from most urban settings currently experiencing syphilis epidemics in MSM
• Frequent HIV testing to detect AHI and HIV pre-exposure prophylaxis should be considered for HIV-negative syphilis cases