Re-testing for *Chlamydia trachomatis* Infection in Massachusetts Family Planning Clinics

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### Background

- According to the CDC, recurrent or persistent chlamydia infection occurs in 10-15% of cases1
  - Some studies report rates as high as 15-38%2,3
  - Most often related to re-exposure from an untreated sexual partner4
  - Associated with increased rates of pelvic inflammatory disease and hospitalization for related complications5
- Since 1996, follow up screening recommended for all women with chlamydia infection1
  - Ideally performed 3-4 months after completion of antibiotic treatment
  - Offered at any visit occurring 3-12 months after treatment
  - Differentiated from test of cure (done 3-4 weeks after treatment and indicated only in specific circumstances
- Risk factors associated with recurrent infection well studied but little known about factors that influence attendance for re-testing

### Methods

- Records reviewed for women tested at Massachusetts family planning clinics participating in the Infertility Prevention Project
  - Case defined by positive chlamydia test (strand displacement assay; BD ProbeTec ET, Becton Dickinson, Sparks, MD) between 01/01/05 to 12/31/05
  - Each case reviewed for age at diagnosis, race/ethnicity, history of prior infection reported in Massachusetts, and for chlamydia re-testing 3-12 months after initial diagnosis
  - Eight clinic organizations categorized into 4 subgroups based on number of positive chlamydia tests handled
- Bivariate analysis and multivariate logistic regression used to examine factors associated with re-testing
  - SAS version 9.1 (SAS Institute, Inc, Cary, NC)
  - Waiver granted by Massachusetts Department of Public Health (MDPH) Human Research Review Committee

### Results

#### Figure 1
Proportion of Women Re-tested for Chlamydia Within 3-12 Months of Initial Diagnosis

- Women Re-tested: 28.9%
- Women Not Re-tested: 71.1%

#### Figure 2
Proportion of Positives in Women Re-tested for Chlamydia Within 3-12 Months of Initial Diagnosis

- Positive: 25.4%
- Negative: 74.6%

#### Table 1
Association Between Variables and Chlamydia Re-testing 3-12 Months After Initial Diagnosis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Women Re-tested N=116</th>
<th>Women Not Re-tested N=286</th>
<th>Unadjusted Odds Ratios (95% CI)</th>
<th>Adjusted Odds Ratios (95% CI)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>73</td>
<td>224</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>&lt;=18 Years</td>
<td>43</td>
<td>61</td>
<td>2.2 (1.4-3.5)</td>
<td>1.8 (1.1-3.1)</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>50</td>
<td>143</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>21</td>
<td>39</td>
<td>1.5 (0.9-2.9)</td>
<td>1.0 (0.7-3.3)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>26</td>
<td>46</td>
<td>1.6 (0.9-2.9)</td>
<td>1.7 (0.9-3.2)</td>
</tr>
<tr>
<td>Other, non-Hispanic</td>
<td>4</td>
<td>16</td>
<td>0.7 (0.2-2.9)</td>
<td>0.9 (0.3-2.9)</td>
</tr>
<tr>
<td>Unknown ethnicity</td>
<td>15</td>
<td>42</td>
<td>1.0 (0.5-2.0)</td>
<td>1.0 (0.5-2.0)</td>
</tr>
<tr>
<td><strong>Prior Infection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>93</td>
<td>225</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>61</td>
<td>0.9 (0.5-1.6)</td>
<td>0.8 (0.4-1.5)</td>
</tr>
<tr>
<td><strong>Clinic Volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>47</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Medium</td>
<td>27</td>
<td>49</td>
<td>1.1 (0.5-2.4)</td>
<td>2.5 (1.1-4.2)</td>
</tr>
<tr>
<td>High</td>
<td>18</td>
<td>91</td>
<td>0.7 (0.3-1.6)</td>
<td>1.0 (0.4-2.4)</td>
</tr>
<tr>
<td><strong>Highest</strong></td>
<td>62</td>
<td>99</td>
<td>3.4 (1.5-7.1)</td>
<td>3.3 (1.3-8.7)</td>
</tr>
</tbody>
</table>

*Odds ratios adjusted for age category, history of prior infection, race/ethnicity, and volume of testing at clinic site

### Conclusions

- Among women tested at Massachusetts family planning clinics, approximately 29% were re-tested within 3-12 months of initial diagnosis
- One quarter of women re-tested had recurrent infection
- Age <=18 years and clinics handling the highest number of positives were associated with greater rates of re-testing

### Limitations

- Findings based on retrospective record review with limited number of factors available for analysis

### Implications

- Further study needed to identify additional factors that influence re-testing rates and examine strategies for increasing rates of re-testing
- In 2006, MDPH began monthly “report-back” system to notify clinics of positives and facilitate call backs for re-testing
  - Analyses underway to evaluate effectiveness of this intervention

### References


### Acknowledgments

- We are grateful for assistance from staff from the Massachusetts family planning clinics participating in the Infertility Prevention Project.

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