Evaluation of a Surveillance Case Definition for Anogenital Warts

Background

• Changes in the incidence of anogenital warts may be an early marker of HPV vaccine impact
• Population-based estimates of incidence and prevalence are limited because:
  - Genital warts are not reportable
  - ICD-9 diagnosis codes for warts are non-specific
  - Difficult to identify new-onset vs. recurrent warts
  - Insinga et al., 2006

Methods

• We identified 11-30 year old members of Kaiser Permanente Northwest with membership in the health plan during the period 2000-2005
• We iteratively developed a case definition for anogenital warts based on ICD-9 codes and other information available in the electronic medical record (at the time of data collection). CPT procedure codes were not available in the VSD datasets
  - We analyzed women — encounter meeting any of the following criteria:
  - Diagnosis of 078.11 (condyloma acuminate)
  - Diagnosis of 078.10 (viral warts unspecified, coded with a wart ICD-9 code (078.1*)
  - Diagnosis of 078.10 (viral warts unspecified, with STI test* ordered at same encounter
  - Diagnosis of 078.19 (other specified viral warts) made by gynecologist or urologist
  - Diagnosis of 078.19 (other specified viral warts) made by OB/GYN or urologist
• In our study population and period (2000-2005), we calculated the positive predictive value (PPV) of our case definition by the number of people in the health plan and gender by dividing the number of people who met our case definition by the number of people in the health plan and gender by dividing the number of people who met our case definition by the number of people who met our case definition. We can improve the PPV of our case definition when compared to the gold standard manual record review

Validation of the VSD Case Definition

• The positive predictive value (PPV) of the VSD case definition was 82% (78% in females, 89% in males)

Characteristics of Patients meeting the VSD genital wart case definition

<table>
<thead>
<tr>
<th>AGE (YEARS)</th>
<th>FEMALES</th>
<th>MALES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-14</td>
<td>1.4</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>15-18</td>
<td>17.4</td>
<td>2.8</td>
<td>10.0</td>
</tr>
<tr>
<td>19-22</td>
<td>20.6</td>
<td>12.4</td>
<td>17.2</td>
</tr>
<tr>
<td>23-26</td>
<td>14.8</td>
<td>11.1</td>
<td>13.1</td>
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<tr>
<td>27-30</td>
<td>8.7</td>
<td>9.9</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13.6</td>
<td>7.8</td>
<td>10.7</td>
</tr>
</tbody>
</table>

* Defined as people meeting the VSD case definition during the study period

Conclusions

• The VSD case definition for genital warts performed well when compared to the gold standard manual medical record review with an overall PPV of 82%. We can improve the PPV of our case definition by excluding encounters coded with either 078.10 or 078.19 and an STI test order.
• The genital warts prevalence we observed using the VSD case definition is much higher than the estimates from studies using a case definition based on ICD-9 diagnosis and CPT procedure codes. However, the trends we observed in genital wart prevalence — higher in females, peak in the early 20’s — are consistent with findings from other studies.
• The case definition has only been validated at one VSD site with data from 11-30 years old. The case definition may not be generalizable to other health plans or older age groups.

References


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