Pertussis in Washington State 2012

National Vaccine Advisory Committee Meeting
Washington, D.C.
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Washington State Department of Health
Reported cases of pertussis
Washington State 1985-2012 YTD (week 20)

Polymerase chain reaction assay became available
Number of Pertussis Cases Reported in Washington State by Onset Month and Year, 1985-2011 and 2012 YTD (through April)
Number of Pertussis Cases Reported in Washington State by Notification Week  
2011 vs. 2012 YTD (week 20)

Additional cases may have occurred, especially in the most recent three weeks, that are not yet available to DOH.
WA State Pertussis Cases Reported by Month and Year with Projected Baseline and Epidemic Thresholds 2005-2011 and 2012 YTD (through April)
## Pertussis case reporting in Washington State 2007-2012 YTD (week 20) by case classification

<table>
<thead>
<tr>
<th>Onset Year</th>
<th>All reports</th>
<th>Cases Reported to CDC (Confirmed &amp; Probable)</th>
<th>PCR+ Suspect Cases</th>
<th>Total Cases if PCR+ Suspect Cases were Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>510</td>
<td>482</td>
<td>13</td>
<td>495</td>
</tr>
<tr>
<td>2008</td>
<td>502</td>
<td>461</td>
<td>19</td>
<td>480</td>
</tr>
<tr>
<td>2009</td>
<td>342</td>
<td>291</td>
<td>18</td>
<td>309</td>
</tr>
<tr>
<td>2010</td>
<td>682</td>
<td>608</td>
<td>32</td>
<td>640</td>
</tr>
<tr>
<td>2011</td>
<td>1,082</td>
<td>967</td>
<td>68</td>
<td>1,023</td>
</tr>
<tr>
<td>2012 YTD</td>
<td>2,090</td>
<td>1,738</td>
<td>150</td>
<td>1,888</td>
</tr>
</tbody>
</table>
Washington State Pertussis Rates by Age Group 2005-2011
Median age of reported pertussis cases
Washington, 1989-2011 and 2012 YTD (week 20)
Pertussis incidence by age group
Washington State, 2011
### WA State pertussis cases by age group 2011

<table>
<thead>
<tr>
<th>Age Group (years)</th>
<th>2010 OFM Population</th>
<th>Number of Cases</th>
<th>Rate per 100,000 persons per year</th>
<th>% cases by age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>88,544</td>
<td>120</td>
<td>135.5</td>
<td>12.4%</td>
</tr>
<tr>
<td>1-4</td>
<td>355,275</td>
<td>145</td>
<td>40.8</td>
<td>15.0%</td>
</tr>
<tr>
<td>5-9</td>
<td>432,656</td>
<td>155</td>
<td>35.8</td>
<td><strong>16.1%</strong></td>
</tr>
<tr>
<td>10-13</td>
<td>346,396</td>
<td>178</td>
<td>51.4</td>
<td><strong>18.4%</strong></td>
</tr>
<tr>
<td>14-18</td>
<td>454,703</td>
<td>133</td>
<td>29.2</td>
<td><strong>13.8%</strong></td>
</tr>
<tr>
<td>19-24</td>
<td>577,706</td>
<td>28</td>
<td>4.8</td>
<td>2.9%</td>
</tr>
<tr>
<td>25-44</td>
<td>1,830,703</td>
<td>120</td>
<td>6.6</td>
<td>12.4%</td>
</tr>
<tr>
<td>45-64</td>
<td>1,823,910</td>
<td>69</td>
<td>3.8</td>
<td>7.2%</td>
</tr>
<tr>
<td>65+</td>
<td>823,357</td>
<td>17</td>
<td>2.1</td>
<td>1.8%</td>
</tr>
<tr>
<td><strong>All ages</strong></td>
<td><strong>6,733,250</strong></td>
<td><strong>965</strong></td>
<td><strong>14.3</strong></td>
<td></td>
</tr>
</tbody>
</table>
Pertussis incidence by age group
Washington State, 2012 YTD (week 20)
<table>
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<th>Number of Cases</th>
<th>Rate per 100,000 persons</th>
<th>% cases by age group</th>
</tr>
</thead>
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<tr>
<td>&lt;1y</td>
<td>88,544</td>
<td>114</td>
<td>128.7</td>
<td>6.6</td>
</tr>
<tr>
<td>1-4y</td>
<td>355,275</td>
<td>207</td>
<td>58.3</td>
<td>11.9</td>
</tr>
<tr>
<td>5-9y</td>
<td>432,656</td>
<td>364</td>
<td>84.1</td>
<td>20.9</td>
</tr>
<tr>
<td>10-13y</td>
<td>346,396</td>
<td>425</td>
<td>122.7</td>
<td>24.5</td>
</tr>
<tr>
<td>14-18y</td>
<td>454,703</td>
<td>307</td>
<td>67.5</td>
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<td>53</td>
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<td>All ages</td>
<td>6,733,250</td>
<td>1,738</td>
<td>25.8</td>
<td></td>
</tr>
</tbody>
</table>
## Infant Deaths, 1996-2011

<table>
<thead>
<tr>
<th>Year</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>Grant</td>
</tr>
<tr>
<td>1998</td>
<td>King</td>
</tr>
<tr>
<td>2000</td>
<td>Grant</td>
</tr>
<tr>
<td>2006</td>
<td>Benton</td>
</tr>
<tr>
<td>2008</td>
<td>Yakima</td>
</tr>
<tr>
<td>2010</td>
<td>Whatcom</td>
</tr>
<tr>
<td>2010</td>
<td>Grant</td>
</tr>
<tr>
<td>2011</td>
<td>Yakima</td>
</tr>
<tr>
<td>2011</td>
<td>Snohomish</td>
</tr>
</tbody>
</table>

### Age at onset:
- All were under 1 year of age
- Eight (89%) were 2 months of age or under

### Sex:
- Male – 5 (56%)
- Female – 4

### Ethnicity:
- Hispanic or Latino – 6 (67%)
- Not Hispanic or Latino – 2
- Unknown - 1
### Vaccination status of non-adult pertussis cases in Washington 2010-2011 and 2012 YTD (week 20)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2010-2011</th>
<th>2012 YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 months through 18 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion marked up-to-date for pertussis-containing vaccine in the PHIMS case report</td>
<td>64%</td>
<td>61%</td>
</tr>
<tr>
<td>7-10 years of age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 or more doses</td>
<td>81%</td>
<td>71%</td>
</tr>
<tr>
<td>5 or more doses</td>
<td>68%</td>
<td>59%</td>
</tr>
<tr>
<td>13-18 years of age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion who received a Tdap dose</td>
<td>62%</td>
<td>60%</td>
</tr>
</tbody>
</table>
State Department of Health Response: Communications

- Tdap vaccination messaging in Child Profile mailings reaching 470,000 families.
- Radio media buy
- YouTube and other social media.
- Postings on front page of agency website.
- Regular updates to local/tribal health and professional medical associations.
State Department of Health Response: Provider Education and Tools

• Initial communication from State Health officer to all providers requesting action.
• CDC webinar training May 30th (with continuing medical education credits).
• Updated surveillance, reporting and investigation guidelines.
• Created new tools/templates for school and child care reporting to public health.
State Department of Health Response: Vaccine Access

- Promoting the GIFT program to provider free vaccine (19,000 doses as of 04/30/12)
- 27,400 federally funded Tdap doses to local health and tribes for under- and uninsured adults.
- Working with local health to organize community vaccination clinics.
- State immunization registry: tracking Tdap doses administered; annual comparisons.
Acknowledgements

• Azadeh Tasslimi MPH
• Marisa D’Angeli MD, MPH
• Pat DeHart ScD
• Kathy Lofy MD, MPH
• Jeff Wise
Note: Additional cases may have occurred, especially in the most recent three weeks, that are not yet made visible to DOH.
Flow chart for public health pertussis investigations in Washington State
5/11/2012

Triage reports of pertussis
An indication of a high-risk contact/setting will increase the priority of a report.
Investigations need to be performed even if resources are extremely limited for:
• Culture- or PCR-positive cases (includes those whose illness does not yet meet the clinical case definition)
• Epi-linked cases that meet the clinical case definition
• Infants < 12 months of age

Investigations can be temporarily suspended if resources are limited for (in order of importance): (Reports should be entered in PHIMS as usual whether further investigated or not.)
1. Cases that meet the clinical case definition but have no epi-link or lab confirmation (‘probable’ cases)
2. Cases with classic symptoms (paroxysmal cough, post-tussive emesis, or whooping) and < 2 week cough duration with no testing or a negative test
3. Cases with an epi-link that do not yet meet the clinical case definition (symptomatic contacts of a case)

Contact Provider
- Verify that patient is aware of the diagnosis
- Request pertussis immunization history and pertinent clinical information
- Ask about high-risk* contacts/setting
- Verify appropriate treatment
- Determine what exclusion recommendations were made
- Determine whether high-risk household contacts received chemoprophylaxis

Interview Patient
Case
- Determine clinical symptoms and onset of illness
- Provide education about period of communicability, method of transmission, and avoidance of high-risk persons/settings
- Recommend avoiding all public settings until 5 days of antibiotics (Day 6) or 21 days after onset of cough if not treated

Contacts
- Identify high-risk close contacts* or setting for follow-up
- If no high-risk close contacts or setting are identified, instruct patient to inform contacts of exposure and to seek advice from their own healthcare provider regarding chemoprophylaxis

Symptomatic → High-risk Close Contacts* → Asymptomatic

Activities
- Educate
- Facilitate evaluation, testing, treatment, and exclusion as appropriate
- Notify facility if high-risk setting identified
- Report those who meet clinical case definition

Activities
- Educate
- Advise symptom watch
- Facilitate chemoprophylaxis
SCHOOLS and CHILD CARE FACILITY - REPORTING PERTUSSIS TO PUBLIC HEALTH

Please report laboratory or clinically-diagnosed pertussis in children to your local health department. Fill out the following information as completely as possible. Public health staff may be unable to follow up on cases that have inadequate information.

- Name of student: ____________________________
- DOB __/__/__  Date of Onset (any symptoms) __/__/__
- Name/contact information of healthcare provider who made the diagnosis:
  Name ____________________________ Phone number ____________________________
  Clinic Name ____________________________
- Lab results: Positive ___ Negative ___ Not tested ___ Unknown ___ Date tested __/__/__
- Pertussis immunization dates (please enter dates or fax Certificate Of Immunization Status form)
  DTaP dates __/__/__ __/__/__ __/__/__ __/__/__
  Tdap date __/__/__
  No pertussis doses received ___ Reason not vaccinated: Parent refusal ___ Other _____________
- Was the child treated with antibiotics? Y ___ N ___ Unknown ___
  Name of antibiotic ____________________________ Date prescribed? __/__/__
- Does the child have contact with any high risk persons? Y ___ N ___ Don’t know ___
  High risk is defined as:
  - Infants < 1 year old
  - Pregnant women (particularly those in 3rd trimester of pregnancy)
  - Anyone who may expose infants < 1 year old or pregnant women (e.g., members of a household
    with infants or pregnant women, child care workers who take care of infants < 1 year old, health care
    workers with face-to-face contact with infants < 1 year old or pregnant women, childbirth educators)
  - Preventive antibiotic treatment was given to household and high risk close contacts?
    Household contacts: Y ___ N ___ Don’t know ___ High risk contacts: Y ___ N ___ Don’t know ___

Was the child excluded from school or child care until after 5 days of antibiotics? Y ___ N ___ Partially ___
  Dates attended school/childcare while contagious: __/__/__ through __/__/__ None ______
  Contagious period = from the first day of any symptoms (includes runny nose) until after 5 days of antibiotics
  have been completed (or 21 days after the onset of severe cough if no antibiotics taken.)