Pertussis Response Plan

Local Health Jurisdiction Response to 2010 Epidemic of Pertussis
Santa Barbara County Public Health Department

Release Date: July 14, 2010

Summary

The Santa Barbara County Public Health Department is responding to the State-wide epidemic of pertussis by releasing public education messages, issuing guidance to health care providers, encouraging the identification and reporting of suspect, probable and confirmed cases, recommending vaccination of high risk persons to prevent spread of infection, performing case investigations, and offering preventive treatment of exposed high risk persons.

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1. Situation Status: Statewide there has been a dramatic increase in the reported number of confirmed and probable cases of pertussis in 2010, especially in the months April through June. There have been five deaths of infants confirmed to be linked to pertussis infection. Santa Barbara County has not yet experienced a similar increase but has reported four cases in June and four in July. Neighboring San Luis Obispo County has had a marked increase in cases.

   A. From January 1, 2010 to July 9, 2010, 1337 cases reported to the State, a 418% increase compared to 2009 and 5 deaths, all in infants less than 3 months old.
   B. Santa Barbara County has reported 10 cases in 2010.
   C. The average annual number of cases for Santa Barbara County is 15.

2. Pertussis: Pertussis, “whooping cough”, is a highly contagious, bacterial infection spread from person to person. The incubation period is 4-21 days. Infected person may be ill for up to 14 weeks.
The most vulnerable persons are infants less than 6 months, who are at risk for severe illness and death. Treatment with antibiotics may reduce the severity of the disease and definitively reduces the risk of transmission. Vaccination is the best method to prevent spread of the disease. Infants and children are routinely immunized for pertussis with the DTaP vaccine. Preteens and older persons should be immunized with the Tdap vaccine.

**Timeline depicting clinical course of pertussis in weeks**

<table>
<thead>
<tr>
<th>Exposure Period</th>
<th>Infectious Period (without treatment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3 -2 -1 weeks</td>
<td>0 +1 +2 +3 +4 +5 +6 +7 +8 +14 weeks</td>
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- **Catarrhal**
- **Paroxysmal**
- **Convalescent**

3. **PHD Response Team**: The County Health Officer, Dr. Takashi Wada, leads the response of the PHD. He is assisted by:

   A. Deputy Health Officer
   B. Medical Director for Children’s Medical Services
   C. Disease Control and Prevention Program Manager
   D. PHD Epidemiologist
   E. Immunization Program Administrator
   F. Public Health Lab and Clinical Lab Supervisors
   G. PHD Public Information Officer
   H. PHD Health Care Center Managers

4. **Definitions**: There are new definitions for cases, which are significantly different and affect reporting. (CDPH CD Brief 26 June 30, 2010)

   A. **Pertussis Clinical Case**:

   1. A cough illness lasting ≥2 weeks with at least one of the following:
      a. paroxysms of coughing **or**
      b. inspiratory "whoop" **or**
      c. post-tussive vomiting;
      and without other apparent cause (as reported by a health professional)

   B. **Suspect case** (Eliminates duration criterion of clinical case definition):

   1. An acute cough illness of any duration with detection of *B. pertussis*-specific nucleic acid by PCR. **or**
   2. An acute cough illness of any duration with at least one of the following: (paroxysms of coughing, inspiratory "whoop", or post-tussive vomiting) that is epidemiologically-linked directly to a confirmed case.

   C. **Probable case** (The same as the clinical case definition):

   1. A case that meets the clinical case definition and is not laboratory-confirmed with culture, PCR or IHC and is not epidemiologically-linked directly to a confirmed case

   D. **Confirmed Case**:

   1. An acute cough illness of any duration with isolation of *B. pertussis* from a clinical specimen. **or**
   2. A case that meets the clinical case definition and is confirmed by detection of *B. pertussis*-specific nucleic acid by polymerase chain reaction (PCR). **or**
   3. A case that meets the clinical case definition and is epidemiologically-linked directly to a laboratory-confirmed case of pertussis. **or**
4. An acute cough illness of any duration with detection of *B. pertussis* antigen in formalin-fixed tissue by appropriate immunohistochemistry (IHC) methods.

5. **Testing**

   A. Confirmation of the diagnosis of pertussis is made by laboratory testing. There are two approved methods: culture and PCR. Most commercial laboratories are using the PCR test. It requires a sample from the back of the nose obtained with a Dacron swab. The advantages of the PCR test are high sensitivity and specificity and shorter time to obtain results. However, false negative results are common later in the course of the illness. Refer to this link for details on testing methods:

   B. **PHD Recommendations for Testing:**

      1. Healthcare providers are advised to submit samples from suspect and probable cases to commercial laboratories. The providers may receive supplies from the lab. Clinicians must obtain the sample from the patient in their offices. Hospital and commercial labs do not collect the samples from patients.

      2. The Public Health Laboratory is developing a validated PCR test for *B. pertussis* but it is not yet available. The PHD will begin to use the test for PHD patients and cases under investigation by the PHD Disease Control and Prevention Program with the direction from the Health Officer. The Health Officer may make the test available to non-PHD providers dependent on the course of the epidemic locally.

      3. Obtaining a specimen for testing may be a barrier for some providers and patients. It should not prevent providers from treating probable cases or reporting suspect and probable cases to the PHD.

6. **Reporting**

   A. Pertussis is a “Reportable Disease” under California State regulations. Healthcare providers and hospital and commercial labs are legally required to report all suspect, probable and confirmed cases to the PHD Disease Control program. The report form is online at [http://www.countyofsfb.org/phd/default_all.aspx?id=6140&menu2id=1112&pghead=18912&footer=18438](http://www.countyofsfb.org/phd/default_all.aspx?id=6140&menu2id=1112&pghead=18912&footer=18438)

   B. The PHD epidemiologists gather and analyze cases compiling the data for the Health Officer and State.

7. **Case Investigation**

   A. The PHD Disease Control and Prevention Program investigates reportable diseases according to protocols. Pertussis investigations are initiated by the reporting of a case by phone (681-5280, 24 hour number) or fax (681-4069). The goals of the investigation are:

      1. Limit transmission by identifying those at high risk for severe pertussis or those who may transmit the disease to persons at high risk for severe disease.

      2. Assist healthcare providers in identifying pertussis cases

      3. Interview patient or parent of patient to gather contact history and identify secondary cases and high risk contacts
4. Advise the patient and high risk contacts on appropriate diagnostic and preventive options, which may include referral to their primary physician and/or prescription of antibiotics to prevent spread of infection
   a. In the current situation status, patients and contacts are expected to receive care from their primary healthcare provider.
   b. If the epidemic becomes severe, the Health Officer may direct the Disease Control team to initiate treatment based on a standing order by protocol.

5. Gather epidemiologic data for County and State reporting

8. Post Exposure Prophylaxis

   A. The risk of becoming infected with pertussis after contact with a probable or confirmed case is greatly reduced by treatment with an antibiotic. This is called post exposure prophylaxis (PEP). This is an option for primary healthcare providers or the Disease Control team to decrease the spread of disease. The American Academy of Pediatrics recommends aggressive treatment and PEP for infants that is detailed at this link: http://www.aap-ca.org/clinical/pertussis/pertussis_in_young_infants.html

   B. The preferred medication for PEP and treatment is azithromycin. The dosing for this medication and alternatives is found at this link: http://www.cdph.ca.gov/HealthInfo/discond/Documents/Pertussisquicksheet.pdf

9. Vaccination

   A. The American Academy of Pediatrics and ACIP recommend that all individual receive pertussis vaccination according to published guidelines. Children have received this vaccination for decades in a combination with tetanus and diphtheria vaccines (DTaP). A different form of the vaccine, Tdap, has been licensed for use for adolescents and teens since 2005. Teens and adults are recommended to have the immunization because pertussis immunity fades over 5-8 years and is not permanent. The Tdap may replace the well known tetanus booster (Td). Expanded information is available at this link: http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/pert.pdf

   B. Santa Barbara County is not experiencing a large number of cases as of July 14, 2010; but it is expected that the incidence will increase throughout the summer. Local providers need to respond to the State situation by expanding the usual guidelines for pertussis vaccination to include the following high risk groups who have not received a Tdap vaccination:

   1. All parents and siblings of infants <1 year of age
   2. All caretakers of infants <1 year of age (grandparents, relatives and daycare providers even if over 64 years of age)
   3. All pregnant women in the 2nd or 3rd trimester and adults in their household
   4. All healthcare workers who have patient contact with children or pregnant women
   5. Middle school children (ages 10-13) who have not received a pertussis vaccination since ages 4-6 year

   C. In the current situation primary care providers are encouraged to offer vaccination to their patients who are in the high risk groups. This will create a circle of protection around vulnerable infants.

   D. The State has offered vaccine to hospitals with perinatal services in order to vaccinate postpartum women. It has also offered vaccine to community health centers (PHD, Community Healthcare Centers of Santa Maria & Lompoc, Marian Medical Clinics, Santa Ynez Tribal Clinic, American Indian Health Services and Santa Barbara Neighborhood Clinics). These sites may provide free or low cost vaccination to their patients and general public.
E. The PHD will offer Tdap to adults and children at the following centers at regular Immunization Clinics:

1. Santa Maria Health Care Center
2. Lompoc Health Care Center
3. Franklin Health Care Center
4. Carpinteria Health Care Center

Days and times of the immunization clinics are available at this link: www.countyofsbc.org/phd/iz.aspx?id=21306 (Immunization Project Page)

F. The PHD Immunization Program will coordinate and support vaccination efforts under the direction of the State CDPH Immunization Branch for local providers. Providers may call 346-8420 to consult with the program.

10. Health Officer Direction

A. The following is the current guidance issued by the County Health Officer

- Concur with State CDPH that a statewide outbreak of pertussis exists and warrants a public health response to protect vulnerable children and prevent the spread of disease to Santa Barbara County. Direct PHD Pertussis Response Team to prepare for a local outbreak.

- Recommend local healthcare providers to adopt CDPH recommendation “To Think” of pertussis with patients presenting with cough, “To Test” for pertussis in patients who meet the CDPH definitions for suspect and probable cases, “To Treat” patients with suspect, probable and confirmed pertussis, “To Prevent Transmission” by providing PEP to contacts of probable and confirmed cases of pertussis, and “To Report” suspect, probable and confirmed pertussis to the PHD Disease Control office.

- Recommend local health care providers offer pertussis vaccination to high risk groups (see above list) or refer patients who do not have coverage for vaccinations to an immunization clinic at a community health center or PHD immunization clinic.

- Direct PHD to issue Health Care Alerts as necessary to inform healthcare providers with up to date information on the situation status and recommendations for response.

- Direct PHD Health Care Centers to collaborate with the PHD Immunization Program to offer pertussis vaccination to the public, especially high risk groups without access to a primary care provider and no coverage for vaccination services.

- Direct PHD Disease Control Program to perform epidemiologic tracking and analysis of pertussis cases, suspect case investigations as necessary, provider consultation.

- Direct PHD Immunization Program to offer providers access to patient information, Vaccine Information Sheets, and other resources through consultation and the PHD website.

- Direct PHD Public Information Officer to offer public education and resources via media releases and the PHD Website.

11. Resources

A. The following list is composed of Federal, State and County resources for healthcare providers:

2. CDPH Website on Pertussis:
   http://www.cdph.ca.gov/HealthInfo/discond/Pages/Pertussis.aspx
   - Pertussis Quick Sheet: http://www.cdph.ca.gov/HealthInfo/discond/Documents/Pertussisquicksheet.pdf
   - Pertussis Reporting: http://www.countyofsb.org/phd/default_all.aspx?id=6140&menu2id=1112&pgheader=18912&footer=18438
   - Pertussis Video: http://www.vaccineinformation.org/video/pertussis.asp
   - Pertussis Treatment and Prophylaxis (Table 4): http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm#tab3
   - Pertussis Educational Materials: http://www.eziz.org/resources/materials_pertussis.html

3. Santa Barbara County PHD: www.sbcphd.org