SAN MATEO COUNTY

HEALTH SYSTEM

PUBLIC HEALTH ADVISORY

April 16, 2010

To: San Mateo County Health Care Providers
From: San Mateo County Health System, Communicable Disease Control Program

Main number 650-573-2346 ◆ fax 650-573-2919 ◆ after-hours communicable disease emergency line 650-363-4981

Health Advisory: Increasing Numbers of Pertussis Cases

Increasing numbers of Bordetella pertussis cases are being reported nationally and in California. By way of example, Children's Hospital of Central California has reported a significant increase in pertussis admissions over the last several weeks and **the number of pertussis cases reported to the San Mateo County Health System Communicable Disease Control Program has also risen sharply.** Pertussis has a cyclical pattern of occurrence, with peaks every 2-5 years. The last peak occurred in 2004-2005, so we may be at the beginning of a new cycle.

San Mateo County health care providers are encouraged to **remain alert for possible cases of pertussis** among patients of all age groups, especially infants in the first year of life, adolescents, and adults. **Immunity wanes after both natural infection and vaccination, with an increasing proportion of cases being reported in previously immunized individuals.**

Background

Pertussis or "whooping cough" is an acute communicable disease caused by a small, gram-negative coccobacillus, *Bordetella pertussis*. The **initial catarrhal stage** has an insidious onset with an irritating cough that gradually becomes **paroxysmal**, usually within 1-2 weeks, and lasts for 1-2 months or longer. Paroxysms are characterized by spasms of severe coughing followed by a sudden deep inspiration, often resulting in a characteristic "whooping" noise. Post-tussive vomiting is common. During the **final convalescent stage**, paroxysms are less common and the cough gradually resolves over 2-3 weeks. Infants younger than 6 months of age may present atypically, with a short catarrhal stage, gagging, gasping, or apnea as prominent early manifestations, absence of whoop, and a prolonged convalescence.

Complications of infection with *B. pertussis* include pneumonia, seizures, encephalopathy, and death. The number of deaths in vaccinated populations is low. **Most deaths occur in infants under 6 months** of age who are too young to have completed primary immunization.

Diagnosis

Mild pertussis disease is difficult to diagnose clinically because its symptoms mimic those of a cold with cough. In moderate to severe disease, the diagnosis may be clear based on the prolonged duration of symptoms and the presence of at least one of the following: paroxysms of coughing, inspiratory "whoop," post-tussive emesis. **The preferred methods for the laboratory diagnosis of pertussis are culture and polymerase chain reaction (PCR) of nasal aspirates or nasopharyngeal swabs. In most cases, it is recommended that both tests be performed.** Serological tests and direct fluorescent antibody (DFA) testing are **not** recommended.

Reporting

Prompt reporting of both confirmed and suspected pertussis cases is vital to prevent secondary spread to susceptible persons. Report all suspected and confirmed cases to the Communicable Disease Control Program by calling (650) 573-2346 or faxing a Confidential Morbidity Report (CMR) to (650) 573-2919. In addition, if the case was in the hospital or a hospital-based clinic, report the case immediately to your Infection Control Professional (ICP).

Treatment of cases

Antimicrobial treatment with a macrolide such as azithromycin is recommended for all recently infected individuals, regardless of their age. TMP-SMX can be used as an alternative agent if needed in patients aged >2 months. **Communicability ends after 5 days of treatment.** Antibiotics are most effective at relieving symptoms and shortening the course of the disease if started during the first (catarrhal) stage of the illness. After paroxysms are established, antibiotics usually have little effect on the course of the illness, and are recommended primarily to decrease infectiousness and limit the spread of pertussis to others.

Prophylaxis of contacts

Antimicrobial prophylaxis with a macrolide such as azithromycin is routinely given to individuals in close contact with cases of pertussis, regardless of their age or vaccination status. Such prophylaxis is usually initiated for close contacts in household, child care, hospital and selected school settings. Close contacts at high risk for severe disease (i.e. infants < 6 months of age, unimmunized infants/children, immunocompromised individuals) or close contacts who may transmit pertussis to high risk persons (i.e. healthcare workers) should also be prophylaxed.

Vaccination

Children should be vaccinated against pertussis with **DTaP** at 2, 4, 6, and 15-18 months. Booster doses are recommended prior to school entry at 4-6 years of age (DTaP), at 11-12 years of age (Tdap), and every 10 years thereafter (Td). For adults aged 18-64, a one-time dose of **Tdap** for protection from pertussis is recommended to replace the next routine **Td** vaccine.

Adults who have or anticipate having close contact with an infant <12 months of age (**e.g. parents, child care providers, health care providers) should receive a single dose of Tdap, ideally at least one month before beginning close contact with the infant.** Postpartum women who have not received Tdap should be given the vaccine before hospital discharge. A minimum interval of 2 years is recommended from the last Td, although shorter intervals are acceptable, as in the case of a pertussis outbreak.

This Health Advisory and other documents with general information on pertussis and public health measures to prevent its transmission are posted on the San Mateo County Health System website. If you have any questions, please call 650-573-2346.

Useful links:

San Mateo County Health System website, pertussis information:
http://www.smhealth.org/pertussis.

General vaccine information:
http://www.cdph.ca.gov/programs/immunize and http://www.cdc.gov/vaccines.

Details regarding vaccination of adults with Tdap:
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5517a1.htm.

Prevention of pertussis among pregnant, postpartum women and their infants:
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5704a1.htm.

Antimicrobial treatment and prophylaxis:
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm.

Laboratory testing/specimen collection:
http://www.cdph.ca.gov/programs/immunize/Documents/CDPH_Pertussis%20laboratory%20testing_Nov08.pdf.