DATE: June 12, 2002
TO: Health Alert Network
FROM: Robert S. Zimmerman, Jr., MPH Secretary of Health

DATE OF ONSET OF OUTBREAK: June 7, 2002
SUBJECT: Pertussis case contacts
COUNTIES AFFECTED: Luzerne, Wyoming, Lackawanna

This transmission is a “Health Advisory”, provides important information for a specific incident or situation; may not require immediate action.

HOSPITALS: PLEASE SHARE THIS WITH ALL MEDICAL, PEDIATRIC, INFECTION CONTROL, NURSING, AND LABORATORY STAFF IN YOUR HOSPITAL

LOCAL HEALTH JURIDICTIONS PLEASE DISTRIBUTE TO ALL PRIMARY CARE PHYSICIANS IN THE FOLLOWING COUNTIES: LUZERNE, LACKAWANNA AND WYOMING

The Pennsylvania Department of Health released the following statement on June 12, 2002, regarding options for active surveillance and preventive treatment for those exposed to pertussis.

It has come to the attention of the Pennsylvania Department of Health that a guest at a Memorial Day Weekend wedding in Luzerne County has been diagnosed with pertussis. The possibility of transmission to local residents and visitor does exist. Therefore, the Department of Health recommends the following.

- Consider pertussis when evaluating any infant, child, youth, or adult with an acute cough illness characterized by prolonged cough or cough with paroxysms, whoop, or post-tussive gagging/vomiting. Infants may present with apnea and/or cyanosis.
- Pertussis, or whooping cough, is an acute infectious disease caused by the bacterium Bordetella pertussis. B. pertussis is a small aerobic gram-negative rod. It is fastidious, and requires special media for isolation.
- The incubation period of pertussis is commonly 7 to 10 days, with a range of 4 to 21 days, and rarely may be as long as 42 days.
- The clinical course of the illness is divided into three stages.
  - The first stage, the catarrhal stage, is characterized by the insidious onset of coryza (runny nose), sneezing, low-grade fever, and a mild, occasional cough, similar to the common cold. The cough gradually becomes more severe, and after 1-2 weeks, the second, or paroxysmal stage, begins.
It is during the **paroxysmal stage** that the diagnosis of pertussis is usually suspected. Characteristically, the patient has bursts, or paroxysms of numerous, rapid coughs, apparently due to difficulty expelling thick mucus from the tracheobronchial tree. At the end of the paroxysm, a long inspiratory effort is usually accompanied by a characteristic high-pitched whoop. During such an attack, the patient may become cyanotic. Children and young infants, especially, appear very ill and distressed. Vomiting and exhaustion commonly follow the episode. The patient usually appears normal between attacks. Paroxysmal attacks occur more frequently at night, with an average of 15 attacks per 24 hours. During the first 1 or 2 weeks of this stage the attacks increase in frequency, remain at the same level for 2 to 3 weeks, and then gradually decrease. The paroxysmal stage usually lasts 1 to 6 weeks, but may persist for up to 10 weeks. Infants under 6 months of age may not have the strength to have a whoop, but they do have paroxysms of coughing.

In the **convalescent stage**, recovery is gradual. The cough becomes less paroxysmal and disappears over 2 to 3 weeks. However, paroxysms often recur with subsequent respiratory infections for many months after the onset of pertussis. Fever is generally minimal throughout the course of pertussis.

- Older persons (*i.e.*, **adolescents and adults**), and those partially protected by the vaccine may become infected with *B. pertussis*, but usually have milder disease. Pertussis in these persons may present as a persistent (>7 days) cough, and may be indistinguishable from other upper respiratory infections. Inspiratory whoop is uncommon.

- The most common complication, and the cause of most pertussis-related deaths, is secondary bacterial pneumonia.

- The diagnostic gold standard for pertussis is a **positive culture result**. The preferred method to obtain a specimen is with a nasopharyngeal aspirate; however a nasopharyngeal Dacron™ swab could also be used. Swabs or aspirate should be placed in Regan Lowe transport media if direct inoculation of selective media is not possible. The direct fluorescent antibody (DFA) stain of a nasopharyngeal swab is unreliable so this test **should not be used** to confirm pertussis. PCR testing of nasopharyngeal swabs and serologic test may be available in some commercial labs, but both test are not standardized. However, if the PCR test is considered valid by public health authorities, a positive result may be used to laboratory-confirm pertussis. The PADOH Bureau of Laboratories will provide testing free of charge. Call 1-877-PA-HEALTH to arrange for this testing.

- Report known or suspected cases promptly to the Pennsylvania Department of Health, Northeast District Office, at 1-877-PA-HEALTH.

- Erythromycin or trimethoprim/ sulfamethoxazole is the drug of choice for treatment of diagnosed cases and prophylaxis of household/close contacts, regardless of age or immunization status. The recommended dosages are as follows:
  - **Erythromycin**
    - Children: 40-50 mg/kg/day in four divided oral doses
    - Adults: 1-2 grams/day in four divided oral doses
  - OR
  - **Trimethoprim/Sulfamethoxazole**
    - Children: Trimethoprim: 8 mg/kg/day  
      Sulfamethoxazole: 40 mg/kg/day
    - Adults: Trimethoprim: 320 mg/day  
      Sulfamethoxazole: 1,600 mg/day
      in two divided oral doses
• Clarithromycin or azithromycin should only be used if the above antibiotics cannot be tolerated.
• Treatment should be continued for 14 days. All cases and their households/close contacts should receive erythromycin regardless of age or immunization status. Pertussis immunity is not absolute (100%) and may not prevent infection. Older children and adults with mild illness can transmit the infection.
• Symptomatic children and/or adults may return to school or work after completing the first 5 days of medication, but the full 14 days of treatment must be completed.
• Exposed susceptible persons should receive chemoprophylaxis. Exposure is defined as face-to-face contact, direct contact with respiratory, oral or nasal secretions, or being in the same room or ward with a coughing pertussis case-patients.
• A booster dose of DTaP vaccine is also recommended for any contact less than seven years of age who has not completed the four-dose primary immunization series or who has not received a dose of DTaP within three years before exposure.

Any questions or concerns regarding these recommendations should be directed to Terry Metcalf, RN, or Janet Naugle, RN at 1-877-PA-HEALTH.

For more information you may link to the CDC fact sheet Web page at: http://www.cdc.gov/nip/publications/pink/pert.pdf

The Department of Health is requesting that all suspected or confirmed cases be immediately reported to the Health Department by utilizing the standard Case Notification form or by telephone.

Mailing Address: Northeast District Office
665 Carey Avenue, Suite 5
Wilkes-Barre, PA 18706-5485

Telephone Number: 1-877-PA-HEALTH

Categories of Health Alert messages:
Health Alert: conveys the highest level of importance; warrants immediate action or attention.
Health Advisory: provides important information for a specific incident or situation; may not require immediate action.
Health Update: provides updated information regarding an incident or situation; no immediate action necessary.

This information is current as of June 12, 2002, but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.