



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
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Commissioner

ALERT # 40: Pertussis in New York City

Distribute to All Primary Care, Infectious Disease, Emergency Medicine, Internal Medicine, Pediatrics, Family Medicine, Obstetrics and Gynecology, Laboratory Medicine, and Infection Control Staff

- **An outbreak of pertussis continues to spread among Orthodox Jewish communities in Brooklyn.**
- **Ensure that children are up to date with pertussis-containing vaccines.**
- **Vaccinate all pregnant women with Tdap during every pregnancy.**
- **Obtain diagnostic testing and report clinically suspect cases promptly to the Health Department.**
- **Provide early treatment and post-exposure prophylaxis to prevent ongoing transmission.**

October 19, 2015

Dear Colleagues:

An outbreak of pertussis is ongoing among the Orthodox Jewish communities in Crown Heights, Williamsburg, and Borough Park, Brooklyn. From October 2014 through October 2015, 109 cases of pertussis have been reported to the New York City (NYC) Department of Health and Mental Hygiene (DOHMH), with an increase in cases over the past four months. The majority of cases (90%) are children aged <19 years (median age 4 years), of whom 52% were unvaccinated or not up to date with pertussis-containing vaccine. Infants aged <1 year account for 34% (n=37) of cases. Of the 37 mothers of infants with pertussis, only 3 (8%) received the recommended tetanus-diphtheria-acellular pertussis (Tdap) vaccination during their most recent pregnancy. Five infants were hospitalized, including one who had pneumonia.

To control the outbreak, we urge you to:

1. Recall patients who are not up to date with DTaP and Tdap vaccines
2. Vaccinate pregnant women with Tdap during every pregnancy
3. Report suspect cases
4. Follow droplet precautions
5. Obtain optimal specimens for diagnostic testing
6. Provide prompt antibiotic treatment and/or post-exposure prophylaxis

Delays in on-time initiation and completion of the pertussis-containing vaccine series remain problematic in the affected communities, facilitating ongoing transmission. Young infants are at greatest risk of severe pertussis infection and its complications. Recommended strategies to

protect these infants include ensuring that the mother receives Tdap during her pregnancy and that the infant starts the vaccine series on time at 2 months of age. Subsequent doses should be given at 4, 6 and 15-18 months and at 4-6 years of age. Pertussis-containing vaccines are required for children to attend child care, head start, pre-kindergarten and both private and public school programs. Providers caring for patients in the Orthodox Jewish communities should recall patients aged 2 months and older and who have not received recommended pertussis containing vaccines for immediate vaccination. The Citywide Immunization Registry (CIR) can be used to generate lists of children in your practice who are not up to date. For assistance with generating CIR recall lists, contact 347-396-2400. The routine immunization schedule is available at www.cdc.gov/vaccines/schedules/index.html.

Providers, including primary care, Ob/Gyn, family practice and midwives, should ensure that pregnant women receive Tdap during each pregnancy, preferably between 27 and 36 weeks gestation. A strong provider recommendation is the most important factor associated with maternal vaccination and is critical to achieving high rates of vaccination coverage. Providers who care for pregnant women but do not stock Tdap vaccine should refer women for vaccination and follow up to ensure they were vaccinated. All chain pharmacies provide Tdap for persons 18 years of age and older; many independent pharmacies also provide Tdap vaccine. Providers should educate pregnant women that infants are at highest risk for serious complications and that vaccination during pregnancy provides for passive antibody transfer to the infant to protect the baby before they are old enough to develop protection from vaccination. Evidence indicates that maternal Tdap can prevent 90% of infant pertussis infections. Educational handouts for pregnant women in the affected communities can be found at www.nyc.gov/html/doh/downloads/pdf/cd/pertussis-handout.pdf.

Pertussis is a highly contagious bacterial infection that begins with nonspecific upper respiratory symptoms that last for 7-10 days, followed by onset of cough. The classic pertussis cough includes persistent paroxysms (coughing fits), an inspiratory “whoop”, apnea, and/or post-tussive vomiting. Cough may last weeks to months if not treated early. **People with prior history of disease or vaccination may have milder symptoms and lack classic features of disease, making diagnosis more difficult.** Maintain a high level of suspicion of pertussis in all patients with a persistent cough. In infants, apnea can be a prominent feature and complications of pertussis include pneumonia, encephalitis, and death. In adults, complications of pertussis include post-tussive syncope and rib fracture, in addition to persistent cough. Individuals are infectious for up to three weeks or until 5 days after the start of effective antimicrobial treatment.

If pertussis is suspected based on clinical presentation or known exposure to a pertussis case, clinicians should collect a nasopharyngeal (NP) swab and send it to a commercial laboratory for polymerase chain reaction (PCR) testing. **Provide treatment after collecting diagnostic specimens. Do not wait for the results. Waiting for results facilitates disease transmission.** Specimens are most likely to be positive when patients have a clinically compatible illness and specimens are collected within the first three weeks of cough onset and before completion of antibiotics. DOHMH does not recommend serologic testing for pertussis because standardized tests are not available, making the results of commercially available tests difficult to interpret. More information about pertussis diagnostics can be found at www.cdc.gov/pertussis/clinical/downloads/diagnosis-pcr-bestpractices.pdf.

Antibiotic treatment can alleviate symptoms and reduce pertussis transmission if given early in the course of illness. Treatment should be provided to persons aged ≥ 1 year within 3 weeks of cough onset and to infants < 1 year and pregnant women within 6 weeks of cough onset. Children receiving treatment must stay home and cannot attend child care or school until they have received 5 days of antibiotics; similarly, adults should also stay home for the same time period. Treatment beyond this period is not thought to alter the duration of cough nor transmission to others and is not recommended. Physicians should prescribe either a macrolide or, for macrolide allergic patients, trimethoprim-sulfamethoxazole. Antibiotics should also be provided to close contacts (e.g. household members) of confirmed pertussis cases as post-exposure prophylaxis (PEP) to prevent illness and transmission. The antibiotics and dosing for treatment and prophylaxis are the same. If pertussis is strongly suspected, then PEP should begin while awaiting laboratory confirmation. For antibiotic details, see Table 4 at www.cdc.gov/mmwr/PDF/rr/rr5414.pdf.

In healthcare facilities, a dose of Tdap is routinely recommended for all healthcare personnel (HCP). HCPs should observe droplet precautions, such as wearing surgical masks, while evaluating suspect pertussis cases. Precautions should be observed regardless of the vaccination status of HCP. HCP with known unprotected exposure to pertussis and who are likely to expose pregnant women or neonates should receive PEP. Other HCP should either receive PEP or be monitored daily for 21 days after pertussis exposure and treated if pertussis symptoms develop.

Clinicians should report all suspected cases of pertussis to DOHMH. Do not wait until laboratory confirmation to report. Early reporting allows DOHMH to investigate cases and assist the facility in identifying those who need post-exposure prophylaxis to prevent further infections. To report a suspected case, clinicians should call DOHMH at 866-692-3641.

As always, your cooperation is appreciated.

Sincerely,

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