



Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
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Maine Health Alert Network (HAN) System

PUBLIC HEALTH ADVISORY

To: Health Care Providers, Schools, Daycares
From: Dr. Siiri Bennett, State Epidemiologist
Subject: Pertussis Update in Maine
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Abstract:

Maine is currently experiencing elevated rates of pertussis in York and Waldo counties, an increase in the number of infant cases and a change in age distribution of disease.

Maine Center for Disease Control and Prevention reports 301 pertussis cases in Maine through October 22, 2018 compared to 345 cases reported for the same time period in 2017. In York county, the rate of pertussis is 48.2 per 100,000, twice the state rate. Cases have increased significantly in the past two months. York county reported 25 cases in September and 29 cases so far in October. York county has accounted for 60% (11 of 19) of the young infant cases (infants < 6 months of age) and reported 5 since September. For comparison, in 2017 there were 14 cases of pertussis in infants < 6 months of age in Maine.

The increase in young infant cases is particularly important to note because this population can have the most severe complications from pertussis including hospitalization and death.

The best way to prevent pertussis is with vaccines. Federal CDC recommends pertussis vaccines for infants, children, adolescents, and adults. Infants and children should stay up to date on their vaccine schedules. Adults over the age of 20 should receive at least one dose of Tdap if they haven't received one already, especially if they will be around children.

Pertussis Update in Maine

Pertussis is a very contagious disease caused by the bacteria *Bordetella pertussis*. It is transmitted through direct contact with respiratory secretions of infected persons. Classic pertussis symptoms include paroxysmal cough, whoop, and posttussive vomiting. **Pertussis can cause serious illness and can even be life-threatening, especially in infants. About half of infants less than 1 year of age with pertussis require hospitalization.**

Overall in Maine, as of October 22nd 2018, providers reported a total of 301 pertussis cases from 16 counties. Six Maine counties (Androscoggin, Cumberland, Kennebec, Oxford, Waldo, and York counties) have rates higher than the state rate of 19.7 cases per 100,000. 42.9% of cases are in school aged children (age 7-19 years), 35.8% are in pre-school aged children (age 1-6 years) and 10.3% of cases are in children less than one year of age.

Cases of pertussis (Whooping Cough) are elevated in York county. In York county, the rate of pertussis is 48.2 per 100,000, twice the state rate. Cases increased significantly in the past two months. York county reported 25 cases in September and 29 cases so far in October. York county's pertussis cases are younger compared to the state, 47% of the cases are in pre-school aged children (age 1-6 years) and 13.5% of cases are in children less than one year of age. York county accounts for 60% (11 of 19) of the young infant cases (infants < 6 months of age) and reported five since September. For comparison, in 2017 there were 14 cases of pertussis in infants < 6 months of age in Maine. **The increase in young infant cases is particularly important to note because this population can have the most severe complications from pertussis including hospitalization and death.**

York county has had eight outbreaks of pertussis in 2018 of which five occurred in the last two months and four outbreaks are ongoing. The four outbreaks that are currently open are at the following facilities: John F. Kennedy School in Biddeford, Kennebunk Elementary School, Kennebunk Middle School and Ninny's House Childcare in Buxton, Maine.

Waldo county is also experiencing a high rate of pertussis this year, with the highest rate in the state at 94.5 cases per 100,000. As with York county, Waldo has a higher proportion of their cases in younger children; 54% of the cases are in pre-school aged children (age 1-6 years) and 21% of their cases were in children less than 1 year of age. Waldo county accounts for 21% (4 of 19) of the young infant cases, with one reported in October.

Maine CDC produces a monthly pertussis report that is posted online:

<https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/pertussis.shtml#reports> The next report will be released on Monday November 5th covering data reported to Maine CDC through October 31st. The report summarizes cases by county, demographics and outbreaks by county and facility.

Provider Recommendations:

- **Consider pertussis.** Pertussis can present as an acute illness characterized by cough >2 weeks in duration, or cough with paroxysms, whoop (often this is absent), or posttussive vomiting. Infants may present with gasping, gagging, apnea and/or cyanosis. Symptoms of infection are generally milder in teens and adults, especially in those who are vaccinated. With ongoing increased rates of pertussis in the community providers are encouraged to test cases for pertussis promptly and take special consideration when there are infants in the home. Fully vaccinated individuals can still get pertussis, so providers should not assume pertussis is unlikely in a vaccinated patient
- **Test persons who exhibit symptoms consistent with pertussis.** Samples can be sent to Maine's Health and Environmental Testing Laboratory (HETL) or another clinical laboratory. Polymerase

Chain Reaction (PCR) is the preferred testing method. Healthcare workers should follow standard precautions when seeing/testing suspect cases.

- Specimens for PCR testing should be obtained by swabbing the posterior nasopharynx. The preferred swab is a flocked, polyester plastic shaft swab such as the Copan® brand swab. Wooden swabs are unacceptable as they inhibit the PCR reaction.
- **Suspected pertussis in infants.** If pertussis is a possible diagnosis in an infant, treatment with azithromycin should be started immediately, even before test results are known. The severity of illness in an infant with pertussis is unpredictable and clinical decline can be rapid. Maine CDC recommends that all young infants (aged < 3 months) with possible pertussis should be admitted to the hospital and many will require PICU care. Additional information on the diagnosis and management of young infants with pertussis can be found on Maine CDC's website at: <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/documents/Pertussis-Infants-Guidance-Clinicians.docx>
- **Treat patients** diagnosed with pertussis with appropriate antibiotics and exclude from daycare, work, camp, and social activities and advise they avoid contact with infants and others susceptible to the disease until 5 days of treatment are completed. Exclusion should be started prior to receiving test results. If test is negative patient can return to activities; if positive, patient should remain excluded for the 5 days of treatment.
- **Offer prophylaxis** to asymptomatic household and high-risk contacts of persons diagnosed with pertussis (e.g. infants and their household contacts, pregnant women, healthcare workers), regardless of vaccination status. All infants in a daycare with a confirmed case of pertussis should receive antibiotic prophylaxis to prevent spread in infants. Asymptomatic contacts DO NOT need to be excluded from activities.
- **Check the vaccination status** of all patients and ensure they are up-to-date on pertussis vaccination. Pregnant women should receive Tdap in the third trimester of each pregnancy (between 27-36 weeks of pregnancy, at the earliest opportunity during this window). The recommended vaccination series for childhood whooping cough in **infants** is the first dose of DTaP at two months of age; even one dose of DTaP may offer some protection against fatal whooping cough disease in infants.

Vaccination Reminders

- Vaccine protection for pertussis (whooping cough) fades with time. Therefore, federal CDC recommends a single dose of Tdap for adults 19 or older who have not previously received a Tdap vaccine. Being up-to-date with one dose of Tdap is especially important for adults who are around babies. Even fully-vaccinated adults can get pertussis. If you are caring for babies, check with your healthcare professional about what's best for your situation.
- Effective beginning the 2017-2018 school year, all students in Maine entering, advancing, or transferring into seventh grade need one dose of Tdap (tetanus, diphtheria, and pertussis) vaccine before attendance is allowed. This requirement is for seventh grade students only; grades 8-12 are not included in this rule change.

Reporting

- Pertussis is a reportable disease and all cases should be promptly reported. Disease reports can be made by phone or fax 24 hours a day, 7 days a week. Phone: 1-800-821-5821 Fax: 1-800-293-

7534. The notifiable conditions reporting form and list of notifiable conditions can be found at <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/disease-reporting/>

- As a reminder, the clinical case definition and surveillance case definitions of pertussis are different, so the reported number of cases may seem lower than expected.
- Monthly pertussis surveillance reports are published online, these reports can be accessed at <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/pertussis.shtml> under 'Reports and Publications' and 'Monthly Surveillance Reports'. The most recent one is from September 2018.

Useful Resources:

- Maine CDC's website <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/pertussis.shtml>.
- Centers for Disease Control and Prevention <https://www.cdc.gov/pertussis/clinical/>
- For information about pertussis vaccine or vaccine schedules, please contact the Maine Immunization Program at www.immunizeme.org or by calling 1-800-867-4775.
- Infographic for pertussis vaccination <https://www.cdc.gov/pertussis/images/pertussis-vacc-all.jpg>

Maine CDC epidemiologists are available to answer any questions about pertussis diagnosis or management through the 24/7 disease reporting line at 1-800-821-5821.