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PUBLIC HEALTH ADVISORY

To: Healthcare Providers, Schools, Childcare Programs
From: Dr. Isaac Benowitz, Maine CDC State Epidemiologist
Subject: **Pertussis and Other Childhood Respiratory Illnesses Circulating in Maine**
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Abstract:

Childhood respiratory illnesses like pertussis, respiratory syncytial virus (RSV), and influenza are circulating in Maine and should be considered in addition to COVID-19.

Schools and childcare programs should be aware of exclusion recommendations specific to pertussis. The most effective approaches to preventing and reducing transmission of pertussis include ensuring children are up-to-date on recommended vaccines (and maintaining vaccination records) and ensuring symptomatic staff and children stay home if they are sick with pertussis-like symptoms. Healthcare providers should be aware of pertussis or other alternative diagnoses for patients presenting with respiratory symptoms and should test appropriately.

PERTUSSIS AND OTHER CHILDHOOD RESPIRATORY ILLNESSES CIRCULATING IN MAINE

In addition to widespread community transmission of COVID-19 in Maine, childhood respiratory illnesses like pertussis, respiratory syncytial virus (RSV), and influenza are currently circulating. Childcare, schools, and healthcare providers should be aware of other possible causes of COVID-like symptoms. Maine CDC recently published two Health Alerts on the [increase in RSV activity](#) (dated August 16, 2021) and the [arrival of Influenza](#) (dated November 4, 2021) in Maine.

Cases of pertussis in Maine have decreased dramatically since 2019. In 2020, there was a [92% decrease](#) in the reported number of pertussis cases in Maine compared to 2019, with the majority of cases occurring in early 2020. This is likely due to COVID-19 precautions such as wearing face coverings, physical distancing, and widespread remote learning. Cases of pertussis have remained low in 2021 but sporadic cases are now being reported. Since 2011, Maine has consistently experienced an elevated incidence of pertussis compared to the national average. It is possible that statewide trends may return to pre-COVID levels in the future.

Pertussis is a highly 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 coughing (commonly followed by a high-pitched “whooping” sound) and post-tussive gagging or vomiting. Pertussis can cause serious illness and can be life-threatening, especially in infants. Around half of infants less than 1 year of age with pertussis require hospitalization.

School and Childcare Provider Recommendations:

- **Exclude symptomatic cases.** Patients diagnosed with pertussis should be excluded from childcare, school, work, and social activities, and they should be advised to avoid contact with infants and others susceptible to pertussis until 5 days of treatment are completed. Exclusion of symptomatic patients should be started prior to receiving test results. Patients with a negative test who are *not* exhibiting respiratory symptoms or fever can return to group activities; all others should stay home. Asymptomatic contacts do not need to be excluded from activities.

Healthcare Provider Recommendations:

- **Consider pertussis based on symptoms.** A cough lasting more than 2 weeks, cough with paroxysms, whooping (often absent in older children), or post-tussive gagging or vomiting are often associated with pertussis. 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. Fully vaccinated individuals can still get pertussis, so providers should not assume pertussis is unlikely in a vaccinated patient. With the potential to see increased rates of pertussis in the community, providers are encouraged to test patients presenting with these symptoms. Polymerase Chain Reaction (PCR) is the preferred testing method. Serology is not recommended for diagnosing pertussis. Pertussis, RSV, and flu can present as an acute illness similar to COVID-19. Early testing is recommended so that appropriate treatment and precautions can be initiated.
- **Have a low threshold to treat 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 may 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>

- **Administer prophylaxis for close contacts.** Antibiotic prophylaxis should be administered to asymptomatic household members 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.
- **Check the vaccination status.** Providers should ensure that all patients, regardless of age, are up-to-date on pertussis vaccination per [ACIP recommendations](#). Immunity wanes over time so being up to date is especially important for adults who are around babies.
- **Make sure students are up to date on vaccinations.**
 - Between 1–4 doses of Tdap (tetanus, diphtheria, and acellular pertussis) vaccine are required for children 0–43 months in childcare programs, [depending on their age](#)
 - Four doses of Tdap are required for entry into Pre-K
 - Five doses of Tdap are required for entry into Kindergarten
 - Students entering, advancing, or transferring into seventh grade need one dose of Tdap.

All school immunization requirements are listed [here](#).

Reporting to Maine CDC:

- **Pertussis is a reportable disease** and all cases should be promptly reported by the diagnosing provider. Childcare providers and schools are responsible for reporting an outbreak of pertussis in their facility (3 or more cases) immediately.
- Disease reports can be made by phone (800-821-5821) or fax (800-293-7534) 24 hours a day, 7 days a week.

Useful Resources:

- Maine CDC, Pertussis: <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vaccine/pertussis.shtml>
- [Information on Submitting Samples to the Maine Health and Environmental Testing Laboratory](#)
- Centers for Disease Control and Prevention (CDC), Pertussis: <https://www.cdc.gov/pertussis/clinical/>
 - Treatment of pertussis: <https://www.cdc.gov/pertussis/clinical/treatment.html>
- Infographic for pertussis vaccination <https://www.cdc.gov/pertussis/images/pertussis-vacc-all.jpg>
- CDC, RSV: <https://www.cdc.gov/rsv/index.html>
- CDC, Influenza: <https://www.cdc.gov/flu/index.htm>
- For information about vaccines or vaccine schedules, please contact the Maine Immunization Program at www.immunizeme.org or by calling 1-800-867-4775.

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.

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/>