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To: Local Health Departments and Tribal Health Centers
Wisconsin Health Care Providers and Infection Preventionists

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Guidelines for Follow-up of Individuals with Negative Pertussis PCR Results

PLEASE DISTRIBUTE WIDELY

The purpose of this memo is to notify you and your staff of the Immunization Program's recommendations for the investigation of individuals with negative pertussis test results. Polymerase chain reaction (PCR) assay is the most commonly used diagnostic test for pertussis and it is most accurate if obtained during the first three weeks of cough. A positive PCR result for *Bordetella pertussis* confirms a diagnosis of pertussis in patients with 14 or more days of cough and either whoop, paroxysms, or post-tussive vomiting. In addition, there is a subset of individuals with negative PCR results who are actually infected with *B. pertussis*. Therefore, local health departments (LHDs) are encouraged to investigate individuals even if a negative test result is obtained. All health care providers who suspect a person is infected with pertussis must report this to the LHD. All suspect cases, whether testing indicates a positive or negative result, may be subject to investigation under Wis. Stat. ch. 252.

Recommendations for investigating individuals with negative pertussis PCR results are detailed below.

Negative Pertussis PCR Results in WEDSS

The Wisconsin State Laboratory of Hygiene and the majority of Wisconsin laboratories transmit negative pertussis PCR results to WEDSS. For each negative test result, LHDs should import the result from the WEDSS staging area and create a WEDSS disease incident. These should not simply be deleted from the staging area.

Investigating Pertussis Incidents with Negative PCR Results

Much of the information that would inform a decision to investigate a PCR-negative incident (for example, timing of specimen collection in relation to cough onset, contact with a pertussis patient) cannot be obtained without contacting the provider or patient. LHDs are encouraged to follow up with individuals with negative PCR results to identify those who were tested late during their course of illness, are known to have had contact with a pertussis patient, or are otherwise at high risk of infection or complications.

If resource limitations preclude the investigation of all PCR-negative incidents, the Immunization Program recommends prioritizing investigation as follows:

- Symptomatic individuals who are contacts of patients with laboratory-confirmed cases
- Infants (\leq 12 months of age)
- Other individuals and groups the LHDs deem important to the control of pertussis in their jurisdiction, such as school-aged children

Focusing on these populations is warranted because of their likelihood of having greater pertussis-related morbidity or their increased likelihood of spreading pertussis in the community.

If a LHD chooses not to investigate a PCR-negative incident, the WEDSS Process Status and Resolution Status must both be set to “Not a Case.” This combination of statuses indicates to the Immunization Program that the incident was not investigated.

Community-reported Pertussis Incidents

Individuals reported by a non-laboratory source, such as a provider or school, should always be investigated even if they were not tested or the test result was negative. Wisconsin statutes require reporting to the LHD upon suspicion of pertussis, and LHDs should remain responsive to individuals who do report. The best way to identify and control pertussis in your community is to encourage reporting by providers and schools. Increasing the index of suspicion of pertussis and improving communication about potential pertussis events will be helpful in focusing your investigations on the individuals who are likely to have pertussis or are at highest risk for severe disease.

Summary

Please disseminate this information to your staff who investigate pertussis incidents or complete pertussis case report forms in WEDSS. Questions can be directed to Sarah Born at 608-266-8621 or sarah.born2@wi.gov, or Stacey Moyer at 608-266-9316 or stacey.moyer@wi.gov.