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To: The Wisconsin Clinical Laboratory Network

From: Julie Tans-Kersten, Director, Wisconsin Tuberculosis Program

Laboratory Reporting of Latent Tuberculosis Infection (LTBI) Test Results

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LTBI Reporting

Recent changes to Wis. Admin. Code ch. DHS 145 have designated latent tuberculosis infection (LTBI) as a reportable condition in Wisconsin, effective July 1, 2018. LTBI shall be reported by fax, mail, or electronic reporting to the patient's local health officer or to the local health officer's designee on an Acute and Communicable Disease Case Report (F- 44151) or by other means, or by entering the data into the Wisconsin Electronic Disease Surveillance System (WEDSS) within 72 hours of the identification of a case or suspected case.

LTBI Case Definition

Wisconsin has adopted the LTBI case definition that was established by the Council of State and Territorial Epidemiologists in June 2017. The definition includes clinical and laboratory (immunologic and microbiologic) criteria.

- Laboratory criteria include a positive interferon gamma release assay (IGRA) or positive tuberculin skin test (TST) and a negative culture for *M. tuberculosis* complex, if a specimen was collected.
- Clinical criteria include no signs or symptoms consistent with tuberculosis (TB) disease and chest imaging (chest radiograph or CT scan) without abnormalities consistent with TB disease. If chest imaging is abnormal, TB disease has been clinically ruled out.

A suspected case of LTBI meets laboratory criteria but lacks sufficient clinical information. A confirmed LTBI case meets clinical and laboratory criteria.

Laboratory Reporting Requirements

- Report immunologic test results consistent with LTBI (e.g., positive IGRA results, such as QuantiFERON-TB Gold Plus or T-SPOT TB).
- All relevant immunologic results **including nil, mitogen, and TB antigen numeric values for IGRA**, millimeters of induration for TST, **and interpretation** shall be reported.
- Laboratories will transmit IGRA results into WEDSS via electronic laboratory report or will fax laboratory results directly to the patient's local health officer.

Importance of IGRA Numeric Results

Multiple papers have reported variability and high reversion rates (from positive to negative) in serial QuantiFERON results; much work has been done to determine a retesting zone.[1, 2, 3, 5, 6, 7] The Thanassi study recommends that clinicians retest low-risk individuals with initial QuantiFERON results less than

1.11 IU/mL.[7] TB antigen values between 0.36 and 1.1 IU/mL were found to represent a "borderline" range in which high rates of reversion occurred. Official American Thoracic Society/Infectious Diseases Society of America/Centers for Disease Control and Prevention Clinical Practice guidelines also recommend confirmatory or dual testing for individuals unlikely to be infected.[4]

Local health departments and health care providers in Wisconsin will be performing further follow-up for patients when clinical and laboratory criteria for LTBI are met. Especially for patients with little or no risk for *M. tuberculosis* infection, numeric IGRA results are necessary to determine if further testing is warranted before LTBI treatment is offered. When numeric IGRA results are not provided on the report, the Wisconsin Tuberculosis Program recommends that local health departments and health care providers contact laboratories to obtain these results.

Resources

- LTBI Case Reporting and Investigation Protocol (EpiNet): https://www.dhs.wisconsin.gov/publications/p02303.pdf

- Wisconsin LTBI reporting information (Wisconsin Tuberculosis Program website): https://www.dhs.wisconsin.gov/tb/provider-resources.htm

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