DEPARTMENT OF HEALTH

MLS Laboratory Update: Requesting Residual Lower Respiratory Tract Specimens for Confirmed or Suspected Legionnaires' Disease Cases

JUNE 21, 2022

Purpose of this Message:

To remind MLS laboratories that when a patient is found to be positive for *Legionella*, the case is reportable and an isolate or clinical specimen* should be submitted to MDH-PHL. The optimal clinical specimen to submit (when an isolate is not available) to MDH-PHL, is an available residual lower respiratory tract specimen* (e.g., sputum, bronchoalveolar lavage [BAL], pleural fluid, or endotracheal aspirate). *Legionella* culture will be performed to obtain isolates from confirmed or suspected cases of Legionnaires' disease. Clinical isolates are crucial to linking patient illness to an environmental source by molecular subtyping.

***NOTE: MDH-PHL is NOT requesting that a specimen be collected solely for submission to MDH-PHL, only submit residual respiratory specimen if there is one available.**

Action Item:

1. Please submit available residual lower respiratory tract specimens* from patients with positive *Legionella* urinary antigen tests (UAT) or positive *Legionella* PCR tests to MDH-PHL.
2. Use "Project 2126" on the MDH-PHL General Infectious Disease Laboratory Submission Form (**https://www.health.state.mn.us/diseases/idlab/forms.html**) when submitting lower respiratory tract specimens for *Legionella* culture.
3. Please forward or share this message with lab sections/benches (such as chemistry) that perform *Legionella* UAT.

Please Submit Residual Specimens*:

- MDH-PHL is requesting that laboratories retain and submit to MDH-PHL available residual lower respiratory tract specimens* for *Legionella* culture when:
  1. patient is positive by *Legionella* (UAT) and has a residual lower respiratory tract specimen available*.
  2. patient is positive by *Legionella* PCR and has a residual lower respiratory tract specimen available*.
  3. it is known that a patient's *Legionella* infection continues to be clinically suspected despite a negative *Legionella* UAT and has a residual lower respiratory tract specimens available*.

- Available lower respiratory tract specimens* sent to MDH-PHL for *Legionella* culture should note "Project 2126" on the submission form. The MDH-PHL general Infectious Disease Laboratory submission form and form guidance are available online at Forms for the Infectious Disease Laboratory.
- *Legionella* isolates from laboratories that do perform *Legionella* culture should continue to be submitted to MDH-PHL per usual practice.
- DO NOT submit urine specimens that are positive for the *Legionella* UAT to MDH-PHL. Urine is not a good specimen source for *Legionella* culture.

Results Reporting:

- MDH-PHL does not typically report results back to submitters for these specimens, as it is considered surveillance.
- If your laboratory requires a report back for the culture results, please note that request on the submission form and contact Paula Vagnone at paula.snippes@state.mn.us or 651-201-5581.

Background:

- Legionellosis is reportable, and clinical materials (isolate or specimen) submittable, in Minnesota.
- The incidence of Legionnaires' disease has risen both nationally and in Minnesota over the past several years. In 2021, there were 130 cases reported to MDH, and the median annual number of cases reported from 2016 to 2020 was 115 (range, 94 to 152 per year). Prior to 2016, there were never more than 60 cases reported annually.
- Most cases of Legionnaires' disease cases are diagnosed via *Legionella* UAT, which detects *Legionella pneumophila* serogroup 1 infection.
- Very few (<5%) of the *Legionella* UAT-positive cases reported to MDH also had *Legionella* culture of lower respiratory tract specimens such as sputum or BAL performed.
- *Legionella* UAT may be sufficient to diagnose and treat an individual patient and fulfills the public health case definition for Legionnaires' disease laboratory diagnosis. However, as with other infectious diseases, culture-independent methods affect public health surveillance because clinical materials and isolates are not available for molecular subtyping methods such as whole genome sequencing. Testing clinical isolates is crucial for identifying clusters and outbreaks and linking patient illness to an environmental source.
- An increase in patient specimens cultured and isolates obtained would improve MDH's capability to detect and investigate clusters and outbreaks of Legionnaires' disease.
- Because *Legionella* culture requires special selective media (e.g., buffered charcoal yeast extract agar), a routine bacterial culture will not yield *Legionella*.

Questions:

If you have laboratory–related questions please contact Paula Vagnone, Microbiology Unit Supervisor, at 651-201-5581.

If you have questions about reporting a case or epidemiology, please call Ellen Laine at 651-201-4031.

Thank you for your assistance!

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PLEASE FORWARD THIS TO ALL APPROPRIATE PERSONNEL WITHIN YOUR INSTITUTION AND HEALTH SYSTEM

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To obtain this information in a different format, call: 651-201-5200.