

POLICY Template for IDENTIFYING & INVESTIGATING LEGIONNAIRES' DISEASE CASES

Policy:

To establish a process for the identification, reporting, investigation, response, and prevention of Legionnaires' disease and other Legionella-associated illnesses within the facility, and to ensure compliance with applicable federal, state, and local requirements.

Etiology

Legionellosis is a bacterial disease caused by Legionella species. There are multiple types of legionellosis:

- **Legionnaires' disease:** characterized by illness with pneumonia diagnosed radiographically or clinically
- **Pontiac fever:** a milder, self-limiting illness without pneumonia
- **Extrapulmonary legionellosis:** rare; characterized by extrapulmonary infection

Legionnaires' disease is a severe form of pneumonia that often requires hospitalization and is fatal in about 10% of cases overall, and in 25% of healthcare-associated cases.

Legionnaires' disease is caused by *Legionella* bacteria. There are at least 60 different species of *Legionella*, and most are considered capable of causing disease. However, most disease is caused by *L. pneumophila*, particularly serogroup 1.

Surveillance for Legionnaires' disease shall include ongoing monitoring of healthcare-associated pneumonia cases, review of respiratory infection trends, and evaluation of any laboratory-confirmed Legionella infections among residents, staff, visitors, volunteers, or contractors. An increase in healthcare-associated pneumonia above baseline should prompt further review for potential Legionella exposure.

Legionella testing should be considered when there is an increase in HAI pneumonia. The incubation period for Legionnaires' disease is 2-14 days prior to pneumonia onset. If a patient has a diagnosis of pneumonia and had one or more overnight stays at a healthcare facility during the 2-14 days prior to symptom onset, consider testing for *Legionella* is warranted.

Clinicians should consider testing patients with healthcare-associated pneumonia (pneumonia with onset >48 hours after admission) for Legionnaires' disease. This is especially important among patients at increased risk for developing Legionnaires' Disease, among patients with severe pneumonia (particularly those requiring intensive care), those with Epidemiologic link to a setting with known *Legionella* concerns, those with Outpatient antibiotic failure for community-acquired pneumonia or if any of the following are identified in your facility:

- Other patients with healthcare-associated Legionnaires' Disease diagnosed in the past 12 months;
- Positive environmental tests for *Legionella* in the past two months;
- Current changes in water quality that may lead to *Legionella* growth (such as low chlorine levels).

The preferred diagnostic tests for Legionnaires' disease are molecular testing or culture of lower respiratory secretions on selective media and the *Legionella* urinary antigen test.

Reporting

Promptly report laboratory confirmed cases of Legionnaires' disease to your local/state health department. Timely identification and reporting of cases is important, as this allows public health officials to quickly identify and stop potential clusters and outbreaks by linking new cases to previously reported ones.

The Infection Preventionist will notify corporate clinical leadership, facility administration, and the Water Management Program team immediately upon identification of a suspected or confirmed healthcare-associated case.

Perform a full investigation for the source of *Legionella* when:

Presumptive healthcare-associated case: ≥10 days of continuous stay at a healthcare facility during the 14 days before symptom onset. The case is considered a presumptive healthcare-associated case for surveillance purposes even if the stay involved multiple healthcare facilities. (Inpatients)

Possible healthcare-associated case: A portion of the 14 days before onset of symptoms spent in one or more healthcare facilities. These cases don't meet the criteria for presumptive healthcare-associated Legionnaires' disease. (HCP, Visitors, Contractors, Volunteers)

A patient discharged directly from one healthcare facility to another is an example of a continuous stay across multiple healthcare facilities.

Investigation and control of Legionnaires' disease

If a single case or multiple cases of Legionnaires' disease are detected:

- Report to the State and local health department.
- The State/LHD will open an investigation and provide consultation for facilities reporting a possible and/or definite case(s) of healthcare facility-associated

Legionnaires' disease. Investigations will be conducted jointly with the Department of Health.

- Recommendations for control will vary depending on the types of patients the facility services, whether the case is a probable or definite healthcare facility associated case, and certain elements of the physical plant.

The recommendations will cover:

- Retrospective and prospective surveillance to identify additional cases;
- Obtaining urinary antigen for Legionella for cases identified on retrospective surveillance (if causative agent is *L. pneumophila* serogroup 1);
- Assessment of physical plant, potable water systems, construction activities, and current water treatment and maintenance;
- Environmental culturing;
- Molecular analysis of patient and environmental isolates;
- Other infection control measures, including Reinforcement of recommendations described in "Use and care of respiratory equipment for the prevention of Legionnaires' disease" in this document; and Tap water restrictions for immune compromised populations. Notification to patients and family members if a water restriction is indicated, including the rationale for the restriction.

Documentation shall include:

- Case investigation findings
- Communication with public health authorities
- Water management review activities
- Environmental testing results
- Corrective actions implemented
- Resident, family, and staff notifications, when applicable

Control Measures

Response actions, short- and long-term control measures are guided by the consultants based on the facility risk assessment.