

# Legionellosis

<b>Signs and Symptoms</b>	<p>Three clinically distinct illnesses fall under the category of legionellosis. Legionnaires' disease (characterized by pneumonia), Pontiac Fever (a mild illness without pneumonia) and extrapulmonary legionellosis (infection at a site other than lungs).</p> <p>Additional information on signs and symptoms: <a href="#">Legionella (Legionnaires' Disease and Pontiac Fever)   CDC</a> and <a href="#">Revision to the Case Definition for National Legionellosis Surveillance   CSTE (PDF)</a>.</p>	
<b>Incubation</b>	<p>Legionnaires' disease: 14 days before symptom onset (most commonly 5 to 6 days)            Pontiac fever: within 72 hours of exposure            Extrapulmonary legionellosis: no standardized incubation period defined</p>	
<b>Source of Infection</b>	<p>Caused by <i>Legionella</i> bacteria which are found naturally in freshwater environments worldwide. <i>Legionella</i> can become a health concern when the bacteria proliferate in human-made water systems. People can acquire legionellosis when they breathe in aerosolized contaminated water. <i>Legionella</i> bacteria can also be naturally found in soil, including potting soil. Extrapulmonary legionellosis is rarely described but can be acquired in a variety of manners such as infection of a wound. Person-to-person transmission has been only extremely rarely documented.</p>	
<b>Case classification</b>	<p><b>Confirmed case:</b> A clinically compatible case that meets at least one of the <a href="#">confirmatory</a> laboratory criteria.  <b>Suspect case:</b> A clinically compatible case that meets at least one of the <a href="#">suspect</a> laboratory criteria.</p>	<p><b>Probable case:</b> A clinically compatible case with an epidemiologic link to a setting with a confirmed source of <i>Legionella</i> or an epidemiologic link to a setting with a suspected source of <i>Legionella</i> associated with at least one confirmed case during the 14 days before onset of symptoms.</p>
<b>Differential diagnosis</b>	<p>For Legionnaires' disease, consider other causes of pneumonia, including viral, bacterial, and fungal agents.</p>	
<b>Treatment</b>	<p>Antibiotics for Legionnaires' disease, supportive care for Pontiac Fever.</p>	
<b>Laboratory</b>	<p><b>Clinicians should collect urine for urine antigen test <i>and</i> respiratory specimen for <i>Legionella</i> culture or PCR (polymerase chain reaction) for <i>all</i> suspected legionellosis cases.</b> For additional information: <a href="#">Laboratory Testing for Legionella   CDC</a> and DOH's <a href="#">Diagnosing Legionnaires' Disease (PDF)</a>.</p> <p>Store clinical isolates on Buffered Charcoal Yeast Extract (BCYE) media at refrigerator temperature (1-10°C), and store respiratory specimens in the freezer (-70°C or below). Ship according to Washington State Public Health Laboratories (PHL) requirements: <a href="#">PHL Lab Test Menu</a>. Please note that clinical specimens shipped to PHL must be ordered through the <a href="#">PHL Lab Web Portal (LWP)</a>.</p> <p>Environmental testing for <i>Legionella</i>, if indicated, should occur at a certified Environmental Legionella Isolation Techniques Evaluation (ELITE) lab (<a href="#">ELITE Program   CDC</a>). Technical assistance with environmental assessment and sampling during healthcare associated case and cluster investigations is available from the Department of Health—contact the Washington State Department of Health (DOH) Office of Communicable Disease Epidemiology (CDE) at 206-418-5500 or <a href="mailto:legionella@doh.wa.gov">legionella@doh.wa.gov</a>.</p>	
<b>Public Health investigation</b>	<p>For all cases, interview using the DOH case form and enter into WDRS: <a href="#">DOH Legionellosis Case Report Form (PDF)</a>. When investigating cruise ship exposures, consider also using the <a href="#">Cruise Ship Questionnaire   CDC (PDF)</a>.</p> <p>Goal of public health investigation is to determine if cases are possibly healthcare- or travel-associated, and to collect exposure information to identify possible clusters of illness and remediate source.</p>	

# Legionellosis

## 1. DISEASE REPORTING

### A. Purpose of Reporting and Surveillance

1. To identify sources of transmission (e.g., contaminated water source) and prevent further transmission from such a source
2. To identify outbreaks and educate potentially exposed persons and healthcare providers about signs and symptoms of disease, thereby facilitating early diagnosis and treatment

### B. Legal Reporting Requirements

1. Health care providers and health care facilities: notifiable to **local health jurisdiction** within 24 hours
2. Laboratories: *Legionella* species notifiable to **local health jurisdiction** within 24 hours; submission of *Legionella* isolates required (2 business days) to the Washington State Public Health Laboratories (PHL). If no isolate is available but a respiratory specimen is available *and* associated with a positive test (as in the case of a PCR positive), please submit the respiratory specimen associated with positive result
3. Local health jurisdictions: notifiable to the Washington State Department of Health (DOH) Office of Communicable Disease Epidemiology (CDE) within 7 days of case investigation completion or summary information required within 21 days

### C. Local Health Jurisdiction Investigation Responsibilities

1. Begin follow-up investigation within one working day
2. Ensure that laboratories forward the first isolate from each patient to PHL for molecular studies in the event a subsequent cluster is detected. If no isolate is available, but a respiratory specimen is available *and* associated with a positive test (as in the case of a PCR positive), ensure laboratories send the respiratory specimen associated with positive result
3. Report all *confirmed*, *probable*, and *suspect* cases ([see definitions below](#)) to CDE. Complete the [DOH Legionellosis Case Report Form \(PDF\)](#) and enter data into the Washington Disease Reporting System (WDRS)

## 2. THE DISEASE AND ITS EPIDEMIOLOGY

### A. Etiologic Agent

*Legionella* are Gram-negative bacilli. Numerous different species and serogroups can infect humans, but most recognized infections are due to *L. pneumophila* serogroup 1. Commonly used urine antigen tests only detect *L. pneumophila* serogroup 1, which may cause testing bias. However, the extent of this bias is unclear.

*Legionella* bacteria thrive in warm aquatic environments and can survive for extended periods in potable water. Person-to-person transmission has only been extremely rarely documented.

## B. Description of Illness

Illness is usually associated with two clinically and epidemiologically distinct syndromes: Legionnaires' disease, a potentially fatal form of pneumonia, and Pontiac fever, a self-limited illness without pneumonia.

Rarely, *Legionella* can cause disease at sites outside the lungs (for example, *Legionella* infection is associated with endocarditis, wound infection, joint infection, graft infection); this is termed extrapulmonary legionellosis.

Persons at increased risk for Legionnaires' disease include those over 50 years of age, are current or former smokers, have chronic lung conditions, and those with certain medical conditions such as COPD, cancer, kidney failure, liver failure, diabetes, and immunosuppression. For more information, see [Clinical Features of Legionnaires' Disease and Pontiac Fever | CDC](#).

## C. Legionellosis in Washington

During recent years, the number of reported Legionellosis cases has been generally increasing with 60 to 130 cases reported annually. Approximately 7% to 10% of these cases were fatal.

## D. Reservoirs

Water is the primary reservoir. *Legionella* can survive for extended periods in potable water. *Legionella* can also be naturally found in soil, including potting soil.

## E. Modes of Transmission

Outbreaks have implicated contaminated plumbing systems, including hot water tanks and shower heads and faucets. Additionally, mist from cooling towers, whirlpool spas, respiratory therapy equipment, and decorative fountains (including water walls) has been implicated. Bacteria multiply in warm water (growing best between 77°F - 113°F) and are often associated with biofilms. Sloughing of biofilms due to jarring of plumbing (such as may occur in construction) or changes in water chemistry (such as changes in chlorination procedures or water source) can cause *Legionella* bacteria, if present in the biofilm, to be released into the plumbing system. If a susceptible person breathes in aerosolized water containing the bacteria, infection can result. Less commonly, people can become infected if they aspirate drinking water containing *Legionella* bacteria. Attack rates are low for Legionnaires' disease (CDC estimates that less than five percent of exposed persons develop Legionnaires' disease in the context of an identified outbreak), but high for Pontiac fever (greater than 90 percent). See [How Legionella Spreads | CDC](#) and [Clinical Features of Legionnaires' Disease and Pontiac Fever | CDC](#).

Potting soil has been associated with *L. longbeachae* infection, a serogroup uncommon in the United States.

Person-to-person transmission has only been extremely rarely documented.

## F. Incubation Period

For Legionnaires' disease, the 14 days before onset (most commonly 5 to 6 days); for Pontiac fever, within 72 hours after exposure. There is no defined incubation period for extrapulmonary legionellosis.

## G. Period of Communicability

Person-to-person transmission has been only rarely documented.

## H. Treatment

Legionnaires' disease should be treated promptly with appropriate antibiotics. Delay in treatment is associated with increased mortality rates. Pontiac fever requires no specific treatment. For cases of extrapulmonary legionellosis, consultation from an infection disease specialist may be warranted.

## 3. CASE DEFINITIONS

### A. Clinical Criteria for Diagnosis

Legionellosis is associated with three clinically and epidemiologically distinct illnesses:

Legionnaires' disease: presents as pneumonia, diagnosed clinically and/or radiographically. Evidence of clinically compatible disease can be determined several ways: a) a clinical or radiographic diagnosis of pneumonia in the medical record OR b) if "pneumonia" is not recorded explicitly, a description of clinical symptoms that are consistent with a diagnosis of pneumonia.

Pontiac fever: a milder illness. While symptoms of Pontiac fever could appear similar to those described for Legionnaires' disease, there are distinguishing clinical features. Pontiac fever does not present as pneumonia. It is less severe than Legionnaires' disease and rarely requires hospitalization. Pontiac fever is self-limited, meaning it resolves without antibiotic treatment.

Extrapulmonary legionellosis: *Legionella* can cause disease at sites outside the lungs (for example, *Legionella* infection is associated with endocarditis, wound infection, joint infection, graft infection). A diagnosis of extrapulmonary legionellosis is made when there is clinical evidence of disease at an extrapulmonary site and diagnostic testing indicates evidence of *Legionella* at that site.

### B. Laboratory Criteria for Diagnosis

#### 1. Confirmed:

- Isolation of any *Legionella* organism from lower respiratory secretions, lung tissue, pleural fluid, or extrapulmonary site
- Detection of any *Legionella* species from lower respiratory secretions, lung tissue, pleural fluid, or extrapulmonary site by a validated nucleic acid amplification test
- Detection of *Legionella pneumophila* serogroup 1 antigen in urine using validated reagents
- Fourfold or greater rise in specific serum antibody titer to *Legionella pneumophila* serogroup 1 using validated reagents

#### 2. Suspect:

- Fourfold or greater rise in antibody titer to specific species or serogroups of *Legionella* other than *L. pneumophila* serogroup 1 (e.g., *L. micdadei*, *L. pneumophila* serogroup 6)
- Fourfold or greater rise in antibody titer to multiple species of *Legionella* using pooled antigens
- Detection of specific *Legionella* antigen or staining of the organism in lower respiratory secretions, lung tissue, pleural fluid, or extrapulmonary site associated with clinical disease by direct fluorescent antibody (DFA) staining, immunohistochemistry (IHC), or other similar method, using validated reagents

### 3. Probable:

- No lab criteria required for case classification

## C. Epidemiologic Linkage

1. Epidemiologic link to a setting with a confirmed source of *Legionella* (e.g., positive environmental sampling result associated with a cruise ship, public accommodation, cooling tower, etc.)

**OR**

2. Epidemiologic link to a setting with a suspected source of *Legionella* that is associated with at least one confirmed case

## D. Case Definition

### Confirmed Legionnaires' disease:

A clinically compatible case of Legionnaires' disease with confirmatory laboratory evidence for *Legionella*

### Probable Legionnaires' disease:

A clinically compatible case with an epidemiologic link during the 14 days before onset of symptoms

### Suspect Legionnaires' disease:

A clinically compatible case of Legionnaires' disease with suspect laboratory evidence for *Legionella*

### Confirmed Pontiac fever:

A clinically compatible case of Pontiac fever with confirmatory laboratory evidence for *Legionella*

### Probable Pontiac fever:

A clinically compatible case with an epidemiologic link during the 3 days before onset of symptoms

### Suspect Pontiac fever:

A clinically compatible case of Pontiac fever with suspect laboratory evidence for *Legionella*

### Confirmed Extrapulmonary legionellosis:

A clinically compatible case of extrapulmonary legionellosis with confirmatory laboratory evidence of *Legionella* at an extrapulmonary site

### Suspect Extrapulmonary legionellosis:

A clinically compatible case of extrapulmonary legionellosis with suspect laboratory evidence of *Legionella* at an extrapulmonary site

## 4. DIAGNOSIS AND LABORATORY SERVICES

### A. Laboratory Diagnosis

Urinary antigen assay **and** culture or PCR of respiratory secretions on selective media are together the preferred diagnostic tests for confirming Legionnaires' disease. For more on clinical testing, see [Laboratory Testing for Legionella | CDC](#).

- Urine antigen tests: Rapid immunoassays are available commercially to detect *Legionella* antigens in urine. Urine antigen tests only detect *L. pneumophila* serogroup 1. The duration of antigen excretion in urine varies, with some individuals excreting only transiently (allowing for the possibility of a positive urine antigen test followed by a negative result shortly thereafter, if repeat testing is ordered) and some excreting for weeks or months after illness. Per discussion with CDC, note that if there is a single urine antigen positive result in a patient with illness clinically consistent with Legionnaires' disease or Pontiac fever, this is sufficient to classify the case as confirmed. If a case subsequently tests urine antigen negative, the case would still be considered confirmed based on the initial result. Contact CDE (206-418-5500 or [legionella@doh.wa.gov](mailto:legionella@doh.wa.gov)) to discuss any testing concerns
- Culture: *Legionella* bacteria can be isolated from lower respiratory tract secretions, lung tissue, and pleural fluid by using special media. The sensitivity of culture is highly variable depending on the severity of illness, antibiotic initiation, and the experience of the laboratorian performing the test. The advantage of culture is that it can be used to detect all species and serogroups and allow for comparison with environmental samples, if available. Note that per discussion with CDC, in individuals with a dry cough for whom little mucus is secreted, it is still useful to obtain a sputum sample as it may still be possible to culture *Legionella* from a specimen that is "more spit than mucus" (per CDC description). If a sputum sample is not feasible, a bronchial alveolar lavage (BAL) or bronchial wash can also be used to collect a respiratory specimen
- Polymerase chain reaction (PCR): *Legionella* DNA can be isolated from lower respiratory tract secretions, lung tissue, pleural fluid and other specimens using PCR Nucleic Acid Amplification Testing (NAAT) methods. In some instances, respiratory specimens associated with a positive PCR result can be sent to PHL for attempt of culture from the respiratory specimen
- Other testing methods, including direct fluorescent antibody (DFA) and paired serology are available, but are not preferred diagnostic methods

## B. Services Available at the Washington State Public Health Laboratories (PHL)

PHL can perform diagnostic and environmental testing for *Legionella*.

See the [PHL Lab Test Menu](#) for more information about testing. Please note that clinical specimens shipped to PHL must be ordered through the [PHL LWP](#).

In general, urine (for urine antigen) and respiratory specimens (for culture and/or PCR) from patients with suspected Legionnaires' disease should be sent commercially.

PHL can perform PCR and culture from clinical specimens; pre-approval is not required.

*Legionella* isolates from patients must be submitted by commercial labs to PHL. If no isolate is available, but respiratory specimen is available *and* associated with a positive test (as in the case of a PCR positive), the respiratory specimen associated with positive result should be sent to PHL. If an environmental investigation identifies *Legionella*, those isolates (if tested elsewhere than PHL) should also be submitted to PHL.

Store clinical isolates on BCYE media at refrigerator temp (1-10°C), and store respiratory specimens in the freezer (-70°C or below). Ship according to PHL requirements: [PHL Lab Test Menu](#).

PHL and CDC can perform sequence based typing and whole genome sequencing to match patient and environmental isolates. Contact CDE at 206-418-5500 or [legionella@doh.wa.gov](mailto:legionella@doh.wa.gov) to facilitate such testing.

If an environmental testing is indicated, environmental specimens should be sent for *Legionella* testing at an Environmental *Legionella* Isolation Techniques Evaluation (ELITE) lab. PHL obtained ELITE status in 2019. CDC maintains a list of ELITE labs: [ELITE Program Member List | CDC](#).

PHL can perform environmental testing upon pre-approval of the local health jurisdiction (LHJ) and DOH. In general, such pre-approval will be granted for outbreak or other special circumstances. Please contact CDE for consultation as needed at 206-418-5500 or [legionella@doh.wa.gov](mailto:legionella@doh.wa.gov).

Please note that environmental specimens shipped to PHL must be ordered through the [PHL LWP](#). Use the environmental LWP form (located on the environmental side of the LWP) and select "other" as the Sample Type and type in "Isolate" in the Specify Other Sample Type field. If you need access or have questions about the environmental side of the LWP, please contact the PHL Environmental Lab at [envmicrolab@doh.wa.gov](mailto:envmicrolab@doh.wa.gov).

Note that DOH Division of Environmental Public Health (EPH) may be able to provide consultation and technical assistance regarding the environmental health aspects of *Legionella* case and cluster investigations and primary prevention efforts. They also provide capacity building and training for local environmental health. Call CDE at 206-418-5500 or email [legionella@doh.wa.gov](mailto:legionella@doh.wa.gov) to discuss your needs and to be connected to appropriate staff in EPH.

### C. Specimen Collection

Isolates should be submitted to PHL on media that support their growth; preferred media is BCYE. It is highly preferred that urine *plus* respiratory specimen be collected for all suspected cases. Culture (preferred, as then there is a bacterial isolate) or PCR results are necessary in order to identify illness due to non-*L. pneumophila* serogroup 1. In addition, to match patient isolates to each other or to an environmental source, culture is preferred.

## 5. ROUTINE CASE INVESTIGATION

Interview the case and others who may be able to provide pertinent information. As most cases of legionellosis present as sporadic disease, routine case investigation is limited to collecting information on demographics, the basis of diagnosis, risk factors for disease, and potential sources of infection.

### A. Evaluate the Diagnosis

Using the [DOH Legionellosis Case Report Form \(PDF\)](#), itemize signs and symptoms and obtain copies of laboratory reports that support the diagnosis. Urinary antigen assay **and** culture or PCR for the organism are together the preferred diagnostic tests for confirming Legionnaires' disease. If *Legionella* is isolated from the patient, ensure that the laboratory sends the isolate to PHL for molecular studies in the event a subsequent cluster is detected.

## B. Manage the Case

Hospitalized patients should be cared for using standard precautions.

## C. Identify Potential Sources of Infection

Ask about potential exposures in the 14 days prior to onset including:

- Time spent in a hospital or other healthcare setting including long-term care as an inpatient, outpatient, employee, or visitor;
- Use of respiratory therapy equipment;
- Time spent in a congregate living facility, area with large buildings that may have a cooling tower(s), or convention, reception, conference, or public gathering;
- Work with water device/system maintenance;
- Work in water-related leisure, industrial/manufacturing plant involving spraying water, commercial or long-haul truck driving, commercial kitchen, custodial services, construction, wastewater treatment plant, or job with water exposures;
- Exposure to aerosolized water;
- Exposure to recreational water;
- Travel;
- Spending as least one night away from the home; and
- Exposure to soil

Investigate all travel and healthcare-associated cases, particularly persons hospitalized or spending time at a long-term care facility during the entire exposure period (See [Managing Special Situations section](#)).

## D. Identify Other Potentially Exposed Persons

Promptly report possible travel and healthcare-associated cases to CDE.

## E. Manage Other Potentially Exposed Persons

Increased surveillance may be appropriate for others exposed to the same source.

## F. Environmental Evaluation

For consultation regarding environmental evaluation, contact CDE at 206-418-5500 or [legionella@doh.wa.gov](mailto:legionella@doh.wa.gov) for referral to appropriate EPH staff.

# 6. MANAGING SPECIAL SITUATIONS

## A. Healthcare-Associated Case

For consultation, please contact CDE (206-418-5500 or [legionella@doh.wa.gov](mailto:legionella@doh.wa.gov)). If needed, CDE can arrange conference calls with CDC Legionnaires' disease epidemiology, laboratory, and environmental health subject matter experts to discuss complex situations. Such calls can also include staff from across DOH and other state agencies to ensure coordinated response to healthcare-associated cases.



According to the Council of State and Territorial Epidemiologists (CSTE) case definition appendix here: [Revision to the Case Definition for National Legionellosis Surveillance | CSTE \(PDF\)](#)

“Public health response to cases, including defining an outbreak or decisions regarding an environmental investigation, will be based on the local or state jurisdiction’s assessment of the *Legionella* exposure risk at the identified facility/facilities and evidence of epidemiologic links.

Standardized reporting definitions for healthcare-associated Legionnaires’ disease:

**Presumptive healthcare-associated Legionnaires’ disease:** A case with  $\geq 10$  days of continuous stay at a healthcare facility during the 14 days before onset of symptoms.

**Possible healthcare-associated Legionnaires’ disease:** A case that spent a portion of the 14 days before date of symptom onset in one or more healthcare facilities, but does not meet the criteria for presumptive healthcare-associated Legionnaires’ disease.”

Please reference: [Investigating Healthcare-associated Cases and Outbreaks | CDC](#).

For additional communications information, please see: [Implementing Communication Plans | CDC](#).

CSTE has messaging guides that LHJs can modify and use in special circumstances. Please see: [Legionnaires’ Disease Risk Communication Toolkit | CSTE \(PDF\)](#) (scroll to Healthcare Facilities Module).

## B. Travel-Associated Case

A travel-associated Legionnaires’ disease case is defined as a case of Legionnaires’ disease in a patient who has a history of spending at least one night away from home (excluding healthcare settings) in the 14 days before onset of illness.

A travel-associated Pontiac fever case is defined as a case of Pontiac fever in a patient who has a history of spending at least one night away from home (excluding healthcare settings) in the 3 days before onset of illness.

- Report travel-associated cases promptly to CDE in WDRS
- Obtain lodging or cruise ship information including facility name, address, room number, dates spent at the facility, and if a hot tub, spa, or jetted tub was present (even if the tub or spa was not used)
- Ask about others in the travel group who may be ill

CSTE has a template letter that LHJs can modify and send to hotels regarding a single Legionnaires’ disease case possibly associated with the hotel. Note that this letter does not imply that the hotel is the source of illness (scroll to Hotels & Hospitality Facilities Module): [Legionnaires’ Disease Risk Communication Toolkit | CSTE \(PDF\)](#).

## C. Clusters of illness

If a cluster of legionellosis is suspected, confirmation and investigation are warranted, as morbidity may be significant and mortality high. Additionally, reservoirs may be found and eliminated through investigation. Contact CDE (206-418-5500 or [legionella@doh.wa.gov](mailto:legionella@doh.wa.gov)) for consultation and connection to appropriate resources.

DOH EPH can assist with environmental investigations, including consultation on sampling, remediation, and capacity building. Contact CDE to involve DOH EPH and other partners as

appropriate. It is important to also consult with the LHJ EPH program when undertaking environmental investigations to ensure a coordinated response.

CDC has extensive information about environmental assessment and sampling on its website, including videos demonstrating appropriate water sampling methods. See: [Environmental Assessment and Sampling Resources | CDC](#).

#### D. Community-associated outbreaks

Community-associated outbreaks are defined as an increase in Legionnaires' disease cases in a certain geographic area. If available data show an increase in Legionnaires' disease in a certain geographic area, consider conducting a full outbreak investigation.

In some instances, identifying a single case justifies a full investigation such as when the case has spent the entire exposure period at a facility (e.g., a correctional facility or other facility where people cannot leave). For additional information, see: [Public Health Guidance for Community-associated Outbreaks | CDC](#).

- Report community-associated cases promptly to CDE in WDRS

## 7. ROUTINE PREVENTION

### A. Immunization Recommendations

None

### B. Prevention Recommendations

CDC has a strong emphasis on primary prevention via educating building owners and operators about the importance of water management programs.

Healthcare facilities are required by the Centers for Medicare & Medicaid Services (CMS) to have water management programs. See: [Federal Requirement to Reduce Legionella Risk | CDC](#).

For more on water management programs, see: [Overview of Water Management Programs | CDC](#).

## ACKNOWLEDGEMENTS

This document is a revision of the Washington State Guidelines for Notifiable Condition Reporting and Surveillance published in 2002 which were originally based on the Control of Communicable Diseases Manual (CCDM), 17<sup>th</sup> Edition; James Chin, Ed. APHA 2000. We would like to acknowledge the Oregon Department of Human Services for developing the format and select content of this document.

## UPDATES

April 2010: The guideline was reviewed. Changes were made to Section 7A.

January 2011: The Legal Reporting Requirements section has been revised to reflect the 2011 Notifiable Conditions Rule revision.

June 2012: The guideline was reviewed. No significant changes were made.

June 2014: The guideline was reviewed. No significant changes were made.

November 2014: A change was made to Section 1C: Local Health Jurisdiction Investigation Responsibilities, directing LHJs to complete the CDC Legionellosis Case Report form for all confirmed and suspect cases and fax the completed CDC form to DOH CDE.

October 2017: Front page added, extensive updates to the managing special situations section and increased information about appropriate laboratory testing and water management.

March 2018: Edited to change mentions of PHIMS to WDRS. Removed mention of CDC Legionnaires' disease case report form, as sending such form to CDE is no longer required given that WDRS contains all of the questions on the CDC form.

December 2019: Edited in accordance with the CSTE case definition adopted in June 2019 that goes into effect January 1, 2020. Case definition is here: [Revision to the Case Definition for National Legionellosis Surveillance | CSTE \(PDF\)](#). Edits made in accordance with the updated case definition include addition of extrapulmonary legionellosis, inclusion of a new probable epi-link category, updating PCR positive cases from suspected to conformed, updating of travel-associated and healthcare-associated case definitions and updating of the Legionnaires' disease incubation period from 2-10 days to the 14 days before onset.

December 2022: For 2023 WAC revision combined provider and facility reporting requirement, updated laboratory submission (Section 1B)

December 2023: For 2024 WAC revision updated laboratory submission.

June 2024: CDC links updated

October 2024: Guidelines were reviewed. Hyperlinks updated, Section 2C was updated with recent data, Section 4B was updated with information about the Lab Web Portal, Section 5C was updated to reflect new case interview questions in WDRS, Section 6D was added.

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