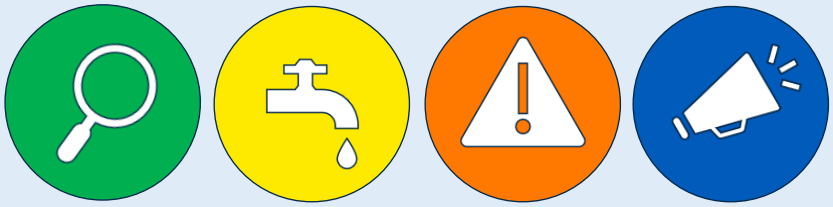
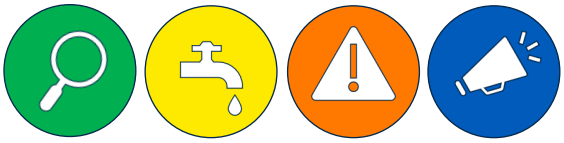
Legionnaires' Disease Risk Communication Toolkit



CSTE
COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS

June 2022

Contributors & Acknowledgements



The Council of State and Territorial Epidemiologists (CSTE) thanks the members of the Legionnaires' Disease Risk Communication Subgroup and the following individuals for their contributions to this toolkit:

Valerie Thomas, New York City Department of Health and Mental Hygiene
Co-chair, CSTE Legionnaires' Disease Risk Communication Subgroup

Jane Yackley, Tennessee Department of Health
Co-chair, CSTE Legionnaires' Disease Risk Communication Subgroup

Paul Gacek, Connecticut Department of Public Health
Chair, CSTE Legionnaires' Disease Surveillance Workgroup

Legionnaires' Disease Risk Communication Subgroup Members

Kimberly Alvarez, New York State Department of Health

Brian Bachaus, Maryland Department of Health

Constance Bell, Wisconsin Department of Health Services

Stephanie Black, Chicago Department of Public Health

Tori Burket, Denver Department of Public Health and Environment (formerly with the Colorado Department of Public Health and Environment)

Robert Cole, Southern Nevada Health District

Elizabeth Daly, New Hampshire Department of Health and Human Services

Stacy Davidson, Kentucky Department for Public Health

Traci DeSalvo, Wisconsin Department of Health Services

Robert Fitzhenry, New York City Department of Health and Mental Hygiene

Prabhu Gounder, Los Angeles County Department of Public Health

Thomas Haupt, Wisconsin Department of Health Services

Vivian Hawkins, Washington State Department of Health

Judy Kauerauf, Illinois Department of Public Health

Janice Kim, California Department of Public Health

Anna Kocharian, Wisconsin Department of Health Services

Sarah Koske, Wisconsin Department of Health Services

Ellen Laine, Minnesota Department of Health

Jennifer Layden, Formerly representing the Illinois Department of Public Health

Alison Keyser Metobo, Nebraska Department of Health and Human Services

Bozena Morawski, Formerly with the Idaho Department of Health and Welfare, Division of Public Health

Kathleen Ross, New Jersey Department of Health

Carrell Rush, Kentucky Department for Public Health

Sarah Rutschmann, California Department of Public Health

Vaidehi Shah, Waco-McLennan County Public Health District

Bryce Spiker, Michigan Department of Health & Human Services

Karrie-Ann Toews, Representing Chicago Department of Public Health

Anita Valiani, North Carolina Department of Health and Human Services

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With the U.S Centers for Disease Control and Prevention:

Alison Albert
Albert Barskey
Chris Edens
Elizabeth Hannapel
Sooji Lee
Shelby Miller
Jessica Smith

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The toolkit was authored for CSTE by Patricia I. Elliott JD, MPH, President, Health|Environment Concepts under the direction of CSTE staff member, Ashley Vineyard, MPH.

For questions about this document, please contact: Council of State and Territorial Epidemiologists 2635 Century Pkwy NE, Suite 700 Atlanta, GA 30345 Tel: 770.458.3811 | Fax: 770.458.8516

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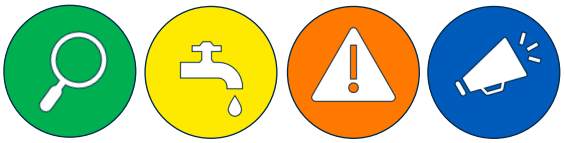

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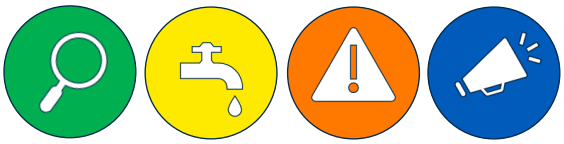
Legionnaires' Disease Risk Communication Modules (in supplemental documents)

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Testing Results in the Absence of Cases

Introduction



The Ongoing Challenge of Legionnaires' Disease

Although some may see Legionnaires' disease (LD) as occurring infrequently—and then only in limited settings—it is in fact an ongoing public health threat that occurs in multiple settings. The U.S. Centers for Disease Control and Prevention (CDC) notes the rate of reported LD cases in the United States has increased steadily from 2000 to 2018. There were almost 10,000 cases reported by health departments in the United States in 2018, though CDC considers the true incidence of the disease to be higher as LD is likely underdiagnosed (CDC, 2021j). CDC researchers report that the "largest number of cases occurred among White persons, but the highest incidence was in Black or African American persons" (Barskey, Derado, & Edens, 2022). CDC (2021j) acknowledges uncertainty about the reasons for the increase in LD cases; it may be due to increased awareness and reporting, greater susceptibility in the population, more *Legionella* in the environment, or a combination of these. Regardless of the cause, it is clear that state, tribal, local, and territorial (STLT) health agencies need to emphasize timely and appropriate communications with key audiences and the general public as part of the process of identifying and responding to cases and outbreaks of LD.

Varying Risk Communication Approaches and Development of this Toolkit

Individual STLT health agencies have employed a variety of approaches to communicate the risks of LD. Agencies may have developed their own guidance internally as well as used existing resources about surveillance, reporting, investigation, and communication. As a result, protocols and guidance for communicating LD risks and mitigation information can vary across and within jurisdictions. For this reason, the CSTE Legionnaires' Disease Surveillance Workgroup (the Workgroup) initiated a project to develop cohesive risk communication guidance available to all STLT health agencies. The Workgroup tasked the CSTE Legionnaires' Disease Risk Communication Subgroup with collecting and distilling a range of LD risk communication resources and materials created by STLT and federal agencies and organizations with the goal of producing cohesive risk communication guidance.

Using the Toolkit

This toolkit opens by providing introductory information in several topic areas:

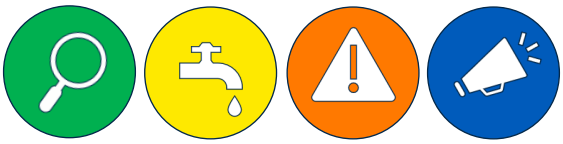
- Chapter 1: Legionnaires' Disease Basics
- Chapter 2: Legal Authorities for Legionnaires' Disease Activities
- Chapter 3: Access to Information and Confidentiality
- Chapter 4: Potential Liability Issues
- Chapter 5: Communication Considerations
- Chapter 6: Water Management Programs

The information in these foundational chapters applies to all settings in which LD can occur. The toolkit next provides a series of setting- and scenario-specific modules that address LD-related information and messaging targeted to that setting. The setting- and scenario-specific modules are:

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Testing Results in the Absence of Cases

Each module also provides templates and samples for key communication items such as notification letters, notices, public health orders, press releases, and health department advisories. The modules also identify implementation tips and other resources to help STLT health agency staff communicate the risks of LD in these specific settings and with target audiences. More detailed information about using the modules is contained in the "Overview of Legionnaires' Disease Risk Communication Modules" section.

Chapter 1: Legionnaires' Disease Basics



This chapter provides basic information about Legionnaires' disease (LD) and the related condition, Pontiac fever (PF). It covers the following topics:

- History of LD and PF
- Causes of LD and PF
- Persons at risk
- Symptoms
- Diagnosis
- Treatment
- Reporting
- Mitigation and prevention

History of Legionnaires' Disease and Pontiac Fever

LD is a severe type of pneumonia caused by infection with *Legionella* bacteria. *Legionella* can also cause PF, a related but milder illness (CDC, 2021g). Although extremely rare, extrapulmonary legionellosis (XPL), such as endocarditis or wound infection, can also occur (CDC, 2021c). LD, PF, and XPL are collectively referred to as legionellosis. There are at least 60 species of *Legionella*, although most laboratory-confirmed disease arises from *Legionella pneumophilia* serogroup 1 (CDC, 2021g). *L. pneumophila* was discovered in 1977 after an outbreak of pneumonia among attendees at an American Legion convention in Philadelphia, Pennsylvania, the previous year (CDC, 2021j). While PF was first described among workers and visitors at the city health department in Pontiac, Michigan in 1968, the causal linkage of the *Legionella* bacterium between the two diseases was not established until 1977 (CDC, 2021j).

Causes

Legionella can grow in systems and devices that contain water in the built environment. *Legionella* can grow in water sources like water pipes, water heaters, and water storage tanks. These sources can supply water to systems like cooling towers, hot tubs/whirlpool spas ("hot tubs"), decorative fountains, and other water features that can aerosolize water and transmit *Legionella* to susceptible people (CDC, 2021g; see also CDC, 2020b). *Legionella* can also be found in natural and freshwater environments, but it is generally not associated with disease in those settings due to the factors for growth and spread (CDC, 2021g).

People can become ill with LD or PF when they inhale aerosolized water containing *Legionella*. Transmission can also occur via aspiration of drinking water containing the bacteria. *Legionella* is not generally transmitted through person-to-person contact.[1] Exposure to *Legionella* can

[1] CDC notes that "a single episode of possible person-to-person transmission of Legionnaires' disease has been reported (CDC, 2021g, citing Correia, et al., 2016).

occur in several ways. The U.S. Centers for Disease Control and Prevention (CDC) (2021g) notes that travel is a risk factor since facilities like hotels, resorts, and cruise ships often use large, complex water systems and have sources of aerosolized water like showers, hot tubs, and decorative fountains. Other facilities like hospitals and long-term care facilities, which serve at-risk populations, can similarly become sites for *Legionella* growth and transmission through the building's water systems (CDC, 2021g). Additionally, healthcare facilities can use devices that aerosolize water, which can be another potential source for *Legionella* colonization and exposure. People who live or work in large buildings that have complex water systems or that use cooling towers (e.g., apartments with centralized hot water systems, office and commercial spaces, healthcare facilities), may also face potential exposure to *Legionella* if these building systems have conditions favorable for *Legionella* growth and spread. (See Chapter 6 "Water Management Programs" for more information on the role of building water systems in LD.) In vacant buildings or those with significantly decreased occupancy—such as office buildings closed during the COVID-19 pandemic—stagnant or standing water can cause conditions that increase the risk for *Legionella* to grow (CDC, 2021h; see also CDC, 2021t). Finally, there can be cases of sporadic LD in which the case is not associated with an outbreak (CDC, 2020a) and for which the source of exposure is unknown (CDC, 2021q).

Persons at Risk

CDC (2021g) identifies the following personal risk factors for LD, including:

- Aged 50 or older
- Current or prior smoking
- Chronic lung disease (e.g., chronic obstructive pulmonary disease, emphysema)
- Immune system disorders due to disease or medication (e.g., those taken after a transplant operation or chemotherapy)
- Systemic malignancy (i.e., cancer)
- Underlying illness (e.g., diabetes, kidney failure, liver failure)

For More Information...

See the CDC's materials for clinicians for more in-depth information about disease specifics, clinical features, and LD diagnosis, treatment, and prevention. Access it at https://www.cdc.gov/legionella/clinicians.html.

CDC (2021g) also identifies risk factors for persons who are exposed to certain settings, such as:

- Recent travel with an overnight stay outside of the home, such as staying at a hotel or resort
- Exposure to a hot tub or other source of aerosolized water such as recreational misters or decorative fountains
- Recent care at a healthcare facility

Symptoms

LD causes severe pneumonia that often requires the patient to be hospitalized, while PF generally resolves on its own (CDC, 2021c). CDC notes that in extremely rare instances *Legionella* can also cause XPL (2021c). (See "Clinical Criteria" below.)

LD is similar to other types of pneumonia, with symptoms that include (CDC, 2021n):

- Cough
- Shortness of breath
- Fever
- Muscle aches
- Headaches

Other symptoms such as diarrhea, nausea, and confusion can also be associated with LD (CDC, 2021n). Symptoms typically begin five to six days after exposure but can range from two to fourteen days (CDC, 2021c).

For PF, which is a milder illness than LD, the primary symptoms are fever and muscle aches; the patient does not have pneumonia (CDC, 2021n). Symptoms usually commence between several hours and three days after exposure, and last less than a week (CDC, 2021n).

Legionnaire's Disease & COVID-19 Symptoms

COVID-19 symptoms—including cough, fever, and shortness of breath—are similar to those of LD. Many of the same people at increased risk for having severe COVID-19 outcomes are also the same people who are at increased risk for LD. Given the similarities in the two diseases' presentations and the commonness of COVID-19, clinicians may be more likely to test for COVID-19 than for LD and may initially believe a case to be COVID-19 rather than LD. Coinfections also do occur. Delays in seeking care for LD can lead to worse health outcomes for patients. It is important for clinicians to order appropriate laboratory tests to confirm the cause of a patient's illness and to order appropriate treatment. Prompt treatment with antibiotics is important for LD, and COVID-19 treatment may exacerbate illness for persons with LD. *See* Cassell, K., Davis, J.L. & Berkelman, R. Legionnaires' disease in the time of COVID-19. *Pneumonia* 13, 2 (2021). Available at https://doi.org/10.1186/s41479-020-00080-5.

Diagnosis

LD, PF, and XPL case classifications include both clinical diagnosis and laboratory testing. The Council of State and Territorial Epidemiologists (CSTE) case definition for national legionellosis surveillance (Position Statement 19-ID-04) (2019a) uses the following clinical and laboratory criteria to classify a case as LD, PF, or XPL. A probable LD, PF, or XPL case meeting clinical criteria may also arise through epidemiologic linkage.

Clinical Criteria

CSTE Position Statement (PS) 19-ID-04 lists the following clinical criteria for determining if a case of legionellosis should be categorized as LD, PF, or XPL.

- LD—Presents as pneumonia, diagnosed clinically and/or radiographically (CSTE, 2019a, p. 5). PS19-ID-04 notes: "[e]vidence 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" (CSTE, 2019a, p. 6). The clinical symptoms of pneumonia can vary, however PS19-ID-04 states that symptoms must include "acute onset of lower respiratory illness with fever and/or cough" (CSTE, 2019a, p. 6). It further adds that "[a]dditional symptoms could include myalgia, shortness of breath, headache, malaise, chest discomfort, confusion, nausea, diarrhea, or abdominal pain" (CSTE, 2019a, p. 6, fn. 1).
- PF—Presents as a milder illness. Although the clinical symptoms of PF can vary, PS19-ID-04

states that symptoms must include "acute symptom onset of one or more of the following: fever, chills, myalgia, malaise, headaches, fatigue, nausea and/or vomiting" (CSTE, 2019a, p. 6, fn. 2). The statement further notes "[w]hile symptoms of PF could appear similar to those described for LD, there are distinguishing clinical features" (CSTE, 2019a, p. 6, fn. 2). It also notes that "PF does not present as pneumonia", "is less severe than LD, rarely requiring hospitalization", and that "PF is self-limited, meaning it resolves without antibiotic treatment" (CSTE, 2019a, p. 6, fn. 2).

- XPL—Legionellosis can occur in other sites in the body beyond the lungs (CSTE, 2019a, p. 6). Infection with *Legionella* may be as associated with "endocarditis, wound infection, joint infection, [or] graft infection" (CSTE, 2019a, p. 6). PS19-ID-04 further states that "[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" (CSTE, 2019a, p. 6).

Laboratory Criteria

CSTE PS19-ID-04 identifies the confirmatory and supportive laboratory evidence necessary to classify a legionellosis case. PS19-ID-04 also identifies specific laboratory results that must be reported to public health authorities (CSTE, 2019a, p. 4).

Confirmatory laboratory evidence (CSTE, 2019a, p. 6):

- "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 *L. pneumophila* serogroup 1 antigen in urine using validated reagents.
- Fourfold or greater rise in specific serum antibody titer to *L. pneumophila* serogroup 1 using validated reagents."

Supportive laboratory evidence (CSTE, 2019a, p. 6):

- "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 staining, immunohistochemistry, or other similar method, using validated reagents."

Key Resource Document

CSTE *Position Statement 19-ID-04 Revision to the Case Definition for National Legionellosis Surveillance* (June 6, 2019) Available at: https://cdn.ymaws.com/www.cste.org/resource/resmgr/2019ps/final/19-ID-04_Legionellosis_final.pdf

Epidemiologic Linkage

CSTE Position Statement 19-ID-04 also identifies two criteria from which an epidemiologic link can be made for classifying a probable case of legionellosis (a person with clinically compatible illness that was not diagnosed via laboratory testing) (CSTE, 2019a, p. 7):

- "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), or
- Epidemiologic link to a setting with a suspected source of *Legionella* that is associated with at least one confirmed case."

Treatment

Legionnaires' disease is treated with antibiotics (macrolides and respiratory fluoroquinolones). Most people diagnosed with LD require hospitalization, but persons who are otherwise healthy will generally get better after treatment (CDC, 2021f). CDC (2021f) reports that about one out of ten people sick with LD die from complications, which include lung failure. For people who acquire LD while they are staying in a healthcare facility, about one out of four will die (CDC, 2021f). For PF, the illness resolves without specific treatment (CDC, 2021f).

Reporting

Cases and outbreaks of legionellosis are reportable by clinicians, hospitals, and/or laboratories to state or local health departments as required by state law. Legionellosis is a nationally notifiable disease as determined by CSTE (CSTE, 2019a; see also CSTE, 2010) and designated in the National Notifiable Diseases Surveillance System (NNDSS) at CDC (CDC, 2021k). State health departments send reports of legionellosis cases to NNDSS as well as to the CDC's Supplemental Legionnaires' Disease Surveillance System (SLDSS). Public health officials report outbreaks of LD and PF through the Waterborne Disease Outbreak Surveillance System (WBDOSS) of the National Outbreak Reporting System (NORS) (CDC, 2021k). (See Box 1.1 for more information about public health surveillance of legionellosis.)

CDC issues periodic reports summarizing surveillance data for LD, PF, and XPL. The report combines data from NNDSS and SLDSS to better describe "…case count and incidence, seasonality and geographic distribution, demographic characteristics, potential exposure sources, disease severity indicators, and diagnostic laboratory test results" (CDC, 2021p). It is important to note that these surveillance summary reports can reveal important information about the burden of LD. In the 2020 CDC *Legionnaires' Disease Surveillance Summary Report* (which covers data for 2016–2017), it was observed that "…most cases reported to NNDSS occurred in persons reporting White race; however, incidence was higher in persons reporting Black or African American race" (CDC, 2020a, p. 7). In a study reported in March 2022, CDC researchers compared the incidence of LD cases during the relatively steady period for LD case numbers (1992–2002) to the period beginning in 2003 when case counts began to increase (Barskey et al., 2022). Researchers found that "[r]eported LD incidence increased in nearly every demographic, but increases tended to be larger in demographic groups with higher incidence[;] [d]uring both periods, the largest number of cases occurred among White persons, but the highest incidence was in Black or African American persons" (Barskey et al., 2022, p. 528).

Box 1.1
Surveillance of Legionellosis

CDC (2021o) notes that robust public health surveillance can help to rapidly detect new cases of legionellosis, establish epidemiological links among cases, and determine if an outbreak investigation is warranted. Outbreak investigations are key in identifying sources of transmission and instituting control measures (CDC, 2021o).

CDC relies on CSTE's legionellosis position statement, which establishes the case definition for surveillance purposes. The case definition encompasses three clinically and epidemiologically distinct illnesses associated with *Legionella* infection: Legionnaires' disease, Pontiac fever, and extrapulmonary legionellosis. Available at: https://cdn.ymaws.com/www.cste.org/resource/resmgr/2019ps/final/19-ID-04_Legionellosis_final.pdf.

CDC Resources for Surveillance and Reporting of Legionellosis

- *Case Definitions*–Clinical description, laboratory criteria for suspect and confirmed diagnosis, and criteria for classifying a case as confirmed, probable, or suspect.
- *Surveillance Classifications*–Exposure categories for surveillance purposes, including travel, presumptive/possible healthcare, assisted living, and senior living.
- *How to Report Cases*–Methods of surveillance and surveillance systems:
  - *National Notifiable Diseases Surveillance System (NNDSS).*
  - *Supplemental Legionnaires' Disease Surveillance System (SLDSS)* – SLDSS is used to collect extended information on legionellosis cases, such as exposure history and method of diagnosis, beyond the information CDC receives in NNDSS. Reports to SLDSS are made via email, fax, or mail to CDC's Respiratory Diseases Branch Legionnaires' Disease Program, ideally within 7 days for travel-associated cases and within 30 days for non-travel cases.
  - *Waterborne Disease Outbreak Surveillance System (WBDOSS)* of the National Outbreak Reporting System (NORS).
- *Instructions for Legionellosis Case Report Forms*– Addresses methods for submitting forms and instructions for providing information on patient information and demographics; clinical information and outcome; travel, healthcare, and other exposure information; and laboratory data.
- *Surveillance Reports*–A descriptive annual summary of the reporting and burden of Legionnaires' disease in the United States.

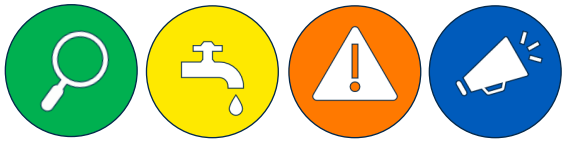
Mitigation and Prevention

Timely recognition, reporting, and investigation of legionellosis cases are key to rapidly identifying potential outbreaks, linking cases, and detecting and mitigating shared exposure sources. As will be covered in the setting- and scenario-specific modules in this toolkit, clearly communicating the risk factors for LD and precautions to prevent *Legionella* infections are crucial tasks for public health professionals.

IMPORTANT NOTE:

Given the severity of LD, the following chapters and modules will focus on messaging about LD; **however, public health agencies may also include messaging about PF and/or XPL as appropriate for a specific case or outbreak.**

Chapter 2: Legal Authorities for Legionnaires' Disease Activities



While this toolkit focuses on the variety of settings in which Legionnaires' disease (LD) events occur, there are foundational legal authorities that empower public health and other agencies to act across a range of settings. These public health legal authorities are furthered by statutes and regulations governing the operations of specific facility types (e.g., hotels, hospitals) and systems (e.g., hot tubs, pools) that can give rise to LD. This chapter gives a brief overview of:

- The sources of public health legal authority.
- The types of authorities available to public health and other agencies to address LD.

Please note: Any legal analysis of a specific scenario or outbreak depends on the facts of that event and the laws of the jurisdiction in which it occurs. Public health department personnel should consult with their agency/government legal counsel.

Information about laws and legal theories discussed in this section and the toolkit are for information only and are not legal advice.

Sources of Public Health Authority

The authority of state, tribal, local, and territorial (STLT) public health officials and departments is both established in and limited by several types of legal sources, including constitutions, statutes, regulations, and judicial decisions. (See Box 2.1). The ultimate authority for state public health action arises from the Tenth Amendment to the U.S. Constitution which grants states the powers and rights not specifically delegated to the U.S. Government in the Constitution. Known as "state police power," states (and localities through delegation) are empowered to make and enforce laws that promote the health, safety, and welfare of the public (Holt, 2019). Tribal nations are sovereign entities and therefore have inherent rights of self-governance (CDC, 2021u). Territories are granted self-governance authorities by the U.S. Congress under the Constitution (U.S. Const. art. IV, § 3, cl. 2). The legal authorities of STLT governments are further contained in state, tribal, and territorial constitutions. Thus, these collective legal authorities support the primary mission of public health agencies: to protect and promote the public's health.

Although public health legal authorities are significant, they are not without limitation. The U.S. Supreme Court has established that courts will defer to the authorities granted to public health agencies through legislation but that these powers must be exercised based on persuasive public health and medical evidence, and agencies cannot act in an arbitrary manner or in a way that poses unreasonable risk for harm (Jacobson v. Massachusetts, 1905).

Types of Legal Authorities Available to Public Health

The authority of public health agencies to identify, investigate, and order remediation in facility building water systems or devices with *Legionella* is supported by several types of laws. Collectively, these laws simultaneously empower and constrain public health activities. These laws fall into the categories described below.

General Government Laws

These laws apply generally to any government agency. Administrative procedure or records retention laws are examples of general government laws. As will be discussed in Chapter 3, freedom of information/open records and confidentiality laws are other examples of these types of laws. General government laws also establish the relationship of localities to the state and the powers granted to local governments.

Broad Public Health Laws

These laws authorize public health and other agencies, as well as specific officials (e.g., state public health agency director, local public health official), to take actions necessary to prevent and respond to public health threats and emergencies. Local agencies and officials can be granted specific powers to protect public health in state law. The kinds and extent of local public health authorities are also a function of the structural relationship between the state public health agency and local public health agencies (i.e., centralized, decentralized, shared/mixed (ASTHO, 2019), which may be defined in state law.

Communicable Disease Laws

These laws define the authority of public health officials to undertake surveillance, investigation, and control measures to address communicable diseases and conditions. Public health agencies are generally given broad statutory authorities by the legislature to collect information and require reports of diseases, conditions, and outbreaks. Legislatures also typically grant public health agencies the authority to adopt regulations identifying the specific diseases or conditions that must be reported, who must report them, and how to report them. As discussed in Chapter 1, legionellosis is a nationally notifiable disease as determined by the Council of State and Territorial Epidemiologists (CSTE) (CSTE, 2019a; see also CSTE, 2010) and designated in the National Notifiable Diseases Surveillance System (NNDSS) at the U.S. Centers for Disease Control and Prevention (CDC) (CDC, 2021k).

Box 2.1:
Sources of Legal Authority

- **Constitutions**—The U.S. Constitution, state, tribal, and territorial constitutions, or similar foundational documents.
- **Statutes**—Laws passed by legislative bodies in states, territories, and tribal nations.
- **Regulations**—Administrative rules adopted by states, territories, and tribal nations to implement programs and actions authorized by statutes.
- **Local Charters and Ordinances**—Laws and rules adopted by local governments.
- **Judicial Decisions**—Interpretations of federal, state, tribal, territorial, and local laws and rules by the courts.
- **Executive Orders**—Orders issued by the chief executive of a government (e.g., President, governor) that have the force of law.

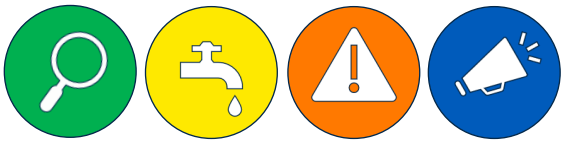
Laws Governing Specific Facility and System Types

These laws govern the range of facility types and systems that can be implicated in LD outbreaks. The subject areas include, but are not limited to, building, plumbing, and HVAC; supplemental disinfection systems; commercial and multi-unit dwellings; pools and recreational water features; hospitals and healthcare facilities; and occupational and labor. Responsibility for enforcing these

various laws can reside in other agencies/divisions in addition to public health agencies/divisions, such as healthcare licensing, housing, building code enforcement, and environment or natural resources. These types of laws are also addressed in the setting-specific modules in this toolkit.

When a public health agency does not have—or believes it does not have—explicit legal authority to address a suspected *Legionella* exposure source in a specific kind of facility or system, the agency can consider using other types of legal authority, such as communicable disease and broad public health laws as described above, to accomplish its mandate to protect the public's health. For example, in community outbreaks, cooling towers (CTs) can be a frequent source of exposure to people in the geographic area neighboring the facility housing the CT. A STLT government may not have specific laws or regulations governing the operation and maintenance of CTs; however, many jurisdictions do rely on their broader public health and other legal authorities to gain access to CTs to assess, sample, and implement control measures.

Chapter 3: Access to Information and Confidentiality



Public health officials understand that the need to inform other agencies, individuals, and the public about a Legionnaires' disease (LD) outbreak must be balanced with the privacy rights of the people and locations involved. Public health officials also require access to confidential information as part of their investigation into a suspect or confirmed LD case or outbreak. The dual issues of access to information and confidentiality are governed by federal and applicable state, tribal, local, and territorial (STLT) laws and court decisions interpreting them. But where there are uncertainties in these laws—or they are silent on an issue—public health officials must make a defensible decision that strikes a balance between information and confidentiality or, when a situation necessitates, that articulates why one takes precedence over the other. This chapter addresses the following topics:

- Balancing information disclosure with privacy.
- Freedom of information laws and circumstances in which information may be disclosed or when it must be protected.
- Select federal and state confidentiality laws.

Please note: Any legal analysis of a specific scenario or outbreak depends on the facts of that event and the laws of the jurisdiction in which it occurs. Public health department personnel should consult with their agency/government legal counsel.

Information about laws and legal theories discussed in this section and the toolkit are for information only and are not legal advice.

Balancing Disclosure with Privacy

Chapter 2 discussed the legal authorities of public health officials to undertake key public health functions, such as conducting investigations, accessing records, and collecting samples. However, health officials are also required to comply with federal and state laws that dictate what types of information can be made public and what must be kept confidential. During a suspect or confirmed LD outbreak, public health officials must decide what information to share with the public and when to share it. This can be especially difficult if it is early in the investigation and the available information is incomplete or preliminary. Thus, meeting the competing legal requirements of protecting an individual's or facility's private information while also furthering the equally compelling legal mandates to protect public health and be transparent with public information is a challenging balancing act.

Given that LD outbreaks can become high profile events, public health agencies typically face requests from media, the public, and affected persons and businesses to answer questions and release information as soon as possible. Individuals and organizations involved in an LD outbreak—or those possessing information relevant to an LD outbreak—may raise real or perceived concerns about breaching confidentiality by providing information to a health agency. In addition to observing their legal obligations, public health officials must build and maintain the public's trust in how they handle confidential and sensitive information as they inform the public about threats to the community.

Public health officials must also determine what information can or should be shared with other parties in the process of investigating and controlling an LD outbreak. These other parties can range from other government agencies, healthcare providers, exposed or potentially affected individuals, and businesses, media, and the public. Some jurisdictions may have laws or regulations that permit—or even require—the disclosure of information about the investigation and mitigation process; others may have to rely on their general authority to protect the public's health in being able to disclose information about an outbreak.

When a public health official is uncertain about how to achieve the balance of disclosure and privacy, they should consult with their agency's legal counsel to identify the legal parameters and agency policies affecting the disclosure decision. (See Box 3.1 "Implementation Tips" for areas to discuss with legal counsel and to develop guidance for privacy and disclosure based on the laws in a particular jurisdiction.)

Freedom of Information and Open Records Requirements

Each state has its own freedom of information (FOI) and/or open records laws that govern the kinds of information held by a government agency that officials can release or be required to release upon a request from the public. FOI laws may be known by several names, including open records, public records, open meetings, or sunshine laws. These statutes—and the regulations implementing them—may also include specifics about the process for requesting, allowable costs and charges for fulfilling the request, timeframes for responding to a request, and the process for appealing denied requests.

The federal Freedom of Information Act (FOIA) (5 U.S.C. § 552) governs the release of information by federal agencies (Berger, 2011). While the states are not bound by FOIA, the federal law's scope, exceptions, and administrative and judicial interpretations of its parameters have informed states' laws or are explicitly referenced in some states' laws (Berger, 2011; see also Reporters Comm., 2019a). State FOI/open records laws require public agencies to release the information requested unless the information falls into a specific exception stated in the law or in another statute (e.g., regulation of health providers/facilities, hotels). Generally, if an exception applies, the agency must identify the exception supporting the redaction of specific information or in denying a request for documents outright.

Exceptions to FOI/Open Records Requirements

The FOI/open records exceptions most relevant to public health agencies fall into several categories. (**Note that each jurisdiction's exceptions will vary and may be different than described here. Check with agency legal counsel in the jurisdiction.** Also note that there are multiple exceptions to state FOI/open records law in addition to those identified below.) Ultimately, the exceptions allowed and the extent to which disclosure is limited in a specific jurisdiction depends on its laws and any court decision interpreting the jurisdiction's laws.

- **Personally identifiable information**—Outside of medical and other specific contexts defined by state statute (e.g., education records, human services, public safety), records that contain personally identifiable information (PII) may or may not be considered confidential information either within FOI/open records laws or in another statute (Reporters Comm., 2019g; see also O'Connor & Matthews, 2011). If disclosure of PII is not expressly prohibited in these laws, then it may be possible to release PII unless the information is of such a private nature that an individual's privacy interest outweighs the

public's right to know. The PII exception is generally limited to people and does not apply to corporations or organizations, however this can vary in a specific jurisdiction.

- Medical records—Patient medical records possessed by state or local public health agencies, as well as records created or maintained by healthcare facilities or providers related to admission, treatment, payment information, and discharge are generally excluded from release (Reporters Comm., 2019c; see also Reporters Comm. 2019f; Reporters Comm. 2019e). Medical records may be released if the patient or guardian gives written consent. These records may also be released if identifying information can be redacted. In redacting information, other PII contained in a record beyond name and address may also need to be removed if the remaining information can be used alone or in conjunction with other information to identify a person. For example, this could be of concern in smaller communities in which just releasing demographic data about a case could be enough to identify the person involved.
- Infectious disease and health epidemics—FOI/open records statutes can exclude information from disclosure that could identify persons with specified infectious diseases (e.g., HIV, AIDS, tuberculosis) or with an infectious disease generally (Reporters Comm., 2019c; see also Reporters Comm. 2019f). Some jurisdictions authorize public health agencies to release specified information about a case or outbreak to inform the public about a risk to public health. However, many jurisdictions do not have a clear or comprehensive statutory framework that addresses public health disclosures and privacy considerations (O'Conner, 2009).
- Trade secrets or confidential business and financial information—These types of records from private businesses and organizations are generally exempt from disclosure unless they have been submitted to a public agency and become part of the public record of the agency. However, there can be multiple exceptions to disclosure, such as information submitted to an agency for the purpose of regulatory oversight (Reporters Comm., 2019c; see also Reporters Comm. 2019f).
- Information submitted to regulatory agencies—Information submitted to a public health or other agency as part of the regulatory oversight or inspection process of those facilities may be exempt from release. Facilities exempt from release can include hospitals, other healthcare facilities like ambulatory surgical centers, and congregate living facilities like nursing homes and in-patient rehabilitation centers. However, data such as the results of regulatory decisions, final inspection reports, or administrative penalties may be considered public records (Reporters Comm., 2019b).
- Administrative enforcement records—Records of inspections and enforcement actions (e.g., worker safety and health inspections, accident investigations) are generally considered agency records subject to release (Reporters Comm., 2019b). However, there may be elements within those records that contain PII that are exempt from disclosure.
- Certain professional licensure records—Records submitted by persons licensed by a jurisdiction are generally private, but data such as business directory information or educational and occupational background information may be open for access. Access to information about complaints and disciplinary actions varies by jurisdiction (Reporters Comm., 2019h).

In addition to listing specific exceptions to disclosure, state FOI/open records laws also have broader directives about what information may or may not be subject to public release, such as:

- **Another statute explicitly makes particular types of information/records confidential**—As noted above, this type of exception includes other laws in a jurisdiction as well as federal statutes and regulations.
- **Releases that would be detrimental to public safety or welfare**—This is commonly used in the law enforcement or homeland security areas but can be applied to other situations based on the facts of a case (Reporters Comm., 2019d). This could also apply to public health emergencies, including infectious disease outbreaks.

Finally, a FOI/open records law may also contain provisions that allow the agency some discretion in determining to what extent an individual's/organization's privacy interest should be balanced against the public's interest in disclosure. However, an agency should be prepared to articulate how the privacy interest outweighs the public disclosure requirement if the decision not to disclose is challenged.

Circumstances in which Information Release is Permitted

Despite the exceptions that can limit public health officials in releasing information to the public under FOI/open records laws, these laws can also explicitly authorize public health agencies to release information otherwise covered by the law if certain conditions apply, such as:

- The person (or guardian) provides written consent for the release of their medical record or identifiable information about their case.
- The information release is necessary to protect public health.
- The public health agency releases information to another federal, state, or local public health agency for the purpose of preventing or controlling the spread of a communicable disease.
- Information is released under another state law, or a subpoena or court order.
- Information is released as permitted under federal law (e.g., treatment, payment, research, healthcare operations) to the extent permitted in the Health Insurance Portability and Accountability Act. (Discussed further below.)
- De-identified medical or epidemiological information is released for research or statistical purposes.

The health agency releases information to a court or law enforcement for enforcement purposes, or to investigate criminal or terrorist events (e.g., nuclear, biological, chemical).

In responding to a request for information, the public health agency should review the request to assess if making the information public would reveal private information or threaten an investigation or public safety. If the agency decides to withhold information, then it must be ready to articulate the basis upon which the information request is being denied.

Confidentiality Laws

In addition to FOI/open records laws, the information released by public health agencies is subject to federal and state confidentiality laws. Confidentiality laws may be separate from FOI/

Box 3.1: Implementation Tips
Access to Information and Confidentiality

Use these tips to guide a conversation with legal counsel and develop guidance for collecting, using, and disclosing information during an LD outbreak.

Identify legal authorities that authorize the public health agency to collect and use information from sources like individuals, businesses, and organizations:

- For each type of legal authority listed below, identify the types of information that may be collected from/about each type of source:
  - General public health authority
  - Disease specific
  - Setting specific
  - Other circumstances (e.g., criminal, suspected acts of bioterrorism)
  - Other broadly applicable laws (e.g., unusual occurrence of a disease, infection, or condition)
- Also note any prerequisites, conditions, or limitations on the type of information allowed or how it is used.

Identify legal authorities that authorize/require the public health agency to disclose information:

- Consider each of the following types of legal authorities:
  - Freedom of information/open records laws
  - Health information privacy laws
  - Data practices laws
  - Right to privacy statutes
  - General public health laws
  - Court decisions
- Note any prerequisites, conditions, or limitations on the type of information that can be disclosed. Also note to whom it must (by law) or may be disclosed.

Identify legal authorities that require the agency to protect information about individuals, businesses, organizations, or other sources:

- For each type of legal authority listed below, identify the types of information that must be protected about each type of source.
  - Freedom of information/open records laws
    - Information excluded from the definition of public records
      - Permitted exceptions to disclosure:
      - Information not subject to disclosure under another law
      - Personal privacy
      - Investigatory records
      - Health information or medical records
      - Business information
      - Other
  - Other privacy or confidentiality laws
  - Privacy or confidentiality provisions in other types of laws
- Also note any prerequisites, conditions, or limitations on the privacy protections allowed or how they are implemented.

Adapted from ASTHO. (2012), *Emergency Preparedness Toolkit Series. Public Health and Information Sharing State Analysis Guide.* https://www.astho.org/Programs/Preparedness/Public-Health-Emergency-Law/Public-Health-and-Information-Sharing-Toolkit/.

open records laws, may be part of those laws, or there may be confidentiality provisions incorporated into other statutes governing specific agencies or issues. A jurisdiction's confidentiality laws should be understood when approaching an individual or facility involved in an LD outbreak for sensitive and potentially confidential information. Confidentiality requirements must also be considered when deciding what information to release during an outbreak. Public health officials should consult with their legal counsel to understand the interplay of FOI/open records and confidentiality laws in their jurisdiction and their application in a particular instance. The following discussion highlights two federal privacy laws that can also affect a public health investigation, depending on the facts of a case or outbreak.

Selected Federal Confidentiality Laws and Regulations

In addition to any state confidentiality laws, there are two federal laws—the Health Insurance Portability and Accountability Act (HIPAA) (42 U.S.C. § 300gg et seq) and the Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g)—and associated regulations that are frequently identified as potential sources of uncertainty about what information a public health agency is: (1) allowed to collect from healthcare providers, other record holders, and facilities, and (2) permitted to share and with whom.[1] This section briefly introduces these federal laws and regulations; readers should consult with their agency's legal counsel for questions involving these requirements.

HIPAA Privacy Rule

The HIPAA Privacy Rule (45 CFR Part 160; Part 164 subparts A & E) creates national privacy protections for individuals' identifiable health information.[2] The rule prohibits entities covered under it from disclosing protected health information (PHI) to any third parties unless the rule otherwise permits the disclosure or if the person who is the subject of the record (or their representative) authorizes the disclosure in writing (45 CFR Part 160; Part 164 subparts A & E; see also HHS, 2013). PHI is defined as individually identifiable health information that is maintained or transmitted by a covered entity, hybrid entity, or a business associate, as those terms are defined in the rule, in any form or media (i.e., electronic, paper, oral) (45 CFR §160.103). Thus, the Privacy Rule can apply to healthcare providers or other entities that supply information to public health agencies, or even to a public health agency depending on the services it provides.

Despite its general prohibitions against sharing PHI, it is important to note that the Privacy Rule is not intended to interfere with public health functions. The rule contains multiple exclusions that allow public health agencies (or others) to collect, use, and disclose PHI without an individual's authorization (Privacy Rule; see also HHS, 2013). One important exclusion is for "public interest and benefit activities" (HHS, 2013), which permits use and disclosure of PHI without an individual's authorization for specific public purposes that acknowledge the important uses for health information beyond the healthcare setting. The rule allows, but does not require, disclosures for a dozen identified public purposes (45 CFR §164.512). Those relevant to public

[1] It is important to note there are other federal laws and regulations that address privacy issues in addition to HIPAA and FERPA.

[2] The rule defines "individually identifiable health information" to include data that can or could be reasonably used to identify an individual such as common identifiers (e.g., name, address, date of birth, SSN), demographic data, information about the healthcare services provided, or the type of payment used (45 CFR § 160.103).

health agencies investigating LD outbreaks include:

- Required by law–Covered entities may use and disclose PHI without an individual's authorization if the use or disclosure is required under a statute, regulation, or court order (45 CFR §164.512(a)).
- Public health activities–Covered entities are allowed to disclose PHI for multiple public health activities identified in the rule, including: (1) disclosures to public health officials authorized by law to collect or receive PHI for preventing or controlling disease, injury, or disability; (2) to persons who may have contracted or been exposed to a communicable disease when notification is authorized by law; or (3) to employers who request information about their employees' work-related illnesses or injuries or workplace-related medical surveillance data when necessary to comply with federal Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) requirements, or similar state laws (45 CFR §164.512(b)).

The HIPAA Privacy Rule includes exceptions that allow for different state requirements to control if a state's law: (1) relates to the privacy of individually identifiable health information and provides greater privacy protections or rights than the Privacy Rule; (2) requires reporting of diseases or injuries, child abuse, birth, or death, and for public health surveillance, investigation, or intervention; or (3) requires certain reporting by health plans, such as for management or financial audits or evaluations (45 C.F.R. §160.203, §160.204; see also HHS, 2013). A state may also ask HHS to determine if a state's law will not be preempted by the Privacy Rule. A state requirement will not be preempted by the Privacy Rule if HHS determines: (1) that the conflicting state provision serves a compelling public health, safety, or welfare interest, or (2) if the conflicting state requirement relates to a privacy right, that the intrusion into privacy is warranted given the public interest being served (45 C.F.R. §160.203, §160.204; see also HHS, 2013).

FERPA

FERPA limits the information schools may give to public health agencies (and others) about students (20 U.S.C. § 1232g).[3] Among other things, FERPA prevents the disclosure of a student's education record without the consent of a parent (or eligible student[4]) unless an exception to the law's general consent requirement applies (ED & HHS, 2019). An education record[5] is considered to contain personally identifiable information (PII), which includes name, address, personal identifiers like SSN, date of birth, biometric data, or other information that could be used alone or in combination to identify a student (ED & HHS, 2019). However, schools may disclose without consent "directory information" such as a student's name, address, telephone number, date and place of birth, and dates of attendance (ED & HHS, 2019). A student's health records, including records maintained by a school nurse, are considered part of the student's

[3] The law applies to all educational institutions and agencies that receive any funds from the U.S. Department of Education (ED). All public schools and school districts and most public and private post-secondary institutions (e.g., universities, colleges) are covered by FERPA. Private and religious elementary and secondary schools are not subject to FERPA because they generally do not receive funding from ED.

[4] "Eligible students" are students who have turned 18 or attend school beyond the high school level at any age (34 CFR § 99.3).

[5] An "education record" is defined as records which are: (1) directly related to a student and (2) maintained by an educational agency or institution or by a person acting on behalf of the agency or institution (34 CFR § 99.3).

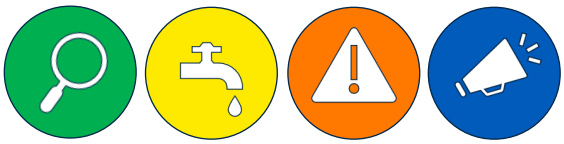
education record, and thus are protected from disclosure under FERPA. Schools may also disclose de-identified information without written consent (34 CFR §99.31).

In addition to disclosures to parents and eligible students, and for directory information, FERPA regulations identify the parties to or circumstances in which disclosure of PII may be made without consent (34 CFR §99.31, §99.35; see also ED, 2021). FERPA's "health and safety emergencies" exception permits a school to disclose PII from education records in an emergency if the information is necessary to protect the health or safety of the student or other individuals (34 C.F.R §99.31, §99.36). Public health agencies are among the types of entities to which a disclosure for a health and safety emergency may be made, depending on the facts of a case or outbreak (ED, 2020).

Access to Information and Confidentiality Selected Resources

- Association of Health Care Journalists, Association of State and Territorial Health Officials, and National Association of County and City Health Officials. Guidance on the Release of Information Concerning Deaths, Epidemics or Emerging Diseases. October 2010. Available at: http://healthjournalism.org/secondarypage-details.php?id=965.
- CSTE. Legal Issues Concerning Identifiable Health Data Sharing Between State/Local Public Health Authorities and Tribal Epidemiology Centers in Selected U.S. Jurisdictions. Original Draft March 30, 2009; Revised as of November 8, 2011. Available at: https://cdn.ymaws.com/www.cste.org/resource/resmgr/PDFs/LegalIssuesTribalJuris.pdf.
- Network for Public Health Law. School Nursing Initiative. Available at: https://www.networkforphl.org/resources/topics/initiatives/school-nursing-project/. (Includes multiple fact sheets on data sharing.)
- The Reporters Committee for Freedom of the Press. Open Government Guide. 2019. Available at: https://www.rcfp.org/open-government-guide/.

Chapter 4:
Potential Liability Issues



Any discussion of legal issues surrounding Legionnaires' disease (LD) investigations would not be complete without a review of potential liability issues that can arise. Liability occurs when an individual or entity is determined to be legally responsible for their actions, or their failure to act in a situation in which an injury or damage occurred. This chapter addresses:

- Understanding the concept of legal liability.
- Identifying potential scenarios in which liability for an LD outbreak can arise.
- Reviewing possible theories of negligence and administrative violations applicable in an LD outbreak.

Understanding Legal Liability

Civil liability is the most likely type of liability to arise in the context of an LD outbreak. Individuals and entities may be found directly[1] or vicariously[2] (indirectly) liable for the acts or omissions of themselves or their employees or agents. If an individual or entity is found civilly liable for causing harm, the aggrieved party can seek monetary compensation and, in some instances, an injunction to stop current or future action by the liable party. Civil liability claims can generally translate into several different theories, including negligence, misrepresentations, privacy violations, discrimination, or even intentional harm (i.e., battery).

Please note: Any legal analysis of a specific scenario or outbreak depends on the facts of that event and the laws of the jurisdiction in which it occurs. Public health department personnel should consult with their agency/government legal counsel.

Information about laws and legal theories discussed in this section and the toolkit are for information only and are not legal advice.

A foundational principle to understanding potential civil liability is the concept of a tort. In the law, a tort is a wrong committed by an actor (a person or entity) either intentionally or unintentionally that causes harm to another person or property. A tort claim is a type of civil claim that allows an individual or entity to sue the actor in civil court for redress of the harm. (This is contrasted with contractual claims in which the parties to a contract sue in civil court over the terms of the contract, or with criminal charges in which a government prosecutes an individual or entity.) Unintentional torts arise if an actor harms another person or property,

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[1] Individuals and corporate/organizational entities can be held directly liable (i.e., legally responsible) for their own actions or failures to act (omissions) when they fail in their duty to act according to a standard that governs their actions.

[2] Persons and entities may also be held legally responsible for the acts or omissions of another person/entity with whom they have a particular legal relationship (i.e., vicarious liability). Vicarious liability typically arises when an employer is held legally responsible for the actions of its employee. Entities like corporations, non-profit organizations, or educational institutions may also be subject to vicarious liability for the acts or omissions of its agents, like officers, directors, or volunteers. For example, in lawsuits against hotel facilities that have experienced LD outbreaks, the management and corporate owners of the hotel are frequently added to the lawsuit for the failure of employees to properly maintain the water systems which resulted in Legionella growth and spread. See for example Licari v. Best W. Int'l Inc., Case No. 2:11-cv-603 (D. Utah Jul. 12, 2013).

but the harm was not intended (i.e., negligence). Conversely, intentional torts occur when an actor intends to cause the harm or injury to another person or property (i.e., fraud).

Understanding Negligence

Negligence occurs when the unintentional but wrongful conduct of an individual or entity (the defendant) causes harm to another or their property. As a general proposition, the injured party (the plaintiff) must prove the following elements for a finding of negligence: (1) the defendant owes the plaintiff a duty of care (including a duty of ordinary care); (2) the defendant breached that duty by failing to meet the applicable standard of care; (3) the defendant's actions resulted in harm to the plaintiff; and (4) the defendant's breach of duty was the cause of the plaintiff's injury. A duty of ordinary care means the amount of care that a reasonable person would take under similar circumstances; this standard is also known as the "reasonable person" standard. However, it is important to note that the standard of care that would apply to a physician or other person with specialized skills may be different than an ordinary care standard. Similarly, the standard of care may be different depending on what type of facility is involved in the LD outbreak (e.g., hospital, hotel).

Potential Scenarios for Legionnaires' Disease Liability

This discussion will focus on three potential scenarios in which liability for an LD outbreak can arise and the legal theories involved in them:

- Liability of a facility for an LD outbreak that caused harm to persons linked to the facility.
- Liability of a facility for potential administrative or regulatory violations arising from an LD outbreak.
- Liability of public health and other government officials arising from an LD outbreak.

Liability of a Facility for Negligence

The individual or entity who owns, controls, and/or operates a facility (e.g., hotel, hospital, apartment building, office space) owes a duty to the persons working in, living in, or visiting the facility to maintain it so it does not injure them. This includes maintaining systems within the facility so as not to cause harm. When an LD outbreak occurs, owners and operators of facilities can be subject to claims of negligence.[3] The specific standard of care that can be applied to a particular type of facility will be found in statutory and regulatory requirements, industry standards, and court decisions.[4] State regulations and local ordinances may also adopt by reference specific national standards into their regulations or ordinances, such as ANSI/ASHRAE 188 (*Legionellosis: Risk Management for Building Water Systems*) (ASHRAE, 2021; see also Stout

[3] Premises liability is a form of negligence in which an individual or entity who owns, controls, and/or operates a facility may be held responsible for injuries that occurred to people present at the facility.

[4] Another form of negligence, negligence per se, can also be used to find a facility liable. To find negligence per se the plaintiff must be in the category of persons the statute was intended to protect and the injury must be one that the statute was intended to prevent. If the plaintiff meets these requirements, then the defendant is found to be negligent based on the violation of a controlling statute or regulation. Some states only allow violations of statutes to be used to establish liability; violations of regulations can only be used as evidence of negligence. See for example Hopkins v. Booth, 16-CV-1020V(F) (W.D.N.Y. Nov. 20, 2017) (Plaintiff acquired LD from a hot tub exposure at a vacation property; the court did not allow the plaintiff to rely on the state's pool sanitation regulations to establish negligence per se because New York law only allows for negligence per se when a statute is violated.)

& Boehlert, 2015). Even if industry standards are not adopted into law or codes, they can still act as evidence of what the standard of care should be regarding managing legionellosis risks (Stout & Boehlert, 2015).

Regulatory and Administrative Liability for a Facility

Administrative liability can arise when a facility or individual violates the terms of their government-issued permit or license or violates an ordinance, regulation, or statute that governs their actions. Violations of the conditions of a permit, license, or ordinance generally begin with the failure to comply with applicable requirements. Such violations are typically identified via routine inspections/environmental assessments or those following complaints or cases/outbreaks. This initiates an administrative process in which violations must be addressed and may be challenged through an appeal process by the involved facility. Typically, an involved facility will be given a schedule by which to resolve identified deficiencies and will be re-inspected to determine if the deficiencies have been properly addressed. For more serious events or repeated violations, the facility may be subject to stronger penalties such as temporary closure and/or fines. If or when the facility resumes operation, it may be involved in a probationary period and subjected to greater oversight of its operations while on probation. For more egregious events, the facility may be ordered to permanently close, or the operators may lose their license to operate. The facility/owners/operators will have due process rights as laid out either in federal or state, tribal, local, or territorial (STLT) administrative procedure laws, or in the specific code governing the business type (e.g., hotels, recreational water facilities) or the type of violations involved (e.g., health code, sanitation code, building code). Administrative liability can also ultimately give rise to civil monetary fines and, in some cases, criminal monetary penalties and jail time.

As with facilities, individuals who are licensed in a jurisdiction for a particular trade or profession are likewise subject to administrative processes and sanctions if they violate the statutes, regulations, or ordinances governing their professions. Administrative penalties can range from reprimand, retraining, temporary suspension, or loss of license to practice in the jurisdiction. Investigations of regulated professions are also subject to federal and STLT administrative procedure laws and due process provisions in codes regulating the profession.

Liability of Public Health and Other Government Employees

Public health and other government employees may be concerned about the possibility that they can be held liable for their actions (or failures to act) in investigating or inspecting facilities in which an LD outbreak occurred. As a general proposition, government employees acting within the scope of their duties are generally immune from liability under the theory of sovereign/governmental immunity.[5] However, the federal government and states have passed tort claims acts in which injured parties can sue a government in the same way a private person could be sued for the harm caused to injured parties (Federal Tort Claims Act, as amended, codified at 28 U.S.C. §§1346(b), 2671-2680). In these cases, the government will stand in the place of the government employee being sued. A key exception to providing immunity to

[5] The doctrine of sovereign immunity has its roots in the English common law that became the foundation of the U.S. legal system. It holds that the "sovereign" (the government) cannot commit an illegal act and therefore cannot be sued. State governments are immune from lawsuits under sovereign immunity conferred by the 11th Amendment of the U.S. Constitution. This doctrine has been modified through court decisions and laws like the Federal Tort Claims Act and state claims acts.

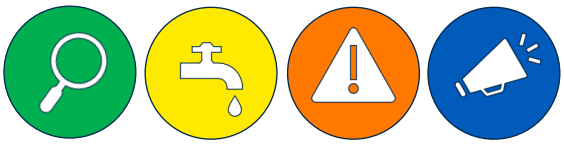
government employees is if an employee was engaged in willful, wanton, or criminal conduct that caused the injury. In this scenario, the government employee would not be eligible for immunity coverage. The Flint, Michigan water crisis that began in 2014, involved, among other events, an LD outbreak at a local hospital and an increase in community LD cases. The incidents in Flint gave rise to criminal indictments of public officials, including public health officials, for their actions during those events (Assoc. Press, 2017; see also Mauger & Ruble, 2021). Those indicted were cited for activities alleged to rise to the level of gross and willful negligence of their legal duties as public officials (LeBlanc, 2021; see also Gable & Buehler, 2017). In 2021, The state of Michigan agreed to pay for private attorneys representing the charged public officials (Fonger, 2021).

More broadly, the prospect of criminal prosecution (or civil liability) arising from decisions made in good faith can have a chilling effect on those working in or willing to work in government public health. Notwithstanding the ongoing legal cases in Flint, government public health officials and staff who act in good faith based on the information available to them at a given time and on their professional judgement grounded in sound public health practice and science should be able to rely on the legal protections provided to government employees in STLT laws (CSTE, 2018; see also ASTHO, 2018).

Potential Liability Issues Selected Resources

- ASHRAE. Standard 188: Legionellosis: Risk Management for Building Water Systems (ANSI approved). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- ASTHO. ASTHO Statement on Public Notification of Legionella Outbreaks. November 8, 2018. Available at: https://legacy.astho.org/Press-Room/ASTHO-Statement-on-Public-Notification-of-Legionella-Outbreaks/11-08-18/
- Bernier, T.P. and Smith, S.E. Lessons Learned from Legionnaires' Disease Litigation: The Standard of Care Defense in Emerging Toxic Tort Claims. April 2014. Available at: https://media.goldbergsegalla.com/uploads/tpb_ses%20dri%20standard%20of%20care.pdf.
- CSTE. Statement on the public health practice of public notification of complex infectious disease outbreaks, focus on Legionella outbreaks. December 2018. Available at: https://cdn.ymaws.com/www.cste.org/resource/resmgr/pdfs/pdfs2/LD_statement_December_2018_F.pdf.
- Stout, J.E. and Boehlert, G.R. Legal Significance of ANSI/ASHRAE Standard 188-2015. Available at: https://www.facilitiesnet.com/facilitiesmanagement/article/Legal-Significance-of-ANSIASHRAE-Standard-188-2015--16353.

Chapter 5: Communication Considerations



Effectively communicating about public health risks is essential. To quote one risk communicator:

> "The right message at the right time from the right person can save lives."
>
> Barbara Reynolds, PhD, CDC Senior Crisis and Risk Communication Advisor (CDC, 2018a)

This sentiment motivates the work of public health professionals to provide accurate and timely information about health threats that people can use to improve their health and the health of their communities. The efforts of public health agencies to identify cases of Legionnaires' disease (LD), find and mitigate the sources of exposure to *Legionella*, and work to prevent future outbreaks depend on these agencies' abilities to simultaneously communicate across multiple audiences with messages tailored to each. This can be a challenge given the high-profile, fast-moving nature of some LD outbreaks. To accomplish this, public health agencies can develop messaging strategies and tools in advance of outbreaks to be prepared for the next event. With each new outbreak, these plans and materials can be refined to incorporate lessons learned. The messaging maps and templates contained in the setting- and scenario-specific modules of this toolkit will provide guidance about responding to LD outbreaks arising in different settings. This chapter presents an overview of foundational risk communication concepts and how these apply in the context of LD. The chapter addresses:

- Creating a risk communication strategy.
- Identifying key audiences.
- Developing messages for different audiences and scenarios.

For More Information...

See *The CDC Field Epidemiology Manual* chapter "Communicating During an Outbreak or Public Health See *The CDC Field Epidemiology Manual* chapter "Communicating During an Outbreak or Public Health Investigation" for detailed guidance on developing messaging and working with the media. Available at https://www.cdc.gov/eis/field-epi-manual/chapters/Communicating-Investigation.html.

Creating a Risk Communication Strategy

Best practice is to create a strategy for communicating during an outbreak before an outbreak occurs. Because public health agencies have experience responding to infectious disease outbreaks (including *Legionella*), most already have established procedures for conducting epidemiological investigations. It is equally important to have plans for contacting key audiences at various points in an investigation. Broadly speaking, the communication strategy should identify:

(1) the types of persons, facilities, entities, and media to be contacted,

(2) what they should be informed about, and

(3) when they should be informed.

This communication process will likely be an iterative one: as the outbreak investigation proceeds, communication needs can evolve as new information is received. Furthermore, multiple versions of an LD communication strategy may be necessary based on the setting in which an outbreak is occurring, such as in a healthcare or travel-related setting.

The risk communication strategy should also include written plans about how the public health agency will respond to the event. The agency plan should identify and list by name and position the internal staff who need to be included in outbreak communication decisions (e.g., agency leadership, public information office, legal). (See "Selected Resources" below for links to more in -depth information about developing, implementing, and evaluating communication plans and strategies.)

Identifying Key Audiences for LD Risk Communication Messaging

This section identifies some of the key audiences that a risk communication strategy is likely to include. A specific jurisdiction or outbreak may require additional or different audiences as part of its plan. The strategy can be used as a framework for ensuring that all appropriate audiences are included, but which is also flexible enough to adapt to the event.

- Involved facility or exposure source—This is the known or suspected potential source of exposure to *Legionella*; it might not be identified until later in the investigation.
- Involved persons—These are the persons who have had LD, or who may have been exposed to *Legionella* in a location in which a confirmed or suspect case has occurred. This can potentially encompass a large number of people depending on the size and type of facility. Involved persons could include, for instance, guests, patients, residents, employees, visitors, contractors, vendors, and others.
- Healthcare providers and facilities—Communicating with medical professionals can increase their ability to identify, diagnose, and report cases of LD. Public health agencies can notify healthcare providers when an LD outbreak is being investigated to inform them to consider LD as a possible diagnosis if a patient presents with clinically compatible symptoms. This is particularly true in areas in which LD is uncommon or infrequently diagnosed.
- Other agencies and governments—Because LD can arise in multiple settings, other government agencies or divisions may have legal authority over or interest in systems or facilities implicated in an outbreak. Coordination among federal, state, tribal, local, and territorial (STLT) agencies can enhance the investigation and response to the outbreak. In outbreaks occurring in more than one jurisdiction or in which a person is diagnosed with LD after visiting a facility in another jurisdiction, sharing information with other jurisdictions can allow for follow-up with the facility where the exposure likely occurred. Establishing procedures for keeping other public health agencies informed may also be part of the communication strategy.
- Media and the public—LD outbreaks can result in extensive media attention and public interest regardless of size or setting. Identify the types of media mechanisms that may be used (e.g., TV, radio, press, social media) to inform the public and to reach specific audiences.

Developing Messages for Different Audiences and Scenarios

Each audience identified in the strategy may require different messages for various scenarios during an outbreak. The kinds of information and the level of detail contained in a message can also vary with the audience. Information provided to a healthcare professional about the specific symptoms and diagnostic methods for LD will differ from the information provided to a layperson being notified about potential exposure.

Notification Letters

Notification letters can be important tools for providing basic information about LD, as well as specific information about the suspected or confirmed source of *Legionella*. These letters can also be tailored to the perspective of the audiences receiving them (e.g., facility operator, resident at a facility). For example, in the case of an LD outbreak at a hotel, notification letters to different audiences may share some common elements while also including unique information. One key audience in this scenario is prior guests who were exposed to *Legionella* before the outbreak was recognized. Another key audience is prospective guests staying at the hotel after the outbreak was recognized. CDC has summarized key considerations when drafting notification letters (see Box 5.1).

Factsheets and FAQs

Factsheets and frequently-asked-questions (FAQ) documents are often efficient ways to provide concise information about LD basics, sources of exposure, symptoms, risk factors, and prevention measures. Factsheets can be created for specific facility types (e.g., healthcare settings, recreational water facilities), specific building systems (e.g., water and plumbing systems, cooling towers), and specific audiences (e.g., healthcare providers, hotel operators, facility engineers/maintenance). These can be included with notification letters and be posted on the public health agency's website. CDC has created factsheets and other resources related to all aspects of legionellosis identification, control, and prevention that can supplement or be included with STLT materials (see CDC Communication Resources in the "Selected Resources" box below).

Press Releases and Media

Determine what information can be released to the press and the public and when. (See Chapter 3 Access to Information and Confidentiality). Collaborate or consult with other agencies to ensure that there is consistent messaging if applicable. For example, in states in which local health departments are independent of the state health agency (i.e., a decentralized system (ASTHO, 2019)), collaborating on what information will be released and when can help to ensure that there is consistent messaging, and that each agency can be prepared to answer media and public inquiries.

Epidemiology staff can work with the public health agency's public information officer or communications staff to hone effective press releases and messages for social media. (See Box 5.2 Using Social Media.) Develop key messages and talking points to prepare for media appearances to ensure consistent messaging is provided by all agency staff involved in communications.

Box 5.1: *Legionella* Notification Letters

(Excerpted from CDC *Legionella* Communication Resources website*)

In notification letters, it is important to convey what is known about the situation, who is at risk, and what is being done to protect against further illness. Consider addressing the following elements when drafting notification letters:

- Who is the intended audience (e.g., hotel/travel accommodation guests, healthcare facility staff, patients and their families, community members)?
- What is known about the case exposures (i.e., does the available epidemiologic information point to a given setting or device as the source of exposure)?
    - How many cases have common exposures?
    - What type of exposures are potentially implicated?
    - How tightly clustered in time were the cases?
- What is known about the environment (i.e., the level of certainty that the implicated setting was the source of exposure)?
    - Has environmental sampling been performed? Were any samples positive for *Legionella*?
    - Have clinical and environmental isolates been obtained and characterized, and if so, do they provide additional evidence about the exposure source?
- What measures have been taken so far or will be taken to prevent further cases (e.g., shutting down/draining hot tubs, remediating the hot water system, water restrictions, installation of point-of-use filters)?
- How can those at risk protect themselves (e.g., who is at increased risk, how is it spread and treated, where can more information be found? (Also include contact information for the appropriate public health jurisdiction.)
- What should recipients do if they believe they develop symptoms consistent with LD (e.g., contact medical provider, disclose exposure to LD outbreak setting, request testing if appropriate)?

For travel outbreaks, consider:

- Whether past guests who may have unrecognized or incubating infections should be notified about possible exposures that may have already occurred, especially for those still within the incubation period.
- Whether future guests should be notified of the potential for exposure prior to or upon arrival so that they have an opportunity to find another accommodation if desired.

**Retrieved from https://www.cdc.gov/legionella/health-depts/communications-resources.html.*

Health Alerts

Health alerts can be considered to notify healthcare professionals, healthcare facilities, clinical and public health laboratories, and other public health agencies about suspect or confirmed LD cases. For example, a health alert would be useful for notifying providers of increases in LD cases that are potentially associated with an outbreak. A health alert in this instance can remind providers of LD diagnosis, treatment, and reporting requirements, including asking them to collect respiratory specimens from patients when they suspect or diagnose cases of LD.

The setting- and scenario-specific modules in this toolkit provide in-depth information and templates for communicating with key audiences using a variety of document formats.

Box 5.2:
Using Social Media

Social media can allow public health agencies to provide credible, timely, and science-based information about LD directly to key audiences. Social media can be used to provide general information about LD such as basics about the disease, its causes, personal risk factors, and prevention measures. Where there are community-associated LD outbreaks, social media can be used to notify persons in the affected areas about the outbreak.

All social media postings about LD generally or in specific outbreaks should conform to the public health agency's social media polices and protocols.

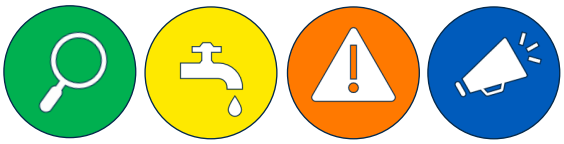
For general tips on using social media in public health, see:

- National Association of County and City Health Officials (NACCHO). Social Media Toolkit. July 2019. Available at https://www.naccho.org/uploads/downloadable-resources/Social-Media-Toolkit-for-LHDs-2019.pdf.
- CDC. Social Media at CDC webpage. Available at https://www.cdc.gov/socialmedia/index.html.
- HHS. Social Media: Getting Started webpage. Available at https://www.hhs.gov/web/social-media/getting-started/index.html.

Communication Considerations Selected Resources

- Association of Health Care Journalists, Association of State and Territorial Health Officials, and National Association of County and City Health Officials. Guidance on the Release of Information Concerning Deaths, Epidemics or Emerging Diseases. October 2010. Available at: http://healthjournalism.org/secondarypage-details.php?id=965.
- CDC. Legionella (Legionnaires' Disease and Pontiac Fever). Communications Resources. Available at: https://www.cdc.gov/legionella/health-depts/communications-resources.html.
- CDC. The CDC Field Epidemiology Manual. Tumpey, A., Daigle, D., and Nowak, G. Communicating During an Outbreak or Public Health Investigation. Available at: https://www.cdc.gov/eis/field-epi-manual/chapters/Communicating-Investigation.html.
- CDC. Emergency Preparedness and Response. Crisis and Emergency Risk Communication (CERC) Manual. 2018. Available at: https://emergency.cdc.gov/cerc/manual/index.asp.
- CDC. Gateway to Health Communication. Available at: https://www.cdc.gov/healthcommunication/index.html.
- CDC. National Prevention Information Network. Health Communication Strategies and Resources. Available at: https://npin.cdc.gov/pages/health-communication-strategies.
- HHS, CDC, ATSDR. Health Communication Playbook. 2018. Available at: https://www.cdc.gov/nceh/clearwriting/docs/health-comm-playbook-508.pdf.

Chapter 6:
Water Management Programs



This chapter provides basic information about water management programs (WMPs) and their role in preventing Legionnaires' disease (LD) in certain types of buildings and devices. It covers the following topics:

- Identifying buildings and devices at risk for *Legionella* growth and spread.
- Factors giving rise to *Legionella* growth in building water systems.
- The role of WMPs in preventing LD.
- The elements of effective WMPs.
- Customizing WMPs to the specific facility type, including healthcare facilities.

Identifying Buildings and Devices at Risk for *Legionella* Colonization

Certain types of buildings or devices are at increased risk for the growth and spread of *Legionella*. The U.S. Centers for Disease Control and Prevention (CDC) (2021s) created an assessment tool in its *Developing a Water Management Program to Reduce Legionella Growth and Spread in Buildings* publication (to help building owners and operators quickly determine if they should develop a WMP for the building or for specific devices. The assessment tool looks at the following building and device characteristics (CDC, 2021s, p. 2):

Building Characteristics

- The building is a healthcare facility where patients stay overnight or houses or treats people who have chronic and acute medical problems or weakened immune systems. (See Chapter 1 Legionnaires' Disease Basics)
- The building primarily houses people over the age of 65 years (e.g., retirement home, assisted-living facility).
- The building has multiple housing units and a centralized hot water system (e.g., hotel, high-rise apartment complex).
- The building has more than 10 stories including any basement levels. (CDC, 2021s, p. 2)

For More Information...

Cooling towers can cause LD outbreaks if they are not properly maintained. CDC provides additional information about how to determine if a building has a cooling tower. See "Procedures for Identifying Cooling Towers" at https://www.cdc.gov/legionella/health-depts/environmental-inv-resources/id-cooling-towers.html

If a building meets any one of these criteria, a WMP for that building's hot- and cold-water distribution systems should be developed and implemented (CDC, 2021s, p. 2).

Device Characteristics

- The building has a cooling tower.[1]
- The building has a hot tub that is not drained between each use.
- The building has a decorative fountain.
- The building has a centrally installed mister, atomizer, air washer, or humidifier. (CDC, 2021s, p. 2)

Because devices in a building can spread water droplets containing *Legionella*, owners or operators of a building should have a WMP for these devices even if one is not needed for the entire building (CDC, 2021s, p. 2). CDC (2021t) also issued guidance for facility owners and operators about reopening buildings that were closed or had reduced operations during the COVID-19 pandemic.

Understanding *Legionella* Growth in Building Water Systems

CDC and ASHRAE identify multiple internal and external factors in a building's water system that can give rise to biofilm formation[2], microbial colonization, and ultimately the growth and spread of *Legionella* (as well as other pathogens) (CDC, 2018b; see also CDC, 2021s, p. 5; ASHRAE, 2020, p. 8). Internal conditions which allow for the growth of *Legionella* include:

- Sediment and biofilm—Sediment, biofilm, and scale, which is the build-up of minerals in a water system, support the growth and survival of pathogens including *Legionella* (ASHRAE, 2020, p. 8). It can reduce the amount of disinfectant available in the water system to combat and control pathogens (CDC, 2021s, p. 3).
- Temperature—*Legionella* generally grow well between 77°F and 113°F (ASHRAE, 2020, p. 8). The optimal growth range for *Legionella* is 85°F and 108°F (ASHRAE, 2020, p. 8). Growth slows between 113°F and 120°F, and *Legionella* begin to die above 120°F (ASHRAE, 2020, pp. 8–9). Growth also slows between 77°F and 68°F, and *Legionella* become dormant below 68°F (ASHRAE, 2020, pp. 8–9). Factors that can affect water temperature can include external weather conditions (e.g., cold water in a hot climate) or restrictions on hot water temperatures (e.g. anti-scald regulations) (CDC, 2018b).
- Water age—Water can stagnate in portions of a building's water system or in devices that are not used regularly, if parts of the system become clogged or blocked, or if there are changes to the design of the system through facility renovation.[3] If water does not flow

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[1] CDC notes that cooling towers are used for heating, ventilation, air conditioning (HVAC), and industrial purposes: "Cooling towers are often part of the centralized air cooling system for buildings or industrial processes. Importantly, these devices contain water and fans to remove heat from the air. In this process, inadequately maintained cooling towers can create aerosols (droplets of water in the air) that contain *Legionella* bacteria. The heat-rejection fans in cooling towers then spread these bacteria" CDC. (2021, March 25) *Procedures for identifying cooling towers*. https://www.cdc.gov/legionella/health-depts/environmental-inv-resources/id-cooling-towers.html

[2] Biofilm comprises pathogens and the slime secreted by pathogens that grow on surfaces in continually moist environments. The biofilm layer becomes a source of food and provides protection to Legionella and many other types of pathogens.

[3] The design of a building's water system and the water flow within the building's pipes can lead to water aging through stagnation. A system may have "dead legs" in their pipe configuration (i.e., outlets to nowhere that are not easily flushed out and in which biofilm can collect) or areas in which water can "backflow" or be recirculated throughout the system.

Box 6.1:
Where Can Legionella Grow in a Building?

There are many potential water systems and devices in a building in which *Legionella* can grow or spread. Examples of these include:

- Hot and cold-water storage tanks
- Water heaters
- Water-hammer arrestors
- Expansion tanks
- Water filters
- Electronic and manual faucets*
- Aerators
- Faucet flow restrictors
- Showerheads* and hoses
- Pipes, valves, and fittings
- Centrally installed misters*, atomizers*, air washers*, and humidifiers*
- Non-stream aerosol-generating humidifiers*
- Infrequently used equipment including eyewash stations*
- Ice machines*
- Hot tubs*
- Decorative fountains*
- Cooling towers*
- Medical devices* (such as CPAP machines, hydrotherapy equipment, bronchoscopes)

***** These devices can spread *Legionella* through aerosols or aspiration.

Source: CDC. (2021, June 24). Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings: A Practical Guide to Implementing Industry Standards. Version 1.1. p. 4. Available at https://www.cdc.gov/legionella/downloads/toolkit.pdf.

properly, then stagnating areas can give rise to biofilm, ambient water temperature changes, and decreased levels of disinfectant, all of which are conducive to *Legionella* growth (CDC, 2018b).

- Disinfectant residual—*Legionella* can thrive in a building if the levels of disinfectant in its water systems are inadequate. Multiple factors affect the rate at which disinfectants decay including the type of disinfectant used, quality of the water entering the building and the organic matter in it, pH levels in the water[4], materials used in the plumbing system, and water age (ASHRAE, 2020, pp. 14–15; see also CDC, 2021s, p. 5). Depending on the building type, processes like heating, storing, and filtering water can also reduce the amount of disinfectant available to impede *Legionella* growth (CDC, 2018b).

External factors that may be beyond the control of building owners and operators can also impact a building's water systems and lead to the growth and spread of *Legionella*. These factors include:

- Construction—Construction around a building can cause disruptions and changes in water pressure that may dislodge biofilm thereby freeing *Legionella* to enter the building through the water supply (CDC, 2021s, p. 4). Vibrations and other disruptions from construction activities may also

[4] Because disinfectants are their most effective within a particular pH range, fluctuations in pH levels can reduce the effectiveness of disinfectants and allow for pathogens like *Legionella* to proliferate in a water system. The optimal pH range varies significantly by disinfectant type and device/system type. More information about optimal pH values can be found in CDC's *Legionella* Control Toolkit (CDC, 2021a) available at https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.

affect the building's internal water systems by dislodging *Legionella* already in the system. It should also be noted that construction within the building or campus itself can also affect *Legionella* growth and dispersion; it may be within the control of the building's owners/operators to undertake preventative maintenance to water systems before, during, and after construction.

- **Water main breaks**—Water main breaks cause changes in water pressure which can dislodge biofilm and free *Legionella* into the water supplied to a building. Likewise, dirt and other materials potentially introduced into the water supplied to a building can consume disinfectant that would otherwise control *Legionella* (CDC, 2021s, p. 4).
- **Changes in municipal water quality**—Changes in the quality of water supplied through municipal water systems can result in increased sediment, lower disinfectant levels, increased turbidity, or pH levels outside of recommended ranges (CDC, 2021s, p. 4).

The Role of Water Management Programs

Implementing an ongoing WMP is key to mitigating the effects of various internal and external factors that can allow *Legionella* to propagate in a building's water system or devices. A WMP is designed to detect conditions that can lead to *Legionella* proliferation and identify the steps necessary to mitigate it and other waterborne pathogens in a building's water system or devices (CDC, 2021m). WMPs are now the industry standard in the United States for the types of buildings or devices described earlier in this chapter (ASHRAE, 2021). The ASHRAE publication *Legionellosis: Risk Management for Building Water Systems* (ASHRAE 188) is an example of a consensus standard, which has been approved by the American National Standards Institute (ANSI) (2022). It can be used as a voluntary standard, but can also be used to inform government action or be adopted in whole or in part into state and local building or public health codes, regulations, or ordinances (Env. Law Inst., 2021). ASHRAE has a companion document, *Managing the Risk of Legionellosis Associated with Building Water Systems* (ASHRAE Guideline 12) (2020), which is intended to provide guidance on controlling *Legionella* growth and spread. While WMPs have common elements, each building and device at a specific site must be evaluated to determine the particular hazards, potential groups at risk for LD, and the necessary mitigation measures associated with that site. (See the "Selected Resources" box for additional protocols and guidance documents.)

For More Information...

See CSTE's *Water Management Program Template*

The template is intended to be an interactive tool that facilities can use to create or improve their water management program with emphasis on *Legionella* control and prevention. Available at: https://www.cste.org/general/custom.asp?page=Legionnaires.

Once a WMP has been established and implemented, building water systems and devices must be regularly monitored to verify that the WMP activities are occurring as described and to validate that the WMP is working as intended and effective (CDC, 2021m). If control measures are not met or activities are not performed according to the WMP, then owners and operators should respond as indicated in the WMP or revise the WMP to effectively control for *Legionella*. Similarly, if the WMP is being followed but water systems repeatedly test positive for *Legionella*

or there are cases associated with a facility despite the building being in compliance with its WMP, owners and operators may need to re-evaluate the contents of the WMP. The WMP must also be regularly reviewed and updated as needed to account for any changes to the building and devices.

Effective Water Management Program Principles and Elements

As discussed above, CDC (2021m) encourages effective water management that addresses the key factors associated with *Legionella* growth and spread by:

- Maintaining water temperatures outside the ideal range for *Legionella* growth.
- Preventing water stagnation.
- Ensuring adequate disinfection.
- Preventing sediment, scale, corrosion, and biofilm.

To implement *Legionella* control strategies, CDC (2021m) has identified seven key elements in developing an effective WMP:

- Establish a water management program team.
- Describe the building water systems using text and flow diagrams.
- Identify areas where *Legionella* could grow and spread.
- Decide where control measures should be applied and how to monitor them.
- Establish ways to intervene when control limits are not met.
- Make sure the program is running as designed and is effective.
- Document and communicate all the activities.

Implementation Tip…

If *Legionella* Identified in Routine WMP Sampling

A building may not have any LD cases associated with it but may have positive environmental samples for *Legionella* in routine testing conducted as part of its WMP. This scenario is addressed in the "Routine Environmental Testing Results in the Absence of Cases" module included in this toolkit.

Additionally, CDC's *The Toolkit for Controlling* Legionella *in Common Sources of Exposure* (Legionella *Control Toolkit*) contains, among other things, specific performance indicators and suggested response activities when routine testing results suggest that *Legionella* is not well controlled. (*Note that these performance indicators are not a measure of risk of human illness.*) The toolkit is available at:https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.

Water Management Program Resources

More detailed information about each of the above elements is contained in the CDC's *Developing a Water Management Program to Reduce* Legionella *Growth and Spread in Buildings* publication (2021s). CDC (2021a) has also developed *The Toolkit for Controlling* Legionella *in Common Sources of Exposure* (Legionella *Control Toolkit*) to give public health and facility owners/operators concise information about controlling *Legionella* in sources commonly involved in LD outbreaks. Additionally, CDC (2018c) and others developed the "PreventLD Training" online program to review the contents of a WMP, which aligns with the ASHRAE 188 industry standard on managing risk for *Legionella*. Finally, the Council of State and Territorial Epidemiologists (CSTE) (2019b) developed the interactive *Water Management Program Template* that facilities can use to create or improve

their WMP with emphasis on *Legionella* control and prevention. (See the "Selected Resources" section below for links to these documents.)

Site and Building Characteristics

Every WMP must be customized for each specific building or device at the site. CDC (2021m) identifies the following factors to consider while creating and implementing a WMP:

- Structure and size
- Age
- Location and surrounding conditions
- Unique areas of risk for *Legionella* growth and spread
- Whether the building is intended for use by people at increased risk for LD

It is also important to note that requirements or limitations in specific state and local codes and regulations may affect a building's WMP (CDC, 2021m). Such codes and regulations could include, for example, building codes, water treatment regulations, healthcare accreditation and survey requirements, and public health reporting requirements (CDC, 2021m).

Water Management Programs in Healthcare Settings

While the same principles apply for WMPs in healthcare facilities, there are additional considerations in these settings. As discussed in Chapter 1 (Legionnaires' Disease Basics), many people being treated at healthcare facilities—including long-term care facilities, hospitals, and outpatient clinics—have conditions that put them at higher risk of getting sick and dying from LD (CDC, 2017). Water-aerosolizing devices (e.g., respiratory therapy equipment) may be encountered more frequently in healthcare facilities. In July 2018, the Centers for Medicare & Medicaid Services (CMS) released an updated survey and certification memorandum requiring certain types of healthcare facilities to develop and adhere to ASHRAE-compliant WMPs to reduce the risk for *Legionella* and other pathogens in their water systems (CMS, 2018; see also CDC, 2021r).

A WMP can also aid in controlling other water-related healthcare-associated infections and may be considered for its efficacy in reducing risk for other gram-negative bacterial pathogens (e.g., *Pseudomonas*, *Burkholderia*, *Stenotrophomonas*) and nontuberculous mycobacteria (CDC, 2021r, citing Kanamori et al., 2016). CDC (2021r) has also identified additional informational resources about WMPs in healthcare facilities on its website.

Water Management Programs Selected Resources

- American Industrial Hygiene Association. Recognition, Evaluation, and Control of *Legionella* in Building Water Systems. 2015. Available at: https://aihaelibrary.conferencespot.org/legg15-781-1.4543883?qr=1.
- ASHRAE. Standard 188: Legionellosis: Risk Management for Building Water Systems (ANSI approved). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
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- CDC. The Toolkit for Controlling *Legionella* in Common Sources of Exposure. (*Legionella* Control Toolkit) January 13, 2021. Version 1.1. Available at: https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.
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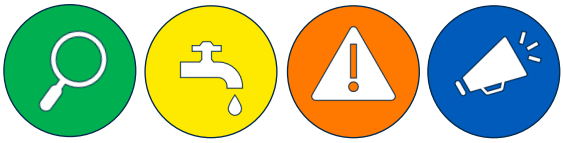
Overview of Legionnaires' Disease Risk Communication Modules



The foregoing chapters provided foundational information about Legionnaires' disease (LD), identified key legal issues, discussed important considerations when communicating about LD with stakeholders and the public, and provided an overview of water management programs (WMPs). The information in these chapters applies to all the settings in which exposure to *Legionella* most commonly occurs.

The toolkit next provides a series of setting- and scenario-specific modules that address LD-related information and messaging targeted for that setting. The setting- and scenario-specific modules are:

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Test Results in the Absence of Cases

Each module also provides templates and sample messages for key communication items such as notification letters, public health orders, press releases, and health department advisories. The modules also identify practice tips and other resources to help state, tribal, local, and territorial (STLT) health agency staff communicate the risks of LD in these specific settings and scenarios to target audiences.

Variables Affecting LD Outbreaks

The goal of the modules is to provide STLT health agency staff with clear guidance about communicating LD risks in a specific setting or scenario and tools to use in those efforts. However, it is important to note that there are many factors that may affect a jurisdiction's investigation, response, and communications about a specific LD outbreak. The following factors are just some of the variables that can influence the course of an LD outbreak—even within the same types of settings—and the response to it:

- Potential for population with increased risk for LD in the setting
- Overnight stay at the setting or not
- Commercial setting or non-commercial setting
- Length of exposure in the setting
- Mixed/hybrid settings (i.e., locations with features common to different LD risks)
- Environmental assessment and environmental sampling *Legionella* results

Above all, these modules provide a starting point from which to tailor risk communication about LD outbreaks in the identified setting. Each jurisdiction can make its own determination about

the nature and scope of its investigation and response, and the messages and targets for communication, given the specifics of each LD outbreak and the jurisdiction's laws, regulations, and policies.

Module Components

The setting- and scenario-specific modules follow the same format and include the following sections:

- Scope of Module—Provides a quick overview of the types of buildings and facilities addressed in the module.

- Factors Affecting Investigation—Discusses factors in the specific setting (e.g., healthcare, congregate residential) or scenario (i.e., routine environmental test results in the absence of cases) that help determine how a public health agency addresses LD cases or an outbreak in that setting.

- Key Risk Factors—Identifies and discusses the key risk factors in the setting that can give rise to *Legionella* growth and LD. This section addresses risk factors associated with buildings and facilities as well as factors affecting persons who occupy or visit the setting. Each module includes a one-page figure summarizing these key risk factors for quick reference.

- Key Audiences and Messages Overview—Identifies and addresses the key audiences for messaging in the module setting. The section discusses the relevance and role of each audience to the identification, investigation, mitigation, and prevention of *Legionella* and LD.

- Key Audience and Messaging Tables—Series of tables provides detailed messaging guides geared to each key audience in the setting or scenario. This section opens with an index table that lists all the messaging table templates by audience. Each series of color-coded key audience tables includes one or more messaging scenarios for that audience. Each messaging table contains an annotated, customizable template of text to include in communications about that scenario.

- Toolkit Appendix—Provides other samples and templates related to the content of the module.

Finally, the messaging needed in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, the information in each module and the messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

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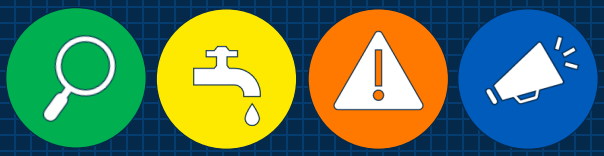


Legionnaires' Disease Risk Communication Toolkit

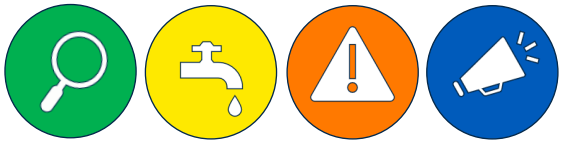


Healthcare Facilities Module

CSTE
COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS

June 2022

Healthcare Facilities Module



Welcome to the Healthcare Facilities Module, a supplement to the *Legionnaires' Disease Risk Communication Toolkit*. This module should be used in conjunction with the *Toolkit* document and the other supplemental modules. The Healthcare Facilities Module contains the following information:

Contents **Page**

Overview of Legionnaires' Disease Risk Communication Toolkit Modules HC–5
(Information about the module supplements)

Healthcare Facilities Module HC–7
(Foundational materials for communicating LD risks in healthcare settings)

Healthcare Facilities Module References HC-14

Healthcare Facilities Messaging Tables HC–17
(Multiple messaging templates for a variety of audiences and scenarios in healthcare settings)

This project was funded under a cooperative agreement with the Centers for Disease Control and Prevention (NU38OT000297-01-00).

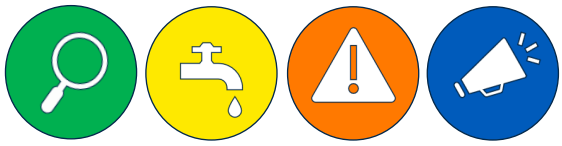
The toolkit was authored for CSTE by Patricia I. Elliott JD, MPH, President, Health|Environment Concepts under the direction of CSTE staff member, Ashley Vineyard, MPH.

For questions about this document, please contact: Council of State and Territorial Epidemiologists 2635 Century Pkwy NE, Suite 700 Atlanta, GA 30345 Tel: 770.458.3811 | Fax: 770.458.8516

June 2022

Version 1.0

Overview of Legionnaires' Disease Risk Communication Toolkit Modules



The individual chapters in the *Legionnaires' Disease Risk Communication Toolkit* document provide foundational information applicable all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit* document offers key information about Legionnaires' disease (LD), identifies legal issues, discusses important considerations when communicating about LD with stakeholders and the public, and provides an overview of water management programs (WMPs). The information in these chapters applies to all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit's* supplemental modules are a series of setting- and scenario-specific documents that address LD-related information and messaging targeted for that setting. The setting- and scenario-specific modules are:

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Test Results in the Absence of Cases

Each module also provides templates and sample messages for key communication items such as notification letters, public health orders, press releases, and health department advisories. The modules also identify practice tips and other resources to help state, tribal, local, and territorial (STLT) health agency staff communicate the risks of LD in these specific settings and scenarios to target audiences.

Variables Affecting LD Outbreaks

The goal of the modules is to provide STLT health agency staff with clear guidance about communicating LD risks in a specific setting or scenario and tools to use in those efforts. However, it is important to note that there are many factors that may affect a jurisdiction's investigation, response, and communications about a specific LD outbreak. The following factors are just some of the variables that can influence the course of an LD outbreak—even within the same types of settings—and the response to it:

- Potential for population with increased risk for LD in the setting
- Overnight stay at the setting or not
- Commercial setting or non-commercial setting
- Length of exposure in the setting
- Mixed/hybrid settings (i.e., locations with features common to different LD risks)
- Environmental assessment and environmental sampling *Legionella* results

Above all, these modules provide a starting point from which to tailor risk communication about LD outbreaks in the identified setting. Each jurisdiction can make its own determination about

the nature and scope of its investigation and response, and the messages and targets for communication, given the specifics of each LD outbreak and the jurisdiction's laws, regulations, and policies.

Module Components

The setting- and scenario-specific modules follow the same format and include the following sections:

- **Scope of Module**—Provides a quick overview of the types of buildings and facilities addressed in the module.

- **Factors Affecting Investigation**—Discusses factors in the specific setting (e.g., healthcare, congregate residential) or scenario (i.e., routine environmental test results in the absence of cases) that help determine how a public health agency addresses LD cases or an outbreak in that setting.

- **Key Risk Factors**—Identifies and discusses the key risk factors in the setting that can give rise to *Legionella* growth and LD. This section addresses risk factors associated with buildings and facilities as well as factors affecting persons who occupy or visit the setting. Each module includes a one-page figure summarizing these key risk factors for quick reference.

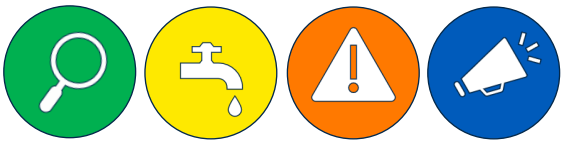
- **Key Audiences and Messages Overview**—Identifies and addresses the key audiences for messaging in the module setting. The section discusses the relevance and role of each audience to the identification, investigation, mitigation, and prevention of *Legionella* and LD.

- **Key Audience and Messaging Tables**—Series of tables provides detailed messaging guides geared to each key audience in the setting or scenario. This section opens with an index table that lists all the messaging table templates by audience. Each series of color-coded key audience tables includes one or more messaging scenarios for that audience. Each messaging table contains an annotated, customizable template of text to include in communications about that scenario.

- **Toolkit Appendix**—Provides other samples and templates related to the content of the module.

Finally, the messaging needed in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, the information in each module and the messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Healthcare Facilities Module



Healthcare facilities like hospitals, long-term care (LTC) facilities, and clinics pose significant risks for potential exposures to water containing *Legionella*. Healthcare facilities frequently have complex water systems, cooling towers, and specialized equipment that can present additional risks of exposure to *Legionella* (CDC, 2021b). Patients can be especially vulnerable to acquiring Legionnaires' disease (LD) if they are exposed to water systems colonized by *Legionella* given other potential risk factors such as weakened immune systems, advanced age, and chronic medical conditions (CDC, 2021b).

CDC (2021a) specifically tracks healthcare-associated LD by facility type and the kind of healthcare exposure (i.e., inpatient, outpatient, employee, and visitor or volunteer). CDC uses case definitions established in CSTE's 2019 position statement on legionellosis to classify healthcare-associated cases as either presumptive healthcare-associated LD or possible healthcare-associated LD (CDC, 2021a).

Scope of Module

This module covers three broad categories of healthcare facilities as recognized by CDC—hospitals, LTC facilities, and clinics. CDC (2021a) further identifies several kinds of facilities included within each broad category:

- Hospitals
  - Acute care hospitals (general or specialty); long-term acute care hospitals; critical access hospitals; children's hospitals; psychiatric hospitals; clinics located within hospitals
- LTC facilities
  - Skilled nursing facilities; nursing homes; inpatient hospice; rehabilitation hospitals; psychiatric residential treatment facilities

Defining Healthcare-associated LD Cases

CSTE defines healthcare-associated Legionnaires' disease (HA-LD) in Appendix 3 of its Position Statement 19-ID-04 Revision to the Case Definition for National Legionellosis Surveillance (June 6, 2019)[1]. Patients who meet clinical and laboratory or epi linkage criteria for LD[2] are also classified based on the duration of their exposure in a healthcare setting:

- **Presumptive healthcare-associated LD**—A case with 10 or more days[2] of continuous stay at a healthcare facility[3] during the 14 days before onset of symptoms.
- **Possible healthcare-associated LD**—A case that spent a portion of the 14 days before date of symptom onset in one or more healthcare facility, but does not meet the criteria for presumptive HA-LD.

[1] See *LDRC Toolkit* Chapter 1 "Legionnaires' Disease Basics" for a review of clinical and laboratory criteria.

[2] The majority of LD cases have illness onset within 10 days of exposure; for healthcare-associated case surveillance purposes, the goal is to capture the most likely exposure source.

[3] Examples of healthcare facilities include acute care facilities, long-term acute care facilities, skilled nursing and clinics.

- Clinics
  - General and specialty outpatient clinics (not located in a hospital); ambulatory/same day surgery centers (not located in a hospital); outpatient rehabilitation clinics; dialysis centers; dental offices/clinics

Other CDC-recognized healthcare facilities include associated sites such as pharmacies and outpatient laboratories. CDC does not include facilities like assisted living or senior living facilities, prisons, and group homes in the definition of healthcare facilities; the Congregate Residential Facilities module in this toolkit addresses these types of facilities.

Factors Affecting Investigation

Several factors affect how a public health agency addresses LD cases in a healthcare setting. These factors as identified by CDC (2021c) can include:

- Type and size of the healthcare facility.
- Existing capacity of the facility and health department.
- Number of cases.
- Water management program performance.
- Routine environmental sampling results.

For More Information...

See CDC's materials for health departments conducting investigations in healthcare facilities for more in-depth information about legionellosis case definitions, case and outbreak investigation resources, and water management strategies for preventing LD. These materials are available at https://www.cdc.gov/legionella/health-depts/healthcare-resources/index.html.

The decision to conduct a full investigation of LD cases in a healthcare facility will depend on the identification of the number of cases within a defined time, which could raise suspicion about the potential for ongoing *Legionella* transmission at the facility. CDC (2021c) recommends full investigation if either of the following two situations occur:

- One or more (≥1) case of presumptive healthcare-associated LD at any time; or
- Two or more (≥2) cases of possible healthcare-associated LD within 12 months of each other.

Key Risk Factors in Healthcare Facilities

There are multiple factors that can make healthcare facilities especially susceptible to *Legionella* colonization and spread. Also, their patients and visitors may be at increased risk for acquiring LD. While not all the risk factors identified below will apply equally to every type of facility discussed in this module, they are indicative of the types of risks common in healthcare facilities. The categories of risk factors are discussed in the following sections.

Complex Potable and Drinking Water Distribution Systems

Healthcare facilities generally have complex water systems given the size of these facilities and the wide range of water applications in them. These types of facilities can also undergo frequent construction or renovation to modernize and expand capacity. This can cause disruptions or

changes in water pressure that dislodge biofilm and release *Legionella* into the water system. Disruptions and changes in water pressure can also introduce contaminants into the water system and potential stagnation in areas where water flow is reduced or cut-off.

Sources of Aerosolized Water

This is a broad category that includes many potential sources of *Legionella* exposure within a healthcare facility. These can include aerosolized water from showers and faucets in patient rooms and in the facility generally. Equipment unique to healthcare settings such as respiratory therapy equipment, hydrotherapy tubs, or dental devices using water are also sources of aerosolized water. Finally, healthcare properties may include other sources of aerosolized water such as decorative fountains or other water features.

Building Systems with Cooling Towers

Large facilities are likely to have complex cooling systems that include cooling towers, which if not properly maintained, can become colonized with *Legionella*. The bacteria are then dispersed through water droplets generated during cooling processes, which can extend to areas neighboring the healthcare facility. Large healthcare complexes can have one or more cooling towers on the property.

Specific Building or Location Features

There may be features specific to a particular building, facility, or location that increase its potential for *Legionella* colonization or the potential for people occupying it to be exposed. The sheer variety of water uses associated with healthcare facilities coupled with the high-risk populations they serve make healthcare settings distinctive for LD risk.

Hybrid Settings

Healthcare facilities have several aspects that make them a risk for fostering *Legionella* growth and exposure. Facilities can also include hot tubs, decorative fountains, or other water features that create aerosolized water. In the context of a healthcare facility, an example of a hybrid setting could be one that includes recreational-type water sources such as in a Veterans Affairs (VA) facility that includes residential areas for patients to stay during longer-term treatments. Each element can be assessed as an individual functional unit as well as in the context of a healthcare facility as a whole.

Length of Stay in the Facility

LD is associated with overnight stays or extended exposures to a source within a healthcare facility colonized with *Legionella.* Therefore, the longer a person is at the facility—as a patient, visitor, volunteer, employee, or otherwise working or spending prolonged periods in a healthcare facility setting—the greater the potential to contract LD.

At-risk Persons in the Facility

Healthcare facilities generally serve individuals with one or more characteristics that puts them at higher risk for acquiring LD. These include being age 50 and older, being a current or past smoker, or having a higher risk for infection (e.g., having a chronic illness, respiratory disease, weakened immune system). Patients at a healthcare facility may also have a greater risk for aspirating water which allows water to enter the lungs. Other individuals may be at risk for LD

based on the amount of time they spend in a healthcare facility and exposed to *Legionella*. Employees, volunteers, visitors, and others may also have individual risk factors that put them at increased risk for LD.

Figure 1 describes risk factors that affect healthcare buildings and the persons using them. Specific facility types (e.g., hospitals, LTC facilities, clinics) and the risk factors they may be subject to are indicated in parentheses.

Key Audiences and Messages

Each type of healthcare facility has key audiences for messaging about LD identification, investigation, mitigation, and prevention. Each of these persons and organizations may require somewhat different information about LD tailored to their perspective in the LD event. Messaging may evolve during the LD event as suspected outbreaks are confirmed and follow-up may be indicated. It is also important to note that healthcare professionals (e.g., physicians, nurses, dentists) can also be the owners, operators, or managers of a healthcare facility in addition to their roles as healthcare providers. Alternatively, a healthcare provider could be leasing space in a larger building or facility owned and managed by other parties. While core information about LD, investigation, mitigation, and prevention will likely be similar, there may be differences in the kinds and details of messages intended for different audiences. The key audiences in healthcare facility settings are identified in the following sections.

Facility

Owners, administrators, and managers can be both the operational and legal points of contact for suspected and confirmed public health communicable disease investigations and response activities; however, this should be confirmed by the facts of the specific event and the laws and regulations in the jurisdiction.

For More about Routine Environmental Testing Results….

See the "Routine Environmental Testing Results in the Absence of Cases" Module for additional messaging about this scenario.

The healthcare facility is also often a key source of information about patients, visitors, employees, volunteers, contractors, and other persons who stayed or visited during the period under investigation. Depending on the laws, regulations, or policies of a jurisdiction, facility managers and employees may be required to use messaging supplied by a public health agency to communicate with potentially exposed persons or to alert prospective patients and visitors about an ongoing LD investigation; however, in other jurisdictions, public health agencies can recommend but not require specific messaging.

Should a facility raise concerns about sharing personally identifiable information about patients, note that federal and state laws provide exceptions to confidentiality requirements for public health purposes (see *LDRC Toolkit* Chapter 3 "Access to Information and Confidentiality"). Any questions or concerns about accessing or sharing personally identifiable information may be discussed with the public health agency's legal counsel.

Facility representatives should be informed about the process for investigating, testing, and mitigating potential sources of *Legionella* in the facility's water systems, cooling towers, and

Figure 1: Key Risk Factors in Healthcare Facilities

Building and Facility Factors

Water Distribution Systems

- Complex potable/drinking water systems that may include recirculating hot water, long distribution or riser runs, multiple water heaters, and numerous fixtures *(hospitals, large LTC, large clinics)*
- Complex potable/drinking water distribution system possible *(large/medium LTC, large/ medium clinics)*
- Less complex potable/drinking water distribution systems likely but potential for less frequent maintenance and water system management *(small LTC, small clinics)*
- Technical water/non-potable systems of varying complexity possible *(all)*

Sources of Aerosolized Water

- Numbers and size of sources will vary with the type of facility
- Potential sources:
  - Showers and faucets in patient rooms, treatment rooms, and throughout the facility *(all)*
  - Medical devices and therapeutic equipment *(all)*
  - Hot tubs (*all*)
  - Other water features possibly onsite (e.g., pools, decorative fountains) (*all)*

Building Systems with Cooling Towers

- Complex cooling systems with one or more cooling towers possible *(hospitals, large/medium LTC, large/medium clinics)*
- Could have cooling systems with cooling towers in some facilities, not likely in smaller facilities *(small LTC, small clinics)*
- May be present at a building owned/operated by a third party *(clinics)*

Features Specific to the Building or Location

- Potential for frequent to periodic construction or renovation that can dislodge biofilm and introduce pathogens and stagnation areas where water flow is reduced or cut-off *(all)*
- Unused or infrequently used rooms and equipment *(all)*
- May be present at a building owned/operated by a third-party with unknown water management practices *(clinics)*
- Potentially fewer staff for water system maintenance *(smaller LTC, smaller clinics)*
- Technical water/non-potable systems of varying complexity possible *(all)*

Hybrid Setting / Features of Multiple Settings

- May include one or more recreational water setting features (e.g., pools, hot tubs) *(LTC)*
- May be present at a larger building with a mix of tenant types *(clinics)*

Personal Factors

Length of Time in Setting

- Overnight and multiple-night stays by patients *(hospitals, some clinics)*
- Permanent or long-term stays by patients *(LTC)*
- Patients attending offices and appointments may be onsite for extended periods without overnight stay *(hospitals, clinics)*
- Employees, contractors, visitors, and volunteers may be onsite for extended periods *(all)*

Persons with Risk Factors

- Patients are more likely than the general population to have conditions increasing LD susceptibility *(all)*
- Can have employees, contractors, visitors, and volunteers with a cross-section of personal risk factors *(all)*

plumbed water features, as well as medical devices, therapeutic equipment, and any other water features at the facility. If general risk communication methods are ineffective at prompting action by the facility, messaging about and the use of public health orders or other enforcement mechanisms may be helpful.

Finally, public health agencies should consider requesting (or requiring) copies of all written materials and other notices shared with patients, staff, and visitors to ensure that the information being provided is accurate and complete. Correct information is especially important for persons potentially exposed to *Legionella* who should be monitored for symptoms and seek treatment if symptoms develop. Facilities subject to health orders may also be required to provide copies of all notices and notifications. Public health agencies should also confirm that facilities notify patients, staff, and visitors about the results of tests on its water systems arising from a public health investigation.

Patients and Visitors

Any messaging to patients (and/or their designated contacts or legal representatives) and visitors should include clear information in plain language about LD basics such as the cause, sources, risk factors, and symptoms of the disease. If available, key information should be provided about their specific potential exposures to *Legionella* at the healthcare facility, when it occurred (if known), and how to speak with their doctor about the exposure. Consider including language advising recipients to speak with a medical provider if they develop symptoms within 14 days of exposure. Also clearly communicate information about sources to consult for additional information and points of contact within the public health agency, if appropriate.

Employees, Contractors, and Volunteers

Similar to the messaging for patients and visitors, employees, contractors, volunteers, and others who are regularly in the healthcare facility should receive clear information in plain language about LD that addresses the cause, sources, risk factors, and symptoms of the disease. Messaging should include key information about specific potential exposures at the facility and when exposure likely occurred (if known). It should also address how the facility would like employees and others to proceed if they are sick or worried about having been exposed, and how to speak with their doctor about the exposure. Additionally, a jurisdiction's occupational health and safety laws and workers' compensation system, as well as obligations arising from union contracts, and other agreements or personnel policies affecting the rights of employees can arise. Further, the issue of personal protective equipment (PPE) consistent with or beyond that already used in the healthcare setting may arise if there are employees or others at higher risk (whether due to personal medical history or exposure risks due to job duties). Points of contact within the organization and the public health agency, information about employee rights, and sources for additional information should also be clearly communicated.

Persons with Confirmed LD

Persons who have been confirmed to have LD from an outbreak may require additional information as the public health investigation proceeds (e.g., for medical or legal purposes, out of interest or concern). Public health agency staff should identify the extent and types of information that can be legally shared within the scope of the jurisdiction's laws, and that the information released is supported by data and sound public health practice. Health agencies

may also consider media releases with investigation updates to keep affected and interested persons informed. (See "Media and the Public" section below.)

Healthcare Providers and Other Healthcare Facilities

Healthcare providers associated with a facility where LD cases have occurred should be alerted so they can monitor their patients for *Legionella* exposure and LD symptoms. More broadly, conducting outreach to healthcare providers and other healthcare facilities in the community in which an LD outbreak is occurring or has occurred helps to educate them about LD and alert them to the signs and symptoms indicating a patient may be suffering from LD. The public health agency can also provide guidance on appropriate diagnostic testing and treatment, and instructions about retaining or forwarding clinical specimens or isolates. Health alerts sent by the public health agency to healthcare providers and facilities are used to highlight specific suspected or confirmed LD outbreaks and to inform practitioners and clinical laboratories how to report cases to the agency.

Other Agencies and Governments

A public health agency may inform other divisions within the public health agency, other government agencies in its state/jurisdiction, and agencies in other units of government (i.e., local, regional, state, federal, tribal, territorial) about an LD outbreak at a healthcare facility as required by standard procedure, law, or voluntarily as public health partners. Consider issuing an Epi-X alert if the healthcare facility draws patients, visitors, or staff from other geographic areas, especially if persons travel to the facility for specialized care or the facility is located near a state or other jurisdictional boundary. Identifiable patient information can only be shared according to state and federal confidentiality laws and rules. Depending on the extent and nature of the LD event, other divisions, agencies, or units of government may have regulatory or other legal authority over or an interest in the operation of the healthcare facility (e.g., building code enforcement, environmental health/sanitation inspections).

Media and the Public

Providing information to the media and the public about a suspected or confirmed LD outbreak is an important part of the risk communication process, but it should be approached taking care to balance the privacy interests of the involved facilities and individuals with the right of the public to be made aware of public health threats. (See *LDRC Toolkit* Chapter 3 "Accessing Information and Confidentiality" for more information.) LD cases or outbreaks associated with a healthcare facility may generate significant public and media attention. Issuing press releases and other statements about an LD outbreak at a specific healthcare facility can help to identify other persons who may have been exposed at that facility and alert them to the symptoms to watch for. Providing updates on the status of an LD investigation can help to assure the public that the outbreak is being addressed and mitigated.

Healthcare Facilities Module References

Centers for Disease Control and Prevention. (2021a, March 25). Legionella *(Legionnaires' disease and Pontiac fever): Defining healthcare facilities and healthcare-associated Legionnaires' disease*. https://www.cdc.gov/legionella/health-depts/healthcare-resources/healthcare-facilities.html

Centers for Disease Control and Prevention. (2021b, March 25). Legionella *(Legionnaires' disease and Pontiac fever). Healthcare investigation resources*. https://www.cdc.gov/legionella/health-depts/healthcare-resources/index.html

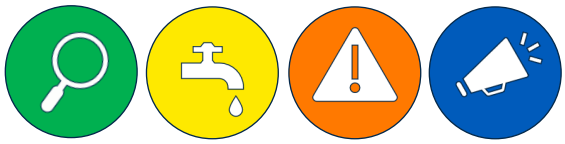
Centers for Disease Control and Prevention. (2021c, March 25). Legionella *(Legionnaires' disease and Pontiac fever). Things to consider: Outbreak investigations*. https://www.cdc.gov/legionella/health-depts/epi-resources/outbreak-investigations.html

Council of State and Territorial Epidemiologists. (2019, June 6). Revision to the case definition for national legionellosis surveillance. Position statement no. 19-ID-04. https://cdn.ymaws.com/www.cste.org/resource/resmgr/2019ps/final/19-ID-04_Legionellosis_final.pdf

Healthcare Facilities Module Selected Resources

- ASHRAE. Standard 188: Legionellosis: Risk Management for Building Water Systems (ANSI approved). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- ASHRAE. Guideline 12: Managing the Risk of Legionellosis Associated with Building Water Systems. Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- CDC. *Legionella* (Legionnaires' Disease and Pontiac Fever). Healthcare Investigation Resources. Available at: https://www.cdc.gov/legionella/health-depts/healthcare-resources/index.html.
- CDC. Legionnaires' Disease Communication Resources. Available at: https://www.cdc.gov/legionella/health-depts/communications-resources.html#press-releases .(Includes sample letters for healthcare facilities.)
- CDC. Guidelines for environmental infection control in health-care facilities: Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee. *MMWR*. 2003;52(RR-10):1–42. Available at: https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm.
- CDC. Guidelines for preventing health-care-associated pneumonia, 2003: Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee. *MMWR*. 2004;53(RR-3):1–36. Available at: https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5303a1.htm.
- CDC. Guidelines for infection control in dental health-care settings, 2003pdf icon. *MMWR*. 2003;52(RR-17). Available at: https://www.cdc.gov/mmwr/PDF/rr/rr5217.pdf.
- CMS. Requirement to Reduce *Legionella* Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease. Available at: https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/QSO17-30-HospitalCAH-NH-REVISED-.pdf.
- CDC. Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings: A Practical Guide to Implementing Industry Standards. June 5, 2017. Version 1.1. Available at: https://www.cdc.gov/legionella/downloads/toolkit.pdf.
- CDC. The Toolkit for Controlling *Legionella* in Common Sources of Exposure. (*Legionella* Control Toolkit) January 13, 2021. Version 1.1. Available at: https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.
- CSTE. Water Management Program Template. Available at: https://www.cste.org/general/custom.asp?page=Legionnaires.
- OSHA. Legionellosis (Legionnaires' Disease and Pontiac Fever). Available at: https://www.osha.gov/legionnaires-disease.

Healthcare Facilities Messaging Tables



This section of the module contains messaging tables that address key audiences associated with a suspect or confirmed LD case(s)/outbreak at a healthcare facility. LD risk communication materials gathered from states, localities, and federal sources were used to help create the messaging tables in this module. Readers should consider the following items when using the messaging tables:

- Each series of color-coded key audience tables includes one or more messaging scenarios for that audience.
    - The same colors are used across the all the modules for the same audiences (e.g., materials for the press and public are in tables with orange banners).
- Each messaging table contains an annotated template of text to include in communications about that scenario.
    - Module users are free to choose which content to use in a template and modify it according to their needs.
- ***Italicized topic headings*** introduce a series of bulleted statements with text that can be adapted into letters, handouts, or notices.
    - Topic headings are not necessarily intended to by used in messaging documents.
- [Text in brackets] should by edited by the user to tailor a document for the specific use.
    - For example, "The [state/local health agency] has identified…" becomes "The Anytown Health Department has identified…"
- *[Italicized text in brackets]* are instructions to the user and are not intended to be included in messaging documents.

The next page contains an index of the messaging tables and lists each key audience and messaging scenarios addressed. The index also lists the corresponding module page numbers for the messaging tables.

IMPORTANT NOTE:

The messaging indicated in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, these messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Index of Healthcare Facilities Module Messaging Tables	
Messaging Audience and Messaging Scenarios	**Module Page**
Healthcare facility owners, representatives, and infection control leads	
• Informing facility of a single case of possible healthcare-associated LD	HC–19
• Informing facility of a single case of presumptive healthcare-associated LD or multiple cases of possible healthcare-associated LD	HC–21
• Investigation at a cooperative or compliant healthcare facility	HC–23
• Investigation at an uncooperative or non-compliant healthcare facility	HC–25
• Health order to require a healthcare facility to address and remediate *Legionella* in the facility	HC–27
• Providing general information about LD risks to persons associated with a healthcare facility	HC–33
• Providing general information about LD risks, mitigation, and prevention for healthcare facility engineering and maintenance staff	HC–35
People associated with a healthcare facility, such as patients, visitors, employees, contractors, or volunteers	
• Healthcare facility notice/letter to outpatient or discharged patient about recent LD case at the facility	HC–37
• Healthcare facility notice/letter to inpatients about recent LD case at facility – Simplified	HC–39
• Healthcare facility notice/letter to inpatients about recent LD case at facility – Detailed	HC–41
• Letter or memo to staff about LD case	HC–43
Healthcare providers and other healthcare facilities in the community/jurisdiction in which the healthcare facility with the LD case(s)/outbreak is located	
• Alert to healthcare providers about LD case(s)/outbreak in a healthcare facility	HC–45
Other agencies and governments that may assist in the investigation and response, and those with authority over different aspects of a healthcare facility or over different types of healthcare facilities	
• Alert to other divisions, agencies, or units of government about identifying and investigating healthcare-associated LD case(s)/outbreak	HC–47
Media and the public	
• Press release/alert to the media and public about LD case(s)/outbreak at a healthcare facility	HC–49

Healthcare–Messaging for Facilities

Messaging Purpose:

- **Informing facility of a single case of possible healthcare-associated LD**

Purpose of communication:

- On [date], [state/local health agency] received a report of a person with a [confirmed/suspect/probable] case of LD that reported being at [name of healthcare facility] from [date range], during the 14 days prior to illness onset.
- This person meets the criteria for possible healthcare-associated LD (HA-LD) because they reported being at your facility during the 14 days before symptom onset.
- LD is one of the illnesses reported to the [state/local health agency] because of its potential to cause outbreaks.
- The [state/local health agency] welcomes your cooperation with the investigation of the LD case(s).

Sources of exposure:

- Nearly all individuals who develop LD were exposed to water containing *Legionella* bacteria during the 14 days before symptom onset.

Suggested actions:

- Following the identification of a possible HA-LD case associated with your facility there is concern that the building's water system(s) may be at risk of *Legionella* growth and transmission. Please be aware of the following recommendations:
  - *Legionella* water management programs (WMPs) are now an industry standard for healthcare facilities in the United States. For more information about WMPs, visit [www.cdc.gov/legionella/wmp/toolkit/index.html].
  - CMS expects hospitals, critical access hospitals, and LTC facilities to have water management policies and procedures to reduce the risk of growth and spread of *Legionella* and other pathogens.[1]
- Remind clinicians to test patients with healthcare-associated pneumonia who are at risk for LD. The preferred diagnostic tests for LD are both the *Legionella* urinary antigen test and culture or PCR of lower respiratory secretions (e.g., sputum, bronchoalveolar lavage) on media that supports growth of *Legionella*. Lower respiratory specimens should be frozen.
  - Isolation of *Legionella* by culture or PCR is important for public health investigation. Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
- A fact sheet about LD is [included with this letter and] available at [www.cdc.gov/legionella/downloads/fs-legionella-clinicians.pdf].

Actions requested/required:

- If a second case of LD is identified at [facility name] within [12 months or another timeframe specified by the public health agency[2]] of the first case, the [state/local health agency] may request additional information or conduct an investigation to determine whether there is ongoing risk of exposure to

[Continued next page]

Legionella in your facility.

- This may include the following: a request to perform a retrospective review of patients who developed pneumonia during their stay at your facility, conducting an environmental assessment, reviewing your WMP, and conducting environmental water sampling at your facility.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] immediately if you learn of other potential LD cases among patients, staff, or visitors in your facility.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.
- Further information is also available from the [state/local health agency and/or CDC website].

[[1] See CMS.gov at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Policy-and-Memos-to-States-and-Regions-Items/Survey-And-Cert-Letter-17-30- .]

[[2] See the Healthcare Investigation Resources section at https://www.cdc.gov/legionella/health-depts/healthcare-resources/cases-outbreaks.html for timeframe considerations.]

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare—Messaging for Facilities

Messaging Purpose:

- **Informing facility of a single case of presumptive healthcare-associated LD**
  OR
- **Informing facility of multiple cases of possible healthcare-associated LD**

Purpose of communication:

- *[For a single presumptive case:]*
  - On [date], [state/local health agency] received a report of a person at [name of healthcare facility] who meets the criteria for presumptive healthcare-associated Legionnaires' disease (HA-LD).
  - This person meets the criteria for a presumptive HA-LD case because they reported being present at your facility for 10 or more days during the 14 days before onset of symptoms.
- *[For two or more possible cases within 12 months:]*
  - On [date], [state/local health agency] received a report of a person with a [confirmed/suspect/probable] case of LD that reported being at [name of healthcare facility] during the 14 days prior to illness onset.
  - This person meets the criteria for possible healthcare-associated LD (HA-LD) because they reported being at your facility during the 14 days before symptom onset.
  - This is the second possible HA-LD case associated with [facility name] of which [state/local health agency] is aware within 12 months. The first case was reported to have been at your facility during the 14 days prior to illness onset on [date].
- LD is one of the illnesses reported to the [state/local health agency] because of its potential to cause outbreaks.
- The [state/local health agency] welcomes your cooperation with the investigation of the LD case(s).

Sources of exposure:

- Nearly all individuals who develop LD were exposed to water containing *Legionella* bacteria during the 14 days before symptom onset.
- Identifying one presumptive HA-LD case raises concern regarding the potential for ongoing transmission within your facility.
  - *OR:* [Two or more possible HA-LD cases within 12 months raises concern regarding the potential for ongoing transmission within your facility.]

Actions requested/required:

- [State/local health agency] would like to begin an epidemiologic and environmental investigation, in consultation with your infection control, building maintenance engineers, and risk management staff, to help ensure that any ongoing risk for *Legionella* transmission is minimized.
- The following steps will help identify additional potentially healthcare-associated cases:
  - Perform a retrospective review of hospitalizations for the past 12 months to identify pneumonia cases that could have been healthcare-associated, and if so, determine if patients were tested for *Legionella*.

[Continued next page]

  - Implement active clinical surveillance for [at least 6 months[1]] following onset of the last possible or presumptive HA-LD case.
    - [Specify components of active clinical surveillance to be used[1]]
- Remind clinicians to test all patients with healthcare-associated pneumonia for *Legionella*. The preferred diagnostic tests for LD are both the *Legionella* urinary antigen test and culture or PCR of lower respiratory secretions (e.g., sputum, bronchoalveolar lavage) on media that supports growth of *Legionella*. Lower respiratory specimens should be frozen.
- All patients with healthcare-associated pneumonia in the setting of an investigation such as this should be tested for *Legionella* infection.
- Isolation of *Legionella* by culture or PCR is important for public health investigation. Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
- A fact sheet about LD for clinicians is [included with this letter and] available at [www.cdc.gov/legionella/downloads/fs-legionella-clinicians.pdf].

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] immediately if you learn of other LD diagnoses among patients, staff, or visitors in your facility.
- The [state/local health agency] [will/may] follow up with you to schedule an appointment to visit your facility.
  - The [state/local health agency] may request a summary of your retrospective review of patients who acquired pneumonia during [timeframe], a copy of your current WMP, and [other document or data].
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.
- Further information is also available from the [state/local health agency and/or CDC website].

[[1] See the Active Clinical Surveillance section at www.cdc.gov/legionella/health-depts/healthcare-resources/cases-outbreaks.html#clinical-surv to learn more.]

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Facilities

Messaging Purpose:

- **Investigation at a cooperative/compliant healthcare facility**
  - **Facility identified as site with single case of presumptive or multiple cases of possible healthcare-associated LD**
  - **Investigation is needed for public health purposes**
  - **Remediation is indicated per investigation findings**
  - **Facility is cooperative and compliant with public health requests**

Purpose of communication:

- Thank you for your cooperation with the [state/local health agency] investigation of [a case(/cases]) of Legionnaires' disease (LD) in a person at your facility. [*OR* [State/local health agency] is investigating a case of LD in a person at your facility.]
- The [state/local public health agency] has identified [a single case of presumptive healthcare-associated LD] *OR* [multiple cases of possible healthcare-associated LD] in [a person/persons] diagnosed with LD were at your facility from [date range].
- There is reasonable cause to believe that your property is or may be colonized with *Legionella* (the bacteria that cause LD) and that it may be a threat to public health.
- An environmental assessment of your facility by [state/local public health agency] is necessary and specific response activities may be needed based on the assessment findings.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- The bacteria are generally not spread from person to person.

Sources of exposure:

[*Edit sources as appropriate for setting:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however, it more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).

Actions required as applicable:

- The [state/local public health agency] is requesting your assistance in gathering more information about LD cases who have been at the facility during [time frame].
- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.

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Healthcare–Messaging for Facilities

Messaging Purpose: Investigation at a cooperative healthcare facility *(continued)*

- [*If cases are linked to a specific device such as medical device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:*]
  - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- You [should *OR* may] inform facility staff, patients, and visitors about the LD cases/outbreak. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You should also review your water/facility maintenance procedures to help minimize future risk.
  - *Legionella* water management programs (WMPs) are now an industry standard for healthcare facilities in the United States. For more information about WMPs, visit [www.cdc.gov/legionella/wmp/toolkit/index.html].
  - CMS expects hospitals, critical access hospitals, and LTC facilities to have water management policies and procedures to reduce the risk of growth and spread of *Legionella* and other pathogens.[1]

Communications requested:

- You [will/may] be contacted by [the state/local public health agency] to gather more information about LD cases at [facility name] and schedule an environmental assessment of the facility.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among guests, staff, or visitors, regardless of where the guest lives, please contact [name, phone, email] at the [the state/local public health agency].

[[1] See CMS.gov at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Policy-and-Memos-to-States-and-Regions-Items/Survey-And-Cert-Letter-17-30- .]

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Facilities

Messaging Purpose:

- **Investigation at an uncooperative or non-compliant healthcare facility**
  AND/OR
- **Investigation is needed for public health purposes**
  AND/OR
- **Remediation is indicated per investigation findings**
  - **Facility is uncooperative/non-compliant with public health requests**
  - **Ordering the facility to allow assessment or investigation and take actions required by law to mitigate conditions giving rise to LD**
  - **Depending on the type of healthcare facility (e.g., hospital, nursing home, clinic) other agencies and regulatory bodies may also have authority to investigate and order compliance.**
  - **A decision may be made to send a final notice before issuing an order or combining the two.**
  - ***The legal requirements for notice and an order depend on a specific jurisdiction's laws and should be followed.***

Purpose of communication:

- The [state/local public health agency] has previously contacted [facility name] because there is reasonable cause to believe that the property is or may be colonized with *Legionella* (the bacteria that causes Legionnaires' disease (LD) and that it may be a threat to public health.
- The [state/local public health agency] has identified [number of people/person(s)] diagnosed with LD who report [being at/visiting] your facility from [date range], which is within the LD incubation period of 2 to 14 days.
- [The facility] has not responded to requests to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [and/or] has not undertaken remediation measures indicated.]
- [This notice is a final request to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [and/or] undertake remediation measures] before a [health order] is issued mandating compliance.]
- [The facility] is ordered pursuant to [cite state/local law] to allow the property to undergo an environmental assessment, perform environmental sample testing for *Legionella*, [and/or]] take the required actions to mitigate the conditions that promote *Legionella* growth and spread.

Sources of exposure:

[Edit sources as appropriate for setting:]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however, it more commonly causes human infection when is grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, medical devices that aerosolize water, cooling towers, other water sources like decorative fountains).

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Healthcare–Messaging for Facilities

Messaging Purpose: Investigation at an uncooperative or non-compliant healthcare facility *(continued)*

Actions required:

[*Edit actions as appropriate for setting*:]

- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.
- [*If cases are linked to a specific device such as a decorative fountain, therapy tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:*]
  - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- Failure to comply with this [final notice] [and/or order] may result in further administrative, civil, and criminal penalties.

Communications requested:

- You may be contacted by [the state/local public health agency] to schedule an environmental assessment of the facility if you do not respond to this notice.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among guests, staff, or visitors, regardless of where they live, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Facilities

Messaging Purpose:

- **Health order to require a healthcare facility to address and remediate *Legionella* in the facility**
  - ***Legal requirements for health orders will vary by jurisdiction; consult with legal counsel in drafting order***

*[**Note:** This order may be modified with revised requirements as additional information about the condition of the healthcare facility becomes available or initial response activities are implemented. If the facility does not comply with the initial order, additional administrative, civil, or criminal proceedings may be required.]*

Introduction:

- [Healthcare facility name] has been issued a [license] by the [health/other agency name] to operate a [identify type of healthcare facility, e.g., hospital, nursing home].
- Based on information and belief, you are the [facility owner, person in control, registered agent *OR* other] of [healthcare facility name and address] (the "Property").
  - If you are not the [owner, person in control, or registered agent *OR* other] of the Property, please contact [health agency contact name] at [phone number/email address] immediately.
- [Samples were taken from [several locations] at the Property by [state/local/other health agency name/ CDC] [as part of a *Legionella* outbreak in [community name] *OR* at the Property].
  - [Preliminary testing by [health agency/CDC] has detected the presence of *Legionella* bacteria in the Property's [list sites, e.g., water heater, faucet heads sinks/showers, cooling towers, medical devices using water].]
- [The [health agency] has identified [case(s)/an outbreak] of legionellosis among persons at or associated with the Property].
- [*If facility failed to comply with previous required actions*] [Facility name] failed to take previously identified required actions identified by the [health agency] [include list].]

Legionella *basics:*

- *[Include basic information about* Legionella *as appropriate.]*
- [*Legionella* bacteria can cause Legionnaires' disease (LD) or related conditions that may adversely affect public health.]
- [People may be exposed to *Legionella* when they inhale aerosolized water droplets containing the bacteria.]
- [*Legionella* can grow in a building's water systems or devices (e.g., hot water heaters, pipes, water storage tanks, cooling towers, decorative fountains, medical devices containing water).]

[Continued next page]

Statement of authority:

- Pursuant to [cite statute authorizing the public health order], this Order is being issued based on [reasonable cause *OR* (other legal standard specified in authorizing statute)] to believe that the Property is or may be [colonized by *Legionella OR* a source of a communicable disease] that could constitute a threat to public health [*OR* other language contained in authorizing statute].
- [Cite statute authorizing regulation of healthcare facility type, e.g., hospital, nursing home] authorizes the [health director] to require [emergency action *OR* other standard in statute] to protect the health, safety, and welfare of any [patients, residents] at [healthcare facility type].]
- In accordance with [cite statute authorizing public health investigation], the [health director] may investigate incidents of communicable disease.
    - These investigations can include assessments of building and conveyances and their contents and laboratory analysis of samples collected during the course of investigations [*OR* other similar language from applicable statute].
- Further, [pursuant to [cite statute authorizing public health action if different statute], the [health agency] may take actions necessary to protect public health, including ordering that specific measures be undertaken at the Property [*OR* other similar language from applicable statute].

Actions ordered:

- You are ordered to authorize entry to and submit Property to investigation by [health agency].
- The Property at issue and water systems and devices therein may not be [moved, caused to move, or allowed to move from its current location *OR* (other language contained in authorizing statute)] until authorization is received from the [health agency].
- The [health agency] issues this Order to [identify actions required (e.g., implement water system control measures, temporarily close property)] as [identified below *OR* listed in Appendix/Exhibit ___].
    - [***Note:*** *required actions can be listed in the text of the order instead of an in appendix.*]
- This Order will be in effect until the [health agency] determines that all components of this Order have been satisfied and there are no additional cases of legionellosis associated with the Property.
- If subsequent samples collected from the Property test positive for *Legionella* at any time, appropriate response activities should be undertaken, and this Order may be further modified or extended.
    - [If the [health agency] receives a new report of a case of legionellosis that is epidemiologically linked to the Property, a new or amended Order may be issued.]
- Failure to abide by this Order and further instructions from [health agency] may result in fines, criminal penalties, and/or other further legal action.

To contest or appeal order:

- If you object to this Order, you may request a hearing in the [administrative body or court name] in accordance with [statute citation].
    - *[Include information about your jurisdiction's administrative procedures and judicial processes available for contesting or appealing the order.]*

[Continued next page]

Contact information and signatures:

- If you have any questions, information, or concerns, please contact [health agency contact name] at [phone number/email address] immediately.
- This Order is issued under my authority as the [health director or other official's title] for the [jurisdiction or health agency] on this [date] day of [month and year].
    - [Signature block for health official]

Proof of service:

- [I hereby certify that this Order was served [by mail/posting/in-hand/(other)] to the above-named individual and upon the establishment listed above.]
- [Date] at [time AM/PM] by [signature and print name of person serving order].

APPENDIX OR EXHIBIT LANGUAGE

The [health agency] orders you to take the following required actions associated with the Property:

> ***[Note:** The required actions in a particular scenario will depend on the type of healthcare facility and the specific water systems/devices in which* **Legionella** *has been identified.** *Broadly, required actions can be identified as administrative, disease surveillance, required notifications, environmental health, and other required actions.*
>
> ***The required actions listed below are examples of some types of action that can be ordered. They are intended for illustrative purposes only and are not a complete list of all appropriate required actions.]***

Administrative required actions:

- Immediately notify the [health agency program or contact person name] at [contact information] if you or personnel at the Property are unable to comply with any of the identified required actions.

Disease surveillance required actions:

- Immediately notify the [health agency program, contact person name, *OR* agency disease reporting line] at [contact information] of any probable, suspected, or confirmed cases of legionellosis and any known [patients, residents, guests, visitors, staff, contractors, or volunteers] exhibiting any symptoms compatible with legionellosis.
- [Within [two *OR* ____ weeks] of the date of this Order, conduct a [three-month] retrospective surveillance review to identify residents with pneumonia of unknown etiology (pneumonia with onset more than [48] hours after admission).]

[Continued next page]

- Within [three *OR* ___ weeks] of the date of this Order, report findings to [health agency] at [contact information].
- [No later than [date], test all [patients, residents] for *Legionella* who are currently residing in the [healthcare facility] and have illness clinically compatible with Legionnaires' disease.
    - [Healthcare facility] shall immediately report any positive results to the [health agency].
- [Effective immediately, conduct active prospective clinical surveillance for [patients, residents] with healthcare-associated pneumonia (pneumonia with onset more than [48] hours after admission).]
- [If a suspect Legionnaires' disease case(s) is identified, collect sputum or other lower respiratory secretions for *Legionella* culture or PCR or testing via *the Legionella* urinary antigen test. [Healthcare facility] shall immediately report any positive results to the [health agency].]

Notification required actions:

Provide written notice

- Immediately provide the [attached] public health notice from the [health agency] to all [patients, residents, guests, visitors, staff, and volunteers] at the Property.
    - The information in the public health notice should be communicated to all current [patients, residents, guests, visitors, staff, and volunteers] and those who visited or occupied the Property [before [date] *OR* between dates of ___ and ___].
- Immediately notify all [patients, residents, guests, visitors, staff, and volunteers] at [identify date, time or event] using documents provided by the [health agency], of the *Legionella* outbreak occurring at the Property.

Post notice

- The public health notice or other signage provided by the [health agency] should be posted at all entries to the Property, on the front entrance, and placed within view of [patients, residents, guests, visitors, staff, and volunteers] at the [front desk, foyer, reception area, etc.] of the Property.
    - The public health notice should also be posted in staff areas of the Property.
    - A copy of the public health notice shall also be given to all [patients, residents, guests, visitors, staff, and volunteers].

Record of notice

- You are advised to retain documentation that each notification was made.
- [Records of notification shall be provided to the [health agency].]

[Continued next page]

Environmental health required actions:

*[**Note:** Environmental health required actions will vary depending on the type and size of healthcare facility, the water systems/devices involved, the extent of* Legionella *colonization, and the regulatory authority/policies of the health agency. The items below are samples of possible environmental health required actions. **These items are examples only and not an exhaustive list of appropriate actions.**]*

Retain consultant to assess water systems

- *Example 1:* Within [72, 48 *OR* ____] hours of this Order, hire at your own expense the services of a *Legionella* consultant or environmental consulting firm to assess the Property's water systems.
- *Example 2:* Retain the services of an environmental consultant who is both (1) able to develop and implement an ASHRAE 188-compliant water management program (WMP) and (2) capable of *Legionella* environmental testing at an ELITE member laboratory (or able to subcontract with such a laboratory).
    - The chosen consultant must be reviewed and approved by the [health agency] prior to conducting any assessments or services. The deadline for complying with this provision is [date].]
    - If the Property's contract with the consultant terminates early for any reason, then the Property must immediately implement and maintain an ASHRAE 188-compliant WMP with another environmental consultant that meets the same criteria above for selection of the initial consultant.

Perform environmental assessment/develop environmental sampling plan

- *Example 1:* Within [24 *OR* ___] hours of hire, have an assessment performed by the consultant and provide the [health agency] with a written summary of actions taken toward remediation at least every [48 *OR* ___] hours.
- *Example 2:* Direct the consultant to contact [health agency contact name] at [contact information] within [24 hours *OR* ____] of the consultant's selection to determine the actions necessary for developing the Property's *Legionella* sampling plan.
    - Submit the sampling plan to [health agency contact name] at [contact information] within [7 days *OR* ___] of selecting the consultant.
    - Within [48 hours *OR* ___] of sampling plan approval by the [health agency], perform all *Legionella* sampling tests in accordance with the sampling plan.

Remediation plan

- *Example 1:* In response to any positive *Legionella* sample results, [and if directed so by the [health agency],] prepare and submit for approval a remediation plan that addresses [, but is not necessarily limited to,] the following:
    - A short-term remediation plan, to be submitted within [72 hours *OR* ___], describing methods and corrective actions for controlling the risks of legionellosis from the Property's water system. The short-term remediation plan must be substantially implemented within [96 hours *OR* ___] of approval by the [health agency].

[Continued next page]

- A long-term prevention plan describing the water system management and the ongoing operational methods for controlling and monitoring the growth of *Legionella* within the Property's water systems and devices. A draft of the plan must be presented to the [health agency] no later than [30 days *OR* ___] after being directed to complete a plan.

Conduct response activities

- *Example 1:* Initiate remediation actions within [24 *OR* ____] hours of hiring the environmental consultant.
- *Example 2:* Increase the temperatures of water heaters on the property to a minimum of [140 *OR* ___] degrees Fahrenheit, while following local and state anti-scald regulations. The deadline for complying with this provision is [date].
- *Example 3:* Restrict the use of tap water at the Property and use bottled water until [facility] can provide satisfactory proof to the [health agency] that [0.2-micron biological *OR* ___] point of use filters are installed on all showerheads, sink and tub faucets, and other water sources intended for use in the facility.

Testing water systems/devices for *Legionella*

- *Example 1:* The Property's water system shall be tested for *Legionella* according to the investigation sampling plan devised by [Property *OR* consultant name] to verify the effectiveness of treatment of the Property's water system.
- *Example 2:* The WMP shall require testing according to the investigation sampling plan for *Legionella* using traditional spread-plate culture methods, that testing be performed at least quarterly, and that the investigation sampling plan shall remain in place [through the termination date of this Order].
- *Example 3:* At a minimum, each set of tests performed as part of the investigation sampling plan shall include a representative sample of the building's water system, including but not limited to the following locations: [*edit as appropriate:* distal, medial, and proximal locations from hot water heaters, hot water heaters, medical devices that use water, cooling towers].
- *Example 4:* Provide results of all water testing to [health agency contact name] within [one business day OR (other timeframe)] of receipt via email [*OR* other method] to [email address].
- *Example 5:* Perform ongoing *Legionella* testing to confirm remediation and report results to the [health agency] as they become available.

Other required actions:

- [Additional information regarding feasible, required technical actions to be implemented will be provided to you in a timely manner.]

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks to persons associated with a healthcare facility**
  - **May be adapted into information sheets or general notices to patients, staff, visitors, and others**

Overview:

- Legionnaires' disease (LD) is a form of pneumonia (lung infection) caused by *Legionella* bacteria.

Sources of exposure:

- *Legionella* can occur in nature and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in hospitals, long-term care facilities, and clinics [*OR* [healthcare facility name]].
- [*Edit sources as appropriate for healthcare facility type.]* Likely sources of exposure in a healthcare facility include water in showers (and other potable water), cooling towers, hot water heaters, and medical and therapeutic equipment.
- People can become sick when they breathe in mist from a water source (e.g., shower) that contains *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens the immune system can increase the chances of getting LD.
- Many people being treated in healthcare facilities may have underlying conditions that put them at greater risk of getting sick and dying from LD.

Signs and symptoms:

- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.

Treatment:

- LD is treated with antibiotics (drugs that kill bacteria in the body).
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

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Contact information:

- Please contact [name, phone number, and email address of person/office] at the [healthcare facility] for more information or if you have questions.
- Further information is also available from the [state/local health agency and/or CDC website].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks, mitigation, and prevention for healthcare facility engineering and maintenance staff**
  - **Can be adapted into messages for facility engineering, maintenance, and environmental health staff**

Basics about LD:

- Legionnaires' disease (LD) is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, and taking medication that weakens the immune system can increase the chances of getting LD.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- The bacteria are generally not spread from person to person.

Sources of exposure:

- *Legionella* can be found in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in hospitals, long term care facilities, and clinics.
  - Likely sources of exposure in a facility include water in sinks and showers, cooling towers, hot water heaters, medical and therapeutic equipment, hot tubs, and decorative fountains [edit sources as appropriate for setting].
- *Legionella* bacteria are common in the environment and can persist unless proper steps are taken to control it.

Investigation:

- An environmental assessment can help determine if there are conditions and devices that could promote *Legionella* growth and spread.
- Testing environmental samples from the facility's water systems for *Legionella* can help to determine if a facility is [potentially] colonized with the bacteria.

Mitigation:

- Water systems that are suspected to be colonized with *Legionella* should undergo response activities.
  - [Cleaning and other response activities may be [requested/required] [by [state/local health agency]] to address an [ongoing community-associated] LD outbreak even if a source of infection has not yet been determined.]

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- Recommended mitigation measures may include:
  - Flushing of the facility's water systems.
  - Installation of point-of-use filters on water fixtures in patient rooms, staff, and public areas.
  - Restricting use of water that cannot be filtered.
  - Determining adherence to the facility's water management program (WMP).
  - Ensuring that routine or investigative environmental sampling is conducted and reviewing results.
  - Working with facility to optimize the WMP and reduce the risk of [and control] *Legionella* growth.
  - Installation of supplemental disinfection systems in water systems throughout the facility.
  - Working with facility to address identified deficiencies.
  - Determining if the deficiencies have been properly addressed.

Prevention:

- To prevent *Legionella* growth, building water systems should be properly monitored and maintained.
- Many community facilities should consider having a water management program (WMP).
  - If the facility does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
  - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] if your facility tests positive for *Legionella*, you learn of [any/other] cases of LD, or for more information or questions.

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Persons

Messaging Purpose:

- **Healthcare facility notice/letter to a discharged patient or outpatient about recent LD case at the facility**

Purpose of communication:

- We are writing to inform you that a person was recently diagnosed with Legionnaires' disease (LD) after being [at/hospitalized/treated/other] for several days at [healthcare facility's name] where you [are/have been] a patient.
- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- We are working with the [state/local health agency [and CDC] (*if applicable*)] to investigate the source of exposure and determine the risk for ongoing spread.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [hospitals, long-term care facilities, clinics] like [[healthcare facility's name].
- Sources of exposure can include water used for showering, washing hands, or in medical equipment that uses water.
- People can become sick when they breathe in mist from a water source (e.g., shower) containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.

Signs and symptoms:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.

Action requested:

- If you develop the symptoms of LD within two weeks (14 days) of staying at [healthcare facility's name], please seek medical attention right away.
- Please also show this letter to your doctor so that he/she knows to test you for LD if indicated by your symptoms.

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- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.
- If your doctor determines that testing is appropriate, ask to be tested with both a urine test and a respiratory (sputum/phlegm) culture or PCR before antibiotics are administered.
- If you test positive, ask your doctor to report your illness to [state/local health agency] as soon as possible.
- Speak with your doctor about any other precautions they may recommend.

Treatment:

- Your doctor should prescribe you an antibiotic for treatment if you develop symptoms and are diagnosed with LD.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes lead to lung failure or death.

Action being taken:

- [*Edit response as applicable:*] In addition to monitoring our water system, water in our patient areas is being repeatedly flushed and tested for *Legionella*.
  - We have also installed extra water treatments in various water systems throughout our facility and are installing water filters on the showerheads and sinks.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [healthcare facility] for more information or if you have questions.
- Further information is also available from the [state/local health agency and/or CDC website].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Persons

Messaging Purpose:

- **Healthcare facility notice/letter to inpatients about recent LD case at the facility–Simplified**

Purpose of communication:

- We are writing to inform you that a person was recently diagnosed with Legionnaires' disease (LD) after being [at/hospitalized/treated/other] for several days at [healthcare facility's name].
- We are working with the [state/local health agency [and CDC] (*if applicable)*] to investigate the source(s) of exposure and determine the risk for ongoing spread.

About LD and sources of exposure:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Sources of exposure can include water used for showering, washing hands, or in medical equipment that uses water.
- People can become sick when they breathe in mist from a water source (e.g., shower) containing *Legionella*.
- LD cannot normally be spread from person to person.

Signs and symptoms:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.

Action requested:

- Please talk to your physician or caregiver as soon as possible if you experience any of these symptoms.

Actions being taken:

- Out of an abundance of caution we are instituting the following guidelines for water use, effective [date]: [edit below as applicable:]
  - No showers are permitted in patient rooms that do not have a filter attachment. If a shower is necessary, your caregiver will arrange for in-room bathing.
  - Your care team will provide water for drinking, brushing teeth, face washing and other hygienic needs.
  - The cold water in ice machines and drinking water fountains [may/should not] be used.
- [*Edit as applicable:*] Our water system has been tested and flushed, and we have installed extra water treatments in various water systems throughout our facility.
  - We are also in the process of installing filters on showerheads and faucets.
  - Please do not remove filters installed on any water fixture.

[Continued next page]

- You will be informed if your room currently has filters or when they may be installed, and how to inform the care team about problems with the filters.

Contact information:

- Your safety and well-being are our top priorities at [healthcare facility name], and we apologize for the inconvenience these safety measures may cause during your stay.
- If you have further questions, please talk to your physician or caregiver.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Persons

Messaging Purpose:

- **Healthcare facility notice/letter to inpatients about recent LD case at facility–Detailed**

Purpose of communication:

- We are writing to inform you that a person was recently diagnosed with Legionnaires' disease (LD) after being [hospitalized/other] for several days at [healthcare facility's name].
- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- We are working with the [state/local health agency [and CDC] (*if applicable*)] to investigate the source(s) of exposure and determine the risk for ongoing transmission.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [hospitals, long-term care facilities, clinics] like [healthcare facility's name].
- Sources of exposure can include water used for showering, washing hands, or in medical equipment that uses water.
- People can become sick when they breathe in mist from a water source (e.g., shower) containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.

Signs and symptoms:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.

Action requested:

- If you currently have or develop the symptoms of LD within two weeks (14 days) of staying at [facility name], please tell your doctor [nurse or staff member] immediately.

Diagnosis and treatment:

- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.

[Continued next page]

- Your doctor may test you with a urine test and a respiratory (sputum/phlegm) culture or PCR.
- If you test positive, your doctor should report your illness to the [state/local health agency] as soon as possible.
- Your doctor will prescribe an antibiotic for treatment if you develop symptoms and are diagnosed with LD.
- Speak with your doctor about any other precautions they may recommend.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes lead to lung failure or death.

Action being taken:

- [*Edit response as applicable:*] In addition to monitoring our water system, water in our patient areas is being repeatedly flushed and tested for *Legionella*.
  - We have also installed extra water treatments in various water systems throughout our facility and are installing water filters on the showerheads and sinks.
  - No showers are permitted in patient rooms that do not have a filter attachment. If a shower is necessary, your caregiver will arrange for in-room bathing. Your care team will provide water for drinking, brushing teeth, face washing and other hygienic needs.
  - The cold water in ice machines and drinking water fountains [may/should not] be used.

Contact information:

- If you have further questions, please talk to your physician or caregiver.
  - [You can also contact [name, phone number, and email address of person/office] at the [healthcare facility].]
- Further information is also available from the [state/local health agency and/or CDC website].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Persons

Messaging Purpose:

- **Letter or memo to staff about LD case**
  - **Staff can include employees, volunteers, and contractors**

Purpose of communication:

- We are writing to inform you that a person was recently diagnosed with Legionnaires' disease (LD) after being [at/hospitalized/treated/other] for several days at [healthcare facility's name].
- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- We are working with the [state/local health agency [and CDC] (*if applicable*)] to investigate the source(s) of exposure and determine the risk for ongoing transmission.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [hospitals, long-term care facilities, clinics] like [healthcare facility's name].
- Sources of exposure can include water used for showering, washing hands, or in medical equipment that uses water.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system that can increase the chances of getting LD.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics and will likely require hospitalization. However, LD can sometimes result in lung failure or death.

Action being taken:

- [*Edit response as applicable:*] To ensure that staff and [patients/residents] are protected, we are monitoring our water system. Water in our [staff/patient] areas is being repeatedly flushed and tested for *Legionella*.

[Continued next page]

  - We have also installed supplemental water treatments in hot water systems throughout our facility and are installing water filters on the showerheads and sinks.
  - No showers are allowed in [staff/patient areas] that do not have a filter attachment.
  - The cold water in ice machines and drinking water fountains [may/should not] be used.
- [*Edit response as applicable*:] Staff (employees, volunteers, and contractors) who have or are experiencing symptoms of LD during [timeframe] should seek medical attention immediately.
  - [Facility name] will also contact staff who took sick leave during this time.
  - [We are also offering staff [counseling and] information services. If you would like to use these services or want more information, contact [your manager].]

Action requested:

- If you are not sick, there is no need for you to see a doctor.
- If you are at increased risk for getting LD based on the risk factors listed above and are concerned about getting sick, or if you are currently or become sick with a cough, muscle aches, fever, shortness of breath, or headache, see your private healthcare provider right away or contact [name/office] to arrange to see a doctor.
  - Tell the doctor that you work in a healthcare facility where there has been a [case/outbreak] of LD so they can test you for LD, if appropriate.
  - If you test positive, ask your doctor to report your illness to [health agency] immediately.
  - Speak with your doctor about any other precautions they may recommend.
- If you see a doctor, notify [name/office] so our [facility] can track your illness.
- If you have any concerns or questions, please discuss them with [your manager].

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Healthcare Providers and Facilities

Messaging Purpose:

- **Alert to healthcare providers about LD case(s)/outbreak in a specific healthcare facility**

Purpose of communication:

- [State/local public health agency] has confirmed [number] person[s] with Legionnaires' disease (LD)) associated with [healthcare facility name].
- The person[s] with LD were likely exposed to *Legionella* bacteria during [timeframe] based on clinical symptoms and the incubation period of LD.
- The [state/local public health agency] is working the [healthcare facility name], [in conjunction with the CDC,] to identify potential sources of exposure and mitigate risk of additional cases.

Action required:

- Healthcare providers should report probable, suspect, and confirmed cases of LD to the [state/local public health agency] agency.
- [Include jurisdiction-specific notifiable disease reporting requirements and processes for *Legionella*/ legionellosis.]

Action requested:

- Healthcare providers should consider LD when evaluating patients with community-acquired pneumonia:
  - Ask patients about healthcare facility stays/visits to [healthcare facility] or any other healthcare facility within the 14 days prior to symptom onset.
  - Also ask patients about any travel (including local travel) or possible exposure to other community sources of *Legionella* in the 14 days prior to symptom onset.
  - Keep in mind that the initial presentation of LD may be similar to other respiratory diseases, such as COVID-19, and prompt identification of *Legionella* infection can inform antibiotic treatment.
- Diagnostic testing for LD should include both urinary antigen and culture or PCR of lower respiratory secretions before treatment is administered. Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
  - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
  - Isolation of *Legionella* by culture or PCR is important for public health investigation.
    - Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
    - [Cultured specimens from patients who reported exposure to the facility under investigation should be retained for potential additional testing at [the state public health laboratory].]
- [*Note if state PH laboratory is available to support testing (may not be applicable in some jurisdictions*).]
- See [state/local public health agency at [website]] and CDC at https://www.cdc.gov/legionella/clinicians.html for information about LD for clinicians.

[Continued next page]

Messaging Purpose: Alert to healthcare providers about LD case(s)/outbreak in a healthcare facility *(continued)*

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare—Messaging for Other Agencies and Governments

Messaging Purpose:

- **Alert to other divisions, agencies, or units of government about identifying and investigating healthcare-associated LD case(s)/outbreak**

Overview:

- [State/local public health agency] is investigating [number] confirmed case[s] of Legionnaires' disease (LD).
- Persons with LD were likely exposed to *Legionella* [during/since timeframe] at [healthcare facility].
- The [state/local public health agency] is working with [healthcare facility] to inform current and former [patients, residents, employees, volunteers, and contractors] who are known to have stayed at or visited [suspected source facility] during/since [timeframe] based on [facility's] records.
- Investigation of any suspected illness identified through this notification will be communicated and coordinated with the respective state [or local] health department[s].
- Additional potential cases [are/may be] under investigation.

Potential sources and dates of exposure:

- The [number] confirmed case[s] of LD report [identify potential source of exposure at healthcare facility].
- Illness onset dates range from [date] to [date].
- The [state/local public health agency] is currently working to identify the source of these infections and mitigate the risk of additional cases.

Clinical and laboratory:

- All persons' illnesses were diagnosed by [identify diagnostic methods such as *Legionella* urinary antigen testing and culture or PCR of lower respiratory specimens (sputum/phlegm)].
- [Number] cases were hospitalized and [no/number] deaths have been reported [as of/since] [date].

Environmental investigation:

- The [state/local health agency] is working with [healthcare facility] to ensure [*include applicable*]:
  - Environmental assessment of the facility's water systems to identify conditions favorable for *Legionella* growth and spread.
  - Testing of the facility's water systems for *Legionella*.
  - Flushing of the facility's water systems.
  - Installation of point-of-use filters on water fixtures in patient/resident rooms.
  - Restricting use of water that cannot be filtered.
  - Determining adherence to the facility's water management program (WMP).
  - Ensuring that routine or investigative environmental sampling is conducted and reviewing results.
  - Working with the facility to optimize the WMP and reduce and control *Legionella* growth.
  - Installation of supplemental disinfection systems in hot water systems throughout the facility.

[Continued next page]

- Working with facility to remediate identified deficiencies.
- Determining if any identified deficiencies have been properly addressed.

Action requested:

- Whenever possible, diagnostic testing of patients, residents, visitors, and staff at [healthcare facility] with community-acquired pneumonia should include collection of urine for antigen testing and lower respiratory specimens for culture or PCR of *Legionella* before antibiotics are administered.
  - Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
  - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
  - Isolation of *Legionella* by culture or PCR is important for public health investigation. Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
  - [If possible, isolates obtained should be saved/stored appropriately (rather than discarded) to allow [public health agency/laboratory] to conduct molecular comparisons if needed.] [*OR* [If isolates are obtained, the [public health agency/laboratory] should be consulted for coordination of/next steps related to molecular comparisons.]
- The [state/local public health agency] is requesting that state and local health departments examine reports of suspect or confirmed cases of legionellosis to determine whether any could be associated with contact to [healthcare facility] as an inpatient, outpatient, resident, staff member, or visitor since [date/timeframe].

Contact information:

- Public health/agency officials who identify cases of LD among persons with a history of contact to [healthcare facility] and illness onsets within 14 days of exposure are asked to contact [name, phone number, email address of person/office] at the [state/local health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Healthcare–Messaging for Media and the Public

Messaging Purpose:

- **Press release/alert to the media and public about LD case(s)/outbreak at a healthcare facility**

Overview:

- The [state/local public health agency] is investigating [number] case[s] of Legionnaires' disease (LD) among people who were [patients/other] at [healthcare facility] in [timeframe].
- LD is a potentially serious pneumonia (lung infection) that people can get when exposed to *Legionella* bacteria.
- Based on when they first had symptoms of LD, the people were at the [healthcare facility] for [all/part] of the time when they could have been exposed to the bacteria. They likely were exposed to *Legionella* during [timeframe] at [facility].
- [If applicable: [Facility] is cooperating with the [state/local health agency] investigation of the potential sources of exposure to *Legionella*.]

Actions being taken:

- The [state/local public health agency] is working with the [healthcare facility] to collect information and further investigate these cases.
- The [state/local public health agency] has been on site to collect samples of the facility's water and test it for *Legionella*.
    - [*OR if health agency not involved in sampling:*] [Water samples have been collected and are being tested for *Legionella*.]
- [Previous water samples collected at the [healthcare facility] tested positive for *Legionella*.]
- The [healthcare facility] has reported to public health officials that it [routinely conducts water testing and] has already taken steps to reduce the chances that anyone is exposed to *Legionella*, such as adding disinfectant to the water, flushing pipes, and installing point-of-use filters.
    - The facility is also conducting surveillance to identify other potential cases of LD and to ensure the appropriate testing and medical treatment of [patients/others].

Potential sources of exposure:

- *Legionella* occurs naturally in the environment and is generally not passed from person-to-person.
- The bacteria can become a health concern when they grow and spread in building water systems, like cooling towers, hot water tanks, large plumbing systems, and decorative fountains.
- People can become sick when they breathe in mist from a water source (e.g., shower) containing *Legionella*.
- Outbreaks are most commonly associated with facilities that have complex water systems like hospitals, hotels, or large apartment buildings.

[Continued next page]

Healthcare–Messaging for Media and the Public

Messaging Purpose: Press release/alert about LD case(s)/outbreak at a healthcare facility *(continued)*

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.

Signs, symptoms, and treatment:

- The symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics; however, it can cause severe illness requiring hospitalization and sometimes results in lung failure or death.

Action requested:

- If an individual visited [healthcare facility] and developed symptoms of LD within 14 days of their visit, they should contact their healthcare provider and seek medical attention as soon as possible.
- [*Add one or more quotes from PH agency staff:*]
  - *Sample Quote from PH Official:* ["Legionnaires' disease is a serious infection. We want to make sure the public is aware of the potential risk of this disease so that each person can work with their healthcare provider to get tested and treated if necessary."

Contact information:

- If you have information or questions, please contact [name, phone number, and email address of person/office] at the [state/local health agency].
- For further information on Legionnaires' disease, please visit the [state health agency website and/or] CDC webpage at www.cdc.gov/legionella/.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

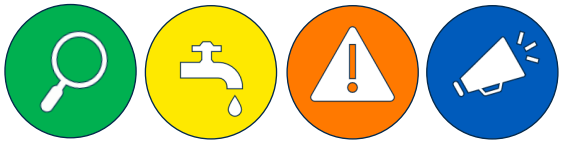
Legionnaires' Disease Risk Communication Toolkit

Congregate Residential Facilities Module

CSTE
COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS

June 2022

Congregate Residential Facilities Module



Welcome to the Congregate Residential Facilities Module, a supplement to the *Legionnaires' Disease Risk Communication Toolkit*. This module should be used in conjunction with the *Toolkit* document and the other supplemental modules. The Congregate Residential Facilities Module contains the following information:

Contents **Page**

Overview of Legionnaires' Disease Risk Communication Toolkit Modules HC–5
(Information about the module supplements)

Congregate Residential Facilities Module HC–7
(Foundational materials for communicating LD risks in congregate residential settings)

Congregate Residential Facilities Module References HC-15

Congregate Residential Facilities Messaging Tables HC–17
(Multiple messaging templates for a variety of audiences and scenarios in congregate residential settings)

This project was funded under a cooperative agreement with the Centers for Disease Control and Prevention (NU38OT000297-01-00).

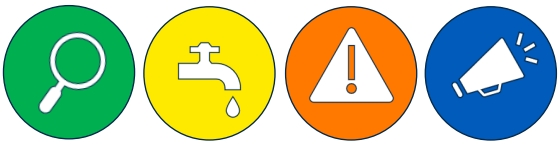
The toolkit was authored for CSTE by Patricia I. Elliott JD, MPH, President, Health|Environment Concepts under the direction of CSTE staff member, Ashley Vineyard, MPH.

For questions about this document, please contact: Council of State and Territorial Epidemiologists 2635 Century Pkwy NE, Suite 700 Atlanta, GA 30345 Tel: 770.458.3811 | Fax: 770.458.8516

June 2022

Version 1.0

Overview of Legionnaires' Disease Risk Communication Toolkit Modules



The individual chapters in the *Legionnaires' Disease Risk Communication Toolkit* document provide foundational information applicable all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit* document offers key information about Legionnaires' disease (LD), identifies legal issues, discusses important considerations when communicating about LD with stakeholders and the public, and provides an overview of water management programs (WMPs). The information in these chapters applies to all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit's* supplemental modules are a series of setting- and scenario-specific documents that address LD-related information and messaging targeted for that setting. The setting- and scenario-specific modules are:

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Test Results in the Absence of Cases

Each module also provides templates and sample messages for key communication items such as notification letters, public health orders, press releases, and health department advisories. The modules also identify practice tips and other resources to help state, tribal, local, and territorial (STLT) health agency staff communicate the risks of LD in these specific settings and scenarios to target audiences.

Variables Affecting LD Outbreaks

The goal of the modules is to provide STLT health agency staff with clear guidance about communicating LD risks in a specific setting or scenario and tools to use in those efforts. However, it is important to note that there are many factors that may affect a jurisdiction's investigation, response, and communications about a specific LD outbreak. The following factors are just some of the variables that can influence the course of an LD outbreak—even within the same types of settings—and the response to it:

- Potential for population with increased risk for LD in the setting
- Overnight stay at the setting or not
- Commercial setting or non-commercial setting
- Length of exposure in the setting
- Mixed/hybrid settings (i.e., locations with features common to different LD risks)
- Environmental assessment and environmental sampling *Legionella* results

Above all, these modules provide a starting point from which to tailor risk communication about LD outbreaks in the identified setting. Each jurisdiction can make its own determination about

the nature and scope of its investigation and response, and the messages and targets for communication, given the specifics of each LD outbreak and the jurisdiction's laws, regulations, and policies.

Module Components

The setting- and scenario-specific modules follow the same format and include the following sections:

- **Scope of Module**—Provides a quick overview of the types of buildings and facilities addressed in the module.

- **Factors Affecting Investigation**—Discusses factors in the specific setting (e.g., healthcare, congregate residential) or scenario (i.e., routine environmental test results in the absence of cases) that help determine how a public health agency addresses LD cases or an outbreak in that setting.

- **Key Risk Factors**—Identifies and discusses the key risk factors in the setting that can give rise to *Legionella* growth and LD. This section addresses risk factors associated with buildings and facilities as well as factors affecting persons who occupy or visit the setting. Each module includes a one-page figure summarizing these key risk factors for quick reference.

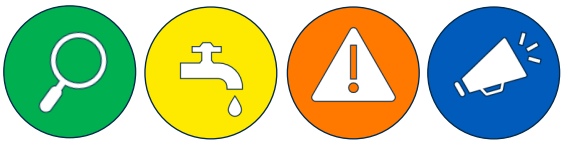
- **Key Audiences and Messages Overview**—Identifies and addresses the key audiences for messaging in the module setting. The section discusses the relevance and role of each audience to the identification, investigation, mitigation, and prevention of *Legionella* and LD.

- **Key Audience and Messaging Tables**—Series of tables provides detailed messaging guides geared to each key audience in the setting or scenario. This section opens with an index table that lists all the messaging table templates by audience. Each series of color-coded key audience tables includes one or more messaging scenarios for that audience. Each messaging table contains an annotated, customizable template of text to include in communications about that scenario.

- **Toolkit Appendix**—Provides other samples and templates related to the content of the module.

Finally, the messaging needed in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, the information in each module and the messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Congregate Residential Facilities Module



Congregate residential settings are broadly defined as a type of housing in which each person or family has individual living space but also shares communal areas such as common dining, recreational, laundry, and other shared areas. For the purposes of this toolkit, congregate properties are categorized into two groups—congregate settings that serve individuals at increased risk for Legionnaires' disease (LD) (hereafter referred to as "increased-risk") and congregate settings that serve individuals with the same general level of risk as the community in which the property is located (hereafter referred to as "general-risk"). Congregate residential facilities vary greatly in size and complexity in terms of their water, plumbing, and cooling systems, the risk profiles of residents, and the seasonality and rate of occupancy.

Scope of Module

This module covers the following types of increased-risk and general-risk congregate residential facilities:

- Increased-risk congregate residential facilities
  - Assisted living facilities
  - Senior independent living facilities
  - Group homes for individuals with disabilities
  - Correctional and detention facilities
  - Homeless shelters and transitional housing
- General-risk congregate residential facilities
  - Apartment and condominium buildings
  - Dormitories
  - Barracks
  - Domestic violence shelters

About Assisted Living & Senior Independent Living Facilities…

CDC notes that it "…does not consider assisted living facilities, senior living facilities, or prisons to be healthcare facilities for Legionnaires' disease surveillance purposes. However, these facilities often house at-risk populations and can have large, complex building water and plumbing systems. It is important to consider these facilities as likely sources in outbreak investigations as residents may have limited or no exposures outside these facilities. These facilities should all have effective water management programs."

From *CDC Defining Healthcare Facilities and Healthcare-associated Legionnaires' Disease* at https://www.cdc.gov/legionella/health-depts/healthcare-resources/healthcare-facilities.html.

Factors Affecting Investigation

Several factors affect how a public health agency addresses LD cases in a congregate residential facility. These factors can include:

- Type and size of the congregate residential facility (i.e., increased-risk or general-risk).
- Other agencies and/or levels of government with jurisdiction over the facility.
- Existing capacity of the facility and health department.

- Number of cases.
- Water management program (WMP) performance.
- Routine environmental sampling results.

The decision to conduct a full investigation of LD cases in a congregate residential facility will depend on the identification of the number of cases within a defined time, which could raise the concern about potential for ongoing *Legionella* transmission at the facility.

- Some increased-risk facilities (e.g., assisted living, correctional facilities) in which residents do not leave the facility for the entire 14-day exposure period are treated like healthcare facilities for the purposes of investigations.
    - See CDC resources for public health agencies in determining the extent of an investigation at a healthcare facility at https://www.cdc.gov/legionella/health-depts/healthcare-resources/cases-outbreaks.html.
- General-risk facilities (e.g., apartments, dormitories) in which residents spend time in multiple locations during the 14-day exposure period are treated like community-associated outbreaks for the purposes of investigations. An increase in cases or identification of common potential exposures may prompt a full outbreak investigation.
    - See CDC resources for determining the extent of a community-associated outbreak at https://www.cdc.gov/legionella/health-depts/epi-resources/outbreak-investigations.html#considerations-outbreaks.

Key Risk Factors in Congregate Residential Facilities

Multiple factors make congregate residential properties potentially vulnerable for *Legionella* colonization and exposure of their residents and staff. While some of these risk factors are similar between increased-risk and general-risk facilities, the health status and other personal risk factors of residents vary considerably between the two settings. Risk factors applicable to congregate residential facilities are discussed below.

Complex Potable and Drinking Water Distribution Systems

While it can vary among facilities, congregate residential facilities generally have complex water systems given the size of these properties and the wide range of water applications in them. Large buildings can have complex water systems which can lead to multiple potential sources of *Legionella*. Smaller facilities may not have the same level of complexity in their water systems; however, they may not receive the same level of ongoing maintenance as larger properties. These types of facilities can also undergo frequent construction or renovation to modernize and expand capacity, which can cause disruptions and changes in water pressure. These changes can dislodge biofilm and release *Legionella* into the water system, as well as introduce contaminants into the water system and potential stagnation in areas where water flow is reduced or cut off.

Sources of Aerosolized Water

This is a broad category that includes many different types of potential sources of *Legionella* colonization within congregate facilities. Depending on the size and features of a facility,

potential sources of aerosolized water can include water from showers and faucets in residential areas of the facility. Given the nature of a facility, the property may also include features like hot tubs, decorative fountains, beauty salon sinks, or other water features. Alternatively, some congregate facilities may have areas that contain equipment with the potential to generate aerosolized water such as respiratory therapy equipment, hydrotherapy tubs, or dental devices using water.

Building Systems with Cooling Towers

Large facilities are likely to have complex cooling systems that may include cooling towers, which if not properly maintained, can become colonized with *Legionella*. The bacteria are then dispersed through aerosolized water droplets generated during cooling processes. The mist generated by cooling towers can drift to areas neighboring the facility. Large congregate facilities and complexes can have one or more cooling towers on the property. Smaller properties may or may not have cooling towers.

For More about Routine Environmental Testing Results….

See the "Routine Environmental Testing Results in the Absence of Cases" Module for additional messaging about this scenario.

Specific Building or Location Features

There may be features specific to a particular congregate residential building, facility, or location that increase its potential for *Legionella* colonization or the potential for people occupying it to be exposed. For example, dormitories may be unoccupied over summer and semester breaks; water can become stagnant if the systems are not maintained or flushed during times of reduced occupancy. Vacancy issues were especially a consideration for college dormitories and commercial apartments serving students during the COVID-19 pandemic as these facilities sat vacant for months (CDC, 2021c). Similarly, if apartment buildings, condominiums, or senior independent living facilities have vacant units for extended periods, water may stagnate in pipes and become a reservoir for *Legionella*. The needs of a building's occupants may also produce operating conditions that can foster the development in *Legionella* in water systems. Hot water temperatures may be limited due to safety concerns in assisted living and senior independent living facilities, group homes for persons with disabilities, or in other congregate facilities, but this precaution may result in favorable temperatures for the growth of *Legionella*.

Hybrid Settings

Depending on the size and features of the facility, a congregate residential facility may have several different aspects to the property that make it a risk for fostering *Legionella* colonization. Facilities can contain hot tubs, decorative fountains, beauty salon hair sinks, or other water features that produce water droplets that can be inhaled. In increased-risk congregate residential settings, there may be aspects of the facilities similar to healthcare facilities. These settings may contain medical equipment that use water like that found in healthcare settings (e.g., respiratory therapy equipment, therapeutic tubs, dental equipment). (See also Healthcare Facilities Module.) Each element is assessed as an individual functional unit as well as in the context of a congregate residential facility as a whole.

Length of Stay in the Facility

Because LD is associated with overnight stays or extended exposures to a source within a facility with water containing *Legionella*, the longer a person is at the facility—as a resident, staff member, volunteer or otherwise working or spending prolonged periods in the congregate residential setting—the greater the potential to contract LD. In increased-risk congregate settings, residents may spend all or most of their time in the facility and staff may spend extended time in the facility as well. Conversely, residents and staff of apartments, dormitories, or other general-risk congregate settings may spend extended periods outside of the residential facility, increasing the relative likelihood of exposure to other possible sources of *Legionella*.

At-risk Persons in the Facility

The most significant distinction between increased-risk and general-risk congregate facilities is the differences in health status and other risk factors that heighten a person's susceptibility to LD. These risk factors include being aged 50 years and older, being a current or former smoker, or having a higher risk of infection (e.g., have a chronic illness, respiratory disease, weakened immune system). Residents in properties like apartments, condominiums, dormitories, or other similar facilities generally have fewer risk factors for acquiring LD. In properties like assisted living, senior living, correctional facilities, group homes, and homeless and transitional housing, residents may be at greater risk for LD due to age or other underlying conditions. Additionally, individuals may be more likely to use personal respiratory equipment that uses water (e.g., CPAP machines) in increased-risk facilities. While CDC (2021b) does not consider assisted living, senior independent living, and group home facilities to be healthcare facilities for the purposes of LD surveillance, it has developed exposure categories for surveillance in two of these:

- *Assisted living:* A facility that provides custodial care without skilled nursing (e.g., assistance with activities of daily living, like bathing and dressing) (CDC, 2021a).
- *Senior living:* A facility that provides independent living for the elderly (CDC, 2021a).

Some states may allow for healthcare-associated legionellosis recommendations to be used in non-healthcare institutions in which residents' movement outside of the facility is restricted, such as in correctional facilities, while acknowledging that some recommendations may need to be modified somewhat to reflect differences in healthcare facilities and non-healthcare facilities (Texas DHHS, 2022, p. 173).

Figure 1 describes risk factors that affect buildings and the person using them. Specific congregate residential facility types are listed by size (large, medium, small), the overall risk profile of residents (increased-risk, general risk), and the risk factors to which they may be subject as indicated in parentheses.

Key Audiences and Messages

Congregate residential facilities have multiple key audiences for messaging about LD identification, investigation, mitigation, and prevention. Each of these persons and organizations may require foundational information about LD as well as information tailored to their capabilities and circumstances. Messaging may also evolve during an LD event as suspected outbreaks are confirmed, additional information becomes available, or if follow-up

Figure 1: Key Risk Factors in Congregate Residential Facilities

Building and Facility Factors

Water Distribution Systems

- Complex potable/drinking water systems likely that may include recirculating hot water, long distribution or riser runs, multiple water heaters, and numerous fixtures *(large congregate facilities)*
- Complex potable/drinking water distribution systems possible *(medium congregate facilities)*
- Less complex potable/drinking water distribution systems likely but potential for less frequent maintenance and water system management *(small congregate facilities)*
- Technical water/non-potable systems of varying complexity possible *(all)*

Sources of Aerosolized Water

- Numbers and sizes of sources will vary with the type and size of the facility
- Potential sources:
  - Showers and faucets in residents' rooms, shared bathroom areas, and elsewhere in the facility *(all types and sizes)*
  - Hot tubs *(apartments, condominiums, senior living)*
  - Other water features possibly onsite (e.g., pools, hot tubs, decorative fountains, hair wash sinks) (*apartments, condominiums, senior living, dormitories)*
  - Medical devices and therapeutic equipment possible *(assisted living, correctional)*

Features Specific to the Building or Location

- Potential for frequent to periodic construction or renovation that can dislodge biofilm and introduce pathogens and stagnation in areas where water flow is reduced or cut off *(large and medium congregate facilities)*
- Unused or infrequently used rooms or areas *(possible for all types of congregate facilities)*
- Potentially fewer staff for water system maintenance *(smaller congregate facilities)*
- Technical water/non-potable systems of varying complexity possible *(all)*

Building Systems with Cooling Towers

- Complex cooling systems with one or more cooling towers possible *(large and medium congregate facilities)*
- Cooling systems with cooling towers in some facilities, not likely in smaller facilities *(small congregate facilities)*

Hybrid Setting / Features of Multiple Settings

- May include one or more recreational water setting features (e.g., hot tubs, pools) *(most general-risk facilities; some increased-risk facilities)*
- Increased-risk settings may include aspects of healthcare settings *(all increased-risk facilities)*

Personal Factors

Length of Time in Setting

- Residents spend all or most of their time in the facility (primarily increased-risk congregate settings)
- Residents may spend extended periods outside of the residential setting *(primarily general-risk congregate settings)*
- Employees, contractors, visitors, and volunteers working on site for extended periods *(all)*

Persons with Risk Factors

- Patients are more likely than the general population to have conditions increasing LD susceptibility *(all)*
- Can have employees, contractors, visitors, and volunteers with a cross-section of personal risk factors *(all)*

is indicated with affected persons and facilities. The key audiences for congregate residential facilities are discussed below.

Facility

Owners, operators, and managers are generally both the operational and legal points of contact for suspected and confirmed public health communicable disease investigations and response activities; however, this should be confirmed by the laws and regulations in a specific jurisdiction.

A congregate residential facility's owners, operators, or managers are also likely to be a key source of information about residents, staff, volunteers, contractors, and other persons who stayed, worked at, or visited during the period under investigation. Depending on the laws, regulations, or policies of a jurisdiction, facility managers and employees may be required to use messaging supplied by a public health agency to communicate with potentially exposed persons or to alert prior, current, and prospective residents and visitors about an ongoing LD investigation; however, in other jurisdictions, public health agencies can recommend but not require specific messaging. With barracks and correctional facilities, other government agencies at the federal, state, or local levels are likely to be involved in the investigation and response activities of the facility; they may also manage the messaging to residents, inmates, and staff. Messaging should also consider the ability of residents to comprehend risk factors and mitigation measures; it may be necessary to direct communications to legal guardians or other personal representatives as well.

Should a facility raise concerns about sharing personally identifiable information about residents, note that federal and state laws provide exceptions to confidentiality requirements for public health purposes or other exceptions that would allow for access to information about individuals. (See *LDRC Toolkit* Chapter 3 "Access to Information and Confidentiality".) Any questions or concerns about accessing or sharing personally identifiable information may be discussed with the public health agency's legal counsel.

The facility representatives should be informed about the process for investigating, testing, and mitigating potential sources of *Legionella* in the facility's water systems, cooling towers, and plumbed water features, as well as medical devices, therapeutic equipment, and any other water features at the facility. If general risk communication methods are ineffective at promoting action by the facility, messaging about and the use of public health orders or other enforcement mechanisms may be helpful.

Finally, public health agencies should consider requesting (or requiring) copies of all written materials and other notices shared with residents, staff, and visitors to ensure that the information being provided is accurate and complete. Correct information is especially important for persons potentially exposed to *Legionella* who should be monitored for symptoms and seek treatment if symptoms develop. Facilities subject to health orders may also be required to provide copies of all notices and notifications. Public health agencies should also confirm that facilities notify residents, staff, and visitors about the results of tests on its water systems arising from a public health investigation.

Residents and Visitors

Any messaging to residents in a congregate living facility (and/or their designated contacts or legal representatives) and visitors should include clear information in plain language about LD basics such as the cause, sources, risk factors, and symptoms of the disease. If available, key information should be provided about their specific potential exposure(s) to *Legionella* at the congregate facility and when it occurred (if known). Also consider including language advising recipients to speak with a medical provider if they develop symptoms within 14 days of exposure and how to speak with their doctor about the exposure. Clearly communicate information about sources to consult for additional information and points of contact within the public health agency, if appropriate. At correctional and detention facilities, other government agencies may be involved in notifying facility staff and prisoners (and their designated contacts or legal representatives) and identifying procedures for testing and medical services.

Employees, Contractors, and Volunteers

Similar to the messaging for residents and visitors, employees, contractors, volunteers, and others who are regularly at a congregate residential facility, should receive clear information about LD in plain language that addresses the cause, sources, risk factors, and symptoms of the disease. Messaging should include key information about specific potential exposures at the facility and when exposure likely occurred (if known). It should also address how the employees and others should proceed if they are sick or worried about having been exposed, and how to speak with their doctor about the exposure. Additionally, a jurisdiction's occupational health and safety laws and workers' compensation system, as well as obligations arising from union contracts, and other agreements or personnel policies affecting the rights of employees can arise. Further, the issue of personal protective equipment (PPE) consistent with or beyond that already used in some congregate settings may arise if there are employees or others at higher risk for LD (whether due to personal medical history or exposure risks due to job duties). Points of contact within the organization and the public health agency, information about employee rights, and sources for additional information should also be clearly communicated.

Persons with Confirmed LD

Persons who have been confirmed to have LD from an outbreak may require additional information as the public health investigation proceeds (e.g., for medical or legal purposes, out of interest or concern). Health agency staff should identify the extent and types of information that can be legally shared within the scope of their jurisdiction's laws, and that the information released to them is supported by data and sound public health practice. Health agencies may also consider media releases with investigation updates to keep affected and interested persons informed. (See "Media and the Public" item below.)

Healthcare Providers and Facilities

At congregate residential facilities serving populations that may be at increased risk for LD (e.g., assisted living, group homes for individuals with disabilities, correctional facilities, homeless shelters, transitional housing), the facilities are likely to have some healthcare providers on staff or under contract to provide general medical oversight of a facility. Public health agencies should inform these providers about suspect or confirmed LD case(s) associated with the congregate facility so they can monitor occupants for *Legionella* exposure and LD symptoms. Additionally, conducting outreach to other healthcare providers and targeted healthcare facilities in the community in which an LD outbreak is occurring or has occurred helps to

educate providers about LD and alert them to the signs and symptoms indicating a patient may be suffering from LD. The public health agency can also provide guidance on appropriate diagnostic testing and treatment, and instructions about retaining or forwarding clinical specimens or isolates. Health alerts sent by the public health agency to healthcare providers and facilities are used to highlight specific suspected or confirmed LD outbreaks and to inform practitioners and clinical laboratories how to report cases to the agency.

Other Agencies and Governments

A public health agency may inform other divisions within the public health agency, other government agencies in its state/jurisdiction, and agencies in other units of government (i.e., local, regional, state, federal, tribal, territorial) about an LD outbreak at a congregate residential facility as required by law, standard procedure, or voluntarily as public health partners. Consider issuing an Epi-X alert if the facility may draw visitors, students, or staff from other geographic areas, especially if the facility is located in a common travel destination. Identifiable personal information can only be shared according to state and federal confidentiality laws and rules. Depending on the extent and nature of the LD event, other divisions, agencies, or units of government may have regulatory or other legal authority over the operation of a congregate residential facility (e.g., department of corrections, military, regulation of congregate facilities, building code enforcement, recreational water inspections). For example, depending on the type of congregate residential facility and the residents served, the public health agency may have to coordinate with universities, corrections agencies, and other departments or divisions related to regulated housing and human services.

Media and the Public

Providing information to the media and the public about a suspected or confirmed LD outbreak is an important part of the risk communication process in many situations, but it should be approached taking care to balance the privacy interests of the involved facilities and individuals with the right of the public to be made aware of public health threats. (See *LDRC Toolkit* Chapter 3 "Accessing Information and Confidentiality" for more information.) LD cases or outbreaks associated with congregate residential facilities may generate significant public and media attention. Issuing press releases and other statements about an LD outbreak at a specific congregate residential facility can help to identify other persons who may have been exposed at that facility and alert them to the symptoms to watch for during the incubation period. In some instances, proactive messaging with a suspected source facility may garner the facility's voluntary cooperation with testing, investigation, mitigation, and prevention; some facilities may react to negative media attention by being hesitant to test or undertake mitigation activities unless ordered to do so. Providing updates on the status of an LD investigation can help to assure the public that the outbreak is being addressed and mitigated.

Congregate Residential Facilities Module References

Centers for Disease Control and Prevention. (2021a, March 25). Legionella *(Legionnaires' disease and Pontiac fever): CDC surveillance classifications*. https://www.cdc.gov/legionella/health-depts/surv-reporting/surveillance-classifications.html

Centers for Disease Control and Prevention. (2021b, March 25). Legionella *(Legionnaires' disease and Pontiac fever): Defining healthcare facilities and healthcare-associated Legionnaires' disease*. https://www.cdc.gov/legionella/health-depts/healthcare-resources/healthcare-facilities.html

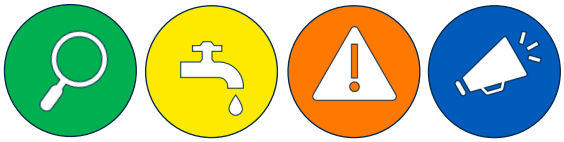
Centers for Disease Control and Prevention. (2021c, July 22). *Environmental health services*: *Reopening buildings after prolonged shutdown or reduced operation*. https://www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html

Texas Department of Health and Human Services. (2022, January). Legionellosis. *Emerging and acute infectious disease guidelines*. Retrieved from https://dshs.texas.gov/IDCU/investigation/Investigation-Guidance/

Congregate Residential Facilities Module Selected Resources

- ASHRAE. Standard 188: Legionellosis: Risk Management for Building Water Systems (ANSI approved). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- ASHRAE. Guideline 12: Managing the Risk of Legionellosis Associated with Building Water Systems. Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- CDC. Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings: A Practical Guide to Implementing Industry Standards. June 5, 2017. Version 1.1. Available at: https://www.cdc.gov/legionella/downloads/toolkit.pdf.
- CDC. The Toolkit for Controlling *Legionella* in Common Sources of Exposure. (*Legionella* Control Toolkit) January 13, 2021. Version 1.1. Available at: https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.
- CDC. Legionnaires' Disease Communication Resources). Available at: https://www.cdc.gov/legionella/health-depts/communications-resources.html#press-releases.
- CDC. Reopening Buildings After Prolonged Shutdown or Reduced Operation. Available at: https://www.cdc.gov/nceh/ehs/water/legionella/building-water-system.html..
- CSTE. Water Management Program Template). Available at: https://www.cste.org/general/custom.asp?page=Legionnaires.
- OSHA. Legionellosis (Legionnaires' Disease and Pontiac Fever). Available at: https://www.osha.gov/legionnaires-disease.

Congregate Residential Facilities Messaging Tables



This section of the module contains messaging tables that address key audiences associated with a suspect or confirmed LD case(s)/outbreak at a congregate residential facility. LD risk communication materials gathered from states, localities, and federal sources were used to help create the messaging tables in this module. Readers should consider the following items when using the messaging tables:

- Each series of color-coded key audience tables includes one or more messaging scenarios for that audience.
    - The same colors are used across the all the modules for the same audiences (e.g., materials for the press and public are in tables with orange banners).
- Each messaging table contains an annotated template of text to include in communications about that scenario.
    - Module users are free to choose which content to use in a template and modify it according to their needs.
- ***Italicized topic headings*** introduce a series of bulleted statements with text that can be adapted into letters, handouts, or notices.
    - Topic headings are not necessarily intended to by used in messaging documents.
- [Text in brackets] should by edited by the user to tailor a document for the specific use.
    - For example, "The [state/local health agency] has identified…" becomes "The Anytown Health Department has identified…"
- *[Italicized text in brackets]* are instructions to the user and are not intended to be included in messaging documents.

The next page contains an index of the messaging tables and lists each key audience and messaging scenarios addressed. The index also lists the corresponding module page numbers for the messaging tables.

IMPORTANT NOTE:

The messaging indicated in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, these messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Index of Congregate Residential Facilities Module Messaging Tables	
Messaging Audience and Messaging Scenarios	**Module Page**
Owners, operators, managers, and representatives of congregate residential living facilities	
• Informing congregate residential facility about a single LD case with other potential exposure sites	CR–19
• Informing congregate residential facility about multiple LD cases or a single case with minimal/no other exposure sites	CR–21
• Investigation at a cooperative or compliant congregate residential facility	CR–23
• Investigation at an uncooperative or non-compliant congregate residential facility	CR–25
• Health order to require a congregate residential facility to address and remediate *Legionella* in the facility	CR–27
• Providing general information about LD risks to persons associated with a congregate residential facility	CR–33
• Providing general information about LD risks, mitigation, and prevention for congregate residential facility engineering and maintenance staff	CR–35
People associated with a congregate residential facility such as residents, occupants, visitors, employees, contractors, and volunteers	
• Congregate residential facility letter/notice to residents of increased-risk facility about LD case(s)	CR–37
• Congregate residential facility letter/notice to residents of general-risk facility about LD case(s)	CR–39
• Letter or memo to staff (employees, volunteers, and contractors) about LD case	CR–41
Healthcare providers and other healthcare facilities in the community/jurisdiction in which the congregate residential facility with LD case(s)/outbreak is located	
• Alert to healthcare providers about LD case(s)/outbreak in a congregate residential facility	CR–43
Other agencies and governments that may assist in the investigation and response, and those with authority over different aspects within a congregate residential facility or over different types of congregate residential facilities	
• Alert to other divisions, agencies, or units of government about identifying and investigating LD case(s)/outbreak in a congregate residential facility	CR–45
Media and the public	
• Press release/alert to the media and public about LD case(s)/outbreak at a congregate residential facility	CR–47

Congregate Residential–Messaging for Facilities

Messaging Purpose:

- **Informing congregate residential facility about a single LD case with other potential exposure sites**
  - **Will most likely apply in facilities that serve general-risk populations (e.g., apartment, dormitory, shelters)**
  - **Contents should be tailored for the specific kind of congregate residential facility**

Purpose of communication:

- As of [date], the [state/local public health agency] has identified a person diagnosed with Legionnaires' disease (LD) who reported [residing/staying at] or being at [facility name] from [date range], which is within the LD incubation period of 2 to 14 days.
- LD is one of the illnesses reported to the [state/local health agency] because of its potential to cause outbreaks.
- The [state/local public health agency] welcomes your cooperation in the investigation of this case as it relates to your facility.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- LD is generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia.
  - Other tests include urine and sputum (phlegm) samples to determine if an infection is caused by *Legionella*.
- LD can be treated with antibiotics.
  - Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

[*Describe potential sources of LD common to the facility type:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., large plumbing systems, cooling towers, hot water tanks and heaters, showerheads, sink faucets, hot tubs, other water sources like fountains).

[Continued next page]

- *Legionella* is common in the environment and can remain unless measures are taken to control it.

Suggested actions:

- You may wish to inform building staff, [residents/other], and visitors about the LD case. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You may wish to review your water/facility maintenance procedures to help minimize future risk.
- Information about water management programs are available through the CDC at https://www.cdc.gov/legionella/wmp/overview.html.
- If your facility does not already have a water management program (WMP), the CDC Water Management Program Toolkit at https://www.cdc.gov/legionella/wmp/toolkit/index.html can help you determine where a WMP is needed and to develop one.

Actions potentially required:

- [While there are currently no legal restrictions or actions required,] we are informing you to ensure that you have updated information and help you minimize the risk of *Legionella* in your facility's water systems.
- If we determine that other people with LD also reside in, work at, or visited your facility, we may ask for your assistance in investigating further.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- Please contact the [state/local public health agency or other agency] if you learn of other cases of LD among residents, staff, or visitors.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential—Messaging for Facilities

Messaging Purpose:

- **Informing congregate residential facility about multiple LD cases or a single case with minimal/ no other exposure sites**
  - **Scenario requires further investigation and action by facility owners**
  - **Will most likely apply in facilities that serve at-risk populations in which residents spend most of their time there (e.g., assisted living, senior living, correctional)**
  - **Can also apply in facilities serving general-risk populations**
  - **Contents should be tailored for the specific kind of congregate residential facility**

Purpose of communication:

- As of [date], the [state/local public health agency] has identified [people/a person] diagnosed with Legionnaires' disease (LD) who reported [residing/staying at] or being at [facility name] from [date range], which is within the LD incubation period of 2 to 14 days.
- LD is one of the illnesses reported to the [state/local health agency] because of its potential to cause outbreaks.
- The [state/local public health agency] welcomes your cooperation in the investigation of this case as it relates to your facility.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- LD is generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia.
  - Other tests include urine and sputum (phlegm) samples to determine if an infection is caused by *Legionella*.
- LD can be treated with antibiotics.
  - Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

[*Describe potential sources of LD common to the facility type:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., large

[Continued next page]

plumbing systems, cooling towers, hot water tanks and heaters, showerheads, sink faucets, hot tubs, other water sources like fountains).

- *Legionella* is common in the environment and can remain unless measures are taken to control it.

Actions requested/required:

- You [should *OR* may] inform building staff, [residents/other], and visitors about the LD case(s)/outbreak. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You should review your water/facility maintenance procedures to help minimize future risk.
  - Information about water management programs are available through the CDC at https://www.cdc.gov/legionella/wmp/overview.html.
- If your facility does not already have a water management program (WMP), the CDC Water Management Program Toolkit at https://www.cdc.gov/legionella/wmp/toolkit/index.html can help you determine where a WMP is needed and to develop one.
- The [state/local public health agency] will be contacting you to further investigate the cases and potential sources of exposure at the facility.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- Please contact the [state/local public health agency or other agency] if you learn of other cases of LD among residents, staff, or visitors.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Facilities

Messaging Purpose:

- **Investigation at a cooperative/compliant congregate residential facility**
  - **Investigation is needed for public health purposes**
  - **Remediation is indicated per investigation findings**
  - **Facility is cooperative and compliant with public health requests**

Purpose of communication:

- Thank you for your cooperation with the [state/local health agency] investigation of [a case(/cases]) of Legionnaires' disease (LD) in a [resident/visitor/person at] your facility. [*OR* [State/local health agency] is investigating a case of LD in a [resident/visitor/person] at your facility.]
- The [state/local public health agency] has identified [number of people/person(s)] diagnosed with LD who are residents at or visited your facility from [date range], which is within the LD incubation period of 2 to 14 days.
- There is reasonable cause to believe that your property is or may be colonized with *Legionella* (the bacteria that cause LD) and that it may be a threat to public health.
- An environmental assessment of your facility by [state/local public health agency] is necessary and specific response activities may be needed based on the assessment findings.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- The bacteria are generally not spread from person to person.

Sources of exposure:

[*Edit sources as appropriate for setting:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however, it more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).

Actions required as applicable:

- The [state/local public health agency] is requesting your assistance in gathering more information about LD case who have been at the facility during [time frame].
- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.

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- [*If cases are linked to a specific device such as a decorative fountain, hot tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:*]
    - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- You should inform building staff, resident, and visitors about the LD cases/outbreak. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You should also review your water/facility maintenance procedures to help minimize future risk.
- Information about water management programs are available through the Centers for Disease Control and Prevention (CDC) at https://www.cdc.gov/legionella/wmp/overview.html.
- [Facility name] may need to have a water management program (WMP).
    - If [facility] does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
    - If [facility] does not meet the characteristics outlined in ASHRAE Standard 188 indicating the need for a WMP, consider implementing elements of a WMP according to facility or device characteristics.
    - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Communications requested:

- You [will/may] be contacted by [the state/local public health agency] to gather more information about LD case and schedule an environmental assessment of the facility.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among guests, staff, or visitors, regardless of where the guest lives, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Facilities

Messaging Purpose:

- **Investigation at an uncooperative or non-compliant congregate residential facility**
  AND/OR
- **Investigation is needed for public health purposes**
  AND/OR
- **Remediation is indicated per investigation findings**
  - **Facility is uncooperative/non-compliant with public health requests**
  - **Ordering the facility to allow assessment or investigation and take actions required by law to mitigate conditions giving rise to LD**
  - **Depending on the type of facility (e.g., assisted living, correctional facility, apartments) other agencies and regulatory bodies may also have authority to investigate and order compliance.**
  - **A decision may be made to send a final notice before issuing an order or combining the two.**
- ***The legal requirements for notice and an order depend on a specific jurisdiction's laws and should be followed.***

Purpose of communication:

- On [date(s)], the [state/local public health agency] contacted [facility name] because there is reasonable cause to believe that the property is or may be colonized with *Legionella* (the bacteria that causes Legionnaires' disease (LD) and that it may be a threat to public health.
- The [state/local public health agency] has identified [number of people/person(s)] diagnosed with LD who report [being at/residents of/visiting] your facility from [date range], which is within the LD incubation period of 2 to 14 days.
- [The facility] has not responded to requests to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [[and/or] has not undertaken remediation measures indicated.]
- [This notice is a final request to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [and/or undertake remediation measures] before a [health order] is issued mandating compliance.]
- [The facility] is ordered pursuant to [cite state/local law] to allow the property to undergo an environmental assessment, perform environmental sample testing for *Legionella*, [and/or]] take the required actions to mitigate the conditions that promote *Legionella* growth and spread.

Sources of exposure:

[Edit sources as appropriate for setting:]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however, it more commonly causes human infection when is grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, medical devices that aerosolize water, cooling towers, other water sources like decorative fountains).

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Congregate Residential–Messaging for Facilities

Messaging Purpose: Investigation at an uncooperative or non-compliant congregate residential facility *(continued)*

Actions required:

[*Edit actions as appropriate for setting*:]

- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.
- [*If cases are linked to a specific device such as a decorative fountain, (hot or therapy) tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:*]
    - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- Failure to comply with this [final notice] [and/or order] may result in further administrative, civil, and criminal penalties.

Communications requested:

- You may be contacted by [the state/local public health agency] to schedule an environmental assessment of the facility if you do not respond to this notice.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among guests, staff, or visitors, regardless of where they live, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Facilities

Messaging Purpose:

- **Health order to require a congregate residential facility to address and remediate *Legionella* in the facility**
  - ***Legal requirements for health orders will vary by jurisdiction; consult with legal counsel in drafting order***

*[**Note:** This order may be modified with revised requirements as additional information about the condition of the congregate residential facility becomes available or initial response activities are implemented. If the facility does not comply with the initial order, additional administrative, civil, or criminal proceedings may be required.]*

Introduction:

- [Congregate residential facility name] has been issued a [license] by the [health/other agency name] to operate a [identify type of congregate residential facility, e.g., assisted living, apartment].
- Based on information and belief, you are the [facility owner, person in control, registered agent *OR* other] of [congregate residential facility name and address] (the "Property").
  - If you are not the [owner, person in control, or registered agent *OR* other] of the Property, please contact [health agency contact name] at [phone number/email address] immediately.
- [Samples were taken from [several locations] at the Property by [state/local/other health agency name/ CDC] [as part of a *Legionella* outbreak in [community name] *OR* at the Property].
  - [Preliminary testing by [health agency/CDC] has detected the presence of *Legionella* bacteria in the Property's [list sites, e.g., water heater, faucet heads sinks/showers, cooling towers, medical devices using water].]
- [The [health agency] has identified [case(s)/an outbreak] of legionellosis among persons at or associated with the Property].
- [*If facility failed to comply with previous required actions*] [Facility name] failed to take previously identified required actions identified by the [health agency] [include list].]

Legionella *basics:*

[Include basic information about Legionella *as appropriate.]*

- [*Legionella* bacteria can cause Legionnaires' disease (LD) or related conditions that may adversely affect public health.]
- [People may be exposed to *Legionella* when they inhale aerosolized water droplets containing the bacteria.]
- [*Legionella* can grow in a building's water systems or devices (e.g., hot water heaters, pipes, water storage tanks, cooling towers, decorative fountains, hot tubs, medical devices containing water).]

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Congregate Residential–Messaging for Facilities

Messaging Purpose: Health Order *(continued)*

Statement of authority:

- Pursuant to [cite statute authorizing the public health order], this Order is being issued based on [reasonable cause *OR* (other legal standard specified in authorizing statute)] to believe that the Property is or may be [colonized by *Legionella OR* a source of a communicable disease] that could constitute a threat to public health [*OR* other language contained in authorizing statute].
- [[Cite statute authorizing regulation of congregate residential facility type, or authorizing public health investigation] authorizes the [health director] to require [emergency action *OR* other standard in statute] to protect the health, safety, and welfare of any [residents, occupants] at [congregate residential facility type].]
- In accordance with [cite statute authorizing public health investigation], the [health director] may investigate incidents of communicable disease.
    - These investigations can include assessments of building and conveyances and their contents and laboratory analysis of samples collected during the course of investigations [*OR* other similar language from applicable statute].
- Further, [pursuant to [cite statute authorizing public health action if different statute], the [health agency] may take actions necessary to protect public health, including ordering that specific measures be undertaken at the Property [*OR* other similar language from applicable statute].

Actions ordered:

- You are ordered to authorize entry to and submit Property to investigation by [health agency].
- The Property at issue and water systems and devices therein may not be [moved, caused to move, or allowed to move from its current location *OR* (other language contained in authorizing statute)] until authorization is received from the [health agency].
- The [health agency] issues this Order to [identify actions required (e.g., implement water system control measures, temporarily close property)] as [identified below *OR* listed in Appendix/Exhibit ___].
    - [***Note:*** *required actions can be listed in the text of the order instead of an in appendix.*]
- This Order will be in effect until the [health agency] determines that all components of this Order have been satisfied and there are no additional cases of legionellosis associated with the Property.
- If subsequent samples collected from the Property test positive for *Legionella* at any time, appropriate response activities should be undertaken, and this Order may be further modified or extended.
    - [If the [health agency] receives a new report of a case of legionellosis that is epidemiologically linked to the Property, a new or amended Order may be issued.]
- Failure to abide by this Order and further instructions from [health agency] may result in fines, criminal penalties, and/or other further legal action.

To contest or appeal order:

- If you object to this Order, you may request a hearing in the [administrative body or court name] in accordance with [statute citation].
    - *[Include information about your jurisdiction's administrative procedures and judicial processes*

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available for contesting or appealing the order.]

Contact information and signatures:

- If you have any questions, information, or concerns, please contact [health agency contact name] at [phone number/email address] immediately.
- This Order is issued under my authority as the [health director or other official's title] for the [jurisdiction or health agency] on this [date] day of [month and year].
    - [Signature block for health official]

Proof of service:

- [I hereby certify that this Order was served [by mail/posting/in-hand/(other)] to the above-named individual and upon the establishment listed above.]
- [Date] at [time AM/PM] by [signature and print name of person serving order].

APPENDIX OR EXHIBIT LANGUAGE

The [health agency] orders you to take the following required actions associated with the Property:

***[Note:** The required actions in a particular scenario will depend on the type of congregate residential facility and the specific water systems/devices in which* **Legionella** *has been identified.* *Broadly, required actions can be identified as administrative, disease surveillance, required notifications, environmental health, and other required actions.*

The required actions listed below are examples of some types of action that can be ordered. They are intended for illustrative purposes only and are not a complete list of all appropriate required actions.]

Administrative required actions:

- Immediately notify the [health agency program or contact person name] at [contact information] if you or personnel at the Property are unable to comply with any of the identified required actions.

Disease surveillance required actions:

- Immediately notify the [health agency program, contact person name, *OR* agency disease reporting line] at [contact information] of any probable, suspected, or confirmed cases of legionellosis and any known [residents, guests, visitors, staff, contractors, or volunteers] exhibiting any symptoms compatible with legionellosis.

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Notification required actions:

Provide written notice

- Immediately provide the [attached] public health notice from the [health agency] to all [residents, guests, visitors, staff, and volunteers] at the Property.
    - The information in the public health notice should be communicated to all current [residents, guests, visitors, staff, and volunteers] and those who visited or occupied the Property [before [date] *OR* between dates of ___ and ___].
- Immediately notify all [residents, guests, visitors, staff, and volunteers] at [identify date, time or event], using documents provided by the [health agency], of the *Legionella* outbreak occurring at the Property.

Post notice

- The public health notice or other signage provided by the [health agency] should be posted at all entries to the Property, on the front entrance, and placed within view of [residents, guests, visitors, staff, and volunteers] at the [front desk, foyer, reception area, etc.] of the Property.
    - The public health notice should also be posted in staff areas of the Property.
    - A copy of the public health notice shall also be given to all [residents, guests, visitors, staff, and volunteers].

Record of notice

- You are advised to retain documentation that each notification was made.
- [Records of notification shall be provided to the [health agency].]

Environmental health required actions:

*[**Note:** Environmental health required actions will vary depending on the type and size of congregate residential facility, the water systems/devices involved, the extent of* Legionella *colonization, and the regulatory authority/policies of the health agency. The items below are samples of possible environmental health required actions. **These items are examples only and not an exhaustive list of appropriate actions.**]*

Retain consultant to assess water systems

- *Example 1:* Within [72, 48 *OR* ____] hours of this Order, hire at your own expense the services of a *Legionella* consultant or environmental consulting firm to assess the Property's water systems.
- *Example 2:* Retain the services of an environmental consultant who is both (1) able to develop and implement an ASHRAE 188-compliant water management program (WMP) and (2) capable of *Legionella* environmental testing at an ELITE member laboratory (or able to subcontract with such a laboratory).
    - The chosen consultant must be reviewed and approved by the [health agency] prior to conducting any assessments or services. The deadline for complying with this provision is [date].]
    - If the Property's contract with the consultant terminates early for any reason, then the Property

[Continued next page]

must immediately implement and maintain an ASHRAE 188-compliant WMP with another environmental consultant that meets the same criteria above for selection of the initial consultant.

Perform environmental assessment/develop environmental sampling plan

- *Example 1:* Within [24 *OR* ___] hours of hire, have an assessment performed by the consultant and provide the [health agency] with a written summary of actions taken toward remediation at least every [48 *OR* ___] hours.
- *Example 2:* Direct the consultant to contact [health agency contact name] at [contact information] within [24 hours *OR* ____] of the consultant's selection to determine the actions necessary for developing the Property's *Legionella* sampling plan.
    - Submit the sampling plan to [health agency contact name] at [contact information] within [7 days *OR* ___] of selecting the consultant.
    - Within [48 hours *OR* ___] of sampling plan approval by the [health agency], perform all *Legionella* sampling tests in accordance with the sampling plan.

Remediation plan

- *Example 1:* In response to any positive *Legionella* sample results, [and if directed so by the [health agency],] prepare and submit for approval a remediation plan that addresses [, but is not necessarily limited to,] the following:
    - A short-term remediation plan, to be submitted within [72 hours *OR* ___], describing methods and corrective actions for controlling the risks of legionellosis from the Property's water system. The short-term remediation plan must be substantially implemented within [96 hours *OR* ___] of approval by the [health agency].
- A long-term prevention plan describing the water system management and the ongoing operational methods for controlling and monitoring the growth of *Legionella* within the Property's water systems and devices. A draft of the plan must be presented to the [health agency] no later than [30 days *OR* ___] after being directed to complete a plan.

Conduct response activities

- *Example 1:* Initiate remediation actions within [24 *OR* ____] hours of hiring the environmental consultant.
- *Example 2:* Increase the temperatures of water heaters on the property to a minimum of [140 *OR* ___] degrees Fahrenheit, while following local and state anti-scald regulations. The deadline for complying with this provision is [date].
- *Example 3:* Restrict the use of tap water at the Property and use bottled water until [facility] can provide satisfactory proof to the [health agency] that [0.2-micron biological *OR* ___] point of use filters are installed on all showerheads, sink and tub faucets, and other water sources intended for use in the facility.

Testing water systems/devices for *Legionella*

- *Example 1:* The Property's water system shall be tested for *Legionella* according to the investigation

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sampling plan devised by [Property *OR* consultant name] to verify the effectiveness of treatment of the Property's water system.

- *Example 2:* The WMP shall require testing according to the investigation sampling plan for *Legionella* using traditional spread-plate culture methods, that testing be performed at least quarterly, and that the investigation sampling plan shall remain in place [through the termination date of this Order].
- *Example 3:* At a minimum, each set of tests performed as part of the investigation sampling plan shall include a representative sample of the building's water system, including but not limited to the following locations: [*edit as appropriate:* distal, medial, and proximal locations from hot water heaters, hot water heaters, medical devices that use water, cooling towers].
- *Example 4:* Provide results of all water testing to [health agency contact name] within [one business day OR (other timeframe)] of receipt via email [*OR* other method] to [email address].
- *Example 5:* Perform ongoing *Legionella* testing to confirm remediation and report results to the [health agency] as they become available.

Other required actions:

- [Additional information regarding feasible, required technical actions to be implemented will be provided to you in a timely manner.]

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks to persons associated with a congregate residential facility**
  - **May be adapted into information sheets or general notices to residents, occupant, staff, visitors, and others**
  - **Contents should also be tailored for the specific kind of congregate residential facility (e.g., assisted living, apartment, dormitory, correctional facility)**

Overview:

- Legionnaires' disease (LD) is a form of pneumonia (lung infection) caused by *Legionella* bacteria.

Sources of exposure:

- *Legionella bacteria* can occur in nature and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [congregate residential facility name].
- [*Edit sources as appropriate for congregate residential facility type:]* Likely sources of exposure include water in showers (and other potable water), cooling towers, hot water heaters, and medical and therapeutic equipment pools, hot tubs, and decorative fountains.
- People can become sick when they breathe in mist from a water source (e.g., shower) that contains *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens the immune system can increase the chances of getting LD.
- [*For increased-risk facilities:*] Many people residing in [congregate residential facility type] may have underlying conditions that put them at greater risk of getting sick and dying from LD.

Signs and symptoms:

- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.

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Congregate Residential–Messaging for Facilities

Messaging Purpose: General information about LD risks for persons associated with a congregate residential facility *(continued)*

Treatment:

- LD is treated with antibiotics (drugs that kill bacteria in the body).
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [congregate residential facility] for more information or if you have questions.
- Further information is also available from the [state/local health agency and/or CDC website].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential—Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks, mitigation, and prevention for congregate residential facility engineering and maintenance staff**
  - **Can be adapted into messages for facility engineering, maintenance, and environmental health staff**

Basics about LD:

- Legionnaires' disease (LD) is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, and taking medication that weakens the immune system can increase the chances of getting LD.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- The bacteria are generally not spread from person to person.

Sources of exposure:

- *Legionella* can be found in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [congregate facility type or name].
  - Likely sources of exposure in a facility include water in sinks and showers, cooling towers, hot water heaters, medical and therapeutic equipment, hot tubs, and decorative fountains [*edit sources as appropriate for setting*].
- *Legionella* bacteria are common in the environment and can persist unless proper steps are taken to control it.

Investigation:

- An environmental assessment can help determine if there are conditions and devices that could promote *Legionella* growth and spread.
- Testing environmental samples from the facility's water systems for *Legionella* can help to determine if a facility is [potentially] colonized with the bacteria.

Mitigation:

- Water systems that are suspected to be colonized with *Legionella* should undergo response activities.
  - [Cleaning and other response activities may be [requested/required] [by [state/local health agency]] to address an [ongoing community-associated] LD outbreak even if a source of infection has not yet been determined.]

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- Recommended mitigation measures may include:
  - Flushing of the facility's water systems.
  - Installation of point-of-use filters on water fixtures in resident, staff, and public areas.
  - Restricting use of water that cannot be filtered.
  - Determining adherence to the facility's water management program (WMP).
  - Ensuring that routine or investigative environmental sampling is conducted and reviewing results.
  - Working with facility to optimize the WMP and reduce the risk of [and control] *Legionella* growth.
  - Installation of supplemental disinfection systems in water systems throughout the facility.
  - Working with facility to address identified deficiencies.
  - Determining if the deficiencies have been properly addressed.

Prevention:

- To prevent *Legionella* growth, building water systems should be properly monitored and maintained.
- Many community facilities should consider having a water management program (WMP).
  - If the facility does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
  - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] if your facility tests positive for *Legionella*, you learn of [any/other] cases of LD, or for more information or questions.

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Persons

Messaging Purpose:

- **Congregate residential facility letter/notice to residents of increased-risk facility about LD case(s)**
  - **Contents should be tailored for the specific kind of increased-risk congregate residential facility (e.g., assisted living, senior living, correctional facility)**

Purpose of communication:

- We are writing to inform you that [number] person(s) have recently been diagnosed with Legionnaires' disease (LD) in [congregate residential facility name].
- LD is a serious form of pneumonia (lung infection) caused by *Legionella* bacteria that is spread from aerosolized water (water droplets) that contains *Legionella*.
- We are working with the [state/local health agency [and CDC] (*if applicable*)] to investigate the source of exposure and determine the risk for ongoing spread.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [congregate residential facility type] like [congregate residential facility name].
- Sources of exposure can include water used for showering, washing hands, and other water-sources like decorative fountains.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.

Signs and symptoms:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.

Action requested:

- If you develop the symptoms of LD, please seek medical attention right away.
- Please show this letter to your doctor so they know to test you for LD if indicated by your symptoms.
  - LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.

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  - If your doctor determines that testing is appropriate, ask to be tested with both a urine test and a respiratory (sputum/phlegm) culture or PCR before antibiotics are administered.
  - If you test positive, ask your doctor to report your illness to [state/local health agency] as soon as possible.
- Please also see CDC information about steps that you can take to prevent waterborne disease at https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.

Treatment:

- Your doctor should prescribe you an antibiotic for treatment if you develop symptoms and are diagnosed with LD.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes lead to lung failure or death.
- Speak with your doctor about other precautions they may recommend.

Action being taken:

- [*Edit response as applicable:*] In addition to monitoring our water system, water in our resident areas is being repeatedly flushed and tested for *Legionella*.
  - We have also installed extra water treatments in various water systems throughout our facility and are installing water filters on the showerheads and sinks.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [congregate residential facility] for more information or if you have questions.
- For more information about LD, visit [[state/local health agency website] and] CDC's website https://www.cdc.gov/legionella/index.html [and/or see the attached information sheet].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Persons

Messaging Purpose:

- **Congregate residential facility letter/notice to residents of general-risk facility about LD case(s)**
  - **Contents should be tailored for the specific kind of general-risk congregate residential facility (e.g., apartment, dormitory, shelter)**

Purpose of communication:

- The [state/local public health agency] is working with [congregate residential facility name] to test the water in your building because [number] persons have been reported being sick with Legionnaires' disease [LD] within the past 12 months. [*Note: time period may vary by jurisdiction*].
- We wanted to notify you right away about this testing, and we will keep you informed once we have the results.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) caused by *Legionella* bacteria that is spread from aerosolized water (water droplets) that contains *Legionella*.
- LD cannot normally be spread from person to person.
- [*Describe potential sources of LD common to the facility type:*]:
  - *Legionella* is naturally found in freshwater environments, such as lakes and streams; however, it more commonly causes human infection when it grows and spreads in building water systems (e.g., large plumbing systems, cooling towers, hot water tanks and heaters, showerheads, sink faucets, hot tubs, other water sources like fountains).
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella* bacteria.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Action requested:

- Please see your doctor right away if you start having symptoms of LD such as cough, muscle aches, fever, shortness of breath, and headache.
  - Please also show this letter to your doctor so that he/she knows to test you for LD if indicated by your symptoms.

[Continued next page]

- If you have one of the risk factors above, take these extra steps as a precaution [*edit as needed for specific facility*]:
  - Do not take a shower (hot or cool) since it creates water mist. Take a bath instead, fill the tub slowly to reduce splashing and water mist, and minimize your time in the bathroom while the tub is filling.
  - You may wash dishes but fill the sink slowly to avoid creating mist.
  - You can drink cold water from the tap but start with cold water when heating water for tea, coffee, or cooking.
  - Speak with your doctor about other precautions they may recommend.
- Please also see CDC information about steps that you can take to prevent waterborne disease at https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html

Contact information:

- We will continue to update you on important information about your building.
- Please contact [name, phone number, and email address of person/office] at [congregate residential facility name] for more information or for questions.
- For more information about LD, visit [[state/local health agency website] and] CDC's website https://www.cdc.gov/legionella/index.html [and/or see the attached information sheet].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Persons

Messaging Purpose:

- **Congregate residential facility letter or memo to staff about LD case**
  - **Staff can include employees, volunteers, and contractors**

Purpose of communication:

- We are writing to inform you that a person associated with [congregate residential facility name] was recently diagnosed with Legionnaires' disease (LD).
- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- We are working with the [state/local health agency [and CDC] (*if applicable*)] to investigate the source(s) of exposure and determine the risk for ongoing spread.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [congregate residential facility type] like [congregate residential facility's name].
- Sources of exposure can include water used for showering, washing hands, hot tubs, cooling towers, other water sources like decorative fountains or medical equipment that uses water.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system that can increase the chances of getting LD.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics and will likely require hospitalization. However, LD can sometimes result in lung failure or death.

Action being taken:

- [*Edit response as applicable:*] To ensure that staff and residents are protected, we are monitoring our water system. Water in our [staff/resident] areas is being repeatedly flushed and tested for *Legionella*.
  - We have also installed extra water treatments in hot water systems throughout our facility and are

[Continued next page]

installing water filters on the showerheads and sinks.

  - No showers are allowed in [staff/resident areas] that do not have a filter attachment.
  - The cold water in ice machines and drinking water fountains [may/should not] be used.

- [*Edit response as applicable*:] Staff (employees, volunteers, and contractors) who have or are experiencing symptoms of LD during [timeframe] should seek medical attention immediately.
- [Facility name] will also contact staff who took sick leave during this time.
- [We are also offering staff [counseling and] information services. If you would like to use these services or want more information, contact [your manager].]

Action requested:

- If you are not sick, there is no need for you to see a doctor.
- If you are at increased risk for getting LD based on the risk factors listed above and are concerned about getting sick, or if you are currently or become sick with a cough, muscle aches, fever, shortness of breath, or headache, see your private healthcare provider right away or contact [name/office] to arrange to see a doctor.
  - Tell the doctor that you work in in [congregate residential facility] where there has been a [case/outbreak] of LD so they can test you for LD, if appropriate.
  - If you test positive, ask your doctor to report your illness to [health agency] immediately.
  - Speak with your doctor about any other precautions they may recommend.
- If you see a doctor, notify [name/office] so our [facility] can track your illness.
- If you have any concerns or questions, please discuss them with [your manager].

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential—Messaging for Healthcare Providers and Facilities

Messaging Purpose:

- **Alert to healthcare providers about LD case(s)/outbreak in a congregate residential facility**

Purpose of communication:

- [State/local public health agency] has confirmed [number] person[s] with Legionnaires' disease (LD)) associated with [congregate residential facility name].
- The person[s] with LD were likely exposed to *Legionella* bacteria during [timeframe] based on clinical symptoms and the incubation period of LD.
- The [state/local public health agency] is working the [congregate residential facility name], [in conjunction with the CDC,] to identify potential sources of exposure and mitigate risk of additional cases.

Action required:

- Healthcare providers should report probable, suspect, and confirmed cases of LD to the [state/local public health agency] as soon as possible.
- [*Include jurisdiction-specific notifiable disease reporting requirements and processes for Legionella/ legionellosis.]*

Action requested:

- Healthcare providers should consider LD when evaluating patients with community-acquired pneumonia:
  - Ask patients about residence, visits, or work at [congregate residential facility] within the 14 days prior to symptom onset .
  - Also ask patients about any healthcare visits (inpatient, outpatient, or staff), travel (including local travel), or possible exposure to other community sources of *Legionella* in the 14 days prior to symptom onset.
  - Keep in mind that the initial presentation of LD may be similar to other respiratory diseases, such as COVID-19, and prompt identification of *Legionella* infection can inform antibiotic treatment.
- Diagnostic testing for LD should include both urinary antigen and culture or PCR of lower respiratory secretions before treatment is administered. Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
  - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
  - Isolation of *Legionella* by culture or PCR is important for public health investigation.
    - Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
    - [Cultured specimens from patients who reported exposure to the facility under investigation should be retained for potential additional testing at [the state public health laboratory].]
- [*Note if state PH laboratory is available to support testing (may not be applicable in some jurisdictions).*]

[Continued next page]

Messaging Purpose: Alert to healthcare providers about LD case(s)/outbreak in a congregate residential facility *(continued)*

- See [state/local public health agency at [website]] for additional information.
- Additional treatment information is available on the CDC website at https://www.cdc.gov/legionella/clinicians.html.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Other Agencies and Governments

Messaging Purpose:

- **Alert to other divisions, agencies, or units of government about identifying and investigating case(s)/outbreaks in congregate residential facility**

Overview:

- [State/local public health agency] is investigating [number] confirmed case[s] of Legionnaires' disease (LD).
- Persons with LD were likely exposed to *Legionella* [during/since timeframe] at [congregate residential facility name].
- The [state/local public health agency] is working with [congregate residential facility] to inform current and former [residents, employees, volunteers, and contractors] who are known to have stayed at or visited [suspected source facility] during/since [timeframe] based on [facility's] records.
- Investigation of any suspected illness identified through this notification will be communicated and coordinated with the respective state [or local] health department[s].
- Additional potential cases [are/may be] under investigation.

Potential sources and dates of exposure:

- The [number] confirmed case[s] of LD report [identify potential source of exposure at congregate residential facility].
- Illness onset dates range from [date] to [date].
- The [state/local public health agency] is currently working to identify the source of these infections and mitigate the risk of additional cases.

Clinical and laboratory:

- All persons' illnesses were diagnosed by [identify diagnostic methods such as *Legionella* urinary antigen testing and respiratory (sputum/phlegm) culture or PCR].
- [Number] cases were hospitalized and [no/number] deaths have been reported [as of/since] [date].

Environmental investigation:

- The [state/local health agency] is working with [congregate residential facility] to ensure [*include applicable*]:
  - Environmental assessment of the facility's water systems to identify conditions favorable for *Legionella* growth and spread.
  - Testing of the facility's water systems for *Legionella*.
  - Flushing of the facility's water systems.
  - Installation of point-of-use filters on water fixtures in resident rooms/units.
  - Restricting use of water that cannot be filtered.
  - Determining adherence to the facility's water management program (WMP).
  - Ensuring that routine or investigative environmental sampling is conducted and reviewing results.

[Continued next page]

Congregate Residential–Messaging for Other Agencies and Governments

Messaging Purpose: Alert other divisions, agencies, units of government about cases/outbreak in a congregate residential facility *(continued)*

- Working with the facility to optimize the WMP and reduce and control *Legionella* growth.
- Installation of supplemental disinfection systems in in various water systems throughout the facility.
- Working with facility to remediate identified deficiencies.
- Determining if any identified deficiencies have been properly addressed.

Action requested:

- Whenever possible, diagnostic testing of residents, visitors, and staff at [congregate residential facility] with community-acquired pneumonia should include collection of urine for antigen testing and lower respiratory specimens for culture or PCR of *Legionella* before antibiotics are administered.
  - Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
  - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
  - Isolation of *Legionella* by culture or PCR is important for public health investigation. Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
  - [If possible, isolates obtained should be saved/stored appropriately (rather than discarded) to allow [public health agency/laboratory] to conduct molecular comparisons if needed.] [*OR* [If isolates are obtained, the [public health agency/laboratory] should be consulted for coordination of/next steps related to molecular comparisons.]
- The [state/local public health agency] is requesting that state and local health departments examine reports of suspect or confirmed cases of legionellosis to determine whether any could be associated with contact to [congregate residential facility] as a resident, staff member, or visitor since [date/ timeframe].

Contact information:

- Public health/agency officials who identify cases of LD among persons with a history of contact to [congregate residential facility] and illness onsets within 14 days of exposure are asked to contact [name, phone number, email address of person/office] at the [state/local health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Congregate Residential–Messaging for Media and the Public

Messaging Purpose:

- **Press release/alert to the media and public about LD case(s)/outbreak at a congregate residential facility**
  - **Contents may be tailored for the specific kind of congregate residential facility (e.g., assisted living, senior living, correctional facility, apartment, dormitory)**

Overview:

- The [state/local public health agency] is investigating [number] case[s] of Legionnaires' disease (LD) among people who were [residents/other] at [congregate residential facility] in [timeframe].
- LD is a potentially serious pneumonia (lung infection) that people can get when exposed to *Legionella* bacteria.
- Based on when they first had symptoms of LD, the people were at the [congregate residential facility] for [all/part] of the time when they could have been exposed to the bacteria. They likely were exposed to *Legionella* during [timeframe] at [facility].
- [*If applicable:* [Congregate residential facility] is cooperating with the [state/local health agency] investigation of the potential sources of exposure to *Legionella*.]

Actions being taken:

- The [state/local public health agency] is working with the [congregate residential facility] to collect information and further investigate these cases.
- The [state/local public health agency] has been on site to collect samples of the facility's water and test it for *Legionella*.
  - [*OR if health agency not involved in sampling:*] [Water samples have been collected and are being tested for *Legionella*.]
  - [Previous water samples collected at the congregate residential facility] tested positive for *Legionella*.]
- The [congregate residential facility] has reported to public health officials that it [routinely conducts water testing and] has already taken steps to reduce the chances that anyone is exposed to *Legionella*, such as adding disinfectant to the water, flushing pipes, and installing point-of-use filters.
  - The facility is also conducting surveillance to identify other potential cases of LD and to ensure the appropriate testing and medical treatment of [residents, staff, and others].

Potential sources of exposure:

- *Legionella* occurs naturally in the environment and is generally not passed from person-to-person.
- The bacteria can become a health concern when they grow and spread in building water systems, like plumbing systems, cooling towers, hot water tanks, hot tubs, and decorative fountains.
- People can become sick when they breathe in mist from a water source (e.g., shower) containing *Legionella*.
- Outbreaks are most commonly associated with facilities that have complex water systems like hospitals, hotels, or large apartment buildings.

[Continued next page]

Congregate Residential–Messaging for Media and the Public

Messaging Purpose: Press release/alert about LD case(s)/outbreak at a congregate residential facility *(continued)*

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.

Signs, symptoms, and treatment:

- The symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics; however, it can cause severe illness requiring hospitalization and sometimes results in lung failure or death.

Action requested:

- If an individual visited [congregate residential facility] and developed symptoms of LD within 14 days of their visit, they should contact their healthcare provider and seek medical attention as soon as possible.
- [*Add one or more quotes from PH agency staff:*]
  - *Sample Quote from PH Official:* ["Legionnaires' disease is a serious infection. We want to make sure the public is aware of the potential risk of this disease so that each person can work with their healthcare provider to get tested and treated if necessary."
- Residents/visitors should also see CDC information about steps they can take to prevent waterborne disease at https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.

Contact information:

- If you have information or questions, please contact [name, phone number, and email address of person/office] at the [state/local health agency].
- For further information on Legionnaires' disease, please visit the [state health agency website and/or] CDC webpage at www.cdc.gov/legionella/.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Legionnaires' Disease Risk Communication Toolkit

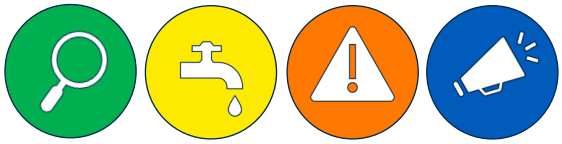


Hotels & Hospitality Facilities Module

CSTE
COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS

June 2022

Hotels & Hospitality Facilities Module



Welcome to the Hotels and Hospitality Facilities Module, a supplement to the *Legionnaires' Disease Risk Communication Toolkit*. This module should be used in conjunction with the *Toolkit* document and the other supplemental modules. The Hotels and Hospitality Facilities Module contains the following information:

Contents **Page**

Overview of Legionnaires' Disease Risk Communication Toolkit Modules HH–5
(Information about the module supplements)

Hotels and Hospitality Facilities Module HH–7
(Foundational materials for communicating LD risks in hospitality settings)

Hotels and Hospitality Facilities Module References HH-13

Hotels and Hospitality Facilities Messaging Tables HH–15
(Multiple messaging templates for a variety of audiences and scenarios in hospitality settings)

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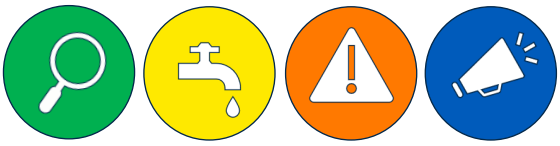
The toolkit was authored for CSTE by Patricia I. Elliott JD, MPH, President, Health|Environment Concepts under the direction of CSTE staff member, Ashley Vineyard, MPH.

For questions about this document, please contact: Council of State and Territorial Epidemiologists 2635 Century Pkwy NE, Suite 700 Atlanta, GA 30345 Tel: 770.458.3811 | Fax: 770.458.8516

June 2022

Version 1.0

Overview of Legionnaires' Disease Risk Communication Toolkit Modules



The individual chapters in the *Legionnaires' Disease Risk Communication Toolkit* document provide foundational information applicable all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit* document offers key information about Legionnaires' disease (LD), identifies legal issues, discusses important considerations when communicating about LD with stakeholders and the public, and provides an overview of water management programs (WMPs). The information in these chapters applies to all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit's* supplemental modules are a series of setting- and scenario-specific documents that address LD-related information and messaging targeted for that setting. The setting- and scenario-specific modules are:

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Test Results in the Absence of Cases

Each module also provides templates and sample messages for key communication items such as notification letters, public health orders, press releases, and health department advisories. The modules also identify practice tips and other resources to help state, tribal, local, and territorial (STLT) health agency staff communicate the risks of LD in these specific settings and scenarios to target audiences.

Variables Affecting LD Outbreaks

The goal of the modules is to provide STLT health agency staff with clear guidance about communicating LD risks in a specific setting or scenario and tools to use in those efforts. However, it is important to note that there are many factors that may affect a jurisdiction's investigation, response, and communications about a specific LD outbreak. The following factors are just some of the variables that can influence the course of an LD outbreak—even within the same types of settings—and the response to it:

- Potential for population with increased risk for LD in the setting
- Overnight stay at the setting or not
- Commercial setting or non-commercial setting
- Length of exposure in the setting
- Mixed/hybrid settings (i.e., locations with features common to different LD risks)
- Environmental assessment and environmental sampling *Legionella* results

Above all, these modules provide a starting point from which to tailor risk communication about LD outbreaks in the identified setting. Each jurisdiction can make its own determination about

the nature and scope of its investigation and response, and the messages and targets for communication, given the specifics of each LD outbreak and the jurisdiction's laws, regulations, and policies.

Module Components

The setting- and scenario-specific modules follow the same format and include the following sections:

- **Scope of Module**—Provides a quick overview of the types of buildings and facilities addressed in the module.

- **Factors Affecting Investigation**—Discusses factors in the specific setting (e.g., healthcare, congregate residential) or scenario (i.e., routine environmental test results in the absence of cases) that help determine how a public health agency addresses LD cases or an outbreak in that setting.

- **Key Risk Factors**—Identifies and discusses the key risk factors in the setting that can give rise to *Legionella* growth and LD. This section addresses risk factors associated with buildings and facilities as well as factors affecting persons who occupy or visit the setting. Each module includes a one-page figure summarizing these key risk factors for quick reference.

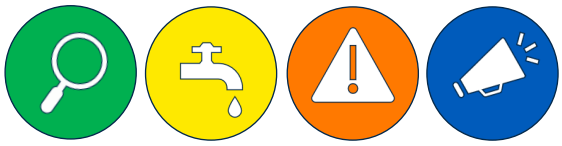
- **Key Audiences and Messages Overview**—Identifies and addresses the key audiences for messaging in the module setting. The section discusses the relevance and role of each audience to the identification, investigation, mitigation, and prevention of *Legionella* and LD.

- **Key Audience and Messaging Tables**—Series of tables provides detailed messaging guides geared to each key audience in the setting or scenario. This section opens with an index table that lists all the messaging table templates by audience. Each series of color-coded key audience tables includes one or more messaging scenarios for that audience. Each messaging table contains an annotated, customizable template of text to include in communications about that scenario.

- **Toolkit Appendix**—Provides other samples and templates related to the content of the module.

Finally, the messaging needed in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, the information in each module and the messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Hotels & Hospitality Facilities Module



Hotels and other types of hospitality facilities (e.g., resorts, motels, cruise ships) are among the most frequent settings for Legionnaires' disease (LD) outbreaks (CDC, 2021a, see also CDC, 2021b). These types of facilities are susceptible to *Legionella* colonization because of the complexity and variety of water systems they contain, as well as the seasonality and variability in their occupancy rates, which can lead to stagnant or standing water favorable for *Legionella* growth.

Scope of Module

This module covers several kinds of facilities under the broad category of hotels and hospitality:

- Hotels, resorts, and motels
- Cruise ships*
- Casinos
- RV parks, state parks, campgrounds, and truck stops
- Recreational attractions like water slides, water parks, and amusement parks
- Bed and breakfast inns, vacation rentals, short-term residence rentals (whole or partial residence) (e.g., Airbnb, VRBO)

Factors Affecting Investigation

A case or outbreak of LD in a hotel or other hospitality facility may be considered to be travel -associated by CDC. The decision to conduct a full investigation of LD case(s)/outbreak in a hotel or other hospitality facility will depend on the identification of the number of cases within a defined time:

- Two or more cases of LD or Pontiac fever identified in people who:
  - Stayed overnight in the same accommodation during the exposure period for LD (14 days before date of symptom onset) or Pontiac fever (typically 24–72 hours before date of symptom onset), *and*

***About Cruise Ships…**

While cruise ships are a hospitality venue that can be at risk for LD, the federal government is responsible for and takes the lead on intervention, mitigation, and risk communication activities.

International cruises/water vessels–CDC has jurisdiction over international cruise ships. Three programs/divisions are involved: (1) the Division of Global Migration and Quarantine (DGMQ) in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), (2) the Division of Bacterial Diseases in the National Center for Immunization and Respiratory Diseases and (3) The Vessel Sanitation Program (VSP) in the National Center for Environmental Health.

Interstate cruises/water vessels–The FDA Interstate Travel Program is authorized to inspect passenger-carrying conveyances (including water vessels) that operate in interstate traffic and the facilities providing food, potable water, and waste handling services that support these types of conveyances.

State, tribal, local, and territorial health departments support these federal agencies through their epidemiological work identifying LD cases or outbreaks potentially linked to a cruise ship or other water vessel and informing the appropriate federal agency.

- Had symptom onsets within 12 months of each other.

See CDC resources for public health agencies in determining the extent of a travel-associated investigation at https://www.cdc.gov/legionella/health-depts/epi-resources/outbreak-investigations.html#considerations-travel.

Key Risk Factors in Hotel and Hospitality Facilities

There are multiple factors that can make hotels and hospitality facilities especially susceptible to *Legionella* colonization and spread. While not all the risk factors identified below apply equally to every type of facility discussed in this module, they are hallmarks of the types of risks that are prevalent in hotels and hospitality settings. The risk factors discussed below relate to the building/facility itself and the people occupying it.

Complex Potable and Drinking Water Distribution Systems

Larger hotels and tourist accommodations are likely to have complex potable/drinking water systems that include recirculating hot water, long distribution or riser runs, multiple water heaters, and numerous fixtures. The complexity of a system increases opportunities for stagnant water, residual disinfectant loss, and temperatures favorable for *Legionella* colonization. Smaller hospitality facilities may not have the same level of complexity in their water systems; however, they may not receive the same level of ongoing maintenance as larger properties. These types of facilities can also undergo frequent construction or renovation to modernize and expand capacity, which can cause disruptions and changes in water pressure. These changes can dislodge biofilm and release *Legionella* into the water system, as well as introduce contaminants into the water system and potential stagnation in areas where water flow is reduced or cut off.

Sources of Aerosolized Water

This is a broad category that includes many different potential sources of *Legionella* within a hotel or other kinds of hospitality facilities. These can include aerosolized water from showers, faucets, hot tubs, pools, and decorative fountains or other water features.

Building Systems with Cooling Cowers

Large facilities may have cooling towers, which if not properly maintained, can become colonized with *Legionella*. The bacteria are then dispersed through water droplets generated during cooling processes. Mist from cooling towers also poses a risk to the neighboring area around the cooling tower because the mist can drift and be inhaled by people outside and in other buildings. Facilities like large hotels, resorts, casinos, and even large truck stops can have one or more cooling towers. Smaller properties may or may not have cooling towers.

Specific Building or Location

Fluctuating occupancy levels in hospitality facilities may occur given the nature or location of an accommodation. This can increase the potential for *Legionella* colonization at a site and for people occupying it to be exposed. For example, seasonal campgrounds and RV parks with potable water systems, shower facilities, and

For More about Routine Environmental Testing Results….

See the "Routine Environmental Testing Results in the Absence of Cases" Module for additional messaging about this scenario.

recreational water features may be unoccupied for prolonged periods; water can become colonized if the systems are not maintained during periods of reduced occupancy. Similarly, if hotels or resorts have high vacancy rates and unused floors, water may stagnate in pipes and become a reservoir for *Legionella*. Vacancy issues were especially a consideration for the hospitality industry during the COVID-19 pandemic as these facilities experienced higher vacancy levels than usual (CDC, 2021c).

Hybrid Settings

A hotel or other type of hospitality facility will likely have several different aspects to the property that make it a risk for *Legionella* growth and spread. Hotels, resorts, motels, campgrounds, RV parks, casinos, and cruise ships can all contain pools, hot tubs, decorative fountains, and other recreational water features that produce water droplets. If private residences are used for bed and breakfast inns (B&Bs), vacation rentals, or short-term residence rentals (either the whole or partial residence, e.g., Airbnb, VRBO), they may be considered to be a hospitality facility for the purposes of an epidemiological investigation; however, these properties share many of the same features as private residences and often are not subject to the same tourist accommodation regulations as hotels. Each element is assessed as an individual functional unit as well as in the context of a hotel or other hospitality facility as a whole.

Length of Stay in the Facility

Because LD is associated with overnight stays or extended exposures to a source within a facility colonized with *Legionella*, the longer a person is at the facility—as an overnight guest, event attendee, employee, or otherwise working or spending prolonged periods in a hotel or hospitality setting—the greater the potential to contract LD.

At-risk Persons in the Facility

Some people may have factors that predispose them to acquiring LD, such as being aged 50 years and older, being a current or former smoker, or having a higher risk of infection (e.g., have a chronic illness, respiratory disease, or a weakened immune system). Other individuals may be at risk for LD based on the amount of time they spend in a facility and exposed to *Legionella*. As noted above, guests and employees are just some of the persons who may be at risk in hotel/hospitality settings. Special events or conferences may also draw large numbers of individuals.

Figure 1 describes risk factors that affect buildings and the persons using them. Specific facility types (e.g., hotels, casinos, campgrounds) that may have the listed risk factor are indicted in parentheses

Key Audiences and Messages

Each hotel and hospitality facility has key audiences for messaging about LD identification, investigation, mitigation, and prevention. These persons and organizations will need foundational information about LD and material tailored to their perspectives in the LD event. Messaging may also evolve during the LD event as suspected outbreaks are confirmed and follow-up is indicated with affected persons and facilities. The key audiences for hotel and hospitality facilities are discussed below.

Figure 1: Key Risk Factors in Hotel and Hospitality Facilities

Building and Facility Factors

Water Distribution Systems

- Complex potable/drinking water systems likely that include recirculating hot water, long distribution or riser runs, multiple water heaters, and numerous fixtures *(hotels, resorts, casinos, cruise ships)*
- Complex potable/drinking water distribution system possible *(smaller hotels, motels, RV parks, campgrounds, truck stops, amusement/water parks)*
- Less complex potable/drinking water distribution systems likely but potential for less frequent maintenance and water system management *(B&Bs, vacation and short-term residence rentals, state parks, water slides)*
- Technical water/non-potable systems of varying complexity possible *(hotels, resorts, casinos, cruise ships, RV parks, campgrounds, truck stops, amusement/water parks)*

Building Systems with Cooling Towers

- Complex cooling systems with cooling towers likely *(larger hotels, resorts, and casinos)*
- Complex cooling systems with cooling towers possible *(mid-sized hotels, resorts, and casinos; larger truck-stops)*
- Cooling towers unlikely *(cruise ships, RV parks, campgrounds, B&Bs, vacation and short-term residence rentals)*

Sources of Aerosolized Water

- Numbers and size of sources will vary with the type of facility.
- Potential sources:
  - Showers and faucets *(all)*
  - Pools/water slides *(all but truck stops)*
  - Hot tubs *(all but truck stops)*
  - Decorative fountains *(hotels, resorts, casinos, cruise ships)*

Features Specific to the Building or Location

- Unused rooms, floors, or buildings *(all)*
- Seasonal vacancies/periods *(all)*
- Potentially fewer staff for water system maintenance *(smaller hotels, motels, resorts, casinos, RV parks, campgrounds, truck stops, B&Bs, vacation and short-term residence rentals)*
- Technical water/non-potable systems of varying complexity possible *(hotels, resorts, casinos, cruise ships, RV parks, campgrounds, truck stops, amusement/water parks)*
- Potable water holding tanks *(cruise ships, RV parks, campgrounds)*

Hybrid Setting / Features of Multiple Settings

- Can include one or more recreational water features (e.g., pools, water slides, hot tubs) *(all but truck stops)*
- Can also be considered as a community setting *(B&Bs, vacation and short-term residence rentals, truck stops)*

Personal Factors

Length of Time in Setting

- Overnight and multiple-night stays by guests *(all)*
- Attendees at all-day conferences or events *(hotels, resorts)*
- Employees/contractors working on site for extended periods *(all)*
- Employees/contractors living on site for extended periods *(cruise ships, resorts, RV parks, campgrounds, B&Bs)*
- Guests stay for long periods gaming, dining, attending shows, shopping, swimming *(casinos, resorts, amusement/water parks)*

Persons with Risk Factors

- Can have guests, visitors, employees, contractors, and others with a cross-section of personal risk factors *(all)*

Facility

Owners, operators, and managers are generally both the operational and legal points of contact for suspected and confirmed public health communicable disease investigations and response activities. (This should be confirmed by the law and regulations in a specific jurisdiction.) The appropriate parties to contact can also vary depending on the size and type of facility involved (e.g., owned by large corporation, franchise of a chain, small business).

The facility is also a key source of information about guests, employees, contractors, and other persons or organizations who stayed or visited it during the period under investigation. Depending on the laws, regulations, or policies of a jurisdiction, facility managers and employees may be required to use messaging supplied by a public health agency to communicate with potentially exposed persons or to alert prospective customers about an ongoing LD investigation; however, in other jurisdictions, public health agencies can recommend but not require specific messaging.

Should a facility raise concerns about sharing personally identifiable information about guests or visitors, note that federal and state laws provide exceptions to confidentiality requirements for public health purposes or other exceptions that would allow for access to information about individuals. (See *LDRC Toolkit* Chapter 3 "Access to Information and Confidentiality".) Any questions or concerns about accessing or sharing personally identifiable information may be discussed with the public health agency's legal counsel.

The facility owners and staff must understand the process for investigating and testing the facility's water systems, cooling towers, and plumbed water features, as well as mitigation measures to address *Legionella* colonization. If general risk communication methods are ineffective at prompting action by the facility, messaging about and the use of public health orders or other enforcement mechanisms may be helpful.

Finally, public health agencies should consider requesting (or requiring) copies of all written materials and other notices shared with guests, staff, and visitors to ensure that the information being provided is accurate and complete. Correct information is especially important for persons potentially exposed to *Legionella* who should be monitored for symptoms and seek treatment if symptoms develop. Facilities subject to health orders may also be required to provide copies of all notices and notifications. Public health agencies should also confirm that facilities notify guests, staff, and visitors about the results of tests on its water systems arising from a public health investigation.

Guests and Visitors

Messaging for guests and visitors must be clear about LD and use plain language to address the cause, sources, risk factors, and symptoms of the disease. Messaging should include key information about specific potential exposures at a facility and timing (if known). Consider including language advising recipients to speak with a medical provider if they develop symptoms within 14 days of exposure and how to speak with their doctor about the exposure. Points of contact with the public health agency and sources for additional information should also be clearly communicated, if appropriate.

Employees and Contractors

Similar to the messaging for guests and visitors, employees and contractors must receive clear information about LD in plain language that addresses the cause, sources, risk factors, and symptoms of the disease. Messaging should include key information about specific potential exposures at a facility and when exposure likely occurred (if known). It should also address how the facility would like employees and contractors to proceed if they are sick or worried about having been exposed, and how to speak with their doctor about the exposure. Additionally, a jurisdiction's occupational health and safety laws and workers' compensation system, as well as obligations arising from union contracts, and other agreements or personnel policies affecting the rights of employees or contractors can arise. Further, the issue of personal protective equipment (PPE) may arise if there are employees or contractors at higher risk (whether due to personal medical history or exposure risks due to job duties (e.g., cooling tower maintenance)). Points of contact within the organization and the public health agency, employee rights, and sources for additional information should also be clearly communicated.

Persons with Confirmed LD

Persons who have been confirmed to have LD from an outbreak may require additional information as the public health investigation proceeds (e.g., for legal or medical purposes, out of interest or concern). Health agency staff should identify the extent and types of information that can be legally shared within the scope of their jurisdiction's laws, and that the information released is supported by data and sound public health practice. Health agencies may also consider media releases with investigation updates to keep affected and interested persons informed. (See "Media and the Public" item below.)

Healthcare Providers and Facilities

Conducting outreach to healthcare providers and specific healthcare facilities in the community in which an LD outbreak is occurring/has occurred helps to educate them about LD and alert them to the signs and symptoms indicating a patient may be suffering from LD. The public health agency can also provide guidance on appropriate diagnostic testing and treatment, and instructions about retaining or forwarding clinical specimens or isolates. Health alerts sent by the public health agency to healthcare providers and facilities are used to highlight specific suspected or confirmed LD outbreaks and to inform practitioners and clinical laboratories how to report cases to the agency. Health agencies may also consider issuing health alerts to providers before the opening of seasonal attractions to remind them about LD signs and symptoms (or about waterborne illnesses generally) and how to report cases.

Other Agencies and Governments

A public health agency may inform other divisions within the public health agency, other government agencies in its state/jurisdiction, and agencies in other units of government (i.e., local, regional, state, federal, tribal, territorial) about an LD outbreak as required by law, standard procedure, or voluntarily as public health partners. It is common practice and recommended by CDC that public health jurisdictions investigating a travel-associated LD outbreak post an Epi-X notification to alert public health practitioners in other jurisdictions since cases often reside in different jurisdictions than their travel destinations. Identifiable personal information can only be shared according to state and federal confidentiality laws and rules. Depending on the extent and nature of an LD event, other divisions, agencies, or units of government may have regulatory or other legal authority over the operation of a facility (e.g.,

building code enforcement, environmental health/sanitation inspections, recreational water inspections).

Media and the Public

Providing information to the media and the public about a suspected or confirmed LD outbreak is an important part of the risk communication process in many situations. However, it should be approached taking care to balance the privacy interests of the involved facilities and individuals with the right of the public to be made aware of public health threats. (See Chapter 3 Accessing Information and Confidentiality for more information.) LD cases or outbreaks associated with hospitality facilities may generate significant public and media attention. Issuing press releases and other statements about an LD outbreak at a specific hotel or other hospitality facility can help to identify other persons who may have been exposed and alert them to the symptoms to watch for during the incubation period. In some instances, proactive messaging with a suspected source facility may garner the facility's voluntary cooperation with testing, investigation, mitigation, and prevention; some facilities may react to negative media attention by being hesitant to test or undertake mitigation activities unless ordered to do so. Providing updates on the status of an LD investigation can help to assure the public that the outbreak is being addressed and mitigated. Health agencies can also issue proactive media reports to remind facility owners/operators, employees, and patrons about LD (and other waterborne illnesses).

Hotel & Hospitality Facilities Module References

Centers for Disease Control and Prevention. (2021a, March 25). Legionella *(Legionnaires' disease and Pontiac fever). Considerations for hotel owners and managers: How to prevent Legionnaires' disease*. https://www.cdc.gov/legionella/wmp/hotel-owners-managers.html

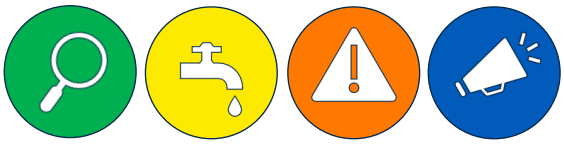
Centers for Disease Control and Prevention. (2021b, March 25). Legionella *(Legionnaires' disease and Pontiac fever): Outbreaks.* https://www.cdc.gov/legionella/outbreaks.html

Centers for Disease Control and Prevention. (2021c, June 24). *Developing a water management program to reduce* Legionella *growth and spread in buildings: A practical guide to implementing industry standards*. Version 1.1. https://www.cdc.gov/legionella/downloads/toolkit.pdf

Hotels & Hospitality Facilities Module Selected Resources

- ASHRAE. Standard 188: Legionellosis: Risk Management for Building Water Systems (ANSI approved). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- ASHRAE. Guideline 12: Managing the Risk of Legionellosis Associated with Building Water Systems). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- CDC. Considerations for Hotel Owners and Managers: How to Prevent Legionnaires' Disease. Available at: https://www.cdc.gov/legionella/wmp/hotel-owners-managers.html.
- CDC. Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings: A Practical Guide to Implementing Industry Standards. June 5, 2017. Version 1.1. Available at: https://www.cdc.gov/legionella/downloads/toolkit.pdf.
- CDC. The Toolkit for Controlling *Legionella* in Common Sources of Exposure. (*Legionella* Control Toolkit) January 13, 2021. Version 1.1. Available at: https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.
- CDC. Legionnaires' Disease Communication Resources. Available at: https://www.cdc.gov/legionella/health-depts/communications-resources.html#press-releases. (Includes sample letters for hotels.)
- CDC. Reopening Buildings After Prolonged Shutdown or Reduced Operation. Available at: https://www.cdc.gov/nceh/ehs/water/legionella/building-water-system.html..
- CDC. Considerations for Vacation Rental Owners and Managers: How to Prevent Legionnaires' Disease. Available at: https://www.cdc.gov/legionella/wmp/vacation-rental.html.
- CSTE. Water Management Program Template. Available at: https://www.cste.org/general/custom.asp?page=Legionnaires.
- OSHA. Legionellosis (Legionnaires' Disease and Pontiac Fever). Available at: https://www.osha.gov/legionnaires-disease.

Hotels & Hospitality Facilities Messaging Tables



This section of the module contains messaging tables that address key audiences associated with a suspect or confirmed LD case(s)/outbreak at a hotel or other hospitality facility. LD risk communication materials gathered from states, localities, and federal sources were used to help create the messaging tables in this module. Readers should consider the following items when using the messaging tables:

- Each series of color-coded key audience tables includes one or more messaging scenarios for that audience.
    - The same colors are used across the all the modules for the same audiences (e.g., materials for the press and public are in tables with orange banners).
- Each messaging table contains an annotated template of text to include in communications about that scenario.
    - Module users are free to choose which content to use in a template and modify it according to their needs.
- ***Italicized topic headings*** introduce a series of bulleted statements with text that can be adapted into letters, handouts, or notices.
    - Topic headings are not necessarily intended to by used in messaging documents.
- [Text in brackets] should by edited by the user to tailor a document for the specific use.
    - For example, "The [state/local health agency] has identified…" becomes "The Anytown Health Department has identified…"
- *[Italicized text in brackets]* are instructions to the user and are not intended to be included in messaging documents.

The next page contains an index of the messaging tables and lists each key audience and messaging scenarios addressed. The index also lists the corresponding module page numbers for the messaging tables.

IMPORTANT NOTE:

The messaging indicated in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, these messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Index of Hotels & Hospitality Facilities Module Messaging Tables

Messaging Audience and Messaging Scenarios	Module Page
Hotel and hospitality facility owners, operators, and managers	
• Informing a hotel or other hospitality facility about LD cases	HH–17
• Investigation at a cooperative or compliant facility	HH–19
• Investigation at an uncooperative or non-compliant facility	HH–21
• Health order to require a hotel or other hospitality facility to address and remediate *Legionella* in the facility	HH–23
• Providing general information about LD risks to persons associated with a hotel or other hospitality facility	HH–29
• Providing general information about LD risks, mitigation, and prevention for hotel or hospitality facility engineering and maintenance staff	HH–31
People associated with a hotel or hospitality facility such as guests, visitors, employees, or contractors	
• Facility letter to past guests or visitors of a hotel or hospitality facility where LD case(s)/outbreak occurred	HH–33
• Facility letter to prospective guests or visitors at a hotel or hospitality facility with an ongoing investigation of LD case(s)/outbreak	HH–35
• Public health agency letter to prospective guests or visitors at a hotel or hospitality facility with an ongoing investigation of LD case(s)/outbreak	HH–37
• Posted notice in hotel/hospitality facility with prior LD cases and positive environmental samples	HH–39
• Letter or memo to staff about LD case(s)/outbreak at a hotel or hospitality facility	HH–41
Healthcare providers and facilities in the community/jurisdiction in which the hotel or hospitality facility is located	
• Alert to healthcare providers about LD case(s)/outbreak in a hotel or hospitality facility	HH–43
Other agencies and governments that may assist in the investigation and response, and those with authority over different aspects of a hotel or hospitality facility	
• Alert to other divisions, agencies, or units of government about identifying and investigating LD case(s)/outbreaks in a hotel or hospitality facility	HH–45
Media and the public	
• Press release/alert to the media and public about LD case(s)/outbreak at a hotel or hospitality facility	HH–47

Hotels & Hospitality–Messaging for Facilities

Messaging Purpose:

- **Informing a hotel or hospitality facility of an LD case**
  - **A past guest diagnosed with LD**
  - **No direct evidence linking site to case yet**

Purpose of communication:

- Thank you for your cooperation with [state/local health agency] investigation of a case of Legionnaires' disease (LD) in a [person/guest/visitor] at your facility. [*OR* [State/local health agency] is investigating a case of LD in a [person/guest/visitor] at your facility.]
- LD is caused by exposure to *Legionella* bacteria.
- LD is one of the illnesses reported to the [state/local health agency] because of its potential to cause outbreaks.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- LD is generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- LD can be treated with antibiotics.
  - Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

[*Edit sources as appropriate for facility:]*

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).
- [At this time, there is no direct evidence that this case of LD was acquired at your facility; however, we felt it was prudent to notify you.]

Suggested actions:

- You may wish to inform building staff, guests, and visitors about the LD case. [State/local health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.

[Continued next page]

- You may wish to review your water/facility maintenance procedures to help minimize future risk.
- Information about water management programs are available through the CDC at https://www.cdc.gov/legionella/wmp/overview.html.
- [Facility name] may need to have a water management program (WMP).
    - If [facility] does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
    - If [facility] does not meet the characteristics outlined in ASHRAE Standard 188 indicating the need for a WMP, consider implementing elements of a WMP according to facility or device characteristics.
    - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Actions potentially required:

- [While there are currently no legal restrictions or actions required,] we are informing you to ensure that you have updated information and help you minimize the risk of *Legionella* in your facility's water systems.
- If we determine that other people with LD also stayed at, work at, or visited your facility, we may ask for your assistance in investigating further.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- Please contact the [state/local public health agency or other agency] if you learn of other cases of LD among guests, staff, or visitors, regardless of where they live.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Facilities

Messaging Purpose:

- **Investigation at a cooperative/compliant hotel or hospitality facility**
  - **Investigation is needed for public health purposes**
  - **Remediation is indicated per investigation findings**
  - **Facility is cooperative and compliant with public health requests**

Purpose of communication:

- The [state/local public health agency] has identified people diagnosed with Legionnaires' disease (LD) who [were at/stayed as guests /visited] your facility within the LD incubation period (2–14 days).
- There is reasonable cause to believe that your property is or may be colonized with *Legionella* (the bacteria that cause LD) and that it may be a threat to public health.
- An environmental assessment of your facility by [state/local public health agency] is necessary and specific response activities may be needed based on the assessment findings.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- LD can be treated with antibiotics.
  - Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- LD is generally not spread from person to person.

Sources of exposure:

[*Edit sources as appropriate for facility:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).

Actions required as applicable:

- The [state/local public health agency] is requesting your assistance in gathering information about cases who were at the facility.
- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.

[Continued next page]

- [*If cases are linked to a specific device such as a decorative fountain, hot tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:]*
    - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- You may [wish to/be required to] inform building staff, guests, and visitors about the LD cases/outbreak. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You may also [wish to/be required to] review your water/facility maintenance procedures to help minimize future risk.
- Information about water system maintenance is available through the Centers for Disease Control and Prevention (CDC) at https://www.cdc.gov/legionella/wmp/overview.html.
- [Facility name] may need to have a water management program (WMP).
    - If [facility] does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
    - If [facility] does not meet the characteristics outlined in ASHRAE Standard 188 indicating the need for a WMP, consider implementing elements of a WMP according to facility or device characteristics.
    - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Communications requested:

- You may be contacted by [the state/local public health agency] to schedule an environmental assessment of the facility.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among guests, staff, or visitors, regardless of where the guest lives, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Facilities

Messaging Purpose:

- **Investigation at an uncooperative or non-compliant hotel or other hospitality facility**
  AND/OR
- **Investigation is needed for public health purposes**
  AND/OR
- **Remediation is indicated per investigation findings**
  - **Facility is uncooperative/non-compliant with public health requests**
  - **Ordering the facility to allow assessment or investigation and take actions required by law to mitigate conditions giving rise to LD**
  - **A decision may be made to send a final notice before issuing an order or combining the two.**
- ***The legal requirements for notice and an order depend on a specific jurisdiction's laws and should be followed.***

Purpose of communication:

- On [date(s)], the [state/local public health agency] contacted [facility name] because there is reasonable cause to believe that the property is or may be colonized with *Legionella* (the bacteria that causes Legionnaires' disease (LD) and that it may be a threat to public health.
- The [state/local public health agency] has identified [number of people/person(s)] diagnosed with LD who report [being at/visiting] your facility from [date range], which is within the LD incubation period of 2 to 14 days.
- [The facility] has not responded to requests to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [[and/or] has not undertaken remediation measures indicated.]
- [This notice is a final request to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [and/or undertake remediation measures] before a [health order] is issued mandating compliance.]
- [The facility] is ordered pursuant to [cite state/local law] to allow the property to undergo an environmental assessment, perform environmental sample testing for *Legionella*, [and/or]] take the required actions to mitigate the conditions that promote *Legionella* growth and spread.

Sources of exposure:

[Edit sources as appropriate for facility:]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however, it more commonly causes human infection when is grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).

Actions required:

[*Edit actions as appropriate for facility*:]

- An environmental assessment of your facility by the [state/local public health agency] is necessary to

[Continued next page]

determine if there is potential for ongoing risk of exposure to *Legionella*.

- [*If cases are linked to a specific device such as a decorative fountain, (hot or therapy) tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:*]
  - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- Failure to comply with this [final notice] [and/or order] may result in further administrative, civil, and criminal penalties.

Communications requested:

- You may be contacted by [the state/local public health agency] to schedule an environmental assessment of the facility if you do not respond to this notice.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among guests, staff, or visitors, regardless of where they live, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Facilities

Messaging Purpose:

- **Health order to require a hotel or other hospitality facility to address and remediate *Legionella* in the facility**
  - ***Legal requirements for health orders will vary by jurisdiction; consult with legal counsel in drafting order***

*[**Note:** This order may be modified with revised requirements as additional information about the condition of the hotel or hospitality facility becomes available or initial response activities are implemented. If the facility does not comply with the initial order, additional administrative, civil, or criminal proceedings may be required.]*

Introduction:

- [Hotel/hospitality facility name] has been issued a [license] by the [health/other agency name] to operate a [identify type of hotel/hospitality facility, e.g., resort, casino, water park].
- Based on information and belief, you are the [facility owner, person in control, registered agent *OR* other] of [hotel/hospitality facility name and address] (the "Property").
  - If you are not the [owner, person in control, or registered agent *OR* other] of the Property, please contact [health agency contact name] at [phone number/email address] immediately.
- [Samples were taken from [several locations] at the Property by [state/local/other health agency name/ CDC] [as part of a *Legionella* outbreak in [community name] *OR* at the Property].
  - [Preliminary testing by [health agency/CDC] has detected the presence of *Legionella* bacteria in the Property's [list sites, e.g., hot tub, water heater, faucet heads sinks/showers, cooling towers, decorative fountains].]
- [The [health agency] has identified [case(s)/an outbreak] of legionellosis among persons at or associated with the Property].
- [*If facility failed to comply with previous required actions*] [Facility name] failed to take previously identified required actions identified by the [health agency] [include list].]

Legionella *basics:*

[Include basic information about Legionella *as appropriate.]*

- [*Legionella* bacteria can cause Legionnaires' disease (LD) or related conditions that may adversely affect public health.]
  - [People may be exposed to *Legionella* when they inhale aerosolized water droplets containing the bacteria.]
  - [*Legionella* can grow in a building's water systems or devices (e.g., hot water heaters, pipes, water storage tanks, cooling towers, decorative fountains, hot tubs).]

Statement of authority:

- Pursuant to [cite statute authorizing the public health order], this Order is being issued based on [reasonable cause *OR* (other legal standard specified in authorizing statute)] to believe that the Property is or may be [colonized by *Legionella OR* a source of a communicable disease] that could constitute a

[Continued next page]

threat to public health [*OR* other language contained in authorizing statute].

- [[Cite statute authorizing regulation of hotel/hospitality facility type, or authorizing public health investigation] authorizes the [health director] to require [emergency action *OR* other standard in statute] to protect the health, safety, and welfare of any [guests, occupants] at [hotel/hospitality facility type].]
- In accordance with [cite statute authorizing public health investigation], the [health director] may investigate incidents of communicable disease.
    - These investigations can include assessments of building and conveyances and their contents and laboratory analysis of samples collected during the course of investigations [*OR* other similar language from applicable statute].
- Further, [pursuant to [cite statute authorizing public health action if different statute], the [health agency] may take actions necessary to protect public health, including ordering that specific measures be undertaken at the Property [*OR* other similar language from applicable statute].

Actions ordered:

- You are ordered to authorize entry to and submit Property to investigation by [health agency].
- The Property at issue and water systems and devices therein may not be [moved, caused to move, or allowed to move from its current location *OR* (other language contained in authorizing statute)] until authorization is received from the [health agency].
- The [health agency] issues this Order to [*identify actions required (e.g., implement water system control measures, temporarily close property*)] as [identified below *OR* listed in Appendix/Exhibit ___].
    - *[**Note:** required actions can be listed in the text of the order instead of an in appendix.]*
- This Order will be in effect until the [health agency] determines that all components of this Order have been satisfied and there are no additional cases of legionellosis associated with the Property.
- If subsequent samples collected from the Property test positive for *Legionella* at any time, appropriate response activities should be undertaken, and this Order may be further modified or extended.
    - [If the [health agency] receives a new report of a case of legionellosis that is epidemiologically linked to the Property, a new or amended Order may be issued.]
- Failure to abide by this Order and further instructions from [health agency] may result in fines, criminal penalties, and/or other further legal action.

To contest or appeal order:

- If you object to this Order, you may [request a hearing] in the [administrative body or court name] in accordance with [statute citation].
    - *[**Note:** Include information about your jurisdiction's administrative procedures and judicial processes available for contesting or appealing the order.]*

[Continued next page]

Contact information and signatures:

- If you have any questions, information, or concerns, please contact [health agency contact name] at [phone number/email address] immediately.
- This Order is issued under my authority as the [health director or other official's title] for the [jurisdiction or health agency] on this [date] day of [month and year].
    - [Signature block for health official]

Proof of service:

- [I hereby certify that this Order was served [by mail/posting/in-hand/(other)] to the above-named individual and upon the establishment listed above.]
- [Date] at [time AM/PM] by [signature and print name of person serving order].

APPENDIX OR EXHIBIT LANGUAGE

The [health agency] orders you to take the following required actions associated with the Property:

> ***[Note:** The required actions in a particular scenario will depend on the type of hotel or other hospitality facility and the specific water systems/devices in which* **Legionella** *has been identified.* *Broadly, required actions can be identified as administrative, disease surveillance, required notifications, environmental health, and other required actions.*
>
> ***The required actions listed below are examples of some types of action that can be ordered. They are intended for illustrative purposes only and are not a complete list of all appropriate required actions.]***

Administrative required actions:

- Immediately notify the [health agency program or contact person name] at [contact information] if you or personnel at the Property are unable to comply with any of the identified required actions.

Disease surveillance required actions:

- Immediately notify the [health agency program, contact person name, *OR* agency disease reporting line] at [contact information] of any probable, suspected, or confirmed cases of legionellosis and any known [guests, visitors, staff, contractors, or volunteers] exhibiting any symptoms compatible with legionellosis.

Notification required actions:

<u>Provide written notice</u>

- Immediately provide the [attached] public health notice from the [health agency] to all [guests, visitors, staff, and volunteers] at the Property.

[Continued next page]

  - The information in the public health notice should be communicated to all current [guests, visitors, staff, and volunteers] and those who visited or occupied the Property [before [date] *OR* between dates of ___ and ___].
- Immediately notify all [guests, visitors, staff, and volunteers] at [the time of check in] *OR [*identify date, time or event], using documents provided by the [health agency], of the *Legionella* outbreak occurring at the Property.

Post notice

- The public health notice or other signage provided by the [health agency] should be posted at all entries to the Property, on the front entrance, and placed within view of [guests, visitors, staff, and volunteers] at the [front desk, foyer, reception area, etc.] of the Property.
  - The public health notice should also be posted in staff areas of the Property.
  - A copy of the public health notice shall also be given to all [guests, visitors, staff, and volunteers].

Record of notice

- You are advised to retain documentation that each notification was made.
- [Records of notification shall be provided to the [health agency].]

Environmental health required actions:

*[**Note:** Environmental health required actions will vary depending on the type and size of hotel or other hospitality facility, the water systems/devices involved, the extent of* Legionella *colonization, and the regulatory authority/policies of the health agency. The items below are samples of possible environmental health required actions. **These items are examples only and not an exhaustive list of appropriate actions.**]*

Retain consultant to assess water systems

- *Example 1:* Within [72, 48 *OR* ____] hours of this Order, hire at your own expense the services of a *Legionella* consultant or environmental consulting firm to assess the Property's water systems.
- *Example 2:* Retain the services of an environmental consultant who is both (1) able to develop and implement an ASHRAE 188-compliant water management program (WMP) and (2) capable of *Legionella* environmental testing at an ELITE member laboratory (or able to subcontract with such a laboratory).
  - The chosen consultant must be reviewed and approved by the [health agency] prior to conducting any assessments or services. The deadline for complying with this provision is [date].]
  - If the Property's contract with the consultant terminates early for any reason, then the Property must immediately implement and maintain an ASHRAE 188-compliant WMP with another environmental consultant that meets the same criteria above for selection of the initial consultant.

Perform environmental assessment/develop environmental sampling plan

- *Example 1:* Within [24 *OR* ___] hours of hire, have an assessment performed by the consultant and

[Continued next page]

provide the [health agency] with a written summary of actions taken toward remediation at least every [48 *OR* ___] hours.

- *Example 2:* Direct the consultant to contact [health agency contact name] at [contact information] within [24 hours *OR* ____] of the consultant's selection to determine the actions necessary for developing the Property's *Legionella* sampling plan.
    - Submit the sampling plan to [health agency contact name] at [contact information] within [7 days *OR* ___] of selecting the consultant.
    - Within [48 hours *OR* ___] of sampling plan approval by the [health agency], perform all *Legionella* sampling tests in accordance with the sampling plan.

Remediation plan

- *Example 1:* In response to any positive *Legionella* sample results, [and if directed so by the [health agency],] prepare and submit for approval a remediation plan that addresses [, but is not necessarily limited to,] the following:
    - A short-term remediation plan, to be submitted within [72 hours *OR* ___], describing methods and corrective actions for controlling the risks of legionellosis from the Property's water system. The short-term remediation plan must be substantially implemented within [96 hours *OR* ___] of approval by the [health agency].
    - A long-term prevention plan describing the water system management and the ongoing operational methods for controlling and monitoring the growth of *Legionella* within the Property's water systems and devices. A draft of the plan must be presented to the [health agency] no later than [30 days *OR* ___] after being directed to complete a plan.

Conduct response activities

- *Example 1:* Initiate remediation actions within [24 *OR* ____] hours of hiring the environmental consultant.
- *Example 2:* Increase the temperatures of water heaters on the property to a minimum of [140 *OR* ___] degrees Fahrenheit, while following local and state anti-scald regulations. The deadline for complying with this provision is [date].
- *Example 3:* Restrict the use of tap water at the Property and use bottled water until [facility] can provide satisfactory proof to the [health agency] that [0.2-micron biological *OR* ___] point of use filters are installed on all showerheads, sink and tub faucets, and other water sources intended for use in the facility.

Testing water systems/devices for *Legionella*

- *Example 1:* The Property's water system shall be tested for *Legionella* according to the investigation sampling plan devised by [Property *OR* consultant name] to verify the effectiveness of treatment of the Property's water system.
- *Example 2:* The WMP shall require testing according to the investigation sampling plan for *Legionella* using traditional spread-plate culture methods, that testing be performed at least quarterly, and that the investigation sampling plan shall remain in place [through the termination date of this Order].

[Continued next page]

- *Example 3:* At a minimum, each set of tests performed as part of the investigation sampling plan shall include a representative sample of the building's water system, including but not limited to the following locations: [*edit as appropriate:* distal, medial, and proximal locations from hot water heaters, hot water heaters, medical devices that use water, cooling towers].
- *Example 4:* Provide results of all water testing to [health agency contact name] within [one business day OR (other timeframe)] of receipt via email [*OR* other method] to [email address].
- *Example 5:* Perform ongoing *Legionella* testing to confirm remediation and report results to the [health agency] as they become available.

Other required actions:

- [Additional information regarding feasible, required technical actions to be implemented will be provided to you in a timely manner.]

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks to persons associated with a hotel or hospitality facility**
  - **May be adapted into information sheets and general notices to guests, staff, visitors, and others**

Overview:

- Legionnaires' disease (LD) is a form of pneumonia (lung infection) caused by *Legionella* bacteria.

Sources of exposure:

- *Legionella bacteria* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [hotels, resorts, casinos, or cruise ships] [*OR* [hotel/hospitality facility name]].
- [*Edit sources as appropriate for facility type:]* Likely sources of exposure in a [hotel or other hospitality] facility include water in showers (and other potable water), cooling towers, hot water heaters, hot tubs, and decorative fountains.
- People can become sick when they breathe in mist from a water source (e.g., shower) that contains *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens the immune system can increase the chances of getting LD.

Signs and symptoms:

- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.

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Hotels & Hospitality—Messaging for Facilities

Messaging Purpose: General information about LD risks for persons associated with a hotel or other hospitality facility *(continued)*

Treatment:

- LD is treated with antibiotics (drugs that kill bacteria in the body).
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [hotel or hospitality facility] for more information or if you have questions.
- Further information is also available from the [state/local health agency and/or CDC website].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks, mitigation, and prevention for hotel or other hospitality facility engineering and maintenance staff**
  - **Can be adapted into messages for facility engineering, maintenance, and environmental health staff**

Basics about LD:

- Legionnaires' disease (LD) is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, and taking medication that weakens the immune system can increase the chances of getting LD.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- The bacteria are generally not spread from person to person.

Sources of exposure:

- *Legionella* can be found in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [hotel or hospitality facility type or name].
  - Likely sources of exposure in a facility include water in sinks and showers, cooling towers, hot water heaters, hot tubs, and decorative fountains [*edit sources as appropriate for setting*].
- *Legionella* bacteria are common in the environment and can persist unless proper steps are taken to control it.

Investigation:

- An environmental assessment can help determine if there are conditions and devices that could promote *Legionella* growth and spread.
- Testing environmental samples from the facility's water systems for *Legionella* can help to determine if a facility is [potentially] colonized with the bacteria.

Mitigation:

- Water systems that are suspected to be colonized with *Legionella* should undergo response activities.
  - [Cleaning and other response activities may be [requested/required] [by [state/local health agency]] to address an [ongoing community-associated] LD outbreak even if a source of infection has not yet been determined.]

[Continued next page]

- Recommended mitigation measures may include:
  - Flushing of the facility's water systems.
  - Installation of point-of-use filters on water fixtures in guest, staff, and public areas.
  - Restricting use of water that cannot be filtered.
  - Determining adherence to the facility's water management program (WMP).
  - Ensuring that routine or investigative environmental sampling is conducted and reviewing results.
  - Working with facility to optimize the WMP and reduce the risk of [and control] *Legionella* growth.
  - Installation of supplemental disinfection systems in water systems throughout the facility.
  - Working with facility to address identified deficiencies.
  - Determining if the deficiencies have been properly addressed.

Prevention:

- To prevent *Legionella* growth, building water systems should be properly monitored and maintained.
- Many community facilities should consider having a water management program (WMP).
  - If the facility does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
  - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] if your facility tests positive for *Legionella*, you learn of [any/other] cases of LD, or for more information or questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Persons

Messaging Purpose:

- **Letter to past guests or visitors of a hotel or other hospitality facility where LD case(s)/outbreak occurred**
  - **Letter can be adapted for the public health agency or the facility to give to guests/visitors**

Purpose of communication:

- The [state/local health agency] is investigating [number] case[s] of Legionnaires' disease (LD) associated with [facility name].
- Prior guests or visitors at [the facility] have been diagnosed with LD, which is a serious form of pneumonia (lung infection) caused by exposure to *Legionella* bacteria.
- [The facility] is cooperating with the [state/local health agency] investigation of potential sources of exposure to the bacteria (e.g., showers, hot tubs, other sources of water in guest rooms.)
- Records at [the facility] indicate you were a prior guest or visitor of the facility during the period when exposure to *Legionella* was possible [give dates if known].

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [hotel/hospitality facility type] like [facility name].
- Sources of exposure can include water used for showering, hot tubs, decorative fountains, and cooling towers. *[Identify suspected sources(s) at the facility, if known]*.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system that can increase the chances of getting LD.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics and will likely require hospitalization. However, LD can sometimes result in lung failure or death.

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Messaging Purpose: Letter to past guests or visitors at a facility where LD case(s)/outbreak occurred *(continued)*

Action requested:

- If you develop[ed] the symptoms of LD within two weeks (14 days) of staying at the facility, please seek medical attention right away.
- Please also show this letter to your doctor so that they know to test you for LD as indicated by your symptoms.
  - LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.
  - Ask your doctor to test you with a urine test and a respiratory (sputum/phlegm) culture or PCR before administering antibiotics.
  - If you test positive, ask your doctor to report your illness to [health agency] immediately.
  - Speak with your doctor about other precautions they may recommend.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.
- Please share this notice with others who stayed in your room or visit d [facility] with you.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Persons

Messaging Purpose:

- **Facility letter to prospective guests or visitors at a hotel or hospitality facility with an ongoing investigation of LD case(s)/outbreak**
  - **Letter for facility to give to guests and visitors**

Purpose of communication:

- [Facility name] has been notified by the [state/local health agency] that person[s] who previously stayed at or visited [facility] [during/since] [time period] have been diagnosed with Legionnaires' disease (LD) within two weeks (14 days) of being at the facility
- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- [[Facility] is cooperating with the [state/local health agency] investigation of potential sources of exposure to *Legionella*.]
- Tests have been conducted to determine possible source(s) of *Legionella* at [facility].
  - Results of water sample testing confirmed that *Legionella* was present in the [facility's] [water system and/or other sites.]
- The investigation is still in progress and [facility] will continue to work with [state/local health agency] to take appropriate actions to protect the health of guests, visitors, and staff and to disinfect the water system.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in hotels and other hospitality settings. Sources of exposure can include water used for showering, hot tubs, decorative fountains, and cooling towers.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system that can increase the chances of getting LD.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.

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- LD can be treated with antibiotics and will likely require hospitalization. However, LD can sometimes result in lung failure or death.

Action requested:

- If one or more of the above risk factors are a concern for you, consider rescheduling your stay.
- If you plan to stay and have special concerns about your risk for infection: (1) do not use bathroom sinks, showers, or bar sinks in your hotel room; (2) avoid being in the same room with people using showers and sinks; (3) use bottled water for drinking water and for personal hygiene needs (for example, brushing teeth); and (4) avoid other sources of mist (e.g., hot tubs, decorative fountains) while at [facility].
- If you develop the symptoms of LD within two weeks (14 days) of staying at the facility, please seek medical attention right away.
- Please also show this letter to your doctor so that he/she knows to test you for LD as indicated by your symptoms.
    - LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.
    - Ask your doctor to test you with a urine test and a respiratory (sputum/phlegm) culture or PCR before administering antibiotics.
    - If you test positive, ask your doctor to report your illness to [health agency] immediately.
    - Speak with your doctor about other precautions they may recommend.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.
- Please share this notice with others who plan to stay in your room or visit [facility] with you.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Persons

Messaging Purpose:

- **Public health agency letter to prospective guests or visitors at a hotel or hospitality facility with an ongoing investigation of LD case(s)/outbreak**
  - **Letter to from public health agency directly to guests or visitors**
  - **Can also include investigation of LD in the surrounding community**

Purpose of communication:

- The [state/local health agency] has notified [facility name] that [number] of its prior guests and visitors [during/since] [time period] have been diagnosed with Legionnaires' disease (LD) within two weeks (14 days) of staying at the facility.
- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- [[Facility] is cooperating with the [state/local health agency] investigation of potential sources of exposure to *Legionella*.]
- Tests have been conducted to determine possible source(s) of *Legionella* at [facility].
  - Results of water sample testing confirmed that *Legionella* was present in the [facility's] [water system and/or other sites.]
- The investigation is still in progress and [facility] will continue to work with [state/local health agency] to take appropriate actions to protect the health of guests, visitors, and staff and to disinfect the water system.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [facility]. Sources of exposure can include water used for showering, hot tubs, decorative fountains, and cooling towers.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system that can increase the chances of getting LD.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important

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to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.

- LD can be treated with antibiotics and will likely require hospitalization. However, LD can sometimes result in lung failure or death.

Action requested:

- If one or more of the above risk factors are a concern for you, consider rescheduling your stay.
- If you plan to stay and have special concerns about your risk for infection: (1) do not use bathroom sinks, showers, or bar sinks in your hotel room; (2) avoid being in the same room with people using showers and sinks; (3) use bottled water for drinking water and for personal hygiene needs (for example, brushing teeth); and (4) avoid other sources of mist (e.g., hot tubs, decorative fountains) while at [facility].
- If you develop the symptoms of LD within two weeks (14 days) of staying at the facility, please seek medical attention right away.
- Please also show this letter to your doctor so that he/she knows to test you for LD as indicated by your symptoms.
    - LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.
    - Ask your doctor to test you with a urine test and a respiratory (sputum/phlegm) culture or PCR before administering antibiotics.
    - If you test positive, ask your doctor to report your illness to [health agency] immediately.
    - Speak with your doctor about other precautions they may recommend.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.
- Please share this notice with others who plan to stay in your room or visit [facility] with you.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Persons

Messaging Purpose:

- **Posted notice in a hotel or other hospitality facility with prior LD cases**
  AND
- **Positive environmental samples**

Purpose of communication:

- Guests, staff, or visitors have been diagnosed with Legionnaires' disease (LD) after recently staying at, working in, or visiting this facility.
- LD is a serious pneumonia (lung infection) that people can get by breathing in small water droplets, or mist, containing *Legionella* bacteria.

Sources of exposure:

- Water tests at this property show *Legionella* has been, and may still be, in this facility's water system.

Persons at risk:

- Your risk of LD may increase if you are 50 years or older, smoke cigarettes, or have certain medical conditions, such as lung disease or a weakened immune system.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- Your doctor should prescribe you an antibiotic for treatment if you develop symptoms and are diagnosed with LD.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Action requested:

- If one or more of the above risk factors are a concern for you, consider rescheduling your stay.
- If you plan to stay and have special concerns about your risk for infection:
  - Do not use bathroom sinks, showers, or bar sinks in your [hotel] room.
  - Avoid being in the same room with people using showers and sinks.
  - Use bottled water for drinking water and for personal hygiene needs (for example, brushing teeth).
  - Avoid other sources of mist (e.g., hot tubs, decorative fountains) while at [facility].

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Messaging Purpose: Posted notice in a hotel or other hospitality facility with prior LD cases and positive environmental samples *(continued)*

- If you develop the symptoms of LD within two weeks (14 days) of staying at the facility, please seek medical attention right away.

Communications requested:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.
- Please share this notice with others who are staying your room or visiting [facility] with you.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Persons

Messaging Purpose:

- **Letter or memo to staff about LD case(s)/outbreak at a hotel or hospitality facility**
  - **Staff can include employees, volunteers, and contractors**
  - **Can be issued by facility or by public health agency**

Purpose of communication:

- On [date], [facility name] was notified that one or more guests, visitors, or staff at [facility] have become sick with Legionnaires' disease (LD).
- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- [[Facility] is cooperating with the [state/local health agency] investigation of potential sources of exposure to *Legionella*.]
- This message is to provide you with information about LD and to inform you about the steps being taken to address any health concerns.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [facility]. Sources of exposure can include water used for showering, hot tubs, decorative fountains, and cooling towers.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system that can increase the chances of getting LD.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics and will likely require hospitalization. However, LD can sometimes result in lung failure or death.

Action being taken:

- [*Edit response as applicable:*] To ensure that staff, guests, and visitors are protected while possible

[Continued next page]

sources of *Legionella* exposure are being investigated, [facility] will continue to work with [state/local health agency] to take appropriate actions to protect the health of staff, guests, and visitors [and to disinfect the water system, as needed].

  - We have also installed extra water treatments in hot water systems throughout our facility and are installing water filters on the showerheads and sinks.
  - No showers are allowed in [staff/guest areas] that do not have a filter attachment.
  - The cold water in ice machines and drinking water fountains [may/should not] be used.

- [*Edit response as applicable*:] Staff (employees, volunteers, and contractors) who have or are experiencing symptoms of LD during [timeframe] should seek medical attention immediately.
- [Facility name] will also contact staff who took sick leave during this time.
- [We are also offering staff [counseling and] information services. If you would like to use these services or want more information, contact [your manager].]

Action requested:

- If you are not sick, there is no need for you to see a doctor.
- If you are at increased risk for getting LD based on the risk factors listed above and are concerned about getting sick, or if you are currently or become sick with a cough, muscle aches, fever, shortness of breath, or headache, see your private healthcare provider right away or contact [name/office] to arrange to see a doctor.
  - Tell the doctor that you work in a [hotel/hospitality facility] where there has been a [case/outbreak] of LD so they can test you for LD, if appropriate.
  - If you test positive, ask your doctor to report your illness to [health agency] immediately.
  - Speak with your doctor about any other precautions they may recommend.
- If you see a doctor, notify [name/office] so our [facility] can track your illness.
- If you have any concerns or questions, please discuss them with [your manager].

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Healthcare Providers and Facilities

Messaging Purpose:

- **Alert to healthcare providers about LD case(s)/outbreak in a hotel or other hospitality facility**

Purpose of communication:

- [State/local public health agency] has confirmed [number] person[s] with Legionnaires' disease (LD)) associated with [hotel/hospitality facility name].
- The person[s] with LD were likely exposed to *Legionella* bacteria during [timeframe] based on clinical symptoms and the incubation period of LD.
- The [state/local public health agency] is working [hotel/hospitality facility name], [in conjunction with the CDC,] to identify potential sources of exposure and mitigate risk of additional cases.

Action required:

- Healthcare providers should report probable, suspect, and confirmed cases of LD to the [state/local public health agency] as soon as possible.
- [*Include jurisdiction-specific notifiable disease reporting requirements and processes for Legionella/ legionellosis.]*

Action requested:

- Healthcare providers should consider LD when evaluating patients with community-acquired pneumonia:
  - Ask patients about travel (including local travel), any healthcare visits, or possible exposure to other community sources of Legionella in the 14 days prior to symptom onset.
  - Keep in mind that the initial presentation of LD may be similar to other respiratory diseases, such as COVID-19, and prompt identification of *Legionella* infection can inform antibiotic treatment.
- Diagnostic testing for LD should include both urinary antigen and culture or PCR of lower respiratory secretions before treatment is administered. Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
  - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
  - Isolation of *Legionella* by culture or PCR is important for public health investigation.
    - Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
    - [Cultured specimens from patients who reported exposure to the facility under investigation should be retained for potential additional testing at [the state public health laboratory].]
- [*Note if state PH laboratory is available to support testing (may not be applicable in some jurisdictions).*]
- See [state/local public health agency at [website]] for additional information.
- Additional treatment information is available on the CDC website at https://www.cdc.gov/legionella/clinicians.html.

[Continued next page]

Messaging Purpose: Alert to healthcare providers about LD case(s)/outbreak in a hotel or other hospitality facility *(continued)*

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality—Messaging for Other Agencies and Governments

Messaging Purpose:

- **Alert to other divisions, agencies, or units of government about identifying and investigating cases or an outbreak in a hotel or other hospitality facility**

Overview:

- [State/local public health agency] is investigating [number] confirmed case[s] of Legionnaires' disease (LD).
- Persons with LD were likely exposed to *Legionella* [during/since timeframe] at [hotel/hospitality facility name].
- The [state/local public health agency] is working with [hotel/hospitality facility] to inform current and former [residents, employees, volunteers, and contractors] who are known to have been at [hotel/hospitality facility] during/since [timeframe] based on [facility's] records.
- Cases reside in [number] states ([list states]) [and [other countries]].
- Investigation of any suspected illness identified through this notification will be communicated and coordinated with the respective state [or local] health department[s].
- Additional potential cases [are/may be] under investigation.

Potential sources and dates of exposure:

- The [number] confirmed case[s] of LD report [identify potential source of exposure, e.g., overnight stays at [hotel/hospitality facility]].
- Illness onset dates range from [date] to [date].
- The [state/local public health agency] is currently working to identify the source of these infections and mitigate the risk of additional cases.

Clinical and laboratory:

- All persons' illnesses were diagnosed by [identify diagnostic methods such as *Legionella* urinary antigen testing and respiratory (sputum/phlegm) culture or PCR].
- [Number] cases were hospitalized and [no/number] deaths have been reported [as of/since] [date].

Environmental investigation:

- The [state/local health agency] is working with [hotel/hospitality facility name] to ensure [*include applicable*]:
  - Environmental assessment of the facility's water systems to identify conditions favorable for *Legionella* growth and spread.
  - Testing of the facility's water systems for *Legionella*.
  - Flushing of the facility's water systems.
  - Installation of point-of-use filters on water fixtures in guest rooms, staff, and public areas.
  - Restricting use of water that cannot be filtered.
  - Determining adherence to the facility's water management program (WMP).

[Continued next page]

- Ensuring that routine or investigative environmental sampling is conducted and reviewing results.
- Working with the facility to optimize the WMP and reduce the risk of [and control] *Legionella* growth.
- Installation of supplemental disinfection systems in in various water systems throughout the facility.
- Working with facility to remediate identified deficiencies.
- Determining if any identified deficiencies have been properly addressed.

Action requested:

- Whenever possible, diagnostic testing of guests, visitors, and staff at [hotel/hospitality facility name] with community-acquired pneumonia should include collection of urine for antigen testing and lower respiratory specimens for culture or PCR of *Legionella* before antibiotics are administered.
  - Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
  - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
  - Isolation of *Legionella* by culture or PCR is important for public health investigation. Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
  - [If possible, isolates obtained should be saved/stored appropriately (rather than discarded) to allow [public health agency/laboratory] to conduct molecular comparisons if needed.] [*OR* [If isolates are obtained, the [public health agency/laboratory] should be consulted for coordination of/next steps related to molecular comparisons.]
- The [state/local public health agency] is requesting that state and local health departments examine reports of suspect or confirmed cases of legionellosis to determine whether any could be associated with contact to [hotel/hospitality facility] as a guest, staff member, or visitor since [date/timeframe].

Contact information:

- Public health/agency officials who identify cases of LD among persons with a history of contact to [hotel/hospitality facility] and illness onsets within 14 days of exposure are asked to contact [name, phone number, email address of person/office] at the [state/local health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Hotels & Hospitality–Messaging for Media and the Public

Messaging Purpose:

- **Press release/alert to the media and public about LD case(s)/outbreak at a hotel or other hospitality facility**

Overview:

- The [state/local public health agency] is investigating [number] case[s] of Legionnaires' disease (LD) among people who were [guests/other] at [hotel/hospitality facility] in [timeframe].
- LD is a potentially serious pneumonia (lung infection) that people can get when exposed to *Legionella* bacteria.
- Based on when they first had symptoms of LD, the people were at the [hotel/hospitality facility] for [all/part] of the time when they could have been exposed to the bacteria.
- [*If applicable:* [Hotel/hospitality facility] is cooperating with the [state/local health agency] investigation of the potential sources of exposure to *Legionella.*]
- [Additional potential cases are under investigation.]

Potential sources of exposure:

- *Legionella* occur in freshwater environments and in water systems in built environments.
- The bacteria can become a health concern when they grow and spread in building water systems, like hot tubs, cooling towers, hot water tanks, large plumbing systems, and decorative fountains.
- People can become sick when they breathe in mist from a water source (e.g., shower) containing *Legionella*.
- Outbreaks are most commonly associated with facilities that have complex water systems like hospitals, hotels, or large apartment buildings.
- *Legionella* cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.

Signs, symptoms, and treatment:

- The symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics; however, it can cause severe illness requiring hospitalization and sometimes results in lung failure or death.

[Continued next page]

Hotels & Hospitality–Messaging for Media and the Public

Messaging Purpose: Press release/alert about LD case(s)/outbreak at a hotel or other hospitality facility *(continued)*

Action requested:

- The [state/local public health agency] recommends that people who are at increased risk for LD consider postponing their visit to the [hotel/hospitality facility].
- [*Add one or more quotes from PH agency staff:*]
  - *Sample Quote from PH Official:* ["Legionnaires' disease is a serious infection. We want to make sure the public is aware of the potential risk of this disease so that each person can make a decision for themselves about visiting the [hotel/hospitality facility name] in the best interest of their health."]
- If an individual visited [hotel/hospitality facility] and developed symptoms of LD within 14 days of their visit, they should contact their healthcare provider and seek medical attention as soon as possible.

Contact information:

- If you have information or questions about this outbreak, please contact [name, phone number, and email address of person/office] at the [state/local health agency].
- [A public inquiry phone line is available to answer questions [hour] AM – [hour] PM, [including over the weekend], by calling [phone number].
- For further information on Legionnaires' disease, please visit the [state health agency website and/or] CDC webpage at www.cdc.gov/legionella/.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

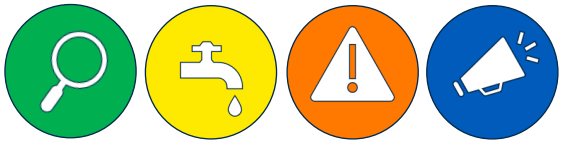
Legionnaires' Disease Risk Communication Toolkit

Community Settings Module

CSTE
COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS

June 2022

Community Settings Module



Welcome to the Community Settings Module, a supplement to the *Legionnaires' Disease Risk Communication Toolkit*. This module should be used in conjunction with the *Toolkit* document and the other supplemental modules. The Community Settings Module contains the following information:

Contents **Page**

Overview of Legionnaires' Disease Risk Communication Toolkit Modules CS–5
(Information about the module supplements)

Community Settings Module CS–7
(Foundational materials for communicating LD risks in community settings)

Community Settings Module References CS-15

Community Settings Messaging Tables CS–17
(Multiple messaging templates for a variety of audiences and scenarios in community settings)

This project was funded under a cooperative agreement with the Centers for Disease Control and Prevention (NU38OT000297-01-00).

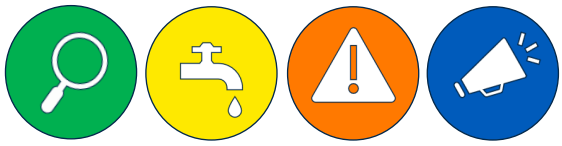
The toolkit was authored for CSTE by Patricia I. Elliott JD, MPH, President, Health|Environment Concepts under the direction of CSTE staff member, Ashley Vineyard, MPH.

For questions about this document, please contact: Council of State and Territorial Epidemiologists 2635 Century Pkwy NE, Suite 700 Atlanta, GA 30345 Tel: 770.458.3811 | Fax: 770.458.8516

June 2022

Version 1.0

Overview of Legionnaires' Disease Risk Communication Toolkit Modules



The individual chapters in the *Legionnaires' Disease Risk Communication Toolkit* document provide foundational information applicable all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit* document offers key information about Legionnaires' disease (LD), identifies legal issues, discusses important considerations when communicating about LD with stakeholders and the public, and provides an overview of water management programs (WMPs). The information in these chapters applies to all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit's* supplemental modules are a series of setting- and scenario-specific documents that address LD-related information and messaging targeted for that setting. The setting- and scenario-specific modules are:

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Test Results in the Absence of Cases

Each module also provides templates and sample messages for key communication items such as notification letters, public health orders, press releases, and health department advisories. The modules also identify practice tips and other resources to help state, tribal, local, and territorial (STLT) health agency staff communicate the risks of LD in these specific settings and scenarios to target audiences.

Variables Affecting LD Outbreaks

The goal of the modules is to provide STLT health agency staff with clear guidance about communicating LD risks in a specific setting or scenario and tools to use in those efforts. However, it is important to note that there are many factors that may affect a jurisdiction's investigation, response, and communications about a specific LD outbreak. The following factors are just some of the variables that can influence the course of an LD outbreak—even within the same types of settings—and the response to it:

- Potential for population with increased risk for LD in the setting
- Overnight stay at the setting or not
- Commercial setting or non-commercial setting
- Length of exposure in the setting
- Mixed/hybrid settings (i.e., locations with features common to different LD risks)
- Environmental assessment and environmental sampling *Legionella* results

Above all, these modules provide a starting point from which to tailor risk communication about LD outbreaks in the identified setting. Each jurisdiction can make its own determination about

the nature and scope of its investigation and response, and the messages and targets for communication, given the specifics of each LD outbreak and the jurisdiction's laws, regulations, and policies.

Module Components

The setting- and scenario-specific modules follow the same format and include the following sections:

- **Scope of Module**—Provides a quick overview of the types of buildings and facilities addressed in the module.

- **Factors Affecting Investigation**—Discusses factors in the specific setting (e.g., healthcare, congregate residential) or scenario (i.e., routine environmental test results in the absence of cases) that help determine how a public health agency addresses LD cases or an outbreak in that setting.

- **Key Risk Factors**—Identifies and discusses the key risk factors in the setting that can give rise to *Legionella* growth and LD. This section addresses risk factors associated with buildings and facilities as well as factors affecting persons who occupy or visit the setting. Each module includes a one-page figure summarizing these key risk factors for quick reference.

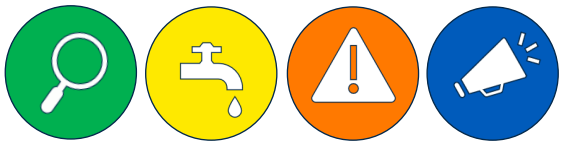
- **Key Audiences and Messages Overview**—Identifies and addresses the key audiences for messaging in the module setting. The section discusses the relevance and role of each audience to the identification, investigation, mitigation, and prevention of *Legionella* and LD.

- **Key Audience and Messaging Tables**—Series of tables provides detailed messaging guides geared to each key audience in the setting or scenario. This section opens with an index table that lists all the messaging table templates by audience. Each series of color-coded key audience tables includes one or more messaging scenarios for that audience. Each messaging table contains an annotated, customizable template of text to include in communications about that scenario.

- **Toolkit Appendix**—Provides other samples and templates related to the content of the module.

Finally, the messaging needed in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, the information in each module and the messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Community Settings Module



CDC defines a community-associated outbreak as "an increase in Legionnaires' disease cases in a certain geographic area beyond what one would normally expect for the same time and place" (CDC, 2021a). Cases and outbreaks of Legionnaires' disease (LD) in a community setting may, at least initially, be difficult to attribute to a specific source. Given the range of potential facility types and building water systems (including cooling towers) where *Legionella* can grow and be dispersed, as well as the many buildings a person visits and the activities they undertake daily, the task of identifying a source of exposure can be daunting.

Investigating and communicating with the owners and operators of facilities that are potential sources of exposure—coupled with health alerts to healthcare providers, other agencies and jurisdictions, the media, and the public—can further help to identify other additional cases. This in turn can provide more exposure information to help determine the potential sources of infection. The investigation may or may not ultimately lead to the identification of a source of *Legionella* exposure.

Scope of Module

This module includes the following types of facilities in a community which may become colonized with *Legionella* and become sources for exposure:

- Public, private, and commercial facilities
  - Public buildings and government office buildings
  - Private office, retail, and commercial buildings
  - Industrial and manufacturing facilities
  - Schools and universities
  - Places of worship
  - Gyms and fitness centers, community centers, and entertainment venues
- Private residences
  - Single-family homes, townhomes, small multiple-family residences (e.g., duplexes, triplexes, fourplexes), mobile homes, motor homes, and trailers
  - For buildings with multiple housing units using a centralized hot water system, see Congregate Residential Facilities Module
- Recreational and non-recreational water features
  - Recreational water features including pools, hot tubs, water slides, and interactive water features
  - Non-recreational water features including decorative fountains, misters, atomizers, car washes, air washers, and humidifiers

- Community-wide or unknown
    - Cooling towers
    - Community water systems

Factors Affecting Investigation

Persons who have been diagnosed with LD—but who do not have exposure to travel or healthcare settings—can provide key information to public health agencies about their daily activities such as locations of and time spent at home, work, school, places of worship, recreation, and other activities. Epidemiologists can then try to establish where persons with LD may have been exposed to *Legionella* and if there are any common sources of exposure. Mapping potential exposures of cases obtained through interviews can help to identify any common sources, including those at short-term or event facilities like fairgrounds. Consider cooling towers if cases are tightly clustered in time and neighborhood, as cooling towers have been frequently implicated during community outbreak investigations. While municipal water supplies are not a known common source of *Legionella* exposure, public health investigators may also wish to contact local water utilities to identify any changes in potable water supplied to an area (CDC, 2021a). Changes in municipal water may impact conditions within buildings served, resulting in conditions more favorable to *Legionella* growth and spread within those building water systems or devices. Where there are multiple cases within a community, CDC notes that the community's water supply may also be considered "to determine if there were any changes that could have contributed to *Legionella* growth (e.g., modifications to potable water disinfection, water main breaks, major construction activity, water service interruptions)" (CDC, 2021a). Properties that use well water may have that source evaluated, too.

For More Information...

Cooling towers can cause LD outbreaks if they are not properly maintained. CDC provides additional information about how to determine if a building has a cooling tower. See "Procedures for Identifying Cooling Towers" at https://www.cdc.gov/legionella/health-depts/environmental-inv-resources/id-cooling-towers.html

Key Risk Factors in Community Settings

The inquiry into a community-associated LD case can implicate other settings, such as healthcare, congregate residential, and hotels and other hospitality settings, depending on the information provided by persons with LD about their potential sources of exposure. There are multiple factors that can make various facilities within a community susceptible to *Legionella* growth and spread. While not all the risk factors identified below will apply equally to all the types of facilities discussed in this module, they are indicative of the types of risks that can arise. The categories of risk factors applicable to the community settings are discussed below.

Complex Potable and Drinking Water Distribution Systems

Although it can vary among facilities, many types of buildings in community settings can have complicated water systems given the size of some buildings and the wide range of water applications in them. Large buildings can have complex potable/drinking water systems that

include recirculating hot water, long distribution or riser runs, multiple water heaters, and numerous fixtures, which can lead to multiple potential sources of *Legionella*. These types of facilities can also undergo frequent construction or renovation to modernize and expand capacity, which can cause disruptions and changes in water pressure that dislodge biofilm and release *Legionella* or other waterborne pathogens into the water system. Frequent disruptions to a water system can also lead to the introduction of contaminants into the water system and potential stagnation in areas where water flow is reduced or cut off. Smaller facilities may not have the same level of complexity in their water systems; however, they may not receive the same level of ongoing maintenance as larger properties which can foster conditions for *Legionella* colonization.

Sources of Aerosolized Water

This is a broad category that includes many types of potential sources of *Legionella* within a range of building types: from large public and commercial facilities to private residences. Sources of aerosolized water include showers, faucets, humidifiers, pools, hot tubs, pools, decorative fountains, ice machines, misters, equipment that uses water (e.g., personal respiratory therapy machines), or other water features. Industrial and manufacturing operations may involve processes in which employees are exposed to water and mist. Note that some sources of aerosolized water may be temporary, such as a hot tub display at fairs, home and garden shows, and conventions.

Building Systems with Cooling Towers

Large facilities are likely to have complex cooling systems that include cooling towers, which if not properly maintained, can become colonized with *Legionella*. Cooling towers can then disperse water droplets containing *Legionella* into the exterior air around them and become potential sources of exposure for the neighboring area around the building with the cooling tower. Depending on their size, office buildings, educational buildings, retail facilities, hospitals, industrial facilities, and places of worship can have one or more cooling towers. Smaller buildings and private residences are very unlikely to have cooling towers.

Specific Building or Location Features

There may be features specific to a particular building, facility, or location that increases its potential for *Legionella* growth or spread. For example, some facilities in a community setting may sit vacant for extended periods of time, thereby increasing the likelihood that water can sit and stagnate in the facility's plumbing if not properly maintained. Vacancy issues were especially a consideration for office buildings, university and school buildings, places of worship, and some retail locations during the COVID-19 pandemic as these facilities sat vacant for months (CDC, 2021b). Venues like water parks, water slides, and amusement parks result in exposure to water and water mist.

Hybrid Settings

Some facility types within a community setting can have aspects of other settings. In addition to having large complex water systems, office buildings, schools, and universities may also contain recreational water features like hot tubs and pools. If private residences are used for bed and breakfast inns, vacation rentals, or short-term residence rentals (either the whole or partial residence, e.g., Airbnb, VRBO), they may be considered to be a hospitality facility for the purposes of an epidemiological investigation; however, these properties share many of the

same features as private residences and often are not subject to the same tourist accommodation regulations as hotels. Each element is assessed as an individual functional unit as well as in the context of a community setting as a whole.

Length of Time In or Near Sources

Because LD is associated with extended exposures to a community source colonized with *Legionella*, the longer a person spends time in or around these sources—as residents, overnight guests, event attendees, employees, students, volunteers, or otherwise spending time there—the greater the potential to contract LD. Employees and others who work in occupations or around sources that regularly expose them to water and mist may also be vulnerable to legionellosis. While time spent in a source location is important, community-associated LD outbreaks can also implicate sources discharging mist to outside air. Mist from cooling towers colonized with *Legionella* can drift and affect persons outside in the neighboring area or may affect people inside the building at which the cooling tower is located or in other buildings in the area.

At-risk Persons In or Near Sources

Some people may have factors that predispose them to acquiring LD, such as being aged 50 years and older, being a current or former smoker, or having a higher risk of infection (e.g., have a chronic illness, respiratory disease, or a weakened immune system). Other individuals may be at risk for LD based on the amount of time they spend in or near a community source in which facilities or equipment colonized with *Legionella* produce mist.

Figure 1 describes risk factors that affect community buildings and the person using them. Specific facility types (e.g., commercial, office, residential) that may have the list risk factor are indicated in parentheses.

Key Audiences and Messages

Each community setting has key audiences for messaging about LD identification, investigation, mitigation, and prevention. Each of these persons and organizations may require foundational information about LD as well as information tailored to their perspective in the LD event. Messaging may also evolve during the LD investigation as suspected outbreaks are confirmed, additional information becomes available, or if follow-up is indicated with affected persons and facilities. Because the source of a community-associated *Legionella* exposure can be difficult to establish, if at all, there may not be a clear source location to identify in messaging to key audiences. While acknowledging the potential limitations in exposure information, the key audiences for community settings are the same as those identified in other modules, but the messaging may differ.

Facility

Owners, operators, and managers are generally both the operational and legal points of contact for suspected and confirmed public health communicable disease investigations and response activities; however, this should be confirmed by the laws and regulations in a specific jurisdiction. The appropriate parties to contact can also vary depending on the size and type of facility involved (e.g., owned by large corporation, a small business, a place of worship, a private home).

Figure 1: Key Risk Factors in Community Settings

Building, Facility, and Community Factors

Water Distribution Systems

- Complex potable/drinking water systems likely that include recirculating hot water, long distribution or riser runs, multiple water heaters, and numerous fixtures *(large public buildings, government office buildings, private office buildings, retail, industrial, commercial spaces, university and school buildings, entertainment venues, recreational facilities)*
- Complex potable/drinking water distribution system possible *(smaller public buildings, government office buildings, private office buildings, retail, industrial, commercial spaces, university and school buildings, places of worship, gyms, community centers, entertainment venues, recreational facilities)*
- Less complex potable/drinking water distribution systems likely but potential for less frequent maintenance and water system management *(all private residences; small office, retail, places of worship, gyms, community centers, entertainment venues, recreational facilities)*
- Technical water/non-potable systems of varying complexity possible *(all)*

Building Systems with Cooling Towers

- Complex cooling systems with cooling towers likely *(large public buildings, government office buildings, private office buildings, retail, industrial, commercial spaces, university and school buildings, entertainment venues)*
- Complex cooling systems with cooling towers possible *(smaller public buildings, government office buildings, private office buildings, retail, industrial commercial spaces, university and school buildings, places of worship, gyms, community centers, entertainment venues)*
- Cooling towers unlikely *(private residences; small office, retail, gyms, community centers, entertainment venues)*

Sources of Aerosolized Water

- Numbers and size of sources will vary with the type of facility
- Potential sources:
  - Showers, faucets *(all)*
  - Pools/water slides *(private residences, gyms, community centers, some public facilities, recreational facilities)*
  - Hot tubs *(private residences, gyms, community centers, some public facilities, recreational facilities)*
  - Decorative fountains, misters, humidifiers *(all)*

Features Specific to the Building or Location

- Unused rooms, floors, or buildings *(all)*
- Seasonal vacancies/periods *(universities, schools, entertainment venues, recreational, private residences)*
- Potentially fewer staff for water system maintenance *(all private residences; small office, retail, places of worship, gyms, recreational facilities, community centers, entertainment venues)*

Hybrid Setting / Features of Multiple Settings

- Can include one or more recreational water setting features (e.g., pools, water slides, hot tubs) *(a range of community-setting facility types)*
- Some may be considered hospitality setting *(entertainment venues, residences used for vacation and short-term rentals)*

Personal Factors

Length of Time in or Near Sources

- Extended time spent in or near a community source *(residents, overnight guests, event attendees, employees, students, volunteers)*
- Proximity to sources discharging aerosols to outside air *(all)*

Persons with Risk Factors in or Near Sources

- Can have residents, guests, visitors, employees, contractors, students, and others with a cross-section of personal risk factors *(all)*

A facility's owners, operators, or managers are also likely to be a key source of information about residents, staff, customers, volunteers, and other persons who stayed, worked at, or visited during period under investigation. Depending on the laws, regulations, or policies of a jurisdiction, facility managers and employees may be required to use messaging supplied by a public health agency to communicate with potentially exposed persons or to alert prior, current, and prospective residents, customers, etc. about an ongoing LD investigation; however, in other jurisdictions, public health agencies can recommend but not require specific messaging. With some facilities such as schools or universities, other government levels are likely to be involved in the investigation and remediation of the facility; they may also manage the messaging to students, parents, and staff.

For More about Routine Environmental Testing Results….

See the "Routine Environmental Testing Results in the Absence of Cases" Module for additional messaging about this scenario.

Should a facility raise concerns about sharing personally identifiable information about residents, customers, or others, note that federal and state laws provide exceptions to confidentiality requirements for public health purposes or other exceptions that would allow for access to information about individuals. (See *LDRC Toolkit* Chapter 3 "Access to Information and Confidentiality".) Any questions or concerns about accessing or sharing personally identifiable information may be discussed with the public health agency's legal counsel.

Messaging to facilities that have not been linked to a community-associated LD outbreak will likely focus on informing the facility's owners and operators about the specific investigation, the role their building may have in LD, and encouraging good water management practices and testing of the facility's systems for *Legionella*. Specifically, the facility representatives should be informed about the process for investigating, testing, and mitigating potential sources of *Legionella* in the facility's water systems, cooling towers, and plumbed water features, as well as other equipment or devices that use water. If a facility is indicated as a likely exposure source for *Legionella*, messages focusing on requested or required actions as part of an investigation by a public health agency should be employed. If general risk communication methods are ineffective at promoting action by a facility implicated as an exposure source, messaging about and the use of public health orders or other enforcement mechanisms may be helpful.

Finally, public health agencies should consider requesting (or requiring) copies of all written materials and other notices shared with residents, staff, and visitors to ensure that the information being provided is accurate and complete. Correct information is especially important for persons potentially exposed to *Legionella* who should be monitored for symptoms and seek treatment if symptoms develop. Facilities subject to health orders may also be required to provide copies of all notices and notifications. Public health agencies should also confirm that facilities notify residents, staff, and visitors about the results of tests on its water systems arising from a public health investigation.

People in the Community

The people who live, work, attend school and places of worship, patronize businesses, or otherwise spend time in the area in which a community-associated LD outbreak is occurring are all key audiences. Consider using multiple communication methods (e.g., print, air, social

media) to reach different audiences in the community. Messages should address the cause of LD, sources, risk factors, and symptoms of the disease. If known, people should be informed about their specific potential exposure at a facility or in a geographic area and its timing. Messaging should encourage persons to speak with their doctor if they experience legionellosis symptoms. Points of contact with the public health agency and sources for additional information should also be clearly communicated. Messaging can also include information about prevention within private homes (CDC, 2022). If the source(s) of an outbreak can be identified, more targeted messaging can be used to reach affected persons. This includes specific messaging to persons who may visit or be employed in occupational settings in which they are regularly exposed to water and water vapor in doing their jobs. (See box "LD Outbreaks in Occupational Settings".)

LD Outbreaks in Occupational Settings

When LD cases or an outbreak are linked to a workplace, persons who have spent time there—employees, contractors, volunteers—should receive clear information about LD that addresses the cause, sources, risk factors, and symptoms of the disease. Messaging should include key information about:

- Specific potential exposures at a facility
- When exposure likely occurred (if known)
- Corrective actions taken by the employer (and/or facility owner)
- How employees should proceed if they are sick or worried about having been exposed
- How to speak with their doctor and/or or occupational health clinic about the exposure
- Employee's rights
- Points of contact within the organization and the public health agency
- Sources for additional information

Further, the issue of personal protective equipment (PPE) consistent with or beyond that already used in the occupational setting may arise if there are employees at higher risk (whether due to personal medical history or exposure risks due to specific job duties).

It is important to remember that a jurisdiction's occupational health and safety laws (state-run plans or federal OSHA) and workers' compensation system, as well as obligations arising from union contracts, and other agreements or personnel policies affect the duties of employers and the rights of employees and others.

Persons with Confirmed LD

Persons who have been confirmed to have LD from an outbreak may require additional information as the public health investigation proceeds (e.g., for medical or legal purposes, out of interest or concern). Health agency staff should identify the extent and types of information that can be legally shared within the scope of their jurisdiction's laws, and that the information released is supported by data and sound public health practice. Health agencies may also consider media releases with investigation updates to keep affected and interested persons informed. (See "Media and the Public" section below.)

Healthcare Providers and Facilities

Conducting outreach to healthcare providers and targeted healthcare facilities in the community in which an LD outbreak is occurring/has occurred helps to educate them about LD and alert them to the signs and symptoms indicating a patient may be suffering from LD. The public health agency can also provide guidance on appropriate diagnostic testing and treatment, and instructions about retaining or forwarding clinical specimens or isolates. Health alerts sent by the public health agency to healthcare providers and facilities are used to highlight specific suspected or confirmed LD outbreaks and to inform practitioners and clinical laboratories how to report cases to the agency. Health agencies may also consider issuing health alerts to providers before the opening of seasonal attractions to remind them about LD signs and symptoms (or about waterborne illnesses generally) and how to report cases.

Other Agencies and Governments

A public health agency may inform other divisions within the public health agency, other government agencies in its state/jurisdiction, and agencies in other units of government (i.e., local, regional, state, federal, tribal, territorial) about an LD outbreak as required by law, standard procedure, or voluntarily as public health partners. Consider issuing an Epi-X alert if the community outbreak occurs in a common travel destination. Identifiable personal information can only be shared according to state and federal confidentiality laws and rules. Depending on the extent and nature of an LD event, other divisions, agencies, or units of government may have regulatory or other legal authority over the operation of a facility (e.g., building code enforcement, environmental health/sanitation inspections, recreational water inspections, water utilities).

Media and the Public

Providing information to the media and the public about a suspected or confirmed LD outbreak is an important part of the risk communication process in many situations, but it should be approached taking care to balance the privacy interests of the involved facilities and individuals with the right of the public to be made aware of public health threats. (See *LDRC Toolkit* Chapter 3 "Accessing Information and Confidentiality" for more information.) LD cases or outbreaks in a community may generate significant ongoing public and media attention as the public health agency undertakes the process of identifying possible sources of exposure. Issuing press releases and other statements about an LD outbreak at or near a specific facility or in the community generally can help to identify other persons who may have been exposed and alert them to the symptoms to watch for during the incubation period. In some instances, proactive messaging with a suspected source facility may garner the facility's voluntary cooperation with testing, investigation, mitigation, and prevention; some facilities may react to negative media attention by being hesitant to test or undertake mitigation activities unless ordered to do so. For

community LD outbreaks from an unknown source, releasing information to the media, public, and healthcare providers may produce additional leads as to the origin of the outbreak or provide opportunities for interventions and prevention activities at additional facilities that may be contributing to the outbreak (e.g., public messaging intended to reach cooling tower owners and operators for whom public health may not have direct contact information). Finally, providing updates on the status of an LD investigation can help to assure the public that the outbreak is being addressed and mitigated.

Community Settings Module References

Centers for Disease Control and Prevention. (2021a, March 25). Legionella *(Legionnaires' disease and Pontiac fever). Things to consider: Outbreak investigations*. https://www.cdc.gov/legionella/health-depts/epi-resources/outbreak-investigations.html

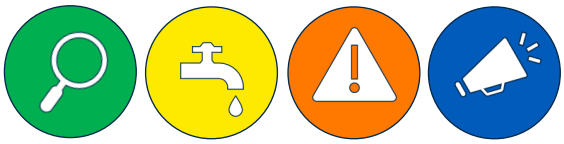
Centers for Disease Control and Prevention. (2021b, July 22). *Environmental health services*: *Reopening buildings after prolonged shutdown or reduced operation*. https://www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html

Centers for Disease Control and Prevention. (2022, February 11). *Drinking water: Preventing waterborne germs at home*. https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html

Community Settings Module Selected Resources

- ASHRAE. Standard 188: Legionellosis: Risk Management for Building Water Systems (ANSI approved). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- ASHRAE. Guideline 12: Managing the Risk of Legionellosis Associated with Building Water Systems. Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- CDC. Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings: A Practical Guide to Implementing Industry Standards. June 5, 2017. Version 1.1. Available at: https://www.cdc.gov/legionella/downloads/toolkit.pdf.
- CDC. The Toolkit for Controlling *Legionella* in Common Sources of Exposure. (*Legionella* Control Toolkit) January 13, 2021. Version 1.1. Available at: https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.
- CDC. Legionnaires' Disease Communication Resources. Available at: https://www.cdc.gov/legionella/health-depts/communications-resources.html#press-releases.
- CDC. Reopening Buildings After Prolonged Shutdown or Reduced Operation. Available at: https://www.cdc.gov/nceh/ehs/water/legionella/building-water-system.html.
- CDC. Considerations for Vacation Rental Owners and Managers: How to Prevent Legionnaires' Disease. Available at: https://www.cdc.gov/legionella/wmp/vacation-rental.html.
- CDC. Hot Tub Displays and *Legionella* Risk—Guidance for Environmental and Public Health Practitioners. Available at: https://emergency.cdc.gov/han/HAN00422.asp.
- CSTE. Water Management Program Template. Available at: https://www.cste.org/general/custom.asp?page=Legionnaires.
- Cooling Technology Institute (CTI). Guideline (GDL) 159 — Practices to Reduce the Risk of Legionellosis from Evaporative Heat Rejection Equipment Systems. Available at: https://www.coolingtechnology.org/single-post/2020/02/01/cti-releases-comprehensive-legionellosis-guideline.
- OSHA. Legionellosis (Legionnaires' Disease and Pontiac Fever). Available at: https://www.osha.gov/legionnaires-disease.

Community Settings Messaging Tables



This section of the module contains messaging tables that address key audiences associated with suspect or confirmed community-associated LD cases or outbreaks. LD risk communication materials gathered from states, localities, and federal sources were used to help create the messaging tables in this module. Readers should consider the following items when using the messaging tables:

- Each series of color-coded key audience tables includes one or more messaging scenarios for that audience.
    - The same colors are used across the all the modules for the same audiences (e.g., materials for the press and public are in tables with orange banners).
- Each messaging table contains an annotated template of text to include in communications about that scenario.
    - Module users are free to choose which content to use in a template and modify it according to their needs.
- ***Italicized topic headings*** introduce a series of bulleted statements with text that can be adapted into letters, handouts, or notices.
    - Topic headings are not necessarily intended to by used in messaging documents.
- [Text in brackets] should by edited by the user to tailor a document for the specific use.
    - For example, "The [state/local health agency] has identified…" becomes "The Anytown Health Department has identified…"
- *[Italicized text in brackets]* are instructions to the user and are not intended to be included in messaging documents.

The next page contains an index of the messaging tables and lists each key audience and messaging scenarios addressed. The index also lists the corresponding module page numbers for the messaging tables.

IMPORTANT NOTE:

The messaging indicated in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, these messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Index of Community Settings Facilities Module Messaging Tables	
Messaging Audience and Messaging Scenarios	**Module Page**
Facility and property owners, operators, managers, and representatives	
• Informing one of multiple facilities about a LD community-associated cluster/outbreak: Facility is not under full investigation	CS–21
• Informing one of multiple facilities about a LD community-associated cluster/outbreak: Full investigation at facility is indicated	CS–23
• Informing a facility about a single LD community-associated case with other potential exposure sites	CS–25
• Informing a facility about multiple LD community-associated cases/ outbreak or a single case with minimal/no other exposure sites	CS–27
• Investigation at a cooperative or compliant facility in LD community-associated case(s)/outbreak	CS–29
• Investigation at an uncooperative or non-compliant facility identified as an exposure source in LD community-associated case(s)/outbreak	CS–31
• Health order to require a facility identified as an exposure source in a LD community-associated case(s)/outbreak to address and remediate *Legionella* in the facility	CS–33
• Providing general information about LD risks to persons associated with a facility	CS–39
• Providing general information about *Legionella* risks, mitigation, and prevention for facility engineering and maintenance staff	CS–41
People in the community	
• Notice or letter to persons about LD community-associated case(s)/ outbreak	CS–43
• Notice or letter to persons about LD community-associated cases(s)/ outbreak with suspected cooling tower or similar point source implicated	CS–45
• Providing general information to persons about LD prevention measures in households	CS–47
• Letter or memo to staff about LD case(s)/outbreak and public health investigation	CS–49

[Continued next page]

Index of Community Settings Facilities Module Messaging Tables	
Messaging Audience and Messaging Scenarios	**Module Page**
Healthcare providers and facilities in the community	
• Alert to healthcare providers about LD case(s)/outbreak in a community setting	CS–51
Other agencies and governments that may assist or have authority over different aspects of potential source facilities in the community	
• Alert to other divisions, agencies, or units of government about LD case(s)/ outbreak in a community setting	CS–53
• Alert to municipal water suppliers about possible link to LD case(s)/ outbreak in a community setting	CS–55
Media and the public	
• Press release or alert to the media and public about LD case(s)/outbreak in a community setting	CS–57

Community Settings–Messaging for Facilities

Messaging Purpose:

- **Informing one of multiple facilities about a LD community-associated cluster/outbreak:** ***Facility is <u>not</u> under full investigation***
  - **Facility is one of many facilities that are possible exposure sources**
  - **Contents may be further tailored for a specific facility type**

Purpose of communication:

- The [state/local health agency] has identified [number] cases of Legionnaires' disease (LD) in [identify geographic area].
- These individuals likely acquired *Legionella* in or around [geographic area and/or facility name] during [timeframe].
- [We are providing this [letter] to you for your information only; you are not legally required to take action at this time.]
- The [state/local health agency] welcomes your cooperation with the investigation of the LD case(s).

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- LD is generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- LD can be treated with antibiotics.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

[*Edit sources as appropriate for facility type:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).
- *Legionella* is common in the environment and can remain there unless proper steps are taken to control it.
- [At this time, there is no direct evidence that this case of LD was acquired at your facility; however, we felt it was prudent to notify you.]

[Continued next page]

Community Settings–Messaging for Facilities

Messaging Purpose: Informing one of multiple facilities about a LD community-associated cluster/outbreak: Facility is not under full investigation *(continued)*

Suggested actions:

- Building owners/operators may wish to test their water for *Legionella* and review their water maintenance procedures to help minimize future risk.
    - Information about water system maintenance is available through the Centers for Disease Control and Prevention (CDC) at https://www.cdc.gov/legionella/wmp/overview.html.
- [While the investigation is underway, out of an abundance of caution, [state/local health agency] recommends that people who are at increased risk for severe disease from *Legionella* consider postponing their visit to the [location/facility].]

Actions potentially required:

- [While there are currently no legal restrictions or actions required,] we are informing you to ensure that you have updated information and help you minimize the risk of *Legionella* in your facility's water systems.
- If we determine that other people with LD also [reside in, work at, or visited] your facility, we may ask for your assistance in investigating further.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- Please contact the [state/local public health agency or other agency] if you learn of other cases of LD among occupants, staff, or visitors.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Facilities

Messaging Purpose:

- **Informing one of multiple facilities about a LD community-associated cluster/outbreak:** ***Full investigation is indicated***
  - **Facility is one of many facilities that are possible exposure sources**
  - **Scenario indicates need for full investigation and action by facility owners**
  - **Contents may be further tailored for a specific facility type**

Purpose of communication:

- The [state/local health agency] has identified [number] cases of Legionnaires' disease (LD) in [identify geographic area].
- These individuals likely acquired *Legionella* in or around [geographic area and/or facility name] during [timeframe].
- The [state/local health agency] has reasonable cause to believe that your facility [is one of multiple facilities that] is or may be colonized with *Legionella* (the bacteria that cause LD) and it may be a threat to public health.
- An environmental assessment of your facility by [state/local public health agency] is necessary and specific remediation measures may be needed based on the assessment findings.
- The [state/local health agency] welcomes your cooperation with the investigation of the LD case(s).

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- LD is generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- LD can be treated with antibiotics.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

[*Edit sources as appropriate for facility type:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).

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- *Legionella* bacteria are common in the environment and can persist unless proper steps are taken to control it.

Required actions (as applicable):

- The [state/local public health agency] is requesting your assistance in gathering information about the cases who report being at [or in the geographic area near] your facility
- You should inform building staff, [residents/other], and visitors about the LD cases/outbreak. [State/local health agency] can [assist you with [*AND/OR*] provide you with templates for] notifications.
- You should review your water system and facility maintenance procedures to help minimize future risk.
  - Information about water management programs are available through the Centers for Disease Control and Prevention (CDC) at https://www.cdc.gov/legionella/wmp/overview.html.
- [Facility name] may need to have a water management program (WMP).
  - If [facility] does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
  - If [facility] does not meet the characteristics outlined in ASHRAE Standard 188 indicating the need for a WMP, consider implementing elements of a WMP according to facility or device characteristics.
  - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.
- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.
- [If cases are linked to a specific device such as a decorative fountain, (hot or therapy) tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:]
  - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- Please contact the [state/local public health agency or other agency] if you learn of other cases of LD among occupants, staff, or visitors.
- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] for more information or to answer questions.

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Facilities

Messaging Purpose:

- **Informing a facility about a single LD community-associated case with other potential exposure sites**
  - **A single case not currently under full investigation**
  - **Contents may be further tailored for a specific facility type**

Purpose of communication:

- On [date], the [state/local health agency] has identified a person with Legionnaires' disease (LD) who [was at/stayed at/worked at/visited] your facility [or the geographic area near it] from [date range], which is within the LD incubation period of 2 to 14 days.
- LD is one of the illnesses reported to the [state/local health agency] because of its potential to cause outbreaks.
- The [state/local health agency] welcomes your cooperation with the investigation of the LD case(s).

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- LD is generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- LD can be treated with antibiotics.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

[*Edit sources as appropriate for facility type:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).
- *Legionella* bacteria are common in the environment and can persist unless proper steps are taken to control it.

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Community Settings–Messaging for Facilities

Messaging Purpose: Informing a facility about a single LD community-associated case with other potential exposure sites *(continued)*

Suggested actions:

- You may [wish to/be required to] inform building staff, residents, and visitors about the LD cases/ outbreak. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You may also [wish to/be required to] review your water/facility maintenance procedures to help minimize future risk.
    - Information about water system maintenance is available through the Centers for Disease Control and Prevention (CDC) at https://www.cdc.gov/legionella/wmp/overview.html.
- [Facility name] may need to have a water management program (WMP).
    - If [facility] does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
    - If [facility] does not meet the characteristics outlined in ASHRAE Standard 188 indicating the need for a WMP, consider implementing elements of a WMP according to facility or device characteristics.
    - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Actions potentially required:

- The [state/local public health agency] is requesting your assistance in gathering information about the case who was at your facility.
- An environmental assessment of your facility by the [state/local public health agency] may be necessary to determine if there is potential for ongoing risk of exposure to *Legionella* and specific remediation measures may be needed based on the assessment findings.
- [*If cases are linked to a specific device such as a decorative fountain, hot tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:]*
    - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- You [may/will] be contacted by [state/local public health agency] to schedule an environmental assessment of the facility.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among residents, staff, or visitors, regardless of where they live, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings–Messaging for Facilities

Messaging Purpose:

- **Informing a facility about multiple LD community-associated cases/outbreak**
  OR
- **A single case with minimal/no other exposure sites**
  - **Scenarios requires full investigation and action by facility owners**
  - **Contents may be further tailored for a specific facility type**

Purpose of communication:

- On [date], the [state/local health agency] has identified a person with Legionnaires' disease (LD) who [was at/stayed at/worked at/visited] your facility [or the geographic area near it] from [date range], which is within the LD incubation period of 2 to 14 days.
- There is reasonable cause to believe that your property is or may be colonized with *Legionella* (the bacteria that cause LD) and that it may be a threat to public health.
- An environmental assessment of your facility by [state/local public health agency] is necessary and specific remediation measures may be needed based on the assessment findings.
- The [state/local health agency] welcomes your cooperation with the investigation of the LD case(s).

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- LD is generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- LD can be treated with antibiotics.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

[*Edit sources as appropriate for facility type:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).
- *Legionella* bacteria are common in the environment and can persist unless proper steps are taken to control it.

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Community Settings–Messaging for Facilities

Messaging Purpose: Informing a facility of multiple LD community-associated cases/outbreak OR a single case with minimal/no other exposure sites *(continued)*

Required actions (as applicable):

- The [state/local public health agency] is requesting your assistance in gathering information about the cases who were at your facility.
- You should inform building staff, residents, and visitors about the LD cases/outbreak. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You should review your water/facility maintenance procedures to help minimize future risk.
    - Information about water system maintenance is available through the Centers for Disease Control and Prevention (CDC) at https://www.cdc.gov/legionella/wmp/overview.html.
- [Facility name] may need to have a water management program (WMP).
    - If [facility] does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
    - If [facility] does not meet the characteristics outlined in ASHRAE Standard 188 indicating the need for a WMP, consider implementing elements of a WMP according to facility or device characteristics.
    - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.
- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.
- [*If cases are linked to a specific device such as a decorative fountain, hot tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:]*
    - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- You will be contacted by [state/local public health agency] to schedule an environmental assessment of the facility.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among residents, staff, or visitors, regardless of where they live, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples
See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Facilities

Messaging Purpose:

- **Investigation at a cooperative or compliant facility in LD community-associated case(s)/outbreak**
  - **Investigation is needed for public health purposes**
  - **Remediation is indicated per investigation findings**
  - **Facility is cooperative or compliant with public health requests**

Purpose of communication:

- Thank you for your cooperation with the [state/local health agency] investigation of [a case(/cases]) of Legionnaires' disease (LD) in a [person *OR* resident/visitor/staff member] at your facility. [*OR* [State/local health agency] is investigating a case of LD in a [person *OR* resident/visitor/staff member] at your facility.]
- The [state/local public health agency] has identified [number] of people/person(s) diagnosed with LD who were at your facility from [date range], which is within the LD incubation period of 2 to 14 days.
- There is reasonable cause to believe that your property is or may be colonized with *Legionella* (the bacteria that cause LD) and that it may be a threat to public health.
- An environmental assessment of your facility by [state/local public health agency] is necessary and specific response activities may be needed based on the assessment findings.

Basics about LD:

- LD is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets with *Legionella*.
- LD can be treated with antibiotics.
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- The bacteria are generally not spread from person to person.

Sources of exposure:

[*Edit sources as appropriate for the facility:*]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however more commonly causes human infection when it grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).

Actions required as applicable:

- The [state/local public health agency] is requesting your assistance in gathering information more information about LD case who have been at the facility during [time frame].
- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.

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- [*If cases are linked to a specific device such as a decorative fountain, hot tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:]*
    - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- You should inform building staff, residents, and visitors about the LD cases/outbreak. [Health agency] can assist you with [*AND/OR*] provide you with templates for] notifications.
- You should review your water/facility maintenance procedures to help minimize future risk.
    - Information about water system maintenance is available through the Centers for Disease Control and Prevention (CDC) at https://www.cdc.gov/legionella/wmp/overview.html.
- [Facility name] may need to have a water management program (WMP).
    - If [facility] does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
    - If [facility] does not meet the characteristics outlined in ASHRAE Standard 188 indicating the need for a WMP, consider implementing elements of a WMP according to facility or device characteristics.
    - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Communications requested:

- Thank you for your active cooperation in the [state/local health agency] investigation.
- You [will/may] be contacted by [the state/local public health agency] to schedule an environmental assessment of the facility.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among residents, staff, or visitors, regardless of where they live, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Facilities

Messaging Purpose:

- **Investigation at an uncooperative or non-compliant facility identified as an exposure source in LD community-associated case(s)/outbreak**

  AND/OR

- **Investigation is needed for public health purposes**

  AND/OR

- **Remediation is indicated per investigation findings**
  - **Facility is uncooperative/non-compliant with public health requests**
  - **Ordering the facility to allow assessment or investigation and take actions required by law to mitigate conditions giving rise to LD**
  - **A decision may be made to send a final notice before issuing an order or combining the two.**
- ***The legal requirements for notice and an order depend on a specific jurisdiction's laws and should be followed.***

Purpose of communication:

- On [date(s)], the [state/local public health agency] contacted [facility name] because there is reasonable cause to believe that the property is or may be colonized with *Legionella* (the bacteria that causes Legionnaires' disease (LD) and that it may be a threat to public health.
- The [state/local public health agency] has identified [number of people/person(s)] diagnosed with LD who report [being at/visiting] your facility from [date range], which is within the LD incubation period of 2 to 14 days.
- [The facility] has not responded to requests to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [[and/or] has not undertaken remediation measures indicated.]
- [This notice is a final request to [allow an environmental assessment, perform environmental sample testing for *Legionella*, [and/or undertake remediation measures] before a [health order] is issued mandating compliance.]
- [The facility] is ordered pursuant to [cite state/local law] to allow the property to undergo an environmental assessment, perform environmental sample testing for *Legionella*, [and/or]] take the required actions to mitigate the conditions that promote *Legionella* growth and spread.

Sources of exposure:

[Edit sources as appropriate for setting:]

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; however, it more commonly causes human infection when is grows and spreads in building water systems (e.g., hot water tanks and heaters, showerheads, sink faucets, large plumbing systems, hot tubs, cooling towers, other water sources like decorative fountains).

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Community Settings—Messaging for Facilities

Messaging Purpose: Investigation at an uncooperative or non-compliant facility identified in LD community-associated case(s)/outbreak *(continued)*

Actions required:

[*Edit actions as appropriate for setting*:]

- An environmental assessment of your facility by the [state/local public health agency] is necessary to determine if there is potential for ongoing risk of exposure to *Legionella*.
- [*If cases are linked to a specific device such as a decorative fountain, (hot or therapy) tub, or other device that aerosolizes water and there is evidence to suggest the device may be the source of the outbreak:*]
    - Remove [device] from service until [state/local public health agency] can conduct the environmental assessment.
- Upon completion of the environmental assessment, [state/local public health agency] personnel may recommend control measures as indicated by the assessment findings that your facility should undertake to mitigate any ongoing risk and prevent future *Legionella* colonization.
- Failure to comply with this [final notice] [and/or order] may result in further administrative, civil, and criminal penalties.

Communications requested:

- You [will/may] be contacted by [the state/local public health agency] to schedule an environmental assessment of the facility if you do not respond to this notice.
- In the meantime, if you have additional information and questions, or if you learn of other cases of LD among residents, staff, or visitors, regardless of where they live, please contact [name, phone, email] at the [the state/local public health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Facilities

Messaging Purpose:

- **Health order to require a facility identified as an exposure source in a LD community-associated case(s)/outbreak to address and remediate *Legionella* in the facility**
  - ***Legal requirements for health orders will vary by jurisdiction; consult with legal counsel in drafting order***

*[**Note:** This order may be modified with revised requirements as additional information about the community outbreak or conditions at identified source facility becomes available or initial response activities are implemented. If the facility does not comply with the initial order, additional administrative, civil, or criminal proceedings may be required.]*

Introduction:

- [*Include if applicable to the facility:*] [Facility name] has been issued a [license] by the [health/other agency name] to operate a [identify type of regulated facility].
- Based on information and belief, you are the [facility owner, person in control, registered agent *OR* other] of [property name and address] (the "Property").
  - If you are not the [owner, person in control, or registered agent *OR* other] of the Property, please contact [health agency contact name] at [phone number/email address] immediately.
- [Samples were taken from [several locations] at the Property by [state/local/other health agency name/ CDC] [as part of a *Legionella* outbreak in [community name] *OR* at the Property].
  - [Preliminary testing by [health agency/CDC] has detected the presence of *Legionella* bacteria in the Property's [list sites, e.g., hot tub, water heater, faucet heads sinks/showers, cooling towers, decorative fountains].]
- [The [health agency] has identified [case(s)/an outbreak] of legionellosis among persons at or associated with the Property].
- [*If facility failed to comply with previous required actions*] [Facility name] failed to take previously identified required actions identified by the [health agency] [*include list].]*

Legionella *basics:*

[Include basic information about Legionella *as appropriate.]*

- [*Legionella* bacteria can cause Legionnaires' disease (LD) or related conditions that may adversely affect public health.]
- [People may be exposed to *Legionella* when they inhale aerosolized water droplets containing the bacteria.]
- [*Legionella* can grow in a building's water systems or devices (e.g., hot water heaters, pipes, water storage tanks, cooling towers, decorative fountains, hot tubs).]

Statement of authority:

- Pursuant to [cite statute authorizing the public health order], this Order is being issued based on [reasonable cause *OR* (other legal standard specified in authorizing statute)] to believe that the Property is or may be [colonized by *Legionella OR* a source of a communicable disease] that could constitute a

[Continued next page]

threat to public health [*OR* other language contained in authorizing statute].

- [*Include if applicable to the facility:*] [[Cite statute authorizing regulation of facility type, or authorizing public health investigation] authorizes the [health director] to require [emergency action *OR* other standard in statute] to protect the health, safety, and welfare of any [occupants, persons] at [facility type].]
- In accordance with [cite statute authorizing public health investigation], the [health director] may investigate incidents of communicable disease.
    - These investigations can include assessments of building and conveyances and their contents and laboratory analysis of samples collected during the course of investigations [*OR* other similar language from applicable statute].
- Further, [pursuant to [cite statute authorizing public health action if different statute], the [health agency] may take actions necessary to protect public health, including ordering that specific measures be undertaken at the Property [*OR* other similar language from applicable statute].

Actions ordered:

- You are ordered to authorize entry to and submit Property to investigation by [health agency].
- The Property at issue and water systems and devices therein may not be [moved, caused to move, or allowed to move from its current location *OR* (other language contained in authorizing statute)] until authorization is received from the [health agency].
- The [health agency] issues this Order to [*identify actions required (e.g., implement water system control measures, temporarily close property*)] as [identified below *OR* listed in Appendix/Exhibit ___].
    - *[**Note:** required actions can be listed in the text of the order instead of an in appendix.]*
- This Order will be in effect until the [health agency] determines that all components of this Order have been satisfied and there are no additional cases of legionellosis associated with the Property.
- If subsequent samples collected from the Property test positive for *Legionella* at any time, appropriate response activities should be undertaken, and this Order may be further modified or extended.
    - [If the [health agency] receives a new report of a case of legionellosis that is epidemiologically linked to the Property, a new or amended Order may be issued.]
- Failure to abide by this Order and further instructions from [health agency] may result in fines, criminal penalties, and/or other further legal action.

To contest or appeal order:

- If you object to this Order, you may [request a hearing] in the [administrative body or court name] in accordance with [statute citation].
    - *[**Note:** Include information about your jurisdiction's administrative procedures and judicial processes available for contesting or appealing the order.]*

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Contact information and signatures:

- If you have any questions, information, or concerns, please contact [health agency contact name] at [phone number/email address] immediately.
- This Order is issued under my authority as the [health director or other official's title] for the [jurisdiction or health agency] on this [date] day of [month and year].
    - [Signature block for health official]

Proof of service:

- [I hereby certify that this Order was served [by mail/posting/in-hand/(other)] to the above-named individual and upon the establishment listed above.]
- [Date] at [time AM/PM] by [signature and print name of person serving order].

APPENDIX OR EXHIBIT LANGUAGE

The [health agency] orders you to take the following required actions associated with the Property:

> ***[Note:** The required actions in a particular scenario will depend on the type of source facilities identified and the specific water systems/devices in which* **Legionella** *has been detected.** *Broadly, required actions can be identified as administrative, disease surveillance, required notifications, environmental health, and other required actions.*
>
> ***The required actions listed below are examples of some types of action that can be ordered. They are intended for illustrative purposes only and are not a complete list of all appropriate required actions.]***

Administrative required actions:

- Immediately notify the [health agency program or contact person name] at [contact information] if you or personnel at the Property are unable to comply with any of the identified required actions.

Disease surveillance required actions:

- Immediately notify the [health agency program, contact person name, *OR* agency disease reporting line] at [contact information] of any probable, suspected, or confirmed cases of legionellosis and any known [guests, visitors, staff, contractors, or volunteers] exhibiting any symptoms compatible with legionellosis.

Notification required actions:

<u>Provide written notice</u>

- Immediately provide the [attached] public health notice from the [health agency] to all [persons, residents, visitors, staff, and volunteers] at the Property.

[Continued next page]

  - The information in the public health notice should be communicated to all current [guests, visitors, staff, and volunteers] and those who visited or occupied the Property [before [date] *OR* between dates of ___ and ___].
- Immediately notify all [persons, residents, visitors, staff, and volunteers] at [the time of entry] *OR [*identify date, time or event], using documents provided by the [health agency], of the *Legionella* outbreak occurring at the Property.

Post notice

- The public health notice or other signage provided by the [health agency] should be posted at all entries to the Property, on the front entrance, and placed within view of [persons, residents, visitors, staff, and volunteers] at the [front desk, foyer, reception area, etc.] of the Property.
  - The public health notice should also be posted in staff areas of the Property.
  - A copy of the public health notice shall also be given to all [persons, residents, visitors, staff, and volunteers].

Record of notice

- You are advised to retain documentation that each notification was made.
- [Records of notification shall be provided to the [health agency].]

Environmental health required actions:

*[**Note:** Environmental health required actions will vary depending on the an identified source facility, the water systems/devices involved, the extent of* Legionella *colonization, and the regulatory authority/policies of the health agency. The items below are samples of possible environmental health required actions. **These items are examples only and not an exhaustive list of appropriate actions.**]*

Retain consultant to assess water systems

- *Example 1:* Within [72, 48 *OR* ____] hours of this Order, hire at your own expense the services of a *Legionella* consultant or environmental consulting firm to assess the Property's water systems.
- *Example 2:* Retain the services of an environmental consultant who is both (1) able to develop and implement an ASHRAE 188-compliant water management program (WMP) and (2) capable of *Legionella* environmental testing at an ELITE member laboratory (or able to subcontract with such a laboratory).
  - The chosen consultant must be reviewed and approved by the [health agency] prior to conducting any assessments or services. The deadline for complying with this provision is [date].]
  - If the Property's contract with the consultant terminates early for any reason, then the Property must immediately implement and maintain an ASHRAE 188-compliant WMP with another environmental consultant that meets the same criteria above for selection of the initial consultant.

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Perform environmental assessment/develop environmental sampling plan

- *Example 1:* Within [24 *OR* ___] hours of hire, have an assessment performed by the consultant and provide the [health agency] with a written summary of actions taken toward remediation at least every [48 *OR* ___] hours.
- *Example 2:* Direct the consultant to contact [health agency contact name] at [contact information] within [24 hours *OR* ____] of the consultant's selection to determine the actions necessary for developing the Property's *Legionella* sampling plan.
    - Submit the sampling plan to [health agency contact name] at [contact information] within [7 days *OR* ___] of selecting the consultant.
    - Within [48 hours *OR* ___] of sampling plan approval by the [health agency], perform all *Legionella* sampling tests in accordance with the sampling plan.

Remediation plan

- *Example 1:* In response to any positive *Legionella* sample results, [and if directed so by the [health agency],] prepare and submit for approval a remediation plan that addresses [, but is not necessarily limited to,] the following:
    - A short-term remediation plan, to be submitted within [72 hours *OR* ___], describing methods and corrective actions for controlling the risks of legionellosis from the Property's water system. The short-term remediation plan must be substantially implemented within [96 hours *OR* ___] of approval by the [health agency].
    - A long-term prevention plan describing the water system management and the ongoing operational methods for controlling and monitoring the growth of *Legionella* within the Property's water systems and devices. A draft of the plan must be presented to the [health agency] no later than [30 days *OR* ___] after being directed to complete a plan.

Conduct response activities

- *Example 1:* Initiate remediation actions within [24 *OR* ____] hours of hiring the environmental consultant.
- *Example 2:* Increase the temperatures of water heaters on the property to a minimum of [140 *OR* ___] degrees Fahrenheit, while following local and state anti-scald regulations. The deadline for complying with this provision is [date].
- *Example 3:* Restrict the use of tap water at the Property and use bottled water until [facility] can provide satisfactory proof to the [health agency] that [0.2-micron biological *OR* ___] point of use filters are installed on all showerheads, sink and tub faucets, and other water sources intended for use in the facility.

Testing water systems/devices for *Legionella*

- *Example 1:* The Property's water system shall be tested for *Legionella* according to the investigation sampling plan devised by [Property *OR* consultant name] to verify the effectiveness of treatment of the Property's water system.

[Continued next page]

- *Example 2:* The WMP shall require testing according to the investigation sampling plan for *Legionella* using traditional spread-plate culture methods, that testing be performed at least quarterly, and that the investigation sampling plan shall remain in place [through the termination date of this Order].
- *Example 3:* At a minimum, each set of tests performed as part of the investigation sampling plan shall include a representative sample of the building's water system, including but not limited to the following locations: [*edit as appropriate:* distal, medial, and proximal locations from hot water heaters, hot water heaters, medical devices that use water, cooling towers].
- *Example 4:* Provide results of all water testing to [health agency contact name] within [one business day OR (other timeframe)] of receipt via email [*OR* other method] to [email address].
- *Example 5:* Perform ongoing *Legionella* testing to confirm remediation and report results to the [health agency] as they become available.

Other required actions:

- [Additional information regarding feasible, required technical actions to be implemented will be provided to you in a timely manner.]

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks, mitigation, and prevention to persons in a community**
  - **May be adapted into messages for patrons, staff, visitors, and others at facilities or locales during a community-associated LD investigation**
  - **Contents should also be tailored for the specific kind of facility or locale, if known**

Overview:

- Legionnaires' disease (LD) is a form of pneumonia (lung infection) caused by *Legionella* bacteria.

Sources of exposure:

- *Legionella bacteria* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grows well in warm water and can multiply in large or complex water systems, like those found in office and educational buildings, retail and industrial facilities, and places of worship [*OR* [facility/locale name if known]].
- [*Edit sources as appropriate for facility type:]* Likely sources of exposure in a facility include water in sinks and showers (and other potable water), cooling towers, hot water heaters, medical and therapeutic equipment, hot tubs, pools, and decorative fountains
- People can become sick when they breathe in mist from a water source (e.g., shower) that contains *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens the immune system can increase the chances of getting LD.

Signs and symptoms:

- Symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.

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Treatment:

- LD is treated with antibiotics (drugs that kill bacteria in the body).
- Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Mitigation and prevention for individuals:

- If you have one of the risk factors above, take these extra steps as a precaution:
  - Do not take a shower (hot or cool) since it creates mist. Take a bath instead, fill the tub slowly to reduce splashing and water mist, and minimize time in the bathroom while the tub is filling.
  - You may wash dishes but fill the sink slowly to avoid creating mist.
  - It is okay to drink cold water from the tap but start with cold water when heating water for tea, coffee, or cooking.
- Speak with your doctor about other precautions they may recommend.
- [For all community members, regardless personal risk factors:] Review CDC materials about preventing waterborne disease at home: https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.
- *[See "Providing general information to persons about LD prevention measures in households" template in this module for additional prevention ideas]*

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [facility] for more information or if you have questions.
- Further information is also available from the [state/local health agency and/or CDC website].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Facilities

Messaging Purpose:

- **Providing general information about LD risks, mitigation, and prevention for facility engineering and maintenance staff**
  - **Can be adapted into messages for facility engineering, maintenance, and environmental health staff during a community-associated LD investigation**

Basics about LD:

- Legionnaires' disease (LD) is a serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, and taking medication that weakens the immune system can increase the chances of getting LD.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.
- The bacteria are generally not spread from person to person.

Sources of exposure:

- *Legionella* can be found in freshwater environments and in water systems in built environments.
- *Legionella* grows well in warm water and can multiply in large or complex water systems, like those found in office and educational buildings, and retail and industrial facilities. Common sources of exposure include hospitals and hotels.
  - Likely sources of exposure in a facility include water in sinks and showers, cooling towers, hot water heaters, hot tubs, and decorative fountains [*edit sources as appropriate for setting*].
- *Legionella* bacteria are common in the environment and can persist unless proper steps are taken to prevent its growth and spread.

Investigation:

- An environmental assessment can help determine if there are conditions and devices that could promote *Legionella* growth and spread.
- Testing environmental samples from the facility's water systems for *Legionella* can help to determine if a facility or device is [potentially] colonized with the bacteria.

Mitigation:

- Water systems that are suspected to be colonized with *Legionella* should undergo response activities.
  - [Cleaning and other response activities may be [requested/required] [by [state/local health agency]] to address an [ongoing community-associated] LD outbreak even if a source of infection has not yet been determined.]

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- Recommended mitigation measures may include:
  - Flushing of the facility's water systems.
  - Installation of point-of-use filters on water fixtures in staff and public areas.
  - Restricting use of water that cannot be filtered.
  - Determining adherence to the facility's water management program (WMP).
  - Ensuring that routine or investigative environmental sampling is conducted and reviewing results.
  - Working with the facility to optimize the WMP and reduce the risk of [and control] *Legionella* growth.
  - Installation of supplemental disinfection systems in water systems throughout the facility.
  - Working with the facility to address identified deficiencies.
  - Determining if the deficiencies have been properly addressed.

Prevention:

- To prevent *Legionella* growth, building water systems should be properly monitored and maintained.
- Many community facilities should consider having a water management program (WMP).
  - If the facility does not have a WMP and it meets the characteristics outlined in ASHRAE Standard 188, it should develop and implement one. See the worksheet from CDC to identify which buildings or systems should have a WMP: https://www.cdc.gov/legionella/wmp/toolkit/wmp-risk.html.
  - Resource documents include CDC's Water Management Program Toolkit and the CSTE Water Management Program template.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency or other agency] if your facility tests positive for *Legionella*, you learn of [any/other] cases of LD, or for more information or questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings–Messaging for Persons

Messaging Purpose:

- **Notice or letter to persons about LD community-associated case(s)/outbreak**
  - **Letter can be adapted for the public health agency or the facility to give to guests/visitors**

Purpose of communication:

- The [state/local health agency] has identified people with Legionnaires' disease (LD) who were likely exposed to the bacteria that cause this illness in the [geographic area and/or facility] during [timeframe if known] within the LD incubation period of 2 to 14 days.
- LD is a potentially serious form of pneumonia (lung infection) caused by *Legionella* bacteria.

Basics about LD:

- LD is spread from aerosolized water (water droplets) that contains *Legionella*.
- The bacteria are generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
  - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, and taking medication that weakens the immune system can increase the chances of getting LD.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
  - Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
  - Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; it can also be present in community water systems, however, it more commonly causes human infection when it grows and spreads in building water systems and devices with conditions favorable for growth and spread (e.g., hot water tanks and heaters, showerheads, hot tubs, decorative fountains, cooling towers).
- The [state/local health agency] is working with potential sources in [geographic area] to test for *Legionella* and disinfect systems as recommended or required.

Suggested actions:

- You should monitor your health: if you develop[ed] the symptoms of LD within two weeks (14 days) of being at [location/facility], please seek medical attention right away.
- Please also show this letter to your doctor so that they know to test you for LD as indicated by your

[Continued next page]

symptoms.

  - Ask your doctor to test you with a urine test and a respiratory (sputum/phlegm) culture or PCR before administering antibiotics.

- If you test positive, ask your doctor to report your illness to [health agency] immediately.
- [While the investigation is underway, out of an abundance of caution, [state/local health agency] recommends that people who are at increased risk for severe disease from *Legionella* consider postponing their visit to the [location/facility].]
- [[If there is concern about potential involvement of community water systems or drinking water systems within a particular community facility] In the meantime, if you have one of the risk factors above, take these extra steps as a precaution:
  - Do not take a shower (hot or cool) since it creates mist. Take a bath instead, fill the tub slowly to reduce splashing and water mist, and minimize time in the bathroom while the tub is filling.
  - You may wash dishes but fill the sink slowly to avoid creating mist.
  - It is okay to drink cold water from the tap but start with cold water when heating water for tea, coffee, or cooking.
  - Speak with your doctor about other precautions they may recommend.
- [For all community members, regardless personal risk factors:] Review CDC materials about preventing waterborne disease at home: https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.
- [See "*Providing general information to persons about LD prevention measures in households*" template in this module for additional prevention ideas]

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings–Messaging for Persons

Messaging Purpose:

- **Notice or letter to persons about LD community-associated cases(s)/outbreak with suspected cooling tower or similar point source implicated**

Purpose of communication:

- The [state/local health agency] has identified [number] people with Legionnaires' disease (LD) in [identify geographic area/facility vicinity].
- Mist from [cooling towers [and/or] evaporative condensers associated with air conditioning and industrial cooling] on buildings in the [suspected geographic area and/or facility] is suspected to be the source of exposure to *Legionella*.
- LD is a potentially serious form of pneumonia (lung infection) caused by *Legionella* bacteria.

Basics about LD:

- LD is spread from aerosolized water (water droplets) that contains *Legionella*.
- The bacteria are generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
    - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, and taking medication that weakens the immune system can increase the chances of getting LD.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
    - Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
    - Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; it can also be present in community water systems, however, it more commonly causes human infection when it grows and spreads in building water systems and devices with conditions favorable for growth and spread (e.g., hot water tanks and heaters, showerheads, hot tubs, decorative fountains, cooling towers).
- Cooling towers are often part of the centralized air-cooling system for buildings or industrial processes that contain water and fans to remove heat from the air.
    - If cooling towers are not properly maintained, they can create water droplets containing *Legionella*; fans in the cooling towers can then spread Legionella to neighboring areas in the community.
    - Home and car air-conditioning units do not use water to cool the air, so they are not a risk for

[Continued next page]

Legionella growth or spread.

- The [state/local health agency] is working with potential sources in [geographic area] to test for *Legionella* and clean and disinfect systems as recommended or required.

Suggested actions:

- You should monitor your health: if you develop[ed] the symptoms of LD within two weeks (14 days) of being at [location/facility], please seek medical attention right away.
- Please also show this letter to your doctor so that they know to test you for LD as indicated by your symptoms.
  - Ask your doctor to test you with a urine test and a respiratory (sputum/phlegm) culture or PCR before administering antibiotics.
- If you test positive, ask your doctor to report your illness to [health agency] immediately.
- Speak with your doctor about other precautions they may recommend.
- [While the investigation is underway, out of an abundance of caution, [state/local health agency] recommends that people who are at increased risk for severe disease from *Legionella* consider postponing their visit to the [location/facility].]
- Review CDC materials about preventing waterborne disease at home: https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings–Messaging for Persons

Messaging Purpose:

- **Providing general information to persons about LD prevention measures in households**

Basics about LD:

- Legionnaires' disease (LD) is a potentially serious form of pneumonia (lung infection) caused by *Legionella* bacteria.
- LD is spread from aerosolized water (water droplets) that contains *Legionella*.
- The bacteria are generally not spread from person to person.
- Most healthy people do not get LD after being exposed to *Legionella*.
    - Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, and taking medication that weakens the immune system can increase the chances of getting LD.
- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
    - Symptoms usually start 2 to 14 days after breathing in water droplets that contain *Legionella*.
    - Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD is diagnosed using chest x-rays or physical exams to check for pneumonia and tests for infection with *Legionella*.
- LD can be treated with antibiotics. Most people who get LD need care in a hospital but make a full recovery. However, LD can sometimes result in lung failure or death.

Sources of exposure:

- *Legionella* is naturally found in freshwater environments, such as lakes and streams; it can also be present in community water systems, however, it more commonly causes human infection when it grows and spreads in building water systems and devices with conditions favorable for growth and spread (e.g., hot water tanks and heaters, showerheads, hot tubs, decorative fountains, cooling towers, evaporative cooling systems).
- [There is no indication that municipal/community water supplies are currently involved in an LD outbreak; this information is to help people take action to prevent the growth and spread of *Legionella* in their residences.]

Precautions if LD case(s)/outbreak identified in a geographic area:

- If you have one of the risk factors above, take these extra steps as a precaution [*edit as needed*]:
    - Do not take a shower (hot or cool) since it creates mist. Take a bath instead, fill the tub slowly to reduce splashing and water mist, and minimize time in the bathroom while the tub is filling.
    - You may wash dishes but fill the sink slowly to avoid creating mist.
    - It is okay to drink cold water from the tap but start with cold water when heating water for tea, coffee, or cooking.

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- Speak with your doctor about other precautions they may recommend.

Preventing* Legionella *growth and spread in household water sources:

- These practices can help reduce *Legionella* growth in household water systems [edit as needed]:
  - Let your faucets and showers run for at least 3 minutes when they have been out of use for more than a week. Minimize exposure to splashing and mist generation, for example, leaving the room while the water is running.
  - Thoroughly clean or replace your shower head and faucet aerators (screens) whenever buildup is visible.
  - Maintain hot water tank according to manufacturer recommendations, which may include draining and flushing. Consider hiring a licensed plumber.
  - Clean or replace all water filters per manufacturer instructions, such as whole house (e.g., water softeners) and point-of-use filters (e.g., built-in refrigerator filters).
  - Remove, shorten, or regularly flush plumbing dead legs (a section of pipe capped off with little to no water flow). For future renovations, ensure your plumber avoids creating dead legs.
  - A hotter water temperature of 130–140°F can kill many harmful germs, but also increases the risk of scalding. If you set the water heater above 120°F, make sure you take extra precautions to mix cold and hot water (using thermostatic valves) at the faucet or shower to avoid scalding. This is especially important if young children, older adults, or other people at increased risk of scalding live in your home.
  - Medical devices and portable humidifiers should be operated, cleaned, and disinfected per manufacturer instructions. Do not use tap water if sterile water is recommended.
  - Drain garden hoses and shut off the water line when not in use for the season.
  - Maintain chemical levels in your hot tub per manufacturer recommendations.
  - Avoid high-risk activities. If you are at increased risk for LD, consider avoiding hot tubs, power washing, or similar activities, which may generate increased amounts of aerosols or mist.
- Review CDC materials about preventing waterborne disease at home: https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Persons

Messaging Purpose:

- **Letter or memo to staff about LD case(s)/outbreak and public health investigation**
  - **Staff can include employees, volunteers, and contractors**
  - **Can be issued by facility or by public health agency**

Purpose of communication:

- The [state/local health agency] has identified [number] people with Legionnaires' disease (LD) who were likely exposed to the bacteria that cause this illness in the [suspected geographic area and/or facility].
- LD is a potentially serious form of pneumonia (lung infection) that is spread from aerosolized water (water droplets) that contains *Legionella* bacteria.
- [[Facility name] is cooperating with the [state/local health agency] investigation of potential sources of exposure to *Legionella*.]
- This message is to provide you with information about LD and to inform you about the steps being taken to address any health concerns.

Sources of exposure:

- *Legionella* can occur in freshwater environments and in water systems in built environments.
- *Legionella* grow well in warm water and can multiply in large or complex water systems, like those found in [facility name]. Sources of exposure can include water used for showering, hot water heaters, hot tubs, decorative fountains, cooling towers, and commercial and industrial processes.
- People can become sick when they breathe in mist from a water source containing *Legionella*.
- LD cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system that can increase the chances of getting LD.

Signs, symptoms, and treatment:

- Symptoms of LD can include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important to discuss the potential for LD with your doctor because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics and will likely require hospitalization. However, LD can sometimes result in lung failure or death.

Action being taken:

- [*Edit response as applicable:*] To ensure that staff, guests, and visitors are protected while possible

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sources of *Legionella* exposure are being investigated, [facility] will continue to work with [state/local health agency] to take appropriate actions to protect the health of staff [and visitors] [and to disinfect the water system, as needed].

- [*Edit response as applicable*:] Staff (employees, volunteers, and contractors) who have or are experiencing symptoms of LD during [timeframe] should seek medical attention immediately.
- [Facility name] will also contact staff who took sick leave during this time.
- [We are also offering staff [counseling and/or] information services. If you would like to use these services or want more information, contact [your manager].]

Action requested:

- If you are not sick, there is no need for you to see a doctor.
- If you are at increased risk for getting LD based on the risk factors listed above and are concerned about getting sick, or if you are currently or become sick with a cough, muscle aches, fever, shortness of breath, or headache, see your private healthcare provider right away or contact [name/office] to arrange to see a doctor.
    - Tell the doctor that you work in a facility where there has been a [case/outbreak] of LD so they can test you for LD, if appropriate.
    - If you test positive, ask your doctor to report your illness to [health agency] immediately.
    - Speak with your doctor about any other precautions they may recommend.
- If you see a doctor, notify [name/office] so our [facility] can track your illness.
- If you have any concerns or questions, please discuss them with [your manager].

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or if you have questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings–Messaging for Healthcare Providers and Facilities

Messaging Purpose:

- **Alert to healthcare providers about LD case(s)/outbreak in a community setting**

Purpose of communication:

- [State/local public health agency] has confirmed [number] person[s] with Legionnaires' disease (LD)) associated with [[geographic area and/or facility].
- The persons with LD were likely exposed to *Legionella* bacteria during [timeframe] based on clinical symptoms and the incubation period of LD.
- The [state/local public health agency] is working [with facility name/facilities in the area], [in conjunction with the CDC,] to identify potential sources of exposure and mitigate risk of additional cases.

Action required:

- Healthcare providers should report probable, suspect, and confirmed cases of LD to the [state/local public health agency] as soon as possible.
- [*Include jurisdiction-specific notifiable disease reporting requirements and processes for Legionella/ legionellosis.]*

Action requested:

- Healthcare providers should consider LD when evaluating patients with community-acquired pneumonia:
  - Ask patients about residence, visits, or work at [geographic area/facility] within the 14 days prior to symptom onset.
  - Also ask patients about any healthcare visits (inpatient and outpatient), travel (including local travel), or possible exposure to other community sources of *Legionella* in the 14 days prior to symptom onset.
  - Keep in mind that the initial presentation of LD may be similar to other respiratory diseases, such as COVID-19, and prompt identification of *Legionella* infection can inform antibiotic treatment.
- Diagnostic testing for LD should include both urinary antigen and culture or PCR of lower respiratory secretions before treatment is administered. Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
  - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
  - Isolation of *Legionella* by culture or PCR is important for public health investigation.
    - Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
    - [Cultured specimens from patients who reported exposure to the facility under investigation should be retained for potential additional testing at [the state public health laboratory].]
- [*Note if state PH laboratory is available to support testing (may not be applicable in some jurisdictions).*]

[Continued next page]

- See [state/local public health agency at [website]] for additional information.
- Additional treatment information is available on the CDC website at https://www.cdc.gov/legionella/clinicians.html.

Contact information:

- Please contact [name, phone number, and email address of person/office] at the [state/local health agency] for more information or to answer questions.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Other Agencies and Governments

Messaging Purpose:

- **Alert to other divisions, agencies, or units of government about LD case(s)/outbreak in a community setting**

Overview:

- [State/local public health agency] is investigating [number] confirmed case[s] of Legionnaires' disease (LD).
- Persons with LD were likely exposed to *Legionella* [during/since timeframe] at [geographic area/facility].
- [The [state/local public health agency] is sending notification letters to [persons] who are known to have [been/stayed/worked/visited] at [suspected source area/facility] during/since [timeframe] [based on [facility's] records].
- Affected persons reside in or visited ([list jurisdiction(s)]).
    - Investigation of any suspected illness identified through this notification will be communicated and coordinated with the respective state or [or other jurisdictions'] health departments.
- Additional potential cases [are/may be] under investigation.

Potential sources and dates of exposure:

- The [number] confirmed case[s] of LD report [identify potential source(s) of exposure] at [number] different locations] around [geographic area] [including stay/work/visit at [facility]].
- [*Include other details that lead PH agency to believe there is an outbreak as appropriate, such as:]*
    - *[More specifics about locations and timeframe of exposure(s)]*
    - *[Baseline case counts]*
    - *[Percentage increase in the number of cases compared to average cases at the same time for the five years prior]*
    - *[Other information that may point toward or away from specific sources, for example:]*
        - *[Cases tightly clustered may point to a smaller source]*
        - *[Larger geographic distribution may point to one or more cooling towers]*
        - *[Lack of cases across a water distribution system may lessen concern for drinking water source]*
    - *[Other investigation-specific details that may be helpful to share]*
- Illness onset dates range from [date] to [date].
- The [state/local public health agency] is currently working to identify the source of these infections and mitigate the risk of additional cases.

Clinical and laboratory:

- All persons' illnesses were diagnosed by [identify diagnostic methods such as *Legionella* urinary antigen testing and respiratory (sputum/phlegm) culture or PCR].
- [Number] cases were hospitalized and [no/number] deaths have been reported [as of/since] [date].

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Community Settings—Messaging for Other Agencies and Governments

Messaging Purpose: Alert other divisions, agencies, or units of government about cases/outbreak in a community setting *(continued)*

Action requested:

- Whenever possible, diagnostic testing of persons with community-acquired pneumonia should include collection of urine for antigen testing and lower respiratory specimens for culture or PCR of *Legionella* before antibiotics are administered.
    - Lower respiratory specimen should be collected even if antibiotic therapy has been initiated.
    - Lower respiratory specimens (e.g., sputum, bronchoalveolar lavage) should be collected and frozen. [It may be possible to perform additional *Legionella* testing on lower respiratory specimens even if they do not test positive by culture or PCR.]
    - Isolation of *Legionella* by culture or PCR is important for public health investigation. Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.
    - [If possible, isolates obtained should be saved/stored appropriately (rather than discarded) to allow [public health agency/laboratory] to conduct molecular comparisons if needed.] [*OR* [If isolates are obtained, the [public health agency/laboratory] should be consulted for coordination of/next steps related to molecular comparisons.]
- The [state/local public health agency] is requesting that state and local health departments examine reports of suspect or confirmed cases of legionellosis to determine whether any could be associated with residence, travel, work or visit to [area/facility] since [date/timeframe].

Contact information:

- Public health officials [and other officials] who identify suspected or confirmed cases of LD among persons with a similar residence, travel, work or visit history and illness onsets within 14 days are asked to contact [name, phone number, and email address of person/office] at the [state/local health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings—Messaging for Other Agencies and Governments

Messaging Purpose:

- **Alert to municipal water suppliers about possible link to LD case(s)/outbreak in a community setting**
  - **For use by public health officials if a cooling tower or other common source of exposure has not been identified in a community outbreak and they have reason to believe that municipal water may be involved in LD case(s)/outbreak in a community**

Overview:

- The [state/local health agency] has identified [number] persons with Legionnaires' disease (LD) who were likely exposed to the bacteria that cause this illness in the [suspected geographic area and/or facility] during [timeframe].
- This message is to provide you with information about LD and to request your assistance in identifying any potential links between municipal water sources and the community-associated LD case(s)/ outbreak.

About LD and sources of exposure:

- LD is a potentially serious form of pneumonia (lung infection) caused by *Legionella* bacteria; it generally does not spread from person to person.
- *Legionella* can be found in freshwater environments and in water sources in built environments.
- *Legionella* grows well in warm water and can multiply in large or complex water systems.
- Sources of exposure can be water used for showering, hot water heaters, hot tubs, decorative fountains, cooling towers, and commercial and industrial processes.
- People can become sick when they breathe in mist from a water source that contains *Legionella*.
- Changes in municipal water quality or water main breaks and construction may create changes in water quality and pressure that can produce conditions conducive to *Legionella* growth within water distribution systems and in facilities and equipment using municipal water.

Public health agency findings and actions:

- The [state/local public health agency] is currently working to identify the source(s) of these infections and mitigate the risk of additional cases.
- Affected persons reside in or visited ([list jurisdiction(s)]).
  - Investigation of any suspected sources or illness identified through this notification will be communicated and coordinated with the respective state or [or other jurisdictions'] health departments.
- [Additional potential cases are under investigation.]

Action requested:

- State/local public health agency] is requesting that municipal water supplier[s] [OR [municipal water supplier name(s)] review the utility's water treatment records to determine whether any conditions in water supplies occurred since [date/timeframe].

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Community Settings—Messaging for Other Agencies and Governments

Messaging Purpose: Alert to municipal water suppliers about possible link to LD case(s)/outbreak in a community setting *(continued)*

- Records may be reviewed for:
  - Any changes that may have preceded the increase in cases, such as changes in treatment processes or annual free chlorine burn.
  - Water quality measurement trends that may indicate changes in water quality.
  - Water quality parameter values that may be favorable for *Legionella* growth but still within drinking water regulation compliance.
- Areas identified as conducive for or likely to promote *Legionella* can be addressed to improve water quality even if the water currently meets regulatory requirements.

Contact information:

- Municipal water officials [and other officials] who identify water supply changes potentially conducive for *Legionella* are asked to contact [name, phone number, and email address of person/office] at the [state/local health agency].

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Community Settings–Messaging for Media and the Public

Messaging Purpose:

- **Press release/alert to the media and public about LD case(s)/outbreak in a community setting**

Overview:

- The [state/local public health agency] has identified [number] case[s] of Legionnaires' disease (LD), among people who were [residents, visitors, employees, other] at [geographic area/facility] in [timeframe].
- LD is a potentially serious pneumonia (lung infection) that people can get when exposed to *Legionella* bacteria.
- [*If applicable:* [Facility name] is cooperating with the [state/local health agency] investigation of the potential sources of exposure to *Legionella*.]
- [Additional potential cases are under investigation.]

Potential sources of exposure:

- *Legionella* occur in freshwater environments and in water systems in built environments.
- Legionella grows well in warm water and can multiply in large or complex water systems, but it can also affect smaller buildings.
- Sources of exposure can include water used for showering, hot water heaters, hot tubs, decorative fountains, cooling towers, and commercial and industrial processes.
- People can become sick when they breathe in mist from a water source (e.g., shower) containing *Legionella*.
- *Legionella* cannot normally be spread from person to person.

Persons at risk:

- Most healthy people do not get LD after being exposed to *Legionella*.
- Being 50 years or older or having certain risk factors such as being a current or former smoker, having chronic lung disease, having a weakened immune system, or taking medication that weakens your immune system can increase the chances of getting LD.

Signs, symptoms, and treatment:

- The symptoms of LD include cough, muscle aches, fever, shortness of breath, and headache.
- Symptoms usually start 2 to 14 days after breathing in mist or water droplets that contain *Legionella*.
- Symptoms of LD may be similar to those of other respiratory diseases, such as COVID-19. It is important that people discuss the potential for LD with their doctors because the treatment for LD is different than for COVID-19.
- LD can be treated with antibiotics; however, it can cause severe illness requiring hospitalization and sometimes results in lung failure or death.

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Community Settings–Messaging for Media and the Public

Messaging Purpose: Press release/alert about LD case(s)/ outbreak in a community setting *(continued)*

Action requested:

- The [state/local public health agency] recommends that people who are at increased risk for severe disease from *Legionella* consider postponing their visit to the [facility *AND/OR* location/area].
- [*Add one or more quotes from PH agency staff:*]
  - *Sample Quote from PH Official:* ["Legionnaires' disease is a serious infection. We want to make sure the public is aware of the potential risk of this disease so that each person can make a decision for themselves about visiting the [facility] *AND/OR* [location] in the best interest of their health."]
- If an individual visited [facility] *AND/OR* [location] and develops symptoms within 14 days of their stay, they should contact their healthcare provider and seek medical attention right away.
- Members of the public may also see CDC materials about preventing waterborne disease at home: https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.

Contact information:

- If you have information or questions about this outbreak, please contact [name, phone number, and email address of person/office] at the [state/local health agency].
- [A public inquiry phone line is available to answer questions [hour] AM – [hour] PM, [including over the weekend], by calling [phone number].
- For further information on Legionnaires' disease, please visit the [state health agency website and/or] CDC webpage at www.cdc.gov/legionella/.

Templates & Samples

See additional samples and templates in the *LDRC Toolkit Appendix*

Legionnaires' Disease Risk Communication Toolkit

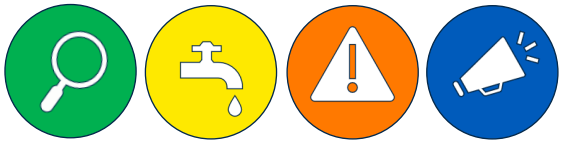


Routine Environmental Testing Results in the Absence of Cases Module

CSTE
COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS

June 2022

Routine Environmental Testing Results in the Absence of Cases Module



Welcome to the Routine Environmental Testing Results in the Absence of Cases Module (the Routine Environmental Testing Module), a supplement to the *Legionnaires' Disease Risk Communication Toolkit*. **This module is intended to be used as an adjunct to the other setting-specific modules.** It should be used when positive environmental samples indicate the presence of *Legionella* in a facility's building water system or device commonly associated with Legionnaires' disease (LD), but no recent cases are associated with it. Specifically, this module is intended only for circumstances in which there are no recent LD cases that report exposure to the facility or a device during the 14 days prior to their illness onset. The Routine Environmental Testing Module contains the following information:

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(Information about the module supplements)

Routine Environmental Testing Module RT–7
(Communicating about positive routine environmental test results in the absence of recent LD cases)

Routine Environmental Testing Module References RT-14

Routine Environmental Testing Messaging Tables RT–17
(Messaging templates to address positive environmental testing results)

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The toolkit was authored for CSTE by Patricia I. Elliott JD, MPH, President, Health|Environment Concepts under the direction of CSTE staff member, Ashley Vineyard, MPH.

For questions about this document, please contact: Council of State and Territorial Epidemiologists 2635 Century Pkwy NE, Suite 700 Atlanta, GA 30345 Tel: 770.458.3811 | Fax: 770.458.8516

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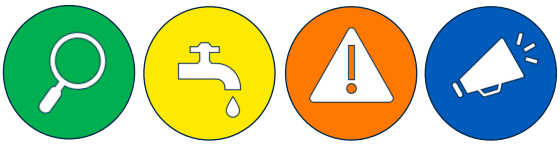
Version 1.0

Overview of Legionnaires' Disease Risk Communication Toolkit Modules



The individual chapters in the *Legionnaires' Disease Risk Communication Toolkit* document provide foundational information applicable all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit* document offers key information about Legionnaires' disease (LD), identifies legal issues, discusses important considerations when communicating about LD with stakeholders and the public, and provides an overview of water management programs (WMPs). The information in these chapters applies to all the settings in which exposure to *Legionella* most commonly occurs. The *LDRC Toolkit's* supplemental modules are a series of setting- and scenario-specific documents that address LD-related information and messaging targeted for that setting. The setting- and scenario-specific modules are:

- Healthcare Facilities
- Congregate Residential Facilities
- Hotels and Hospitality Facilities
- Community Settings
- Routine Environmental Test Results in the Absence of Cases

Each module also provides templates and sample messages for key communication items such as notification letters, public health orders, press releases, and health department advisories. The modules also identify practice tips and other resources to help state, tribal, local, and territorial (STLT) health agency staff communicate the risks of LD in these specific settings and scenarios to target audiences.

Variables Affecting LD Outbreaks

The goal of the modules is to provide STLT health agency staff with clear guidance about communicating LD risks in a specific setting or scenario and tools to use in those efforts. However, it is important to note that there are many factors that may affect a jurisdiction's investigation, response, and communications about a specific LD outbreak. The following factors are just some of the variables that can influence the course of an LD outbreak—even within the same types of settings—and the response to it:

- Potential for population with increased risk for LD in the setting
- Overnight stay at the setting or not
- Commercial setting or non-commercial setting
- Length of exposure in the setting
- Mixed/hybrid settings (i.e., locations with features common to different LD risks)
- Environmental assessment and environmental sampling *Legionella* results

Above all, these modules provide a starting point from which to tailor risk communication about LD outbreaks in the identified setting. Each jurisdiction can make its own determination about

the nature and scope of its investigation and response, and the messages and targets for communication, given the specifics of each LD outbreak and the jurisdiction's laws, regulations, and policies.

Module Components

The setting- and scenario-specific modules follow the same format and include the following sections:

- **Scope of Module**—Provides a quick overview of the types of buildings and facilities addressed in the module.

- **Factors Affecting Investigation**—Discusses factors in the specific setting (e.g., healthcare, congregate residential) or scenario (i.e., routine environmental test results in the absence of cases) that help determine how a public health agency addresses LD cases or an outbreak in that setting.

- **Key Risk Factors**—Identifies and discusses the key risk factors in the setting that can give rise to *Legionella* growth and LD. This section addresses risk factors associated with buildings and facilities as well as factors affecting persons who occupy or visit the setting. Each module includes a one-page figure summarizing these key risk factors for quick reference.

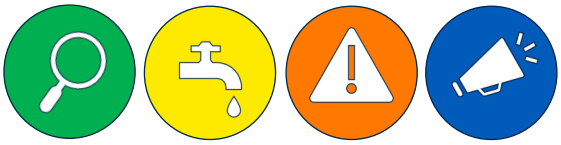
- **Key Audiences and Messages Overview**—Identifies and addresses the key audiences for messaging in the module setting. The section discusses the relevance and role of each audience to the identification, investigation, mitigation, and prevention of *Legionella* and LD.

- **Key Audience and Messaging Tables**—Series of tables provides detailed messaging guides geared to each key audience in the setting or scenario. This section opens with an index table that lists all the messaging table templates by audience. Each series of color-coded key audience tables includes one or more messaging scenarios for that audience. Each messaging table contains an annotated, customizable template of text to include in communications about that scenario.

- **Toolkit Appendix**—Provides other samples and templates related to the content of the module.

Finally, the messaging needed in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, the information in each module and the messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Routine Environmental Testing Results in the Absence of Cases Module



A facility may sometimes identify positive environmental samples for *Legionella* while conducting routine testing as part of its water management program (WMP); however, there may not be any recent cases of Legionnaires' disease (LD) associated with that facility. If this occurs, facility owners and operators may reach out to public health partners regarding communication guidance. It is important to consider the interpretation of test results in addition to the facility type and the persons potentially exposed when deciding what, how, and to whom to communicate.

Scope of Module

This module supplements messaging in the other setting-specific modules (e.g., Healthcare, Hotels). Consult this module when positive environmental samples indicate the presence of *Legionella* in a facility building water system or device commonly associated with Legionnaires' disease (e.g., cooling towers, hot tubs, decorative fountains) when no cases are associated with it. **Specifically, this module is intended only for circumstances in which there are no recent LD cases that report exposure to the facility or a device during the 14 days prior to their illness onset.** The module addresses:

- The role of routine testing in a WMP.
- Factors affecting messaging based on routine testing results.

Readers should see messaging guidance in the other modules for instances in which cases report exposure to the facility or device during the 14 days prior to their illness onset. If cases report exposure to the facility or device during the 14 days prior to illness onset, they should be considered associated with that facility or device, and this module is not applicable. The timeframe for identifying recent cases may be informed by the routine testing frequency (e.g., since the last round of testing results which indicated the system was well controlled) or other components of the water management program (e.g., since the water quality parameters changed due to decreased occupancy).

Routine Testing in Water Management Programs

LDRC Toolkit Chapter 6 ("Water Management Programs") provides basic information about WMPs and their role in preventing LD in certain types of buildings and devices that are at increased risk for the growth and spread of *Legionella*. The U.S. Centers for Disease Control and Prevention (CDC) created a publication, *Developing a Water Management Program to Reduce* Legionella *Growth and Spread in Buildings* (*Toolkit for Developing a WMP*), to help building owners and operators determine if they should develop a WMP for the building or for specific devices (CDC, 2021s). The CDC's *Toolkit for Developing a WMP* is for use in conjunction with ASHRAE Standard 188 *Legionellosis: Risk Management for Building Water Systems* (ASHRAE, 2021).

A key aspect of a WMP is establishing that the program is effectively controlling potentially hazardous conditions in the facility's water systems and devices. The process of confirming the

effectiveness of the WMP is known as validation (CDC, 2021s). Routine testing for *Legionella* is a common method for WMP validation. ASHRAE Guideline 12 *Managing the Risk of Legionellosis Associated with Building Water Systems* (2020) and CDC's *The Toolkit for Controlling* Legionella *in Common Sources of Exposure (*Legionella *Control Toolkit*) (CDC, 2021a) provide additional information around routine testing, including considerations for when and how to perform testing as well as interpreting routine test results. (See "Tools for Analyzing & Responding to Routine Environmental Sampling Results" box.)

Key Factors Affecting Messaging based on Routine Testing Results

There are two key factors that affect the need for messaging and the contents of the message in response to routine testing results for *Legionella*.

- The risk profile of the population served by the facility.
- The interpretation of the routine testing results.

Risk Profile of the Population Served

The need for messaging and the type of message will first depend on the risk profile of the population served by the facility. Specifically, whether the facility serves a population at increased risk for LD ("increased risk") or serves a population that is not at increased risk for LD ("general risk"). The most significant distinction between facilities serving increased-risk and general-risk populations is the differences in health status and other risk factors that heighten a person's susceptibility to LD. These risk factors include being aged 50 years and older, being a current or former smoker, or having a higher risk of infection (e.g., have a chronic illness, respiratory disease, or a weakened immune system). (See *LDRC Toolkit* Chapter 1 "Legionnaires' Disease Basics".)

- **Facilities serving increased-risk populations**—Healthcare facilities and certain congregate residential facilities generally serve individuals with one or more characteristics that puts them at higher risk for acquiring LD. Congregate residential facilities like assisted living, senior living, correctional facilities, group homes, and homeless and transitional housing residents who may be at greater risk for LD due to age or other underlying conditions are considered facilities that serve increased-risk populations. Patients and residents at healthcare and these types of congregate residential facilities may also have a greater risk for aspirating water, which allows water to enter the lungs, or they may be more likely to use personal respiratory equipment that uses water (e.g., CPAP machines). Readers should reference the Healthcare Facilities Module and the Congregate Residential Facilities Module for more information about risk factors related to the water system design, risk of aerosolization based on the devices present, and the populations served in these types of facilities.

- **Facilities serving general-risk populations**—These kinds of facilities serve individuals with the same general level of risk as the community in which the property is located. Residents in properties like apartments, condominiums, dormitories, or other similar congregate residential facilities generally have fewer risk factors for acquiring LD than facilities serving increased-risk populations. Persons staying at or visiting hotels and other hospitality venues and occupants of buildings in a community setting such as schools,

places of worship, commercial, and private homes can be mostly characterized as having a general level of risk for acquiring LD. However, it is important to note that employees, volunteers, visitors, and others in general-risk facilities may also have individual risk factors that put them at increased risk for LD. Readers should reference the Hotels and Hospitalities Facilities Module and the Community Settings Module for more information about facilities serving general-risk populations.

Interpretation of Routine *Legionella* Testing Results

The risks associated with positive routine *Legionella* testing results and much of the corresponding communication strategy will depend on the interpretation of the results. CDC notes that the results of routine *Legionella* testing by themselves do not determine health risk or the likelihood of LD. Importantly, CDC emphasizes that while "[t]here is no "safe" level or type of *Legionella*," other factors should be considered when interpreting routine testing results (CDC, 2021a):

- Testing results indicate presence of *Legionella* only within that sample; conditions within a water system vary.
- Results can be affected by how the sample was handled, transported, and processed in a laboratory.
- Results are interpreted using a multifactorial approach that considers the amount of *Legionella* present, the extent of *Legionella* distribution within a system, the type of *Legionella* detected, and trends over times such as changes in *Legionella* concentration.

CDC further notes that the presence of any *Legionella* should prompt response activities (CDC, 2021a).

Tools for Analyzing and Responding to Routine Environmental Sampling Results

CDC's *The Toolkit for Controlling* Legionella *in Common Sources of Exposure* (Legionella *Control Toolkit*) contains modules with specific performance indicators and suggested response activities when routine testing results suggest that *Legionella* is not well controlled in commonly implicated sources of LD outbreaks. Of note is the **Routine Testing Module**, which includes practical information, such as values for performance indicators and a multifactorial approach to understanding test results.

The Routine Testing Module is available at: https://www.cdc.gov/legionella/wmp/control-toolkit/routine-testing.html

The full Legionella *Control Toolkit* is available at https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.

Testing results can be placed on a continuum from uncontrolled *Legionella* growth to poorly controlled growth, and to well controlled growth using specific multifactorial performance indicators as shown in Figure 1 from CDC's Legionella *Control Toolkit*. The factors and interpretation guidance can help a facility to understand whether results are consistent with a system or device for which *Legionella* is well controlled, poorly controlled, or uncontrolled.

Positive Routine Testing Results Messaging Scenarios

The extent to which *Legionella* growth is controlled informs the messaging about positive routine testing results in the absence of recent cases.

Figure 1. Routine *Legionella* testing: A multifactorial approach to performance indicator interpretation*◇△

Concentration indicates that *Legionella* growth appears:

Uncontrolled	Poorly Controlled	Well Controlled			
≥10 CFU/mL† in potable water **OR** ≥100 CFU/mL in non-potable water	1.0–9.9 CFU/mL in potable water **OR** 10–99 CFU/mL in non-potable water	Detectable to 0.9 CFU/mL in potable water **OR** Detectable to 9 CFU/mL in non-potable water	No *Legionella* detected in a single round of testing	No *Legionella* detected in multiple rounds of testing	No *Legionella* detected in multiple rounds of testing with methods that detect viable and non-viable bacteria of any *Legionella* species

Change in concentration over time indicates that *Legionella* growth appears:

Uncontrolled	Poorly Controlled	Well Controlled			
100-fold or greater increase in concentration (e.g., 0.05 to 5 CFU/mL)	10-fold increase in concentration (e.g., 0.05 to 0.5 CFU/mL)	*Legionella* concentration steady (e.g., 0.5 CFU/mL for two consecutive sampling rounds)	No *Legionella* detected in a single round of testing	No *Legionella* detected in multiple rounds of testing	No *Legionella* detected in multiple rounds of testing with methods that detect viable and non-viable bacteria of any *Legionella* species

Extent indicates that *Legionella* growth appears:

Uncontrolled	Poorly Controlled	Well Controlled			
Detection in multiple locations AND a common source location‡ **OR** Detection across many locations within a water system	Detection in a common source location that serves multiple areas **OR** Detection in more than one location within a water system	Detection in a few of many tested locations within a water system	No *Legionella* detected in a single round of testing	No *Legionella* detected in multiple rounds of testing	No *Legionella* detected in multiple rounds of testing with methods that detect viable and non-viable bacteria of any *Legionella* species

Type¥ of *Legionella* (species and serogroup) associated with Legionnaires' disease:

Highly Associated	Less Associated
L. pneumophila serogroup 1; Non-Lp1 *L. pneumophila*; Presence of multiple different *Legionella* species or serogroups	Any non-*pneumophila* *Legionella* species including "blue-white" fluorescent *Legionella*

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

*This figure is intended for use during routine testing only. Test results are performance indicators and are not a measure of risk of human illness. This figure is not intended for use if a building or device is associated with Legionnaires' disease (LD) cases or an outbreak.

◇See "Routine testing for *Legionella*" for guidance regarding suggested response activities. Comparable results may lead to different suggested response activities when other factors are considered (e.g., if there is evidence of poorly controlled growth at a healthcare facility).

△Considering the type of *Legionella* identified along with other *Legionella* testing performance indicators provides a clearer picture of water system control than the results of any single indicator. For example, facility owners and operators may consider implementing immediate interventions for a healthcare facility with: A. detectable but <10 colony-forming units per milliliter (CFU/mL), B. non-Lp1 *Legionella pneumophila*, C. observed at steady concentrations, but D. detected at multiple distal locations including a central water heater.

†Concentrations expressed as CFU/mL are for test results generated by traditional spread plate culture methods. If other test methods are used, consult testing lab or manufacturer instructions for appropriate interpretation.

‡Common source location examples include water heaters, hot water returns, storage tanks, and cooling tower basins.

¥If a facility has a history of associated LD cases, then sequencing isolates obtained during routine testing may provide performance indicators regarding outbreak strain persistence (if that strain is detected).

Legionella Control Toolkit — Routine Testing — Page F5

Reproduced with permission from CDC. *The Toolkit for Controlling* Legionella *in Common Sources of Exposure* (https://www.cdc.gov/legionella/wmp/control-toolkit/routine-testing-figure-01.html). Figure current as of June 2022. See https://www.cdc.gov/legionella/wmp/control-toolkit/index.html for any updates to figure.

Well Controlled *Legionella* Growth

If environmental test results are interpreted as consistent with a system that is well controlled for *Legionella*, then messaging is unlikely to be necessary. If any messaging is determined to be necessary due to facility policy or other rules or regulations, then messaging can emphasize that:

- *Legionella* is present in freshwater sources.
- It is not uncommon to detect *Legionella* in environmental samples.
- Samples were tested for routine purposes and there are no associated cases of LD.
- Testing results are indicative of a system/device that is well controlled for *Legionella*.
- Facility operators continue to perform *Legionella* control activities to promote water safety for employees, clients, patients, residents, staff, visitors, and others.

Uncontrolled or Poorly Controlled *Legionella* Growth

If environmental test results are interpreted as consistent with a system or device in which *Legionella* is poorly controlled or uncontrolled, then communication may be warranted for persons potentially exposed to that system or device.

- **Uncontrolled in a facility serving increased-risk populations**—Messaging should be provided if the results are consistent with a system or device for which *Legionella* is uncontrolled and the facility serves a population at increased risk of LD (e.g., healthcare, assisted living, corrections facility). Messaging for this situation would also need to include information about corrective actions to respond to *Legionella* and immediate interventions that may be put into place (e.g., point-of-use filters, using bottled water, restricting water usage).

- **Uncontrolled in a facility serving general-risk populations**—If test results are indicative of a system or device for which *Legionella* is uncontrolled but which serves a general population, then messaging may be indicated according to specific factors for the *Legionella* test results, facility or device setting, the specific population served, facility policies, rules or regulations, or a history of associated LD cases.

- **Poorly controlled in a facility serving increased-risk or general-risk populations**—If test results are indicative of a system or device for which *Legionella* is poorly controlled regardless of the type of population served, then messaging also may be indicated according to specific factors for the *Legionella* test results, facility or device setting, the specific population served, facility policies, rules or regulations, or a history of associated LD cases.

See Figure 2 for a summary of test results messaging scenarios. Also reference CDC's *Legionella* Control Toolkit module on routine testing for information about routine testing considerations (CDC, 2021a).

Figure 2: Summary of Routine Testing Messaging Scenarios			
		Population Served	
		General Population	***Increased-risk Population***
***Legionella* Growth**	***Well Controlled***	**Messaging is unlikely to be indicated**	**Messaging is unlikely to be indicated**
	Poorly Controlled	**Messaging may be indicated**	**Messaging may be indicated**
	Uncontrolled	**Messaging may be indicated**	**Messaging should likely be provided**

Key Audiences and Messages

Each facility and device setting has potential key audiences for messaging about routine testing for *Legionella*, corrective actions if applicable, prevention measures, and information about identifying LD. Each of these persons and organizations may require foundational information about LD as well as information tailored to their perspective in the testing event.

Facility

Owners, operators, and managers are generally both the operational and legal points of contact for suspected and confirmed public health communicable disease prevention activities; however, this should be confirmed by the laws and regulations in a specific jurisdiction. A facility's owners, operators, or managers are also likely to be a key source of information about residents, staff, customers, volunteers, and other persons who stayed, worked at, or visited the facility.

Depending on the laws, regulations, or policies of a jurisdiction, facility managers and employees may be required to provide messaging about positive *Legionella* test results obtained during routine testing and without any recent LD cases having reported exposure during the 14 days prior to symptom onset. With some facilities such as schools or universities, other government agencies are likely to be involved in communication about results.

Communication with facilities that have not had a recent associated LD case will likely focus on discussing the specific test results, the potential for *Legionella* transmission, and encouraging good water management practices and testing of the facility's systems for *Legionella*. Specifically, the facility representatives should be informed about interpretation of their test results and, if applicable, corrective actions to control *Legionella* in the facility's water systems, cooling towers, and plumbed water features, as well as other equipment or devices that use water. If a facility's test results are indicative of uncontrolled *Legionella* growth and there is concern about risk of potential exposure and general risk communication methods are ineffective at promoting action by the facility, messaging about and the use of public health orders or other enforcement mechanisms may be helpful.

Residents, Patients, Patrons, and Visitors

Any messaging for residents, patients, patrons, and visitors must be clear and use plain language. Messaging should inform them about the positive environmental testing results and put the results in context, such as the routine nature of the testing, natural sources of *Legionella*, and that no cases have been associated with the facility. Messaging should also include key information about potential risk of exposure to systems and devices where *Legionella* is uncontrolled or poorly controlled and timing (if known), and how to speak with their doctor about the exposure. Communications may also address the cause, sources, risk factors, and symptoms of LD. Consider including language advising recipients to speak with a medical provider if they develop symptoms within 14 days of exposure. Points of contact and sources for additional information should also be clearly communicated.

Employees and Contractors

Similar to the messaging for residents, patients, patrons, and visitors, any messaging for employees and contractors should contain clear information about the positive environmental testing results and put the results in context by noting the routine nature of the testing, natural sources of *Legionella*, and that no cases have been associated with the facility. Messaging should include key information about specific potential exposure to systems and devices where *Legionella* is uncontrolled or poorly controlled and timing (if known). Communications may also address the cause, sources, risk factors, and symptoms of LD. It should also address how the facility would like employees/contractors to proceed if they become ill or are worried about having been exposed, or how to speak with their doctor about any potential exposure. Additionally, a jurisdiction's occupational health and safety laws and workers' compensation system, as well as obligations arising from union contracts, and other agreements or personnel policies affecting the rights of employees or contractors can arise. Further, the issue of personal protective equipment (PPE) may arise if there are employees/contractors at higher risk (whether due to personal medical history or exposure risks due to job duties (e.g., cooling tower maintenance)). Points of contact within the organization, employee rights, and sources for additional information should also be clearly communicated.

Healthcare Providers

If routine testing indicates *Legionella* growth is poorly controlled or uncontrolled within a healthcare facility, then healthcare providers should be alerted so they can monitor their patients for *Legionella* exposure and LD symptoms. The public health agency can also provide guidance on appropriate diagnostic testing and treatment, and instructions about retaining or forwarding clinical specimens or isolates. In absence of associated cases or evidence of an ongoing outbreak, notification of providers at other facilities or health alerts are unlikely to be indicated.

Other Agencies and Governments

A public health agency may inform other divisions within the public health agency, other government agencies, and other units of government (i.e., local, regional, state, federal, tribal, territorial) about positive routine environmental test results for *Legionella* as required by law, standard procedure, or voluntarily as public health partners. Depending on the extent and nature of a routine sampling event, other divisions, agencies, or units of government may have regulatory or other legal authority over the operation of a facility (e.g., building code enforcement, environmental health/sanitation inspections, recreational water inspections).

Media and the Public

Providing information to the media and the public about routine environmental testing results is often unnecessary but may be appropriate if testing indicates that *Legionella* growth is uncontrolled or poorly controlled in a water system or device to which unknown persons are likely to have been recently exposed. Additionally, some facilities may have policies around communication or be subject to rules or regulations requiring communication around routine environmental testing results for *Legionella*. Communication about routine testing results in the absence of cases should be approached taking care to balance the privacy interests of the involved facilities with the right of the public to be made aware of public health threats. (See *LDRC Toolkit* Chapter 3 "Accessing Information and Confidentiality" for more information.) Routine testing results may generate significant ongoing public and media attention even in the absences of associated LD cases. Issuing press releases and other statements about routine testing results indicative of *Legionella* control issues can help to identify other persons who may have been exposed and alert them to the symptoms to watch for during the incubation period. Finally, sharing information about the role of routine testing in validating WMPs for *Legionella* control and prevention of LD can help to assure the public that the facility is being proactive.

Routine Environmental Testing Module References

ASHRAE. (2020). *Managing the risk of legionellosis associated with building water systems*. Guideline 12. https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards

ASHRAE. (2021). *Legionellosis: Risk management for building water systems*. Standard 188. https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards

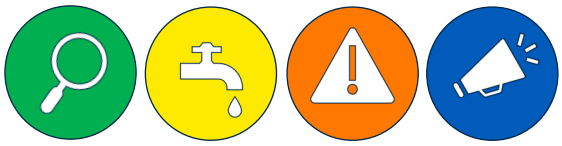
Centers for Disease Control and Prevention. (2021a, January 13). Legionella *(Legionnaires' disease and Pontiac fever): The toolkit for controlling* Legionella *in common sources of exposure.* Version 1.1. https://www.cdc.gov/legionella/wmp/control-toolkit/index.html

Centers for Disease Control and Prevention. (2021b, June 24). *Developing a water management program to reduce* Legionella *growth and spread in buildings: A practical guide to implementing industry standards*. Version 1.1. https://www.cdc.gov/legionella/downloads/toolkit.pdf

Routine Environmental Testing Module Selected Resources

- ASHRAE. Standard 188: Legionellosis: Risk Management for Building Water Systems (ANSI approved). Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- ASHRAE. Guideline 12: Managing the Risk of Legionellosis Associated with Building Water Systems. Read-only access available at: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards.
- CDC. Legionnaires' Disease Communication Resources. Available at: https://www.cdc.gov/legionella/health-depts/communications-resources.html#press-releases.
- CDC. Guidance for Reopening Buildings After Prolonged Shutdown or Reduced Operation. Updated May 7, 2020. Available at: https://www.cdc.gov/nceh/ehs/water/legionella/building-water-system.html.
- CDC. Toolkit for Controlling *Legionella* in Common Sources of Exposure. Available at. Available at: https://www.cdc.gov/legionella/wmp/control-toolkit/index.html.
- CSTE. Water Management Program Template. Available at: https://www.cste.org/general/custom.asp?page=Legionnaires.
- OSHA. Legionellosis (Legionnaires' Disease and Pontiac Fever). Available at: https://www.osha.gov/legionnaires-disease.

Routine Environmental Testing Results in the Absence of Cases Messaging Tables



This module is intended only for circumstances in which there are no recent LD cases that report exposure to the facility or device during the 14 days prior to their illness onset. See messaging guidance in the other modules for instances in which cases report exposure to the facility or device during the 14 days prior to their illness onset.

This section of the module contains messaging tables that address three scenarios based on the results of routine environmental testing at a facility in which there have been no recent LD cases reported: messaging is not indicated, messaging may be indicated, and messaging is likely indicated. Readers should consider the following items when using these messaging tables in conjunction with messaging in the other setting-specific modules:

- The messaging tables are color-coded to match the messaging levels described in Figure 2 of the module (Summary of Routine Testing Messaging Scenarios).
- Each table has a series of key statements applicable to any audience. These key statements are then followed by a series of audience-specific color-coded messaging statements and user notes.
    - The same audience colors are used in this module as in the other modules.
    - The same colors are used across the all the modules for the same audiences (e.g., materials for the press and public are in tables with orange banners).
- Each messaging table contains an annotated template of text to include in communications about that scenario.
    - Module users are free to choose which content to use in a template and modify it according to their needs.
- ***Italicized topic headings*** introduce a series of bulleted statements with text that can be adapted into letters, handouts, or notices.
    - Topic headings are not necessarily intended to by used in messaging documents.
- [Text in brackets] should by edited by the user to tailor a document for the specific use.
    - For example, "The [state/local health agency] has identified…" becomes "The Anytown Health Department has identified…"
- *[Italicized text in brackets]* are instructions to the user and are not intended to be included in messaging documents.

The next page contains an index of the messaging tables and lists each key audience and messaging scenarios addressed. The index also lists the corresponding module page numbers for the messaging tables.

Additional sample documents and templates are available in the *LDRC Toolkit* appendix.

Index of Routine Environmental Testing Module Messaging Tables		
Messaging Indicated or Not	**Messaging Scenarios**	**Module Page**
Messaging <u>not</u> indicated	**Routine testing results show *Legionella* well controlled in a facility serving increased-risk and general-risk populations**	**RT–19**
Messaging may be indicated	**Routine testing results show poorly controlled *Legionella* in a facility serving general risk or increased-risk populations OR Uncontrolled *Legionella* in a general-risk facility**	**RT–21**
Messaging is likely indicated	**Routine testing results show uncontrolled *Legionella* in a facility serving increased-risk populations**	**RT–25**

IMPORTANT NOTE:

The messaging indicated in a specific scenario or outbreak will vary with the unique facts of that event and the laws and policies of the jurisdiction where it is occurring. **For this reason, these messaging tables, templates, and samples should be used as a starting point to craft communications tailored to the user's specific needs and circumstances.**

Routine Environmental Testing–Messaging Not Indicated

Messaging Scenario:

- **Routine testing results show *Legionella* well controlled in a facility serving increased-risk and general-risk populations**
  - **Messaging <u>not</u> indicated**

[If environmental test results are interpreted as consistent with a system that is well controlled for Legionella*, then messaging is unlikely to be necessary for facilities serving general-risk and increased-risk populations. If any messaging is determined to be necessary due to facility policy or other rules or regulations, then messaging can emphasize the following messaging points.]*

Overall messaging points:

- We are writing to inform you that [facility name] has had positive environmental test results for *Legionella* bacteria, which cause Legionnaires' disease (LD), during routine testing conducted at the facility.
- *Legionella* is present in freshwater sources, and it is not uncommon to detect *Legionella* in environmental samples.
- The samples from [facility name] were tested for routine purposes and there are no known associated cases of LD as of [date].
- The overall results are indicative of a [system/device] that is well controlled for *Legionella*.
- Facility operators continue to perform *Legionella* control activities to promote water safety for [patients, residents, staff, and visitors].
- You are being informed about the positive routine test results [as required by law and] so [you/your facility] may take precautionary measures to limit [your/patrons'] exposure to *Legionella* until the situation is resolved.

<u>Notes:</u>

Users may also want to Include messaging from the corresponding setting-specific module for the key audience that addresses:

LD basics, potential sources of exposure, risk factors for LD, symptoms and treatment, action steps requested (e.g., seek medical help if develop symptoms) and being taken, if any, and where to get additional information.

Additional messaging highlights in this table are intended to supplement messaging for key audiences in other relevant modules and should be used in conjunction with the messaging tables in other modules.

Audiences

Facility

- Test results indicate that *Legionella* is well controlled in your facility [as of date].
- [Facility] can take additional measures to further control *Legionella* growth through use of a WMP (or instituting a WMP) [and taking additional actions identified by the health agency if applicable].
- [Your facility [should/may] contact the [state/local health agency] for assistance [and/or when the facility no longer tests positive for *Legionella*].
- If your become aware of any case of LD among [patients, residents, visitors, or staff members] at your facility, contact [state/local health agency] immediately.

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Routine Environmental Testing—Messaging Not Indicated

Messaging Scenario: Routine testing results show *Legionella* well controlled in a facility serving increased-risk and general-risk populations *(continued)*

Persons

(If required by policy or law, identify potential risk of exposure to systems and devices where Legionella *is well controlled and timing (if known) for persons associated with that facility.)*

- If you begin to have symptoms of LD within 14 days of being at [facility name], see your physician immediately.

(For staff members: address whether PPE is recommended and for whom based on potential risk of exposure to systems and devices. See staff messaging tables in prior modules.)

Healthcare Providers and Facilities

(Healthcare providers associated with the facility with well controlled Legionella *may be alerted if required by policy or law so they can monitor their patients for* Legionella *exposure and LD symptoms. However, in the absence of associated cases or evidence of an ongoing outbreak, notification of providers at other facilities or health alerts are unlikely to be indicated.)*

- If you become aware of any case of LD among patients, visitors, or staff members at [your facility name], contact [state/local health agency] immediately.

Other Agencies and Governments

(Although unlikely, public health may inform other agencies and governments about positive routine environmental test results for Legionella *as required by law, procedure, or voluntarily.)*

- If your [agency/jurisdiction] becomes aware of any cases of LD among persons who were exposed to [facility name], contact [state/local health agency] immediately.

Media and the Public

(Providing information to the media and the public about routine test results is often unnecessary, especially if Legionella *is well controlled. If the colonization becomes poorly controlled or uncontrolled or is associated with LD cases, a media release may be warranted. See other setting-specific modules for additional important information to include in media releases.)*

- If someone resides in/visited [facility name] and developed symptoms of LD within 14 days of their visit, they should contact their healthcare provider and seek medical attention right away.

Routine Environmental Testing—Messaging May Be Indicated

Messaging Scenario:

- **Routine test results show poorly controlled *Legionella* in a facility serving general risk or increased-risk populations**

  OR

- **Uncontrolled *Legionella* in a general-risk facility**
  - **Messaging <u>may be</u> indicated**

(If test results are indicative of a system for which Legionella *is uncontrolled but which serves a general population, or if results are indicative of a system for which* Legionella *is poorly controlled for general and increased-risk populations, then messaging may be indicated according to specific factors for:* Legionella *test results, facility or device setting, population served, facility policies, rules or regulations, or a history of associated LD cases.*

For example, an outpatient ophthalmology clinic serves a patient population that is likely to be less susceptible to LD than those of an outpatient chemotherapy clinic. It may be reasonable to inform hotel guests that may have been in contact with a lobby decorative fountain with uncontrolled Legionella *growth but would be impractical to notify all persons that may have been in proximity to a decorative fountain outdoors at a public park.)*

Overall messaging points:

- We are writing to inform you that [facility name] has/had positive environmental sample results for *Legionella* bacteria, which cause Legionnaires' disease (LD), during routine testing conducted at the facility.
- As of [date], no known cases of LD have been associated with [facility name].
- You are being informed about the positive routine *Legionella* test results [as required by law and] so [you/your facility] may take precautionary measures to limit [your/patrons'] potential exposure to *Legionella* until the situation is resolved.

<u>Notes:</u>

Include messaging from the corresponding setting-specific module for the key audience that addresses:

LD basics, potential sources of exposure, risk factors for LD, symptoms and treatment, action steps requested (e.g., seek medical help if develop symptoms) and being taken, if any, and where to get additional information.

Additional messaging highlights in this table are intended to supplement messaging for key audiences in other relevant modules and should be used in conjunction with the messaging tables in other modules.

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Routine Environmental Testing—Messaging May Be Indicated

Messaging Scenario: Routine test results show poorly controlled *Legionella* in a facility serving general risk or increased-risk populations OR uncontrolled *Legionella* in a general-risk facility *(continued)*

Audiences

Facility

- Test results indicate that Legionella is [poorly controlled/uncontrolled] in your facility [as of date].
- [Facility] should take immediate action to control Legionella growth through use of WMP (or instituting a WMP) [and to take additional actions identified by the public health agency].
- (Provide information about response actions for Legionella)
- (Identify immediate interventions that may be put into place and if appropriate (e.g., point-of-use filters, using bottled water, restricting water usage).)
- [Your facility [should/may] contact the [state/local health agency] for assistance [and/or when the facility no longer tests positive for Legionella].
- If your become aware of any case of LD among [patients, residents, visitors, or staff members] at your facility, contact [state/local health agency] immediately.

Persons

(If possible, identify potential risk of exposure to systems and devices where Legionella *is uncontrolled or poorly controlled and timing (if known))*

- If you begin to have symptoms of LD within 14 days of being at [facility name], see your physician immediately.

(For staff members: address whether PPE is recommended and for whom based on potential risk of exposure to systems and devices. See staff messaging tables in prior modules.)

Healthcare Providers and Facilities

(Healthcare providers associated with the facility with poorly controlled or uncontrolled Legionella should be alerted so they can monitor their patients for Legionella exposure and LD symptoms. However, in the absence of associated cases or evidence of an ongoing outbreak, notification of providers at other facilities or health alerts is unlikely to be indicated.)

- If you become aware of any case of LD among patients, visitors, or staff members at [your facility name], contact [state/local health agency] immediately.

(If results are indicative of poorly controlled or uncontrolled Legionella growth within a healthcare setting, see messaging tables for healthcare providers in the Healthcare Facilities module for directions to monitor for cases and test persons with LD symptoms.)

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Routine Environmental Testing—Messaging May Be Indicated

Messaging Scenario: Routine test results show poorly controlled *Legionella* in a facility serving general risk or increased-risk populations OR uncontrolled *Legionella* in a general-risk facility (continued)

Other Agencies and Governments

(Inform other agencies and governments about positive routine environmental test results in a facility with poorly controlled/uncontrolled Legionella *as required by law, standard procedure, or voluntarily.)*

- If your [agency/jurisdiction] becomes aware of any cases of LD among persons who were exposed to [facility name], contact [state/local health agency] immediately.

Media and the Public

[Providing information to the media and the public about routine test results in the absence of cases is often unnecessary but may be appropriate if testing indicates that Legionella growth is uncontrolled or poorly controlled in a system or device to which unknown persons are likely to have been recently exposed.

For example, public notification may be indicated if a cooling tower is identified as having uncontrolled Legionella growth so that community members that may have been exposed can monitor for signs and symptoms of LD. Conversely, if a hot tub within a fitness club is identified as having uncontrolled Legionella growth, then notification of club staff and members would enable all potentially exposed persons to monitor for signs and symptoms of LD, and public notification would likely be unnecessary. See other setting-specific modules for additional important information to include in media releases.]

- If someone resides in/visited [facility name] and developed symptoms of LD within 14 days of their visit, they should contact their healthcare provider and seek medical attention right away.

Routine Environmental Testing—Messaging Is Likely Indicated

Messaging Scenario:

- **Routine test results show uncontrolled *Legionella* in a facility serving increased-risk populations**
  - **Messaging <u>is likely</u> indicated**

(If test results are indicative of a system for which Legionella *is uncontrolled in a facility serving increased-risk populations, then messaging is likely to be indicated. Messaging can emphasize the following messaging points.)*

Overall messaging points:

- We are writing to inform you that [facility name] had positive environmental sample results for *Legionella* bacteria, which cause Legionnaires' disease (LD), during routine testing conducted at the facility.
- As of [date], no known cases of LD have been associated with [facility name].
- You are being informed about the positive routine test results [as required by law and] so [you/your facility] may take precautionary measures to limit [your/patrons'] potential exposure to *Legionella* until the situation is resolved.

<u>Notes:</u>

Include messaging from the corresponding setting-specific module for the key audience that addresses:

LD basics, potential sources of exposure, risk factors for LD, symptoms and treatment, action steps requested (e.g., seek medical help if develop symptoms) and being taken, if any, and where to get additional information.

Additional messaging highlights in this table are intended to supplement messaging for key audiences in other relevant modules and should be used in conjunction with the messaging tables in other modules.

Audiences

Facility

- Test results indicate that *Legionella* is uncontrolled in your facility [as of x date].
- [Facility] should take immediate action to control *Legionella* growth through use of WMP (or instituting a WMP) [and to take additional actions identified by the public health agency].
  - *[Provide information about corrective actions to respond to* Legionella*]*
  - *[Identify immediate interventions that may be put into place (e.g., point-of-use filters, using bottled water, restricting water usage).]*
- [Your facility [should/may] contact the [state/local health agency] for assistance [and/or when the facility no longer tests positive for *Legionella*].
- If your become aware of any case of LD among [residents, patients, visitors, or staff members at your facility, contact [state/local health agency] immediately.

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Routine Environmental Testing—Messaging Is Likely Indicated

Messaging Scenario: Routine test results show uncontrolled *Legionella* in a facility serving increased-risk populations *(continued)*

Persons

[If possible, identify potential risk of exposure to systems and devices where Legionella is uncontrolled or poorly controlled and timing (if known)]

- If you begin to have symptoms of LD within 14 days of being at [facility name], see your physician immediately.

[For staff members: address whether PPE is recommended and for whom based on potential risk of exposure to systems and devices. See staff messaging tables in prior modules.]

Healthcare Providers and Facilities

[Healthcare providers associated with the facility with uncontrolled Legionella *should be alerted so they can monitor their patients for* Legionella *exposure and LD symptoms. However, in the absence of associated cases or evidence of an ongoing outbreak, notification of providers at other facilities or health alerts is unlikely to be indicated.]*

- If you become aware of any case of LD among patients, visitors, or staff members at [your facility name], contact [state/local health agency] immediately.

(If there is a public health investigation, see messaging tables for healthcare providers in other modules for directions to monitor for cases and test persons with LD symptoms.)

Other Agencies and Governments

(May inform other agencies and governments about positive routine environmental test results for *Legionella* as required by law, standard procedure, or voluntarily as public health partners.)

- If your [agency/jurisdiction] becomes aware of any cases of LD among persons who were exposed to [facility name], contact [state/local health agency] immediately.

Media and the Public

[Providing information to the media and the public about routine test results is often unnecessary but may be appropriate if testing indicates that Legionella growth is uncontrolled in a system or device to which unknown persons are likely to have been recently exposed.

For example, public notification may be indicated if a cooling tower on a hospital campus is identified as having uncontrolled Legionella growth so that community members at increased risk for LD that may have been exposed can monitor for signs and symptoms of LD. Conversely, if a hot tub within a senior living community is identified as having uncontrolled Legionella growth, then notification of community members would enable all potentially exposed persons at increased risk of LD to monitor for signs and symptoms of LD, and public notification would likely be unnecessary. See other setting-specific modules for additional important information to include in media releases.]

- If someone resides in/visited [facility name] and developed symptoms of LD within 14 days of their visit, they should contact their healthcare provider and seek medical attention right away.