

AIRE Bulletin

Legionella in Hospitality



Why should we be concerned with preventing Legionella or Legionnaires disease? This illness is the kind of exposure that turns into a headline and then may turn into a claim file. Legionnaires' disease is one of the most lethal diseases—about 1 in 10 people who get sick die from complications, according to CDC. In fact, many who survive the illness are at higher risk for acute renal failure and progressive respiratory failure, lifelong health effects, often requiring extensive medical treatments years after the initial event.

According to the March 2025 CDC Bulletin on Water Management Programs for Hotel Owners and Managers, the number of cases has increased with the growth of recreational water facilities nationwide. In general, reported cases of Legionnaires' disease have been increasing since the early 2000s, with a peak in 2018. While reported cases dropped during the first year of the COVID-19 pandemic, they rebounded in 2021.

The Center for Disease Control on Legionella "Clinical Features" provides an overview of the disease: a Legionella bacterium is a naturally occurring bacterium found in water. It becomes hazardous within human-made water systems where Amplification and Aerosolization could happen. Legionella's spreading mechanism is also different than most other recreational water illness caused by microbial. One must inhale the bacteria suspended in droplets where it becomes embedded into your lungs. Legionella most commonly causes one of two diseases:

- **Legionnaires' disease:** a type of severe pneumonia that needs antibiotic-based treatment.
- **Pontiac fever:** a mild illness that can include fever, muscle aches, and headaches. The bacterium takes two to ten days for incubation before the onset of the respiratory disease. It is important to note that not all that are exposed to Legionella bacteria will suffer from disease.

The resource shows that Legionella bacteria grow faster in favorable warm water and inadequate levels of disinfectant. The other contributing factors are Biofilm, Scale and sediment, Water stagnation, & pH fluctuations, etc.

Specific to hotels, the CDC has published a technical paper "CDC Considerations for Hotel Owners and Managers: How to Prevent Legionnaires' disease." The most identified cases in hotels are generated from thermal spas and spa pools/hot tubs, Cooling Towers with little or no disinfectant treatment.

Prevention Begins with Understanding the Risk

The problems that lead to Legionnaires' disease are preventable through water management programs (WMPs). A WMP is a multi-step, continuous process designed to:

- Identify areas in a building where Legionella could grow and spread
- Reduce risk by managing and monitoring the water systems
- Trigger action when risks are identified

Water Chemistry: The weakness for Legionella along with many other waterborne organisms is proper water treatment and overall pool chemistry. Elevated water temperature makes it difficult to maintain the required disinfectant level. Tests should be completed at least twice a day and more often if the use is moderate to heavy.

Safe Practices: Hot tub/spa filters should be replaced routinely, following manufacturer's recommendations. The biofilm accumulating on the walls of the unit should be removed before any accumulation can occur.

Documentation: It is important to complete all necessary pool chemistry testing and water pH levels based on use. Documentation could be reviewed by multiple regulatory agencies in event of an Incident. It bodes well to have the pool chemistry testing and water pH levels in order.

Training: Staff should understand the CDC Model Aquatic Health Code and the Pool & Spa Treatment Guidelines. They should know how one can become infected, the conditions leading to infection, and most importantly, how to prevent bacteria from contaminating the water.

The Center for Disease Control has published several “model” guidelines focused directly on preventing recreational waterborne illnesses such as Legionella. They include the CDC Model Aquatic Health Code, 5th Edition, 2024 which is currently a recommendation for anyone in the hospitality business, especially with any water features. Additional resources for complete Building Systems are:

ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Guideline 12-2000 (guidance on reducing the risk of Legionella growth and spread in building water systems), and ASTM (American Standard & Testing Materials) Standard Guide D5952-08 (standard guide for inspecting and testing water systems for Legionella).

CDC also provides a free certificate-based Training to reduce risk for Legionnaire’s disease. The training aligns with industry standards (ASHRAE 188) on managing risk for Legionella bacteria.

Resources

- [CDC Waterborne Disease Outbreak Surveillance System, United States](#)
- [CDC Model Aquatic Health Code Aug 2024](#)
- [Preventing Legionnaires’ Disease \(PreventLD Training\)](#)

Arch Insurance Risk Engineers (AIRE) Bulletin

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