

## Essential Resources for Managing *Legionellosis* Risk

### A GUIDE TO THE MOST SIGNIFICANT STANDARDS, GUIDELINES, AND REGULATIONS FOR MITIGATING THE RISK OF *LEGIONELLOSIS* IN THE US

*Legionella* is a common bacterium that thrives in fresh water environments. Its natural habitats are places like ponds, lakes and reservoirs, but it can survive anywhere fresh water is found. That includes the cooling towers of building air conditioners, the pipes in steam condensate systems, the dead legs in building plumbing, and the pipes used in hot tubs. And though the bacterium is relatively harmless in a natural setting, in enclosed environments it can lead to potentially-fatal outbreaks of *Legionnaire's Disease*.

It's been over forty years since the first outbreak of Legionnaire's Disease. Over the course of those years, government organizations and industry groups have published a number of documents aimed at helping business owners and site managers control the threat of *Legionella*. The following is a summary of the most important standards, guidelines and laws for the US, as collected by the Centers for Disease Control and Prevention (CDC).

#### STANDARD

We start with what is perhaps the most important document in the list: ["ANSI/ASHRAE Standard 188-2018, Legionellosis: Risk Management for Building Water Systems."](#) The standard represents over 40 years of industry experience and best practice in controlling *Legionella* growth. It was developed by the American Society of Heating, Refrigeration, and Air Conditioning Engineers and approved as a national voluntary standard by the American National Standards Institute. It established a set of minimum requirements for controlling the risk of *Legionella* growth in building water systems. Chief among those was the concept of a Water Management Program, which required building managers to document the steps used to monitor and treat their water systems and to capture the results each time those activities were performed. The standard was quickly accepted as the best practice for managing *Legionellosis* risk and remains so today.

#### GENERAL GUIDELINES

The CDC recognizes two categories of *Legionella* guidelines. The first is a set of general guidelines that can apply in multiple instances. The documents in this category are:

- ["Preventing Occupational Exposure to Legionella."](#) (Centers for Disease Control and Prevention. National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-131.) This document provides recommendations to employers to help them "prevent conditions that lead to *Legionella* growth and spread in workplaces."
- ["ASHRAE Guideline 12-2020: Managing the Risk of Legionellosis Associated with Building Water Systems."](#) (Atlanta, GA: ASHRAE, 2020.) This Guideline gives direction on how to implement processes to mitigate the risk of *Legionellosis* in building water systems and demonstrate compliance with ANSI/ASHRAE Standard 188-2018.

- [“Legionellosis Guideline: Best Practices for Control of Legionella.”](#) (*Cooling Technology Institute, 2008.*) This document focuses on the best practices for controlling the growth of *Legionella* within the components of an evaporative cooling system.
- [“Legionellosis Guideline - GLD 159.”](#) (*Cooling Technology Institute, 2020.*) This guideline explains how to reduce the risk of exposure from evaporative heat rejection systems.
- [Model Aquatic Health Code.](#) (*Centers for Disease Control and Prevention.*) The Model Aquatic Health Code provides guidance for reducing the instances of illnesses related to pools, hot tubs/spas, and waterparks.
- [“Disinfection of Hot Tubs Contaminated with Legionella.”](#) (*Centers for Disease Control and Prevention.*) This document summarizes the steps for dealing with a contaminated hot tub.
- [“Guidance for Reopening Buildings After Prolonged Shutdown or Reduced Operation.”](#) (*Centers for Disease Control and Prevention.*) Stagnant water in indoor plumbing is a prime breeding ground for *Legionella*. This document provides direction for dealing with that and other related issues.

## HEALTHCARE-SPECIFIC GUIDELINES

The second category of guidelines the CDC defines are specific to healthcare providers, including hospitals, doctor’s offices, dental offices, and long-term care facilities. The first five documents provide guidelines for preventing outbreaks of *Legionellosis* in these settings and the last two discuss diagnosis and treatment of patients in the event an outbreak occurs. Documents in this category are:

- [“Requirement to Reduce Legionella Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires’ Disease.”](#) (2017. *Centers for Medicare & Medicaid Services.*) This document defines the procedures that hospitals, critical-access hospitals, and long-term care facilities must follow to reduce *Legionella* risk.
- [“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. Centers for Disease Control and Prevention.*) This report provides recommendations to help health-care facilities manage the risk of infections related to environmental issues.
- [“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. Centers for Disease Control and Prevention.*) These guidelines provide direction for reducing the risk of patients contracting pneumonia, including bacterial pneumonia, in healthcare facilities.
- [“Guidelines for Infection Control in Dental Health-care Settings, 2003.”](#) (*MMWR. 2003;52(RR-17). Centers for Disease Control and Prevention.*) This document includes guidelines for managing health risks specific to dental facilities, including the possibility that harmful bacteria might form in the waterlines that supply high-speed dental devices.
- [“Prevention of Healthcare-associated Legionella Disease and Scald Injury from Potable Water Distribution Systems.”](#) (*VHA Directive 1061. 2014. Department of Veterans Affairs.*) This directive outlines the policy for controlling *Legionella* in buildings owned by the Veterans Administration.
- [“Diagnosis and Treatment of Adults with Community-acquired Pneumonia, 2019.”](#) (*Infectious Diseases Society of America/American Thoracic Society.*) The document provides clinical guidelines for treating adult patients who have community-acquired pneumonia.
- [“Management of Adults with Hospital-Acquired and Ventilator-Associated Pneumonia: Clinical Practice Guidelines, 2016.”](#) (*Infectious Diseases Society of America/American Thoracic Society.*) The document provides clinical guidelines for treating adult patients who have acquired pneumonia while on a ventilator or from a hospital environment.



## LAWS

The CDC also references two laws related to water quality:

- “[Safe Drinking Water Act.](#)” (*Environmental Protection Agency.*) The Safe Drinking Water Act was initially passed in 1976 and has been amended twice since. The goal of the legislation is to ensure that the quality of the nation’s drinking water is safe and consistent across the 170,000+ Public Water Systems in the US. To that end, the Act sets limits on the levels of contaminants that are allowed in the water supply.
- “[Federal Insecticide, Fungicide, and Rodenticide Act.](#)” (*Environmental Protection Agency.*) The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires that pesticide products must be registered with the EPA before they can be sold in the US. Some pesticides can also be used as disinfectants, but they must be approved for that use under FIFRA guidelines before they can be added to a Public Water System. For more information, check out the [Quick Guide for Disinfectant Products for Drinking Water Use by Public Water Systems.](#)

## FOR MORE INFORMATION

These documents described in this bulletin represent the most important standards, guidelines, and regulations related to the control of *Legionella*. There are many other materials related to this topic. The CDC website (<https://www.cdc.gov/legionella/resources/guidelines.html>) contains links to a variety of additional fact sheets, publications, videos and other resources related to *Legionella*. If you have questions, or need assistance navigating through all of this information, the experts at Solid Blend are available to help.