Background

LD, a severe sometimes fatal pneumonia, can occur in persons who inhale aerosolized droplets of water contaminated with the bacterium *Legionella*. The rate of reported cases of legionellosis, which comprises both LD and Pontiac fever (a milder, self-limited, influenza-like illness) has
increased 286% in the United States (U.S.) during 2000–2014, with approximately 5,000 cases reported to the Centers for Disease Control and Prevention (CDC) in 2014. Approximately 9% of reported legionellosis cases are fatal.

An industry standard\(^1\) calling for the development and implementation of water management programs in large or complex building water systems to reduce the risk of legionellosis was published in 2015 by American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE). In 2016, the CDC and its partners developed a toolkit to facilitate implementation of the ASHRAE Standard\(^2\). Environmental, clinical, and epidemiologic considerations for healthcare facilities are described in this toolkit and may include control measures such as physical controls, temperature management, disinfectant levels, visual inspections, and environmental testing for pathogens.

In a recent review of LD outbreaks occurring from 2000–2014 in the U.S., 19% were associated with long-term care facilities and 15% with hospitals. There have been multiple recent LD outbreaks in hospitals and long-term care facilities as reported by the CDC, state and local health departments, or investigated by State Survey Agencies (SA). Below is information about these outbreaks for provider informational purposes.

Outbreaks generally are linked to environmental reservoirs in large or complex water systems, including those found in healthcare facilities such as hospitals and long-term care facilities. Transmission from these water systems to humans requires aerosol generation, as can occur from showerheads, cooling towers, hot tubs, and decorative fountains. *Legionella* is less commonly spread by aspiration of drinking water or ice. Only one case of possible person-to-person transmission has been reported.

In manmade water systems, *Legionella* can grow and spread to susceptible hosts, such as persons who are at least 50 years old, smokers, and those with underlying medical conditions such as chronic lung disease or immunosuppression. *Legionella* can grow in parts of building water systems that are continually wet, and certain devices can spread contaminated water droplets via aerosolization. Examples of these system components and devices include:

- Hot and cold water storage tanks
- Water heaters
- Water-hammer arrestors
- Pipes, valves, and fittings
- Expansion tanks
- Water filters
- Electronic and manual faucets
- Aerators

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• Faucet flow restrictors
• Showerheads and hoses
• Centrally-installed misters, atomizers, air washers, and humidifiers
• Nonsteam aerosol-generating humidifiers
• Eyewash stations
• Ice machines
• Hot tubs/saunas
• Decorative fountains
• Cooling towers
• Medical devices (such as CPAP machines, hydrotherapy equipment, bronchoscopes, heater-cooler units)

CMS Regulatory Authorities
Pertinent regulations include, but are not limited to, the following:

42 CFR §482.42 for hospitals:
“The hospital must provide a sanitary environment to avoid sources and transmission of infections and communicable diseases. There must be an active program for the prevention, control, and investigation of infections and communicable diseases.”

42 CFR §483.80 for skilled nursing facilities and nursing facilities:
“The facility must establish and maintain an infection prevention and control program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of communicable diseases and infections.”

42 CFR §485.635(a)(3)(vi) for critical access hospitals (CAHs):
CAH policies must include: “A system for identifying, reporting, investigating and controlling infections and communicable diseases of patients and personnel.”

Expectations for Healthcare Facilities
CMS expects Medicare and Medicare/Medicaid certified healthcare facilities to have water management policies and procedures to reduce the risk of growth and spread of Legionella and other opportunistic pathogens in building water systems.

Facilities must have water management plans and documentation that, at a minimum, ensure each facility:

• Conducts a facility risk assessment to identify where Legionella and other opportunistic waterborne pathogens (e.g. Pseudomonas, Acinetobacter, Burkholderia, Stenotrophomonas, nontuberculous mycobacteria, and fungi) could grow and spread in the facility water system.

• Develops and implements a water management program that considers the ASHRAE industry standard and the CDC toolkit.
• Specifies testing protocols and acceptable ranges for control measures, and document the results of testing and corrective actions taken when control limits are not maintained.

• **Maintains compliance with other applicable Federal, State and local requirements.**

*Note: CMS does not require water cultures for Legionella or other opportunistic water borne pathogens. Testing protocols are at the discretion of the provider.*

Healthcare facilities are expected to comply with CMS requirements and conditions of participation to protect the health and safety of its patients. Those facilities unable to demonstrate measures to minimize the risk of LD are at risk of citation for non-compliance.

**Expectations for Surveyors and Accrediting Organizations**

*LTC surveyors will expect that a water management plan (which includes a facility risk assessment and testing protocols) is available for review but will not cite the facility based on the specific risk assessment or testing protocols in use. Further LTC surveyor guidance and process will be communicated in an upcoming survey process computer software update. Until that occurs, please use this paragraph as guiding instructions.*

**Contact:** For questions or concerns regarding this policy memorandum, please contact the following for each facility type:

- **Hospitals:** HospitalSCG@cms.hhs.gov
- **Critical Access Hospitals:** CAHSCG@cms.hhs.gov
- **Long-Term Care:** NHSurveyDevelopment@cms.hhs.gov

**Effective Date:** Immediately. This policy should be communicated with all survey and certification staff, their managers and the State/Regional Office training coordinators within 30 days of this memorandum.

/s/
David R. Wright

**cc:** Survey and Certification Regional Office Management