Background

LD, a severe sometimes fatal pneumonia, can occur in persons who inhale aerosolized droplets of water contaminated with the bacterium Legionella. In a recent review of LD outbreaks in the United States occurring in 2000–2014, 19% of outbreaks were associated with long-term care facilities and 15% with hospitals. 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 US 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.
The Centers for Medicare & Medicaid Service (CMS) is aware of 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).

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
- 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 and Surveyors

CMS expects Medicare 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. 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 this ASHRAE Standard
(https://www.cdc.gov/legionella/maintenance/wmp-toolkit.html). Environmental, clinical, and
epidemiologic considerations for healthcare facilities are described in this toolkit.

Surveyors will review policies, procedures, and reports documenting water management
implementation results to verify that facilities:

- Conduct 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.

- Implement a water management program that considers the ASHRAE industry standard
  and the CDC toolkit, and includes control measures such as physical controls,
  temperature management, disinfectant level control, visual inspections, and
  environmental testing for pathogens.

- Specify testing protocols and acceptable ranges for control measures, and document the
  results of testing and corrective actions taken when control limits are not maintained.

Healthcare facilities are expected to comply with CMS requirements 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 with the CMS Conditions of Participation. Accrediting
organizations will be surveying healthcare facilities deemed to participate in Medicare for
compliance with the requirements listed in this memorandum, as well, and will cite non-
compliance accordingly.

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Contact: For questions or concerns regarding this policy memorandum, please contact Dr. Daniel Schwartz at Daniel.schwartz2@cms.hhs.gov.

Effective Date: Immediately. This guidance 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