



DEPARTMENT OF VETERANS AFFAIRS
Veterans Health Administration
Washington DC 20420

January 11, 2013

IL 10-2013-001
In Reply Refer To: 10P4E

UNDER SECRETARY FOR HEALTH'S INFORMATION LETTER

PREVENTION OF LEGIONELLA DISEASE

1. Purpose: This document provides information on *Legionella* bacteria, and reinforces Veterans Health Administration (VHA) policy for prevention of *Legionella* disease.

2. Background

a. Recent cases of healthcare-associated *Legionella* disease (also known as Legionnaires' Disease or *Legionella* pneumonia) in a VHA healthcare system facility serve to remind us of the importance of *Legionella* prevention activities. The investigations of this cluster of patients with *Legionella* disease may lead to a better understanding of *Legionella* transmission and prevention in the health care environment and inform future guidance and policy.

b. According to the Centers for Disease Control and Prevention (CDC), between 8,000 and 18,000 people are hospitalized with *Legionella* disease in the United States (U.S.) each year. However, because many infections are not recognized or diagnosed, the actual number of cases may be much higher. Cases usually occur in the summer and early fall, but can occur any time of the year. The incidence of *Legionella* disease is increasing in the U.S., with an increase of 217 percent reported between 2000 and 2009. Although cases can occur throughout the U.S., evidence suggests that the highest age-adjusted incidence rate is in the Middle Atlantic region (New York, New Jersey, and Pennsylvania).

c. Pathogenic *Legionella* bacteria are naturally present in water and are known to be widespread globally. Water distribution systems in buildings, especially hot water systems, are known to be conducive to *Legionella* growth and, subsequently, a source of transmission of bacteria to people. *Legionella* cannot be entirely eliminated from building water systems, but growth can be suppressed to avoid high concentrations. One of the primary measures for inhibiting *Legionella* growth is maintenance of appropriate hot water temperatures throughout the distribution system, which must be counterbalanced with the need to minimize the risk for scald injury.

d. VHA has one of the most comprehensive *Legionella* prevention policies in the U.S., including very specific algorithms for annual evaluation of risk at inpatient facilities. VHA policy is in alignment with CDC recommendations. Importantly, the policies reinforce that *Legionella* prevention at the health care facility is truly a collaborative, multidisciplinary process incorporating expertise from health care engineering, infection prevention and control, laboratory medicine, infectious diseases, and facility administration.

3. Prevention of *Legionella* Disease. There are several key components to prevention of *Legionella* Disease as addressed in VHA Directive 2009-009 (Domestic Hot Water Temperature Limits for *Legionella* Prevention and Scald Control) and VHA Directive 2008-010 (Prevention of *Legionella* Disease), as well as an Executive Decision Memorandum (EDM) regarding decorative water features. Components of effective *Legionella* disease prevention include, but are not limited to, the following:

a. Maintenance of Water Temperatures in Hot Water Distribution Systems in Accordance with VHA Policy and Guidance. In general, hot water storage tanks should be maintained at a minimum of 140 degrees Fahrenheit (°F), with a thermostatic mixing valve assembly installed on the discharge side to reduce water temperature to 130°F before distribution. Systems that use instantaneous water heaters that feed instantly heated water directly into a circulating distribution system can discharge water into the circulating distribution system at 130°F without the need of a mixing valve. **NOTE:** Refer to VHA Directive 2009-009 for further details and for information on temperature limits and controls to prevent scald injury.

b. Written Annual *Legionella* Evaluation Plans. Every VHA acute care facility and Community Living Center not physically housed in an acute care facility should have an evaluation plan in accordance with VHA Directive 2008-010. Those facilities with plans that include environmental water surveillance for *Legionella* and/or clinical screening for *Legionella* disease should ensure a proper and timely response when indicated.

c. Monitoring and Maintenance. Routine monitoring and preventive maintenance of hot water distribution systems and of any additional *Legionella* prevention engineering measures implemented in facility water distribution systems (e.g., copper-silver ionization, chlorine dioxide) are critical for *Legionella* prevention. Additional engineering measures should function according to the manufacturer's specifications and at recommended capacity for *Legionella* inhibition.

d. Prohibition of Indoor, Open Decorative Water Features. Recent reports in the literature have shown an association between the presence of these water features and healthcare-associated *Legionella* disease. The recently approved EDM prohibiting the use of indoor, open decorative water features in VHA health care facilities addresses this risk. **NOTE:** The EDM can be located on the National Leadership Council Web site at: <http://vawww.nlc.portal.va.gov/Pages/default.aspx>. This is an internal VA Web site and is not available to the public.

e. Clinical Vigilance. Maintain a high index of suspicion for a diagnosis of *Legionella* disease in healthcare-associated pneumonia cases.

NOTE: Both VHA Directive 2008-010 and VHA Directive 2009-009 are due to expire in the second quarter of Federal Fiscal Year 2013. Revisions of both documents are ongoing, but completion and publication may be delayed as information continues to be gathered from the recent cases of healthcare-associated *Legionella* disease. VHA Directive 2008-010 and VHA Directive 2009-009 will remain in effect to maintain active *Legionella* prevention policies.

4. References

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- b. American Thoracic Society and Infectious Diseases Society of America. Guidelines for the Management of Adults with Hospital-acquired, Ventilator-associated, and Healthcare-associated Pneumonia. American Journal of Respiratory and Critical Care Medicine 171(4):388-416; 2005.
- c. CDC. Guidelines for Environmental Infection Control in Health-care Facilities. Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Morbidity and Mortality Weekly Reports (MMWR) 52 (RR10):1-42; 2003. www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm
- d. CDC. Guidelines for Preventing Healthcare-associated Pneumonia. Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee. MMWR 53(RR03):1-36; 2003. www.cdc.gov/mmwr/preview/mmwrhtml/rr5303a1.htm
- e. CDC. "Legionellosis – United States, 2000 – 2009." Morbidity and Mortality Weekly Reports 60(32): 1083-1086; August 19, 2011. Located at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6032a3.htm>. Accessed December 12, 2012.
- f. Edelstein, P. H. and Cianciotto, N. P. "*Legionella*." In: Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, 7th edition. GL Mandell, JE Bennett, R Dolin (eds). Vol. 2, Chapter 233, pp. 2985-2989. Elsevier Churchill Livingstone, Philadelphia, PA; 2009

5. Inquiries: Questions relating to clinical aspects of *Legionella* disease or to VHA *Legionella* directive policy may be referred to the National Infectious Diseases Service (10P4E) at 513-246-0270. Questions relating to engineering controls for *Legionella* prevention may be referred to the Office of Capital Asset Management, Engineering, and Support (10NA5) at 202-632-7900.

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