

Routine Micro Treatments of Hospital Water System with Monochloramine Effectively Controls *Legionella* Growth

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Background

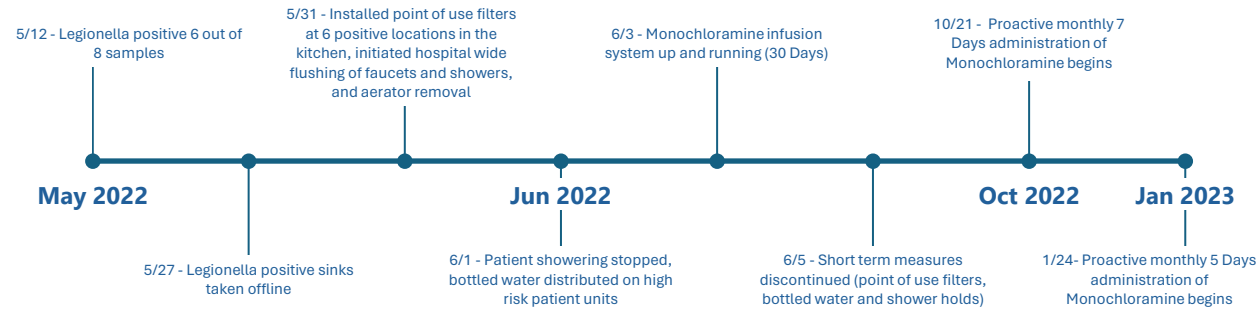
Legionella pneumophila is a bacterium that can cause serious lung infections. Exposures can occur from ill-managed man-made water systems or heating, ventilation, and air conditioning systems. *Legionella* is a pathogen of concern in healthcare systems due to pervasive aged plumbing infrastructure, and dependence on the municipality's water treatment protocols. Identification of hospital-associated infections (HAIs) with *Legionella* is of significant concern to both the healthcare facility and the state public health department. Therefore, when a Food and Nutrition employee of a 500-bed hospital presented to the Emergency Department with respiratory symptoms and a positive *Legionella pneumophila* Serotype 1 antigen result, an investigation was initiated to determine if this was an HAI.

Objectives

- Explain why a focused water management team is essential to address *Legionella* risk in hospital water systems.
- Recognize the risk of *Legionella* infection posed to hospital staff from aged plumbing infrastructure in the healthcare setting.
- Describe strategies to control *Legionella* growth.

Methods

A focused Water Management team was formed. Team members included a third-party water management vendor, Infection Prevention, Environmental Services, Hospital Leadership, and Facilities. Baseline environmental water sampling for *Legionella* was performed. A monochloramine injection system was installed, and the water system was treated for 30 consecutive days. Due to subsequent actionable levels (>1 Colony Forming Unit/milliliter), several variations of monochloramine treatment protocols were performed. Continued detection of actionable levels led to the development of a schedule to proactively administer monochloramine for 5 consecutive days per month.



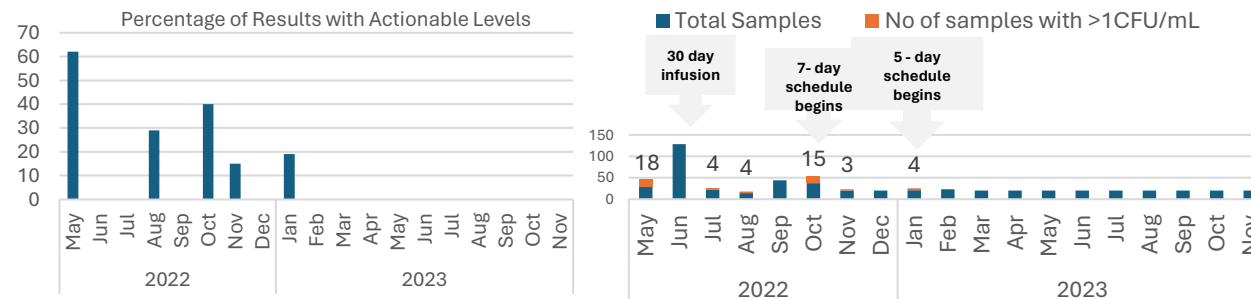
Results

Baseline environmental water samples from the kitchen where the employee worked were above the actionable level for *Legionella*. After a 30-day cycle of monochloramine treatment, actionable levels were detected at 60 days. After implementing the routine treatment schedule of 5 consecutive days each month, environmental water cultures for *Legionella* have remained below the actionable level for the period of January 2023 through November 2023. These results indicated that the *Legionella* growth was well controlled.

Conclusion

Legionella can persist in the healthcare setting despite targeted treatment. Monthly treatment of the hospital water system with monochloramine for 5 days has shown success in keeping *Legionella* below actionable levels.

Results



Disclosures

Authors have nothing to disclose.

Acknowledgment

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