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Effects of monochloramine on *Legionella* spp. and other opportunistic pathogens from a hospital water distribution systemJingrang Lu¹, Ian Struewing², Colin White³, Stacy Pfaller¹ and Darren Lytle¹¹EPA, USA²Pegasus Service, USA³Ohio EPA, USA

The goal of this study was to evaluate the effects of monochloramine on the occurrence and quantity of *Legionella* spp., *L. pneumophila*, *Vermamoeba vermiformis*, *Mycobacterium* spp., and *Pseudomonas aeruginosa* estimated using qPCR at 16 point of use locations in a hospital before and after installation of a building-size monochloramine system. Monochloramine was operated with the parameters recommended by the manufacturer, maintained detectable concentrations at every site and monitored. Generally, significant reductions of mean values of monthly detections were found for all the targeting organisms. The reductions (occurrence %/mean quantity CE L-1) are as follows from high to low: *P. aeruginosa* (from 34/1.41×10⁴ to 1/3×100), *L. pneumophila* serogroup 1 (from 86/9.34×10³ to 34/4.1×10¹), *Legionella* spp. (from 88/1.26×10⁴ to 42/4.01×10²), *Mycobacterium* spp. (from 92/1.42×10⁶ to 65/6.17×10⁵) and *V. vermiformis* (from 75/1.33×10³ to 18/5.45×10²). We concluded that monochloramine was effective for reduction of *Legionella* spp., *L. pneumophila* and *P. aeruginosa* to a low or undetectable level, but was less or insignificant reduction for *V. vermiformis* and *Mycobacterium* spp.

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