

Suspected *Pseudomonas aeruginosa* Folliculitis Associated with a Pool

January-April

Hennepin County

On March 31, 2017, the Minnesota Department of Health (MDH) Waterborne Diseases Unit received a complaint from a resident of a senior living facility in Wayzata, reporting that at least nine residents had developed a rash within 24 hours of using the facility's pool. The caller reported that the facility was aware of the illnesses and had been doing their own testing at a private laboratory. City of Wayzata Public Health (CWPH) sanitarians were contacted on March 31, and an outbreak investigation was initiated.

Contact information for facility residents was provided to MDH by the facility. MDH staff interviewed residents about their illness and water exposure histories. A case was defined as a senior living facility resident who developed a rash since January 1, 2017.

CWPH sanitarians conducted an onsite inspection of the swimming pool and spa pool facilities on March 31.

Illness histories and exposure information were obtained from 28 residents. Eight (29%) cases were identified. One resident reported illness but did not meet the case definition, and thus was excluded from further analyses. All eight cases reported an itchy rash; the rashes were reported on multiple parts of the body, including the back, chest, arms, and legs. No other symptoms such as fever, fatigue, or headache were reported. Cases reported onset dates from January to April 2017. Three cases were seen by a healthcare provider for their illnesses. The median age of cases was 84 years (range, 73 to 93 years).

Swimming in the pool was significantly associated with illness (7 of 8 cases vs. 8 of 19 controls; odds ratio, 9.6; 95% confidence interval, 1.0 to 94.5; $p = 0.03$). No cases reported going in the spa pool. Cases reported using the pool for water aerobics and arthritis classes, often multiple times a week. All cases who reported swimming reported showering immediately after getting out of the pool.

Upon inspection of the pool and spa pool on March 31, the spa pool exceeded the state limit of 10.0 parts per million (ppm) free chlorine level and was closed until it was within normal operating range (i.e., 1.0 to 10.0 ppm). The pool had a visible white adhesive substance along the water line. The operator was instructed to scrub the water line tiles and temporarily raise the free chlorine to 10.0 ppm.

Review of the pool logs found drastic swings in the free chlorine levels on multiple occasions (e.g., 5 ppm one day to 20 ppm the next day), and multiple days for which there were no readings recorded. The temperature of the pool is maintained at 92° F.

Prior to the inspection, facility management had replaced all swim items (flotation devices, weights) and drained the pool, power washed it, and tested it for *Pseudomonas* with a commercial test kit; all results were negative.

This was a waterborne outbreak of suspected *Pseudomonas aeruginosa* dermatitis associated with a senior living facility swimming pool. The poor monitoring of disinfection levels by the pool operator likely contributed to the outbreak.