Pontiac Fever Associated with a Recreation Center Spa Pool

March Anoka County

On March 9, 2011, the Minnesota Department of Health (MDH) received a complaint from an individual who had attended a handball tournament at recreation center in Columbia Heights on March 4 and 5. The complainant reported that approximately 30 of 44 players had become ill with fever, chills, malaise, and headache following the tournament, primarily with an onset date of March 6. Discussions with the complainant revealed that several of the players had used a spa pool in the men's locker room. Sanitarians from Anoka County Community Health and Environmental Services (ACCHES) were contacted, and an outbreak investigation was initiated.

A list of handball tournament players was obtained from the organizer. Contact information for additional users of the facility was obtained from team organizers and facility personnel. Epidemiologists from MDH interviewed players and spectators to obtain information on exposures and illness history. A case was defined as a recreation center user who subsequently developed fever and/or chills.

Sanitarians from ACCHES and environmental health staff and an epidemiologist from MDH visited Central Courts to interview staff and assess the facilities.

Of 73 individuals interviewed, 48 (66%) met the case definition. Two individuals reported illness but did not meet the case definition, and thus were excluded from further analysis. Forty-four (92%) cases were male. The median age of cases was 60 years (range, 29 to 82 years) for the 47 cases who reported their age. Forty-five (98%) of 46 reported fatigue, 45 (94%) reported chills, 44 (94%) of 47 reported headache, 43 (93%) of 46 reported muscle aches, 43 (91%) of 47 reported fever, 29 (62%) of 47 reported cough, 21 (44%) reported dizziness, 20 (43%) of 47 reported chest tightness, and 12 (26%) of 47 reported sore throat. The median incubation period from the first exposure to the recreation club was 44.5 hours (range, 15 to 73.5 hours). The median duration of illness was 60.5 hours (range, 21.5 to 91 hours) for the 16 cases who had recovered at the time of interview. Nine (19%) cases visited a medical provider for their symptoms; one case was hospitalized overnight. Six patients had a specimen collected for a *Legionella* urinary antigen test; all six specimens were negative.

Being in the men's locker room the evening of March 4 was significantly associated with illness (43 of 48 cases vs. 0 of 23 controls; odds ratio, undefined; $p < 0.001$). The five cases who were not in the men's locker room on March 4 had later onsets of illness than the rest of the cases, perhaps indicating a later exposure or a smaller dose.

ACCHES visited the facility and confirmed that there was an unlicensed spa pool in operation in the men's locker room. The operator stated that the spa pool had been losing 3 to 6 inches of water a day for unknown reasons and was being filled with water from a hose attached to a sink in the locker room mechanical room. There was no history of the spa pool being recently chlorinated or otherwise disinfected. Cracks and corrosion were observed on the spa pool surfaces. The locker room facilities

were observed to be in general disrepair. The spa pool was drained and removed from operation. The owner of the recreation center voluntarily closed the recreation center on March 11.

This was an outbreak associated with a recreation center spa pool. The symptoms, incubation period, and high attack rate are consistent with Pontiac Fever, a milder illness caused by the *Legionella* bacteria. The improper maintenance and lack of disinfection of the spa pool likely led to the proliferation of the bacteria. Ventilation problems may have allowed aerosols to spread outside of the men's locker room.