

Cryptosporidiosis Associated with an Aquatic Center

August

Hennepin County

Routine surveillance interviews of two laboratory-confirmed *Cryptosporidium* cases conducted by the Minnesota Department of Health (MDH) on August 17, 2012 revealed that both cases had gone swimming at an aquatic center in Bloomington, Minnesota during the 2 weeks prior to illness onset. One of the cases reported swimming at the aquatic center while actively ill with diarrhea. Sanitarians from the City of Bloomington Environmental Health (CBEH) were contacted on August 17, and an outbreak investigation was initiated.

Contact information for aquatic center users was provided to CBEH by the aquatic center. CBEH staff interviewed aquatic center patrons about their illness and exposure histories. Cases of cryptosporidiosis that were identified through routine surveillance were interviewed to determine if they had exposure to the aquatic center. A case was defined as an aquatic center user who developed either a laboratory-confirmed *Cryptosporidium* infection or diarrhea (≥ 3 loose stools in a 24-hour period) or vomiting lasting ≥ 3 days, with illness onset 2 to 14 days following aquatic center exposure.

CBEH sanitarians visited the aquatic center on August 17 to conduct a field assessment of the facility and to interview staff regarding recent illness and job duties.

Illness histories and exposure information were obtained from 118 aquatic center patrons. Six (5%) cases were identified, including four with stool specimens that tested positive for *Cryptosporidium*. All four positive specimens were received by the MDH Public Health Laboratory, including three specimens that were submitted through routine surveillance by clinical laboratories; *Cryptosporidium parvum* subtype BGP3 was identified in all.

Of the cases, all six reported cramps, five (83%) reported diarrhea, two (40%) of five reported fever, and two (33%) reported vomiting. Reported onset dates ranged from August 8 to August 17. The median incubation period was 6 days (range, 2 to 12 days) for the five cases who only reported swimming one time at the aquatic center in the 2 weeks prior to illness onset. The median duration of illness was 6 days (range, 3 to 30 days) for the four cases who had recovered by the time of interview.

Nineteen aquatic center staff were interviewed about recent illness and job duties. Three (16%) reported being recently ill with vomiting and/or diarrhea lasting ≥ 3 days, with reported onset dates ranging from July 31 to August 10. Ill staff were restricted from working while ill and for 2 weeks following the resolution of symptoms.

On August 17, the aquatic center voluntarily closed in order to be superchlorinated at 20 parts per million for 12.75 hours, the necessary chlorine level and time needed to inactivate *Cryptosporidium*.

Upon inspection, the aquatic center was found to be operating properly and was within state regulatory limits for pH and chlorine levels. However, *Cryptosporidium* can survive and be transmitted even in properly operated pools.

The aquatic center reopened on August 19; anyone with symptoms of gastrointestinal illness was told by staff not to enter the aquatic center until 2 weeks following the resolution of symptoms.

This was an outbreak of cryptosporidiosis associated with swimming at an aquatic center. Although the original source of contamination was not identified, an infectious aquatic center user most likely introduced the parasite into the aquatic center. Individuals continuing to swim while ill most likely led to a protracted amount of time during which aquatic center users were at risk for becoming infected.