

Cryptosporidiosis Associated with an Aquatic Center

June-July

Lyon County

Routine surveillance interviews of two laboratory-confirmed *Cryptosporidium* cases conducted by the Minnesota Department of Health (MDH) on July 18, 2012 revealed that both cases had gone swimming at an aquatic center in Marshall, Minnesota during the 2 weeks prior to illness onset. Sanitarians from MDH Food, Pools, and Lodging Services (FPLS) were contacted on July 18, and an outbreak investigation was initiated.

Contact information for aquatic center groups and aquatics staff was provided to MDH by the aquatic center. MDH 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 or more days, with illness onset 2 to 14 days following aquatic center exposure.

MDH sanitarians visited the aquatic center on July 18 and 19 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 112 aquatic center patrons. Seven (6%) cases were identified, including three cases that tested positive for *Cryptosporidium* at a clinical laboratory. Three aquatic center patrons reported illness but did not meet the case definition, and thus were excluded from further analysis. One case's stool sample was received at the MDH Public Health Laboratory; however, molecular identification to species was not successful.

Of the cases, all seven reported diarrhea, five (100%) of five reported cramps, four (57%) of seven reported vomiting, four (57%) of seven reported weight loss, and two (33%) of six reported fever. Reported onset dates range from June 29 to July 15. The median incubation period could not be calculated, as all cases with known exposure dates reported swimming more than once in the 2 weeks prior to illness onset. The median duration of illness was 6 days (range, 4 to 8 days) for the two cases who had recovered by the time of interview. For the six cases with available information, four (67%) reported visiting a health care provider for their illness, including two cases who were hospitalized.

No specific day, pool, or swimming activity was associated with illness.

Twenty-eight aquatic center staff were interviewed about recent illness and job duties. Three (11%) reported being recently ill with vomiting and/or diarrhea lasting 3 or more days, with reported onset dates ranging from June 18 to July 13. Staff reported working while ill. Ill staff were restricted from working while ill and for 2 weeks following the resolution of symptoms.

On July 18, 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 July 20; anyone with symptoms of gastrointestinal illness was told by staff not to enter the aquatic center until 2 weeks following the resolution of symptoms. Signage was also posted at the facility alerting patrons not to swim if they were experiencing diarrhea.

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, including aquatics staff, most likely led to a protracted amount of time during which aquatic center users were at risk for becoming infected.