

Cryptosporidiosis among a High School Swim Team

August-September

Hennepin County

A routine surveillance interview of a laboratory-confirmed *Cryptosporidium* case conducted by the Minnesota Department of Health (MDH) on September 14, 2011, revealed that the case had swam at a community center pool in St. Louis Park multiple times in the 2 weeks prior to illness onset as part of her high school swim team. The parent of the case also reported that multiple other girls on the swim team were ill with similar symptoms. An MDH epidemiologist contacted the coach of the swim team, who confirmed that several girls had recently been ill. Sanitarians from the City of St. Louis Park were contacted on September 15, and an outbreak investigation was initiated.

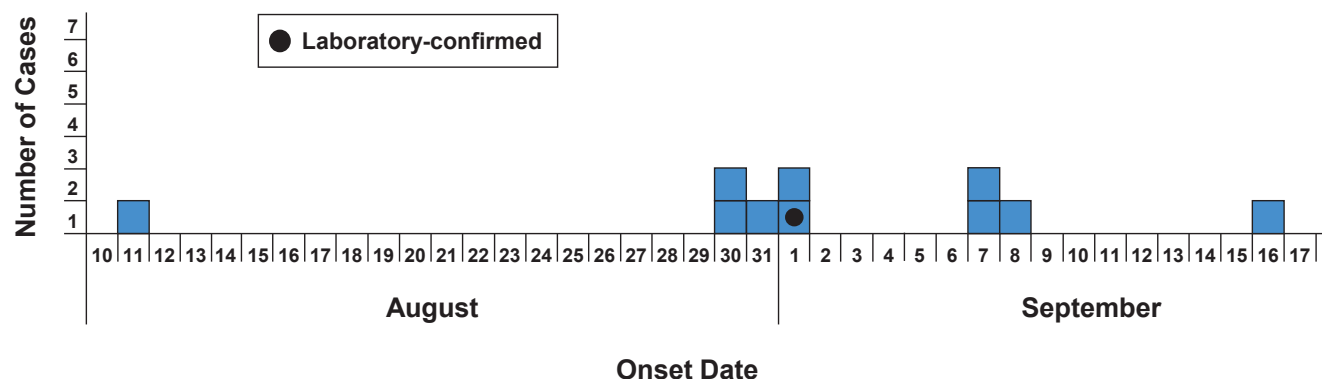
Information about pool usage and contact information for swim team members was provided to MDH by the swim team coaching staff. MDH staff interviewed swim team members about their illness and exposure histories. Cases of cryptosporidiosis that were identified through routine surveillance were interviewed to determine if they had exposure to any pools the swim team might have used. Additionally, an MDH epidemiologist contacted the swim team coaches or athletic directors of schools the team competed against while swimmers were ill to alert them to the symptoms of cryptosporidiosis.

A case was defined as a swim team member who subsequently 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 since August 2011.

Illness histories and exposure information were obtained from 31 swim team members. Eleven (35%) cases were identified, including two with stool specimens that tested positive for *Cryptosporidium*. Three swim team members reported illness but did not meet the case definition, and thus were excluded from further analysis. Two positive specimens were received by the MDH Public Health Laboratory, and *Cryptosporidium hominis* subtype HGP25 was identified in both.

Of the 11 cases, all reported diarrhea, 8 (73%) reported cramps, 5 (45%) reported fever, 3 (30%) of 10 reported weight loss, and 3 (27%) reported vomiting. Illness onset dates ranged from August 11 to September 16 (see epidemic curve). The median incubation period could not be determined because cases swam at the pool more than once in the 2 weeks prior to illness onset. The median duration of illness was 6 days (range, 3 to 15 days) for the nine cases who had recovered by the time of interview. No cases required hospitalization for their illness.

Cryptosporidiosis Cases among a High School Swim Team, by Illness Onset Date*



*Onset date unknown for one laboratory-confirmed case

Interviews with coaches and swim team members revealed that the team had used the community center pool, and a local junior high school pool for practices and home meets. Use of a particular pool was not statistically associated with illness. Swimmers reported swimming while actively ill and/or after being ill.

The community center pool was already closed for the season at the time the investigation was initiated. On September 16, the community center and the junior high school pools were voluntarily closed in order to be superchlorinated at 20 ppm for 12.75 hours, the necessary chlorine level and time needed to inactivate *Cryptosporidium*. Upon inspection and review of pool logs, both pools were found to be operating properly and had been within state regulatory limits for pH and disinfection levels for the previous month. However, *Cryptosporidium* can survive and be transmitted even in properly operated pools.

The community center pool was reopened on September 19, and the junior high pool reopened on September 20. Signs with healthy swimming messages were posted at both pools and anyone with symptoms of gastrointestinal illness was told not to enter the pools until 2 weeks following the resolution of symptoms.

This was a waterborne outbreak of cryptosporidiosis among a high school swim team. Although the original source of contamination was not confirmed, an infectious pool user most likely introduced the parasite into the pool. Swim team members continuing to swim while ill or recently ill likely led to additional team members becoming ill.