

Suspected Norovirus Gastroenteritis Associated with a Fitness Center Camp

December

Hennepin County

On December 30, 2011, the Minnesota Department of Health (MDH) foodborne illness hotline received a report from a fitness center camp near Loretto, Minnesota regarding several complaints of illness following a 2-day youth camping event held on December 28 and 29. MDH notified the Hennepin County Human Services and Public Health Department (HSPHD) epidemiology and environmental health units, and an investigation was initiated.

HSPHD epidemiologists interviewed youth campers, camp counselors, camp staff, and members of a church group who were also at the camp. Information was gathered regarding food consumption and illness history. A case was defined as a person who attended the camp and subsequently developed vomiting and/or diarrhea (≥ 3 loose stools in a 24-hour period).

HSPHD sanitarians interviewed food workers and other camp employees about illness history and work duties on December 30. A sanitarian also visited the camp kitchen on January 4 to provide instructions on precautions to be put into place prior to preparing meals for additional camp attendees.

Thirty-one individuals were interviewed, and 18 (58%) met the case definition. Seventeen cases (94%) reported vomiting, 11 (61%) reported diarrhea, 8 (44%) reported nausea, 7 (39%) reported cramps, 6 (33%) reported fever, and none reported bloody stools. The median incubation from the lunch meal served on December 28 was 32 hours (range, 22 to 46 hours). The median duration of illness was 12.5

hours (range, 1 to 26 hours) for the 14 cases who had recovered at the time of interview. No stool specimens were submitted for testing.

Cases reported eating a variety of foods while at camp including chicken patty on a bun, fries, spaghetti, salad bar items, hot and cold breakfast foods, roast beef, mashed potatoes, cookies, cider, and hot chocolate. The youth campers and camp counselors ate each meal family-style, with foods being passed around the table. Church group attendees served themselves from a buffet line. The self-serve salad bar station was available to everyone.

No individual food items were statistically associated with illness. However, getting reliable food histories from youth campers proved difficult, so an analysis was done including only the camp counselors and the church group. In this analysis, the December 28 lunch meal was significantly associated with illness (8 of 8 cases vs. 2 of 5 controls; odds ratio [OR], undefined; 95% confidence interval [CI], undefined; Fisher's exact two-tailed $p = 0.04$). When the analysis was expanded to include youth campers, the December 28 lunch meal approached significance (18 of 18 cases vs. 6 of 9 controls; OR, undefined; 95% CI, undefined; Fisher's exact two-tailed $p = 0.05$).

Six camp employees were interviewed. Three employees reported recent gastrointestinal illness and were excluded from food handling for 72 hours after their last symptom resolved. None reported being symptomatic at the time of the camp; however a cook reported having diarrhea on December 26 and 27. This cook prepared meals on December 28, but did not prepare foods for the salad bar. A dishwasher reported vomiting on December 27 and returned to work on December 29. A second dishwasher became ill with diarrhea and vomiting on December 29. The second dishwasher worked December 27-29 and reported eating meals prepared at the camp.

HSPHD sanitarians noted overall compliance with food code requirements; however, the kitchen was closed at the time of visit and therefore no food preparation was observed. The sanitarians further stressed the importance of proper handling of food and beverages, good handwashing, thorough disinfection, and exclusion of ill employees upon reopening of the kitchen.

This was a foodborne outbreak of suspected norovirus gastroenteritis associated with eating at a fitness center camp. The vehicle of transmission and source of contamination were not identified. However, multiple ill employees were identified, suggesting illness transmission among workers at the camp. It is likely that food items were contaminated by an ill or recently ill food worker.