

Norovirus Gastroenteritis Associated with an Event Center

February

Dakota County

On February 23, 2011, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint of gastrointestinal illness among a group of individuals who attended a birthday party at an event center in Burnsville on February 20. An investigation was initiated immediately.

In November, 2010, the event center in Burnsville had been investigated following an illness complaint. That investigation revealed that the manager had been preparing sub sandwiches in her home in violation of the facilities' license. The facility was ordered to cease this practice.

A Minnesota Department of Agriculture (MDA) inspector visited the establishment on February 24 to discuss food preparation and handling procedures at the facility, interview staff, and collect contact information for groups that had gatherings at the facility from February 18 through February 21. MDH staff interviewed individuals from the complainant party and event organizers about food consumption and illness history. Separate analyses were conducted for each party reporting multiple illnesses among attendees. A case was defined as an event center patron who developed vomiting and/or diarrhea (≥ 3 loose stools in a 24-hour period) after eating at the facility. Stool samples collected from consenting patrons were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

Twenty-two individuals from the original complainant group were interviewed and nine (41%) met the case definition. One group member reported illness that did not meet the case definition and was excluded from analyses. Eight (89%) cases reported diarrhea and cramps, seven (78%) reported vomiting, four (44%) reported fever, and none reported bloody stools. The median incubation period was 33 hours (range, 9 to 46 hours). The median duration of illness for the six cases who had recovered at the time of interview was 15 hours (range, 6 to 51 hours). Both stool samples submitted by ill group members tested positive for norovirus GII.

By univariate analysis, consuming a sub sandwich (9 of 9 cases vs. 6 of 12 controls; odds ratio [OR], undefined; 95% confidence interval [CI], undefined; $p = 0.02$), turkey (7 of 9 cases vs. 3 of 12 controls; OR, 10.5; 95% CI, 1.0 to 141; $p = 0.03$), any side (8 of 9 cases vs. 3 of 12 controls; OR, 24.0; 95% CI, 1.63 to 1179; $p = 0.01$), green peppers (4 of 8 cases vs. 0 of 12 controls; OR, undefined; 95% CI, undefined; $p = 0.01$), and tomatoes (5 of 8 cases vs. 0 of 12 controls; OR, undefined; 95% CI, undefined; $p = 0.004$) were significantly associated with illness. A multivariate analysis using logistic regression was unable to be performed due to the high degree of colinearity between reported turkey, tomato, and green pepper consumption.

Event organizers for 14 additional groups that held gatherings in which food was served at the event center from February 18 through 21 were contacted. Three group organizers reported that group members were ill with gastrointestinal illness; all three held events at the facility on February 21. Two of the groups reported only one ill individual. One of the ill individuals only consumed cake and drank soda from the facility; the other did not consume any food from the facility but did drink a juice box and water from a water pitcher.

The event organizer for the third group that held a party at the event center on February 21 reported a number of illnesses among the group and provided contact information for the other attendees. Fourteen individuals from this group were interviewed, and nine (64%) met the case definition. Two cases reported illness onsets >60 hours after the party. They were attributed to secondary infection and were excluded from the analysis of exposures. Two additional individuals reported illness that did not meet the case definition and were excluded from analyses. Six (67%) cases reported vomiting and cramps, four (44%) reported fever, two (22%) reported diarrhea, and none reported bloody stools. The median incubation period was 36 hours (range, 29 to 84 hours). The median duration of illness for the seven cases that had recovered at the time of interview was 36 hours (range, 12 to 57 hours). The small number of non-ill controls from this group prevented a meaningful statistical analysis of specific food exposures.

However, of the 14 additional groups that were contacted, this was the only group that reported consuming sub sandwiches.

MDH staff interviewed 13 facility employees; six reported recent gastrointestinal illness. Employees reported becoming ill on February 18 (n=1), 22 (n=1), and 23 (n=4). The employee that was ill prior to the events reported an onset of cramping on February 18 and no vomiting or diarrhea. This employee served sub sandwiches on February 21, but reported not doing any food preparation. Event center staff were also questioned about food preparation practices. Three employees reported that the sandwich platters were made in the employee break room or at the manager's home. The MDA inspector questioned the manager about food preparation and where the food provided to the groups originated. The manager stated that the sandwiches were purchased pre-made from a grocery store in New Prague. However, when the inspector contacted the grocery store, no orders for pre-made sub sandwiches were filled from February 18 through 21. Further more, photographs provided by the complainant indicated that food leftover from the meal was packaged in "Grocery Store X Dollar Bun" plastic bags. This suggested that sandwiches were not purchased pre-made, and that the sandwiches were indeed prepared by event center staff. The establishment was ordered to immediately cease on-site food preparation and food preparation in an unlicensed kitchen.

This was a foodborne outbreak of norovirus gastroenteritis associated with an event center in Burnsville. Sub sandwiches were identified as the vehicle. Preparation of the sub sandwiches was found to be taking place at the establishment or in the manager's home in direct violation of the facility's license. A number of employee illnesses were identified and the source of the contamination was likely an infected employee.