

Norovirus Gastroenteritis Associated with Red, White, and Blue Catering

Crow Wing County

March 2014

Background

On March 27, 2014, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint from the Nisswa Lions Club reporting that approximately 6 of 35 people became ill with vomiting and/or diarrhea after their monthly meeting held at the Nisswa Community Center on March 24. The event was catered by Red, White, and Blue Catering, which operates from the Nisswa American Legion. MDH Environmental Health (EH) was informed and an investigation was initiated.

Methods

MDH EH sanitarians visited the caterer on March 27 to evaluate food preparation and handling procedures, interview employees regarding recent illness and job duties, and gather more information about the event.

A list of event attendees was provided to MDH by the event organizer. Attendees were interviewed by MDH staff to obtain information on food and beverage consumption and illness history.

A case was defined as a person who developed vomiting and/or diarrhea (≥ 3 stools in a 24-hour period) after eating food from the Nisswa American Legion. Stool samples from consenting patrons and food workers were submitted to the MDH Public Health Laboratory (PHL) for bacterial and viral testing.

Results

Thirty-two patrons were interviewed; 23 (72%) reported illness that met the case definition. An additional two patrons reported illness that did not meet the case definition and were excluded from further analyses. Two of the cases reported illness onset on March 22; the remaining cases reported illness onset on March 25 or 26. The cases with the earlier onset attended the Friday night dinner at the American Legion on March 21. One of these cases attended the Lion's Club meeting, but did not eat anything. On April 2, an individual called the MDH foodborne illness hotline to report that she and her husband became ill after eating at the American Legion on March 21, but did not provide further information. The median incubation for cases was 28 hours (range, 16.5 to 37.5). The median duration of illness was 35 hours (range, 7 to 115 hours) for the eight cases who had recovered at the time of interview. Twenty-two (97%) cases reported diarrhea, 16 (70%) vomiting, 14 (61%) cramps, 8 (35%) fever, and 1 (5%) bloody stools. Two cases sought medical attention at a clinic, and one was seen at an emergency room; no cases were hospitalized or died. Three stool specimens collected from patrons who were ill after the March 24 event were positive for norovirus GII.4 Sydney with identical nucleic acid sequences. A sample from a patron who dined at the American Legion on March 21 was also positive for norovirus GII.4 Sydney with the same nucleic acid sequence as the other norovirus-positive patrons.

The majority of cases attended the meeting on March 24 and consumed food from the buffet, which included pork chops, lettuce salad, potato salad, calico beans, rolls, butter, and brownies. In the univariate analysis, no food item was significantly associated with illness. However, the following foods had elevated odds ratios: any food from the buffet on March 24 (21 of 23 cases vs. 5 of 7 controls; odds ratio [OR], 4.2; 95% confidence interval [CI], 0.5 to 37.5; p value = 0.22), pork chops (20 of 21 cases vs. 4 of 5 controls; OR, 5.0; 95% CI, 0.3 to 97.7; p value = 0.35), butter (15 of 18 cases vs. 2 of 5 controls; OR, 7.5; 95% CI, 0.9 to 66.0; p value = 0.09), and rolls (18 of 21 cases vs. 3 of 5 controls; OR, 4.0; 95% CI, 0.5 to 34.9; p value = 0.20). The two cases who did not eat anything at the March 24 event reported eating the fried fish special and vegetables at the American Legion on March 21.

Red, White, and Blue Catering and the American Legion share the same three food service staff. All three staff persons were interviewed. One employee reported onset of vomiting and diarrhea on March 19 and recovery on March 20. This employee returned to work on March 21, 24 hours after recovery from gastrointestinal symptoms. The job duties for this employee on March 21 included plating salads and specials for the restaurant. On March 24, the employee prepared the salad for the Lion's Club event. The ill employee submitted a stool specimen to the MDH PHL, and the sample was positive for norovirus GII. The sample was not able to be sequenced.

During the environmental health assessment, the sanitarian noted a lack of compliance in maintaining the employee illness log, and improper handwashing. Additionally, leftover pork chops, beans, and potato salad from the event were re-served in the restaurant after the Lion's Club event. Frozen calico beans leftover from the event in the freezer were discarded at the time of the inspection. The sanitarian stressed the importance of handwashing and eliminating bare-hand contact with ready-to-eat foods for the prevention of norovirus transmission.

Conclusions

This was a foodborne outbreak of norovirus gastroenteritis associated with Red, White, and Blue Catering. The vehicle of transmission was not identified. The likely source of contamination was a recently ill food worker who had contact with ready-to-eat food items.