

Norovirus Gastroenteritis Associated with a Restaurant

January

Stearns County

On January 20, 2017, Stearns County Environmental Health contacted the Minnesota Department of Health (MDH) foodborne illness hotline to report that a restaurant in Avon, Minnesota had received two complaints of illness from patrons who attended a wedding reception held at the restaurant on January 14. The restaurant had received the complaints a few days earlier and did not immediately notify Stearns County. MDH contacted the complainants, and they reported that 50 of approximately 300 people became ill after attending the wedding reception meal. The complainant reported that they would provide additional contact information for other wedding attendees. A groom's dinner was held on January 13 at a restaurant in Holdingford; however, the times of illness onset and the symptoms reported by the complainants appeared to fit better with reception meal. Stearns County Environmental Health was notified, and an investigation was initiated.

On January 20, Stearns County Environmental Health sanitarians visited the restaurant to ask management about recent employee illness and have management set aside any leftover food from the wedding, and had restaurant management put preliminary norovirus interventions in place (cleaning and sanitizing and excluding any ill workers). On January 23, Stearns County sanitarians began conducting phone interviews of food workers, and requested management to gather patron credit card receipts and put the employee illness screening form in place.

A partial wedding guest list with contact information was provided by one of the original complainants. MDH staff interviewed wedding attendees to obtain information on food/beverage consumption at wedding reception and illness history. MDH staff also interviewed restaurant patrons identified from credit card receipts.

A case was defined as a restaurant patron who developed vomiting and/or diarrhea (≥ 3 stools in a 24-hour period) after attending the wedding reception held on January 14 or after eating in the restaurant on January 14 or 15. Stool samples from consenting patrons were submitted to the MDH Public Health Laboratory (PHL) for bacterial and viral testing.

A total of 44 wedding attendees were interviewed, and 27 (61%) met the case definition. Five attendees were excluded from analyses because they reported mild illness that did not meet the case definition. The median incubation period from the reception meal was 32.3 hours (range, 9 to 69.5 hours). The median duration of illness was 49.5 hours (range, 8.5 to 221 hours). Twenty-three (85%) cases reported diarrhea, 19 (70%) cramps, 18 (67%) vomiting, 5 (19%) fever, and none bloody stools. One case visited their medical provider.

Wedding attendees reported eating a variety of food items. In a univariate analysis, consumption of the cucumber salad (17 of 24 cases vs. 2 of 11 controls; odds ratio, 7.7; 95% confidence interval, 1.4 to 42.7; $p = 0.03$) was significantly associated with illness.

Fifteen patrons were interviewed from the credit card receipt information provided by the restaurant. Of these, one (7%) met the case definition. This case reported an onset of diarrhea and cramps approximately 20 hours after eating at the restaurant on January 15. An additional patron reported illness, but his onset was 8 days after his meal at the restaurant and he had other restaurant exposures within the timeframe of interest. Due to the limited number of cases identified, a meaningful statistical analysis of food items could not be conducted. However, the case reported eating foods from the Sunday buffet which included stuffing, gravy, and leftover cucumber salad from the wedding reception.

All 24 employees were interviewed, and 3 (13 %) reported recent gastrointestinal illness. One employee had an onset of illness on January 8 (and worked on January 8 but reported not having symptoms until after their shift was over; this employee also had a household member who became ill during this time), one had onset on January 12 (this employee also had household members who were ill during this time; this employee reported not working while ill but working during the wedding reception), and one had onset on January 23. An additional employee reported caring for an ill family member (not in the same household) during the week of January 6; this employee did not report any illness.

Two recently ill employees submitted stool specimens to the MDH PHL. One (with illness onset January 12) tested positive for norovirus GI. The second employee (with illness onset January 23) tested negative for norovirus and bacterial pathogens. The employee who tested positive for norovirus reported working at the bar during the wedding reception. They also reported pouring water and ice in the glasses at the wedding tables and helping with general set-up before the wedding.

Preparation for the cucumber salad began a couple days prior to the wedding. Cucumbers for the salad were peeled and then stored in the walk-in cooler. The food worker who prepared the cucumbers reported that they did not wear gloves while prepping the cucumbers. The dressing for the salad was made a day prior to the wedding and consisted of salad dressing, pepper, and vinegar. On the day of the wedding, the cucumbers were sliced using a slicer and combined with the dressing and then stored in a cooler prior to service. The food worker who prepared the cucumber salad did not report recent illness.

While on-site, sanitarians observed a cook handling ready-to-eat foods with bare hands. Sanitarians stressed the importance of the use of gloves, deli tissue, or tongs when handling ready-to-eat foods. Management reported that they had saved food (stuffing, gravy, and cucumber salad) that had been out on the wedding reception buffet and used it for the Sunday restaurant buffet. Sanitarians discussed the importance of discarding foods which have been out on a buffet instead of re-serving because of potential contamination by patrons and concerns about time-temperature control. Additionally, there was no sink dedicated or set-up for handwashing in the bar area. Sanitarians discussed the need for a hand sink to be available and properly setup for handwashing in all food prep/service areas. Sanitarians provided norovirus education to the restaurant staff and had management screen all employees for recent gastrointestinal illness prior to starting their shift. They also discussed the importance of recording all employee illness in the illness log, excluding ill employees for an appropriate length of time, good handwashing, and thorough disinfection of food contact surfaces.

This was an outbreak of norovirus gastroenteritis associated with a wedding reception held at a restaurant. Cucumber salad was identified as the vehicle of transmission. However, it is likely that

multiple ready-to-eat foods served as vehicles of transmission. The source of contamination was likely one or more ill or recently ill food workers who contaminated ready-to-eat foods.