

Suspected Norovirus Gastroenteritis Associated with Wedding Party Lunch

May

Hennepin County

On May 31, 2017, Hennepin County Environmental Health (HCPH-EH) contacted the Minnesota Department of Health (MDH) foodborne and waterborne illness hotline to report that Event Center A in Maple Grove, Minnesota had received complaints of illness from patrons who attended a wedding reception held at Event Center A's restaurant on May 19. MDH contacted the bride on June 1, and she reported that 25 of approximately 200 people became ill after attending the wedding. The complainant reported that they would provide additional contact information for other wedding attendees. A groom's dinner was held on May 18 on a boat from Charter Company C in Lake Minnetonka and was catered by Restaurant D in Hopkins. Additionally, the wedding party brought in sandwiches to Event Center A from Restaurant B in Crystal for the wedding party and others involved in the wedding to eat before the ceremony and reception. All three meals were investigated as potential sources of illness. HCPH-EH and MDH initiated an investigation on June 1.

HCPH-EH sanitarians visited all restaurants reported by the party to ask management about recent employee illness, interview employees, and have restaurant management put norovirus interventions (cleaning and sanitizing, excluding any ill workers, and screening all workers for illness before starting their shifts) in place.

A partial wedding guest list with contact information was provided by the bride. MDH staff interviewed wedding attendees to obtain information on food/beverage consumption at wedding events and illness history.

A case was defined as a wedding attendee who developed vomiting and/or diarrhea (≥ 3 stools in a 24-hour period) after attending any of the various wedding events held on May 18 and 19. Stool samples were requested from consenting patrons for testing at the MDH Public Health Laboratory (PHL).

A total of 72 wedding attendees were interviewed, and 13 (18%) met the case definition. Five attendees were excluded from analyses because they reported mild illness that did not meet the case definition. Eleven of 13 cases (85%) attended all three event meals (groom's dinner, wedding lunch, and reception meal). The median incubation period from the groom's dinner for the 11 who attended was 50 hours (range, 33 to 65 hours), from the wedding day lunch for the 11 that reported eating it was 32 hours (range, 15 to 47 hours), and from the wedding reception meal for all 13 cases was 25.5 hours (range, 8.5 to 44.5 hours). The median duration of illness was 28.5 hours (range, 4 to 141 hours). All 13 cases reported vomiting, 9 (69%) diarrhea, 7 (54%) cramps, 6 (46%) subjective fever (one person reported 100° F and all others were unknown), and none bloody stools. One case visited their medical provider, and none were hospitalized.

No stool samples were returned to the MDH PHL for testing.

Wedding attendees were asked which events they had attended along with foods and beverages consumed at each event. Attending the groom's dinner (11 of 13 cases vs. 12 of 53 controls; odds ratio [OR], 18.8; 95% confidence interval [CI], 3.7 to 96.7, $p < 0.001$) and eating sandwiches served at lunch on the wedding day (11 of 13 cases vs. 7 of 52 controls; OR, 35.5; 95% CI, 6.4 to 194.3, $p < 0.001$) were both associated with illness. This association remained after including those reporting some illness but who did not meet the case definition, or who were reported as ill by the bride but were unable to be reached for an interview (groom's dinner; 13 of 21 reporting illness vs. 12 of 53 controls; OR, 5.6; 95% CI, 1.9 to 16.5; $p = 0.02$; sandwich lunch; 13 of 22 reporting illness vs. 7 of 52 controls; OR, 9.3; 95% CI, 2.9 to 29.8; $p = 0.001$). Among those who attended the groom's dinner, only consumption of sandwiches on the wedding day was associated with illness (11 of 11 cases vs. 7 of 12 controls, OR, undefined; $p = 0.04$). No food item served at the reception was associated with illness, and no food item served at the groom's dinner was associated with illness among those who attended that event.

Environmental Health Assessments

HCPH-EH performed environmental health assessments at Event Center A, Charter Company C, Restaurant D, and Restaurant B. Brooklyn Park Environmental Health also performed an assessment at the Brooklyn Park location of Restaurant B.

Managers and employees were interviewed about recent illness and food handling practices at Event Center A. Twenty-four of 25 Event Center A employees (96%) were interviewed. One employee reported nausea on May 17 and was diagnosed with influenza by a health care provider. This person

did not work on May 19. They worked prior to May 19 as a dishwasher and did no food prep. The illness log had two illnesses recorded, the previously mentioned employee and a person who was supposed to start work on May 17, but called in sick. This person never worked at Event Center A. Food handling practices were observed and discussed. No bare-hand contact with ready-to-eat foods was observed. Employees did mention “shining” plates and glasses without using gloves. Management were instructed to discontinue this practice. Another wedding was held at Event Center A on May 19 and no complaints of illness were received from this group.

Charter Company C’s three employees were interviewed on June 7, and none reported recent illness. Food handling practices were discussed as the boat was not in operation during the assessment. The employees reported using disposable utensils when serving drinks on the boat. All the food was catered in from Restaurant D. Employees and management were interviewed on June 8 at Restaurant D, and none reported any recent illness. No bare-hand contact with ready-to-eat foods was observed. Neither business reported any recent illness complaints from patrons.

Initially, on June 5, the groom who reported the sandwiches were purchased at a grocery store in Eden Prairie. Management at this location were contacted by HCPH-EH. The illness log was reviewed and noted no recent illness. Management confirmed this. On June 8, a person who was part of the wedding party reported that the sandwiches were not from this grocery store, but were from Restaurant B. The specific location was not known and the bride was not able to be reached for clarification until June 19. Both HCPH-EH and Brooklyn Park Environmental Health were contacted to conduct an assessment at the two Restaurant B locations, in Crystal and Brooklyn Park. The Crystal location reported that one employee called in sick with “upset stomach” on May 13, and returned to work on May 15 recovered. Neither the Brooklyn Park nor the Crystal location had any records of an order for a wedding party on May 19, and the wedding party was not able to be reached for clarification until June 19, at which time the bride indicated the sandwiches were picked up from the Crystal location. Neither restaurant had received any customer complaints.

This was an outbreak of norovirus gastroenteritis among wedding attendees. The source of the illness was sandwiches from Restaurant B served for lunch. Eating the wedding party lunch on the day of the wedding was statistically associated with illness. Additionally, the incubation periods for this meal are the most characteristic of a norovirus infection.