

Norovirus Gastroenteritis Associated with a Restaurant

March

Hennepin County

On March 11, 2020, the Minnesota Department of Health (MDH) foodborne and waterborne illness hotline received a complaint from two individuals from separate households who had eaten at a restaurant on March 8 and subsequently developed gastrointestinal illness. On that same day, the hotline also received a call from the restaurant reporting that a staff person who had worked a double shift on March 8 had also reported gastrointestinal illness. MDH contacted Minneapolis Health Department (MHD) Epidemiology and Environmental Health and an investigation was initiated.

MDH staff interviewed the two patrons from the original complaint. MHD Epidemiology staff interviewed additional patrons identified from credit card receipts from March 8.

A case was defined as a restaurant patron who developed vomiting and/or diarrhea (≥ 3 loose stools in a 24-hour period) after eating food from the restaurant on March 8.

MHD sanitarians visited the restaurant on March 11 to evaluate food preparation and handling procedures, interview food workers about illness history and work duties, and gather additional patron contact information from March 8.

MHD sanitarians obtained illness histories and job duty from all 21 employees. One employee reported gastrointestinal illness between February 22 and 26 but said they did not work during that period. The employee reported to the foodborne illness hotline worked on March 8 and 9 and had onset of illness on March 9. A third employee developed gastrointestinal illness on March 12. One employee submitted a stool sample for testing to MDH Public Health Laboratory and was positive for norovirus GII.6[p7].

During the inspection, MHD staff noted that there was intermittent hot water at all sinks. A plumber was present and working on the issue, which was resolved by the time the MHD sanitarians left. Additionally, the concentration of quaternary sanitizer in the cookline bucket was zero, and no soap was available at the cookline hand sink. Both of these issues were also resolved at the time of inspection. MHD sanitarians provided norovirus education to the restaurant, including the recommendation to exclude employees from work for 72 hours following the resolution of gastrointestinal symptoms. They further stressed the importance of recording all employee illnesses in the illness log, excluding ill employees for an appropriate length of time, proper handling of food and beverages, use of gloves when handling ready-to-eat foods, good handwashing, and thorough disinfection using a sanitizer with a norovirus claim.

In addition to the two patrons from the original complaint MHD Epidemiology was able to interview an additional 72 patrons from March 8. Among the 74 patrons interviewed, 8 (11%) met the case definition. An additional two patrons reported illness that did not meet the case definition and were excluded from further analyses.

Of the eight cases, four (50%) were male. The median case age was 28.5 years (range, 26 to 52) years). Seven cases (88%) reported diarrhea, five cases (63%) reported cramps, three cases (38%) reported vomiting, and one case (13%) reported fever. No cases reported bloody stools. The median incubation period was 34.5 hours (range, 5 to 85 hours). The median duration of symptoms was 15 hours (range, 9 to 58 hours) for the five cases who had recovered at the time of interview. One case called their health care provider, but no cases visited a provider. No cases submitted a stool specimen to the MDH PHL for testing.

Cases consumed a variety of food items including French fries, salads, two different types of club sandwiches, fried chicken sandwich, and a couple of different breakfast items. Some cases also drank specialty drinks such as a bloody Mary, lavender latte, and mimosa.

In the univariate analysis, illness was significantly associated with consumption of six menu items: French fries (6 of 8 cases vs. 19 of 47 controls; odds ratio [OR], 7.4; 95% confidence interval [CI], 1.2 to 79.1; $p = 0.009$); lacinato kale salad (1 of 8 cases vs. 0 of 66 controls; OR, undefined; $p = 0.004$); dill-fried chicken sandwich (4 of 4 cases vs. 6 of 60 controls; OR, 10.0; 95% CI, 1.4 to 66.8; $p = 0.001$); Dagwood club sandwich (4 of 4 cases vs. 0 of 66 controls; OR, undefined; $p < 0.001$); vegetable hash with cheddar (1 of 8 cases vs. 0 of 66 controls; OR, undefined; $p = 0.004$); and, poached eggs (1 of 8 cases vs. 0 of 66 controls; OR, undefined; $p = 0.004$). Illness was not associated with being served by the employee reported as ill by the restaurant. In the multivariable analysis, none of the menu items was independently associated with illness.

This was an outbreak of norovirus gastroenteritis associated with a restaurant. A specific vehicle and source of contamination were not identified. The likely source of contamination was an ill or recently ill food worker.