Norovirus Gastroenteritis Associated with a Restaurant

December Hennepin County

On December 26, 2012, the Minnesota Department of Health (MDH) notified the Hennepin County Human Services and Public Health Department (HSPHD) epidemiology unit of two independent patron illness complaints from parties who had eaten at the same restaurant on December 22. The Minneapolis Division of Environmental Health (MDEH) unit was notified and an investigation was initiated.

MDH interviewed the patrons from the two original complainant groups. A list of patrons from the restaurant's reservation lists for December 21, 22, and 23 were provided to HSPHD. HSPHD epidemiologists interviewed these patrons about food consumption and illness history. A case was defined as a restaurant patron who developed vomiting and/or diarrhea (≥3 loose stools in a 24-hour period) after eating at the restaurant. Five patrons agreed to submit stool samples to the MDH Public Health Laboratory for bacterial and viral testing.

MDEH sanitarians visited the restaurant on December 26 and December 27 to evaluate food preparation and handling procedures and to interview food workers about illness history and work duties.

Sixty-two patrons were interviewed by MDH and HSPHD epidemiologists (20 patrons with a December 21 meal date, 19 with a December 22 meal date, and 23 with a December 23 meal date). Nineteen (31%) patrons met the case definition (18 from December 22 and 1 from December 23). The median incubation period for the cases was 36.5 hours (range, 21 to 48 hours). Fifteen (79%) cases reported diarrhea, 15 (79%) reported vomiting, 11 (58%) reported cramps, seven (37%) reported fever, and none reported bloody stools. The median duration of illness for the 17 cases who had recovered at the time of interview was 24 hours (range, 7 to 48.5 hours). Stool specimens collected from five cases tested positive for norovirus GII.

Forty-three controls were interviewed (20 from the December 21 meal date, one from the December 22 meal date, and 22 from the December 23 meal date). Cases and controls both reported eating a wide variety of foods including hamburgers, pasta entrees, fish entrees, mashed potato entrees, salads, bread and butter, and beverages. Eating the bread and butter basket placed on each table was significantly associated with illness (17 of 19 cases vs. 19 of 38 controls; odds ratio, 8.5; 95% confidence interval, 1.7 to 42.0; $p = 0.004$).

MDEH sanitarians visited the restaurant on December 26 and December 27 and did not note any critical violations; however, some issues were observed including bare-hand contact while cutting bread and preparing produce, one hand sink was missing a nailbrush, and a designated hand sink was needed in the dishwashing area. Illness histories and job duty information were obtained from 31 restaurant employees. No employees reported gastrointestinal illness prior to or on the implicated meal date. One server reported vomiting beginning the afternoon of December 24. This employee did not work while ill or on the implicated meal dates. The sanitarians provided norovirus education to the restaurant and stated that ill employees must be excluded from work for 72 hours following the resolution of gastrointestinal symptoms. They further stressed the importance of proper handling of food and beverages, use of gloves when handling ready-to-eat foods, good handwashing, and thorough disinfection. MDEH issued a glove order, and the restaurant conducted a full cleaning and disinfection of the facility.

This was a foodborne outbreak of norovirus gastroenteritis associated with a restaurant in Minneapolis. The bread and butter basket placed on each table was significantly associated with illness. While the source of the contamination was not identified, the most plausible scenario is that the bread baskets were contaminated by an unidentified ill or recently ill food worker.