

Norovirus Gastroenteritis Associated with a Restaurant

September

Hennepin County

On September 25, 2012, the Minnesota Department of Health (MDH) foodborne illness hotline received a complaint that three of six meal companions developed gastrointestinal illness after eating lunch at a restaurant in Wayzata on September 19. The meal companions reported no other recent common exposures. However, one individual reported also eating lunch at the restaurant on September 18 and that her meal companion for that meal had also become ill. City of Minnetonka Environmental Health (CMEH) was contacted, and an investigation was initiated immediately.

CMEH sanitarians visited the restaurant on September 26 to evaluate food preparation and handling procedures, interview food workers, and collect a reservation list for September 18-20. A case was defined as a restaurant patron who developed vomiting or diarrhea (≥ 3 loose stools in a 24-hour period) after eating at the restaurant. Stool samples collected from consenting individuals were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

Thirty-eight restaurant patrons were interviewed, and 14 (37%) met the case definition. The median incubation period for the cases was 32 hours (range, 14 to 106 hours). Twelve (86%) cases reported diarrhea, 11 (79%) vomiting, 9 (64%) cramps, 6 (43%) fever, and none bloody stools. The median duration of illness for the 12 cases who had recovered at the time of interview was 86 hours (range, 12 to 150 hours). Cases reported meal dates at the restaurant on September 18 (n=3), 19 (n=4), 20 (n=6), and 21 (n=1). Stool samples submitted by three ill patrons tested positive for norovirus GII. Nucleic acid sequencing was conducted on all three positive norovirus samples; the nucleic acid sequences were identical.

In the univariate analysis, no specific food item was associated with illness. However, consuming any sandwich (7 of 14 cases vs. 1 of 24 controls; odds ratio [OR], 23.0; 95% confidence interval [CI], 2.1 to 1,079; $p = 0.002$), any sandwich or salad (14 of 14 cases vs. 14 of 24 controls; OR, undefined; 95% CI, undefined; $p = 0.006$) were significantly associated with illness. Additionally, eating at the restaurant during lunch was associated with illness (11 of 14 cases vs. 10 of 24 controls; OR, 5.1; 95% CI, 1.0 to 34.6; $p = 0.03$). Among lunch patrons, consuming a sandwich was the only food that was associated with illness (7 of 11 cases vs. 1 of 10 controls; OR, 15.8; 95% CI, 2 to 786; $p = 0.02$).

CMEH sanitarians interviewed all 47 restaurant employees, and 14 reported recent gastrointestinal illness. These employees reported becoming ill on September 17 (n=1), 18 (n=1), 19 (n=2), 20 (n=7), and 21 (n=3), respectively. The employee who became ill on September 17, a server, reported an illness onset at 2:00 p.m. while at work. Three additional employees reported milder illness (only stomach cramps) including a cook who reported working while ill on September 18. The restaurant serves a "family meal" for employees daily between lunch and dinner service. Due to the large number of employees that became ill on September 20, it is likely that the family meals, particularly the meal on September 18 or 19, played a prominent role in transmission among restaurant staff. While employees were not asked if they ate the family meal on specific days, employees who reported eating a family meal were more likely to be ill than employees who did not report eating a family meal (14 of 17 vs. 13 of 29; risk ratio, 3.3; 95% CI, 1.1 to 9.9; $p = 0.03$). The restaurant was documenting employee illnesses in their employee illness log, and employees that reported gastrointestinal illness were being excluded from work. The sanitarians discussed the importance of handwashing for the prevention of norovirus transmission, and all employees with vomiting and/or diarrhea were excluded from work until 72 hours after the resolution of symptoms.

This was a foodborne outbreak of norovirus gastroenteritis associated with a restaurant in Wayzata. Consuming ready-to-eat food items was associated with illness. The source of the contamination was one or more infected food workers.