

## Norovirus Gastroenteritis Associated with a Restaurant

December

Olmsted County

On December 31, 2012, Olmsted County Public Health Services (OCPHS) responded to a message left during the weekend by the manager of a restaurant in Rochester that several individuals within a group of 11 reported becoming ill after eating a meal at the restaurant on December 27. An individual from this group also reported the illnesses to OCPHS. The Minnesota Department of Health (MDH) foodborne illness hotline received two additional independent complaints of illness among patrons who ate at the restaurant. The first complaint was an individual who was at the restaurant on December 30. The second patron complainant reported that eight of eight persons became ill after visiting the restaurant on December 27. OCPHS staff contacted the original complainant and identified at least five ill individuals from a group of 11 people from five different households. The information was reviewed by OCPHS staff, MDH was consulted, and an investigation was initiated.

Environmental Health Specialists from OCPHS went to the restaurant on the afternoon of December 31 to evaluate food preparation and handling procedures, interview staff regarding recent illness and job duties, and collect credit card receipts for additional patron contact information. An employee illness screening log was put into place at this time.

Patrons from the original complaints and the credit card list were interviewed regarding recent food and beverage consumption and illness history. A case was defined as an individual who ate at the restaurant and subsequently developed vomiting or diarrhea ( $\geq 3$  loose stools in a 24-hour period). Stool specimens were obtained from consenting cases and submitted to the MDH Public Health Laboratory (PHL) for bacterial and viral testing.

A total of 50 patrons were interviewed; 23 (46%) met the case definition of illness. An additional seven (14%) patrons reported illness that did not meet the case definition and were excluded from analyses. The median incubation was 39 hours (range, 22 to 58 hours). The median duration of illness was 33.5 hours (range, 16.5 to 121 hours). Of the 23 cases, 21 (95%) reported diarrhea, 20 (87%) reported vomiting, 17 (77%) reported abdominal cramps, and 10 (48%) reported fever. One case sought medical attention at a doctor's office; no cases were hospitalized.

Five ill patrons submitted stool samples to the MDH PHL for testing. Four tested positive for norovirus GII. Nucleic acid sequencing was performed on all four positive specimens; the nucleic acid sequences were all identical.

In the univariate analysis, only consumption of appetizers was significantly associated with illness (9 of 22 cases vs. 1 of 16 controls; odds ratio [OR], 11.1; 95% confidence interval [CI], 1.2 to 99.2;  $p = 0.02$ ). However, only nine (41%) interviewed cases reported consuming an appetizer. Additionally, consumption of a salad (4 of 22 cases vs. 0 of 16 controls; OR, undefined;  $p = 0.12$ ) or seafood (5 of 22 cases vs. 0 of 15 controls; OR, undefined;  $p = 0.07$ ) approached significance.

Nineteen (90%) of 21 restaurant staff members were interviewed. No food workers reported being ill with either vomiting or diarrhea during the past month. Managers reported that employees were visually screened for illness before the investigation. The employee screening log implemented by the sanitarian was not used consistently during the investigation.

Several concerns were noted by the sanitarians during the environmental health assessment. Management reported that employees are required to wash their hands before beginning work. However, at the time of the inspection it was noted that the hot water for the kitchen hand sink was not functioning, the paper towel dispenser was not feeding properly, and it did not appear that the soap dispenser was being used. Additionally, the water flow in the employee restroom sink was so restricted that thorough handwashing was not possible. The towel used to wipe plates and work surfaces was being rinsed out in the handwashing sink, and the chlorine concentration in the kitchen towel bucket was zero. On January 2, it was noted that ready-to-eat food in a bulk container was being portioned with a plate instead of a handled container, and a server was observed using a bare hand to turn tortillas being warmed on a griddle.

As a result of the environmental health assessment, the following interventions were enacted: eliminating bare-hand contact with ready-to-eat foods; reviewing of employee illness and handwashing policies and procedures with all staff; querying all staff on a daily basis for symptoms of diarrhea or vomiting and excluding any ill employees for at least 3 days after resolution of symptoms; discarding ready-to-eat food prepared on the dates of the suspect meals; and, cleaning and sanitizing with special attention to areas receiving hand contact by staff and customers.

This was a foodborne outbreak of norovirus gastroenteritis associated with a restaurant in Rochester, Minnesota. Consumption of appetizers was significantly associated with illness. However, only 9 of 22 interviewed cases reported consuming an appetizer, suggesting that other ready-to-eat foods may have been contaminated as well. Earlier this year, this restaurant was associated with a probable foodborne outbreak of suspected norovirus gastroenteritis (see #1). Food safety risks related to lack of adequate systems to manage employee illness, handwashing, and cross-contamination that were identified during that outbreak were still present during this investigation. While no food worker reported gastrointestinal illness in the month prior to this outbreak, it is possible that an unidentified infected food worker was the source of the contamination.