

Norovirus Gastroenteritis Associated with a Church Dinner

March

Ramsey County

On March 9, 2011, the Minnesota Department of Health (MDH) foodborne illness hotline received a report of four separate medical emergency calls due to gastrointestinal illness in people who lived at a senior apartment complex in New Brighton. All four ill individuals had attended a Swedish meatball dinner at a church in Mounds View on March 6. That same day, MDH contacted the church, and the pastor reported receiving several complaints of illness from individuals who attended the church dinner. Approximately 120 persons attended the event. MDH notified the Ramsey County Public Health Department and an investigation was initiated.

MDH obtained a list of dinner attendees and interviewed them about food consumption and illness history. A case was defined as a person who attended the church dinner and subsequently developed vomiting and/or diarrhea (≥ 3 loose stools in a 24-hour period). Stool specimens from consenting attendees were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

MDH also obtained a list of persons that prepared food for or served food at the church dinner. Additionally, all persons interviewed were asked if they prepared or served food at the event. Eight people reported that they helped prepare the food and five reported serving food during the dinner.

On March 14, Ramsey County sanitarians inspected the church kitchen and spoke with the dinner coordinator and the pastor. The sanitarians provided norovirus education and conducted an environmental health assessment of the kitchen focusing on food handler illness, food flow, food preparation, and food storage procedures.

Eighty-eight church dinner attendees were interviewed, and 53 (60%) met the case definition. Fifty-two cases (98%) reported diarrhea, 39 (74%) reported vomiting, 25 (47%) reported cramps, 18 (34%) reported fever, and none reported bloody stools. The median incubation period was 33 hours (range, 8 to 84.5 hours). The median illness duration was 65.5 hours (range, 4 to 162 hours). Six cases visited a medical provider, four were taken to an emergency room, four were transported by ambulance, and five were hospitalized overnight. The median duration of hospitalization was 3 days (range, 2 to 5 days).

Five stool specimens were submitted and all tested positive for norovirus GII. All specimens tested negative for *Campylobacter*, *Salmonella*, Shiga toxin-producing *E. coli*, *Shigella*, and *Yersinia*.

Eight people prepared food for the event. Some food items were prepared at private homes and some were prepared at the church. Food items prepared at the church included Swedish meatballs, mashed potatoes, coleslaw, green beans, buns, gravy (white and brown), cranberry sauce, ice cream, M&M's, milk, coffee, Hawaiian punch, and bottled water. Lefse, dressing for the coleslaw, and cookies were prepared at private homes. All the foods were pre-plated and served, except for lefse and buns which were self-serve.

None of the persons who prepared or served the food reported illness prior to food preparation or the event, and none reported having ill household members prior to or during food preparation. No food item was significantly associated with illness.

There were no reports of vomiting at the event. Of the 88 dinner attendees interviewed, no one reported being ill during or prior to the event.

Although the church did not have a kitchen licensed by Ramsey County, as a result of this outbreak, the church planned on working with the sanitarians to obtain special events licenses for future food events. Ramsey County sanitarians stressed the importance of proper handling of food and beverages, use of gloves when handling ready-to-eat foods, good handwashing, thorough cleaning and disinfection, and exclusion of ill food handlers. The church did not have a handwashing sink in the kitchen at the time of the investigation, but planned on adding one to ensure frequent handwashing.

This was a foodborne outbreak of norovirus gastroenteritis associated with a Swedish meatball dinner held at a church. The attack rate of 60% was very high, indicating extensive contamination of one or

more food items. However, a specific vehicle of transmission and source of contamination were not identified.