Suspected Bacterial Intoxications Associated with an Event Center

October Ramsey County

On October 26, 2012, managers at Caterer X (caterer for an event center) contacted their local health department, the City of St. Paul Department of Safety and Inspections, to report two independent complaints of gastrointestinal illness. The complainants had attended a conference at the event center on October 16 and 17. Reported illness onsets were during the evening of October 16.The City of St. Paul notified the Minnesota Department of Health (MDH); an investigation was initiated immediately. MDH followed-up by interviewing the two complainants and contacting the organizer of the conference to gather more information about the event.

City of St. Paul sanitarians visited the event center on October 30, October 31, and November 1 to evaluate Caterer X's food preparation and handling procedures and to gather specific information pertaining to the event. In addition, City of St. Paul sanitarians conducted interviews of those employees who were noted as being ill on the establishment's illness log the week of the conference, and contacted the establishment via telephone on November 5 to gather additional information on food handling methods.

MDH staff received a contact list of all attendees of the conference (over 500 people) and sent out a mass email to attendees requesting that anyone who became ill contact MDH. MDH received several responses and interviewed both ill patrons and non-ill patrons about food consumption and illness history. A case was defined as an individual who attended the conference and who developed vomiting or diarrhea (≥3 loose stools in a 24-hour period) within 12 hours after eating at the conference on October 16. Stool samples collected from consenting attendees were submitted to the MDH Public Health Laboratory for bacterial and viral testing.

Forty-five conference attendees were interviewed, and 12 (27%) met the case definition. Eight attendees reported illness that did not meet the case definition and were excluded from analyses. The median incubation period from the lunch meal on October 16 was 6.25 hours (range, 3.0 to 11.5 hours). The median duration of illness was 22 hours (range, 11.5 to 42.0 hours). Nine cases reported diarrhea (75%), eight (67%) reported vomiting, eight (67%) reported abdominal cramps, two (17%) reported fever, and one (8%) reported bloody stools. Two cases visited an emergency room, but no cases were hospitalized.

Three stool specimens (all from attendees who reported illness but did not meet the case definition) were submitted to MDH; one tested positive for *Clostridium perfringens* enterotoxin Type A. All three stool specimens were negative for norovirus, *Campylobacter, Salmonella,* Shiga toxin-producing *E. coli, Shigella*, and *Yersinia.*

Food items served to the attendees on October 16 included bagels, cream cheese, peanut butter, preserves, coffee, tea, bottle juices for breakfast; harvest salad, rolls, whipped butter, porcini turkey Milanese with mushroom sauce, bread stuffing, mixed vegetables, stuffed Portobello mushroom (vegetarian entrée), chocolate cream pie, coffee, tea, iced tea, and ice water for lunch; and cookies and soda for afternoon snack. There was an evening reception held for attendees at the event center, but more than half of the cases did not attend the reception. All of the food items served to the attendees were prepared by Caterer X. The breakfast and snack items were self-serve, and the lunch was plated by Caterer X staff.

In the univariate analysis, no food items were significantly associated with illness. However, consuming chocolate cream pie (12 of 12 cases vs. 18 of 25 controls; odds ratio [OR], undefined; 95% confidence interval [CI], undefined; $p = 0.07$), whipped butter (9 of 11 cases vs. 13 of 25 controls; OR, 4.1; CI, 0.7 to 23.2; $p = 0.14$) and turkey Milanese (12 of 12 cases vs. 20 of 25 controls; OR, undefined; CI, undefined; $p = 0.15$) approached significance.

Illness histories and job duty information were obtained from three catering employees who were noted as being ill on the employee illness log the week of the conference. None of the three employees reported having had gastrointestinal illness previous to, on, or after the implicated meal date.

During the environmental assessment, Caterer X managers reported that they took cook temperatures of the turkey medallions and checked the temperatures of the electric hot boxes where foods were being held. Mangers reported that the mushroom sauce served over the turkey entrée was heated until boiling and then remained simmering in a skillet until service; however, no temperatures were taken during this process. The chocolate cream pie was prepped the day of the event and consisted of a homemade shortbread cookie shell which was filled with chocolate mousse made from a dry mix and cream. Managers reported that the prepped desserts were held in a refrigerator until they were plated. The establishment did not have temperature logs to verify that adequate food temperatures had been met and maintained on the day of the event. In addition, sanitarians found that one of the two thermocouples used to take food temperatures was broken. MDH received reports from several attendees that the turkey medallions were raw or undercooked; this could not be confirmed during the environmental assessment. In addition, the lunch service was delayed 45 minutes due to an agenda change; however, catering managers reported that all hot foods remained plated in the electric hot boxes during this delay. City of St. Paul sanitarians provided education on temperature monitoring and recording, and management at Caterer X has hired a person to provide additional food safety education to staff.

This was an outbreak of foodborne illness associated with a conference held at an event center, in St. Paul. The etiology was not confirmed, but the distribution of incubations and symptoms were compatible with a bacterial intoxication, such as that caused by *Staphylococcus aureus* or the emetic form of *Bacillus cereus*. The cause of bacterial amplification was not specifically identified, but the environmental health investigation revealed the potential for time-temperature abuse.