

Outbreak of Norovirus Gastroenteritis Associated with
Pizza Shoppe
Johnson County, March, 2008:
Preliminary Report

Background

On March 3, 2008, Johnson County Environmental Department was notified of a possible outbreak of gastrointestinal illness among a group from a local business who had eaten at the Pizza Shoppe restaurant located at 8915 Santa Fe, Overland Park, Kansas 66212. The initial report states that on Friday, February 29, two members of the group had eaten lunch at the restaurant, while other co-workers ordered carry outs. By the weekend, many of the members of the group had developed gastrointestinal symptoms including diarrhea, vomiting, and nausea. In response to this report, an outbreak investigation was initiated by the Johnson County Health Department (JCHD), Division of Disease Containment and the Kansas Department of Health and Environment (KDHE), Office of Surveillance and Epidemiology.

Key Findings

A foodborne illness questionnaire designed to capture information on demographics, illness history before and after the visit to the restaurant and food consumption history was provided to each member of the group to complete. A total of thirteen people (N=13) were in the group. Of the 13 people in the group, 10 responded (77%). All 10 responders claimed to have experienced gastrointestinal symptoms. The symptoms reported include stomach ache (100%), nausea (100%), diarrhea (90%), vomiting (90%) and fever (80%). The average incubation period was approximately 24 hours. Four stool specimens were collected from four persons for testing at the Kansas Department of Health and Environment Laboratories (KDHEL). Three tested positive for norovirus.

Employees at the Pizza Shoppe restaurant were asked to complete an employee survey designed to capture information on illness history, food consumption history and hours worked during a 7-day time period. Of the nine that responded, one reported illness with vomiting, headache, and chills. No diarrhea was reported. The employee reported to have experienced symptoms for four days (02/26/2008 to 02/29/2008). Stool specimen collected from the ill employee tested negative for *Campylobacter*, shiga toxin-producing *E.coli*, *Salmonella*, *Shigella* bacteria and *norovirus*.

An inspection of Pizza Shoppe conducted on March 4, 2008 revealed three critical violations:
(1) two dented cans of pizza sauce (2) no date marked on food items (3) bare hand contact with ready to eat foods.

Conclusion and Recommendations

This foodborne outbreak was caused by norovirus. Norovirus are a group of related viruses that cause gastroenteritis in humans. Noroviruses may be transmitted via the fecal-oral route through food that has been contaminated by the hands of an ill food handler. Noroviruses are highly contagious and as few as 10 viral particles may be sufficient to cause infection.

The Centers for Disease Control and Prevention (CDC) estimate that at least 50% of all foodborne outbreaks of gastroenteritis are attributed to noroviruses. Simple measures, including correct handling of cold foods, strict hand washing after using the bathroom and before handling food items, and excluding employees with gastrointestinal illness from food handling may substantially reduce foodborne transmission of noroviruses.