

Gastroenteritis Outbreak Associated with a Wedding Reception – Reno County, November 2012



Background

On November 14, 2012, at 11:19 a.m., the Kansas Department of Agriculture (KDA) notified the Kansas Department of Health and Environment (KDHE) of a foodborne illness complaint. An unnamed hotel employee reported that several attendees had reported illness after attending a wedding reception held on November 10, 2012 at a hotel and convention center in Reno County. Later that day, KDHE received a phone call from the mother of the groom reporting numerous guests had become ill with gastrointestinal symptoms following the wedding reception. The complainant stated that approximately 80 individuals attended the wedding reception, and approximately 15 individuals had become ill with vomiting and diarrhea. The Reno County Health Department (RCHD) was notified at approximately 12:30 p.m., and immediately began the investigation.

Methods

Epidemiologic Investigation

A retrospective cohort study was conducted among all wedding reception attendees. A questionnaire was developed and administered via telephone by staff from RCHD. Questionnaire administration began on November 15 and was completed on November 20. A case was defined as an individual who ate food from the wedding reception held on November 10, 2012 who subsequently experienced vomiting and/or diarrhea within 72 hours of the reception.

Environmental Assessment

On November 15, KDA interviewed the chef at the hotel where the wedding reception was held. Contact information for the four employees who prepared food and/or worked the night of the wedding reception was obtained. The employees were interviewed by RCHD on November 16. An inspection of the hotel kitchen was performed on December 4, 2012.

Laboratory Analysis

No clinical specimens were collected or submitted for testing. Additionally, two samples of beef tips and sauce were obtained.

Results

Epidemiologic Investigation

RCHD interviewed 19 individuals who attended the November 10, 2012 wedding reception. Fourteen individuals reported illness, and 12 met the case definition.

The ages of cases ranged from three to 60 years (median age, 26 years). Seven (58%) of the ill individuals were female and five (42%) were male.

Most commonly reported symptoms included vomiting, abdominal pain, and nausea (Table 1). Other reported symptoms included muscle aches, diarrhea, and chills. Two individuals reported fever. Four individuals reported visiting a health care provider, and one of those individuals reported seeking treatment at an emergency department. No individuals were hospitalized.

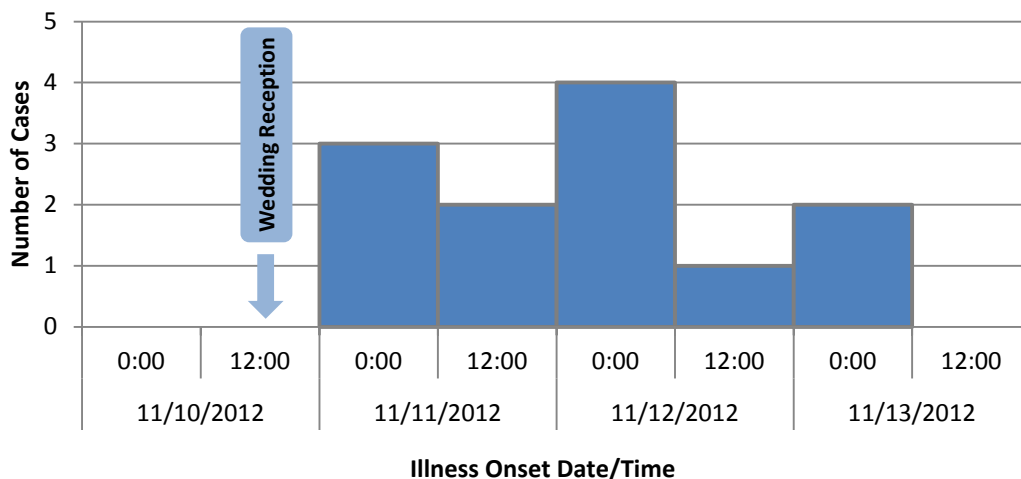
Table 1: Symptoms Reported among Cases (n=12)

Symptom	# of Cases with Symptom /	
	Total Cases	% of Cases
Vomiting	10/12	83
Abdominal Pain	10/12	83
Nausea	11/12	92
Muscle Aches	8/12	67
Diarrhea	7/12	58
Chills	7/12	58
Fever	2/10	20

Onset of illness ranged from November 11, 2012 at 1:00 am to November 13, 2012 at 3:00 am (Figure 1). The incubation period ranged from seven to 56 hours (median, 30 hours). Ten individuals had recovered by the time they were interviewed; two had not yet recovered. Duration of illness ranged from 13 to 86 hours (median, 65 hours).

Analyses were performed based on food histories of the 12 cases and seven well individuals; however, no food item was statistically associated with illness.

Figure 1: Onset Date and Time of Illness by Number of Cases Associated with a Wedding Reception in Reno County (n=12)



Environmental Assessment

Four employees had prepared and served the food for the wedding reception, and all were interviewed by RCHD; none of the employees reported having gastrointestinal illness from November 3 until November 16.

The environmental inspection conducted by KDA revealed seven critical violations, including uncovered containers of cheese, onions, tomatoes, and jalapenos with insect contamination, dirty food contact surfaces, inadequate cooling procedures for gravy and chicken pasta, no documented consume by date for four food items, and no back flow prevention devices on plumbing fixtures.

Laboratory Analysis

No clinical specimens were collected, and therefore no testing was conducted. Food samples were collected but were not tested because the investigation was unable to conclusively link the outbreak to a food item and no etiologic agent was identified.

Conclusions

This was an outbreak of a gastrointestinal illness associated with a wedding reception held in Reno County. Attendees became ill within seven to 56 hours after eating dinner served at the reception. Analyses of the food histories did not reveal a food item to be significantly associated with illness. No causative agent was able to be identified. Significant critical violations that were identified during the environmental inspection could have caused the outbreak. Alternatively, an ill or asymptomatic individual that either attended this event or that helped prepare food for this event could have been the source of this outbreak.

Simple measures, including correct cooling of 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 gastrointestinal illnesses, such as norovirus¹. The Center of Disease Control and Prevention (CDC) encourages physicians and other health care professionals to recognize the potential for a foodborne outbreak when patients present with gastrointestinal illness after an event and obtain stool cultures in appropriate setting².

A significant limitation to this study was the low response rate from the wedding attendees. Only nineteen individuals (24%) of the approximately 80 attendees were interviewed. Additional clinical and food histories could have enhanced the epidemiological investigation and pinpointed the cause of illness.

Report by: Elizabeth Lawlor, MS (Kansas Department of Health and Environment), Marcie Keller (Reno County Health Department)
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Investigation by:
Reno County Health Department
209 W. 2nd Ave
Hutchinson, KS 67501
<http://www.renogov.org/health/>

Kansas Department of Agriculture
Division of Food Safety and Lodging
109 SW 9th Street, 3rd Floor
Topeka, KS 66612
http://www.ksda.gov/food_safety/

Kansas Department of Health & Environment
Bureau of Epidemiology and Public Health Informatics
1000 SW Jackson St., Suite 210
Topeka, Kansas 66612
<http://www.kdheks.gov/>

¹ Centers for Disease Control and Prevention. "Norovirus: Technical Fact Sheet." Accessed on November 21, 2012 at: <http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus-factsheet.htm>.

² Centers for Disease Control and Prevention. "Diagnosis and Management of Foodborne Illnesses: A Primer for Physicians and other Health Care Professionals." MMWR 2004:53 (No. RR-4). Accessed on November 21, 2011 at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5304a1.htm>