

# Norovirus Outbreak Associated with a Fast Food Restaurant, Sedgwick County, December 2012



## **Background**

On December 14, 2012, at 8:18 a.m., the Kansas Department of Agriculture (KDA) notified the Kansas Department of Health and Environment (KDHE) of a foodborne illness complaint. The complainant stated that five individuals ate at the same restaurant on December 9, 2012, and subsequently became ill with vomiting and diarrhea. The Sedgwick County Health Department (SCHD) was notified at approximately 8:30 a.m., and immediately began the investigation. In response to this report, an outbreak investigation was also initiated immediately by staff from the City of Wichita Office of Environmental Health, Food Safety and Protection Division; and the KDA.

## **Key Findings**

- A questionnaire was developed, and all five individuals were interviewed.
- All five individuals reported being ill and all met the case definition. A case was defined as an individual who ate at the restaurant on December 9, 2012 and became ill with diarrhea and/or vomiting within 72 hours of dining.
- The most commonly reported symptoms among the cases were nausea and diarrhea (Table 1). None of the individuals reported fever. None of the complainants reported visiting a health care provider or emergency department.

**Table 1: Symptoms Reported among Cases (n=5)**

<b>Symptom</b>	<b># of Cases with Symptom</b>	<b>% of Cases</b>
Diarrhea	5	100
Nausea	5	100
Vomiting	3	60
Abdominal Pain	3	60
Muscle Aches	3	60

- Onset of illness ranged from the evening of December 9 through the morning of December 10.

- All individuals were interviewed on December 14, and none had recovered.
- The ages of cases ranged from 73 to 80 years (median age, 76 years). Four (80%) of the ill individuals were female and one (20%) was male.
- Four of five individuals ate fried fish, two of five individuals reported eating chicken, and all five consumed coleslaw and french fries. The only other common exposure was attendance at church that same day.
- Two stool specimens were collected and both tested positive for norovirus, genotype II.4 Sydney.
- An environmental assessment was performed, and three critical violations were found, one of which was not having a hand sink in the back food prep room and ware wash area; the other two violations were not likely to have contributed to the spread of norovirus. Employees were surveyed to assess illness, dates worked, and duties performed. None of the employees reported illness.

### **Discussion**

This was an outbreak of norovirus possibly associated with a fast food restaurant in Sedgwick County. Five individuals from two different households became ill after eating together on December 9, 2012. The only commonality among the two households, besides attending church together, was the meal. No other illnesses associated with this restaurant have been reported and no employees that worked at the restaurant reported any illness. Therefore, it is uncertain whether this restaurant was the source of transmission.

Norovirus is a highly contagious pathogen with a very low infectious dose, estimated to be between 10-100 viral particles<sup>i</sup>. Transmitted primarily through fecal-oral route, norovirus particles may be spread through direct contact or through consuming fecally-contaminated food or water. Spread via aerosolized vomitus is also possible. Once infected, norovirus shedding can begin prior to the onset of symptoms and can persist for weeks after clinical symptoms have ceased. Norovirus has been detected in fecal specimens 3 to 14 hours before onset of clinical symptoms and can be detected for 13 to 56 days after exposure to the virus<sup>ii</sup>. Approximately 20% of norovirus infected individuals do not have clinical symptoms<sup>iii</sup>. However, these individuals can still shed norovirus and can be potential sources of contamination.

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<sup>iv</sup>.

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*On: 02/11/2013*

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<sup>i</sup> Teunis PFM, Moe CL, Liu P, et al. Norwalk virus: how infectious is it? *J Med Virol* **2008**; 80:1468-76.

<sup>ii</sup> Atmar RL, Opekum AR, Gilger MA, et al. Norwalk virus shedding after experimental human infection. *Emerg Infect Dis* **2008**; 14:1553-1557.

<sup>iii</sup> Moe CL. Preventing norovirus transmission: How should we handle food handlers? *Clin Infect Dis* **2009**; 48:38-40.

<sup>iv</sup> Centers for Disease Control and Prevention. "Norovirus: Technical Fact Sheet", Accessed on January 20, 2012 at: <http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus-factsheet.htm>.