



## **Gastroenteritis Outbreak Associated With Norovirus Among Patrons of a Restaurant Las Vegas, NV – Interim Report**

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### **Background**

On October 18, 2011, the Southern Nevada Health District (SNHD), Office of Epidemiology received reports of gastrointestinal illness from two independent groups of patrons of Restaurant A located in Las Vegas. People from both groups ate during dinner hours at the restaurant on October 14, 2011. Of the eight people from the two groups, seven reported symptoms of diarrhea and/or vomiting after they consumed food from Restaurant A. In response to these illness reports, the SNHD initiated an investigation.

On October 18, 2011, the SNHD performed an investigative inspection of the restaurant to determine if there was ongoing risk of illness or exposure to the greater community. The SNHD Office of Epidemiology (EPI), Environmental Health (EH) and Southern Nevada Public Health Laboratory (SNPHL) have been collaborating on the investigation and response to this outbreak. The Nevada State Health Division was also apprised of the outbreak investigation.

### **Methods**

**Epidemiology:** EPI staff performed telephone interviews with ill people to obtain more information regarding symptoms, food history, and illnesses among their close contacts. The SNHD foodborne illness complaint database was searched to identify other complaints against the restaurant in the 30 days prior to, and since, these complaints.

On October 19, 2011, EPI and EH staff arrived at the restaurant. EPI staff interviewed restaurant management regarding other illnesses in restaurant staff and patrons, employee illness in the past two weeks, current illness in employees, whether the restaurant had a sick employee policy, and if there were other customer complaints of illness.

**Case Definitions:** A Primary case is defined as a person who consumed food served by Restaurant A on October 14, 2011 and experienced at least three or more loose stools and/or one or more episodes of vomiting during a 24-hour period after eating. A Secondary case is defined as a contact of a Primary case who did not eat at Restaurant A and experienced at least three or more loose stools and/or one or more episodes of vomiting during a 24-hour period within 72 hours after the onset of symptoms of the primary case.

**Case and Control Finding:** In order to perform a case-control study, EPI staff performed case finding activities by attempting to identify additional restaurant patrons who dined on October 14

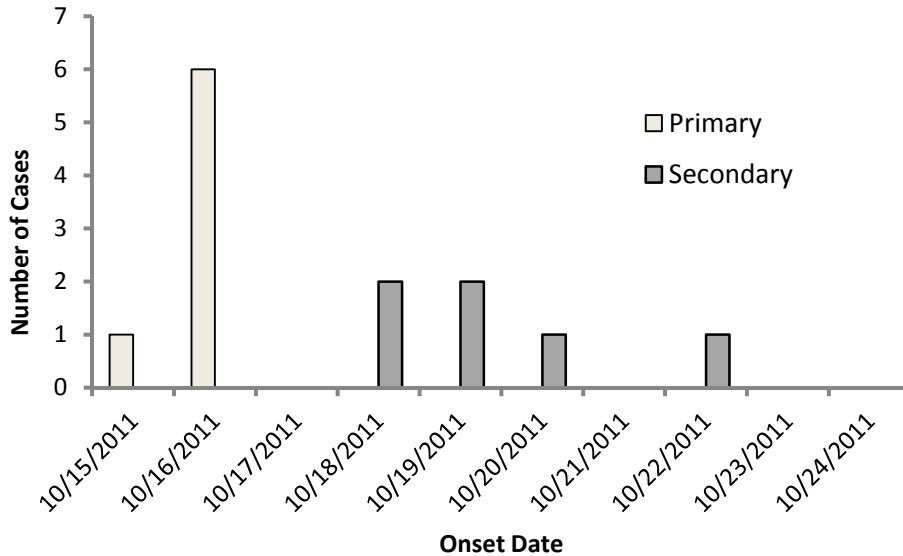
between the hours of 3-10 pm via contact information from guest comment cards, from online reservations, and from credit card receipts.

**Environmental Health:** EH staff performed a 674 (EPI Field Investigation) and a 916 (Routine) inspection of the restaurant on October 19, 2011, including an ongoing risk assessment for foodborne illness.

**Laboratory:** Ill persons were requested to provide stool specimens for culture (*Salmonella*, *Shigella*, *Campylobacter*, strain O157 of *Escherichia coli*, and *Yersinia*), Shiga toxin-producing *E. coli* (STEC) testing, and norovirus RT-PCR testing.

## Results

**Epidemiology:** The epidemiologic curve is presented in Figure 1, and shows a total of 13 ill persons. Of the initial eight people from the two groups of diners, seven met the primary case definition. All but two initial cases reside in Clark County. Six secondary cases were also identified among household contacts of both groups.



**Figure 1. The number of primary (n=7) and secondary (n=6) cases by illness onset date. Restaurant A. Las Vegas, NV. October 15-24, 2011.**

There was no other reported illness associated with Restaurant A in the foodborne database in the 30 days prior to, and since, these illness clusters.

There were a total of approximately 15 employees who work the dinner shift at Restaurant A on October 14, 2011. The management of Restaurant A reported that all staff members have been asymptomatic in the past two weeks, no employee was currently ill, the restaurant has a sick employee policy and employees may call-in sick when necessary, and there were no customer complaints of illness to the restaurant.

Approximately ten email addresses and phone numbers were obtained from guest comment cards, from online reservations, and from credit card receipts.

***Environmental Health:*** EH staff reported several notable infractions related to food cooling practices during the inspection of Restaurant A. Specific infractions included a walk-in refrigerator kept at higher than appropriate temperature, lack of proper cooling practices for sauces, and no food cooling temperature log.

***Laboratory:*** Of the six stool specimens collected from ill persons, four were positive for norovirus genogroup II, and two results were negative for norovirus. Five specimens were negative for STEC, with one specimen result pending. Stool culture results were negative for four specimens, with results of two samples pending.

## **Conclusions**

Persons who consumed food and drinks at Restaurant A on October 14, 2011, and their close contacts, may have been at potential risk of norovirus infection.

## **Future Actions**

1. Restaurant A should rectify faulty food cooling equipments and practices to ensure that food will be maintain at the proper temperature.
2. The SNHD staff will interview employees of Restaurant A to identify staff members who were recently ill with signs and symptoms compatible with norovirus infection. Workers identified as recently ill with gastroenteritis in interviews will be offered stool testing.
3. The SNHD staff will distribute an electronic survey to select customers who ate at Restaurant A on October 14 between 3-10 pm to establish illness occurrences among other guests of the restaurant, and to conduct a case-control study to see if any specific food items associated with illness can be identified.
4. The SNHD staff will continue to monitor the foodborne illness database for additional complaints of illness to verify that the outbreak was limited to this establishment, or had spread to the general community.
5. The SNPHL will submit specimens that were positive for norovirus to the Nevada State Public Health Laboratory for sequence typing and genetic analysis to determine if illnesses among cases from the two groups were linked.

## **Recommendations**

1. Ill restaurant staff members should be excluded from work during their illness and for 72 hours following resolution of symptoms. Food-service workers who test positive for norovirus must be excluded or restricted from work per the FDA Food Code, and may require permission from the SNHD to return to work.
2. Restaurant employees should also be cautioned about how norovirus is transmitted and be made aware of the heightened importance of hand hygiene through washing with soap and water. Information about norovirus can be found at <http://southernnevadahealthdistrict.org/health-topics/norovirus.php>.

Restaurant workers should also be cautioned that emetic or fecal accidents should be treated as highly infectious. To disinfect human norovirus from environmental surfaces, chlorine bleach solution should be applied to hard, nonporous, environmental surfaces at a concentration of 1,000–5,000 ppm (5–25 tablespoons household bleach [5.25%] per gallon of water). A list of EPA-approved commercial cleaning products that are effective against feline caliciviruses is available at [http://www.epa.gov/oppad001/list\\_g\\_NoV.pdf](http://www.epa.gov/oppad001/list_g_NoV.pdf). Personnel performing environmental services should adhere to the manufacturer's instructions for dilution, application, and contact time.

3. All suspected cases of norovirus infection related to this outbreak should be reported to the health authority. Illness clusters (*e.g.* restaurants, schools, hotels) are reportable under Nevada Administrative Code sections 441A.525 and the SNHD Regulations Governing the Reporting of Diseases, Exposures, and Sentinel Health Events section 4.9. Reports should be made to the SNHD Office of Epidemiology at (702) 759-1300, option 4, and can be made 24 hours a day, seven days a week.