

EPIDEMIOLOGIC INVESTIGATION SUMMARY

NOROVIRUS: GASTROINTESTINAL ILLNESS OUTBREAK AMONG PATIENTS AND STAFF OF A REHABILITATION CENTER IN CLARK COUNTY, NEVADA, 2014

*Department of Health and Human Services
Division of Public and Behavioral Health
Office of Public Health Informatics and Epidemiology*

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PURPOSE

The purpose of this newsletter is to provide the scientific community, decision makers, healthcare providers, and the public a summary of the outbreak investigations conducted by the Division of Public and Behavioral Health.

BACKGROUND

On February 12, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by the Director of Nursing at Facility "A" of a gastrointestinal (GI) illness outbreak among patients and staff of Facility "A". The problem was first identified on January 31, 2014, and the outbreak investigation began on February 12, 2014. Initial reported symptomology of the ill included diarrhea, vomiting, and nausea.

METHODS

Epidemiology

On February 12, 2014, DPBH provided recommendations to reduce and prevent the spread of illness in Facility "A", including the submission of outbreak case report forms to OPHIE until further notice, exclusion of symptomatic employees from the facility until 72 hours after symptoms resolved, and laboratory testing to identify the pathological agent(s).

A **confirmed case** was defined as a patient, staff member, or visitor of Facility "A" who was lab confirmed with norovirus since January 31, 2014.

A **probable case** was defined as a patient, staff member, or visitor of Facility "A" who was not lab confirmed with norovirus but had diarrhea and/or vomiting (along with possible other GI illnesses) since January 31, 2014.

A **suspect case** was defined as a patient, staff member, or visitor of Facility "A" who was not lab confirmed with norovirus but anecdotally had diarrhea and/or vomiting (along with possible other GI illnesses) since January 31, 2014.

Site Visit

A site visit was conducted at Facility "A" on February 19, 2014. The reason for the site visit was due to the facility's history of issues during past outbreaks.

Laboratory

Laboratory testing for GI illness was highly recommended for ill patients in order to identify the etiologic agent, target infection prevention measures and control the outbreak within Facility "A." Laboratory testing was focused on the presence of norovirus.

Twelve laboratory tests were conducted and the specimens collected were stool samples.

Mitigation

In order to prevent further spread of illness, the OPHIE Outbreak Response Team disseminated recommendations for the prevention and control of norovirus gastroenteritis outbreaks to Facility "A".

The facility also conducted its own prevention measures during the outbreak. Patients who were not ill were transferred out of their rooms to sections where the illness was not present and patients who were symptomatic were kept in their rooms. Cleaning and disinfecting of rooms was conducted after patients were transferred out. Ill staff members were also sent home and were not allowed to return to work until 72 hours after symptoms ceased. Staff were re-educated on the proper procedures during a norovirus outbreak.

RESULTS

Epidemiology

A total of 14 cases (10 probable and 4 confirmed) were reported. Illness onset occurred between January 31, and February 13, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

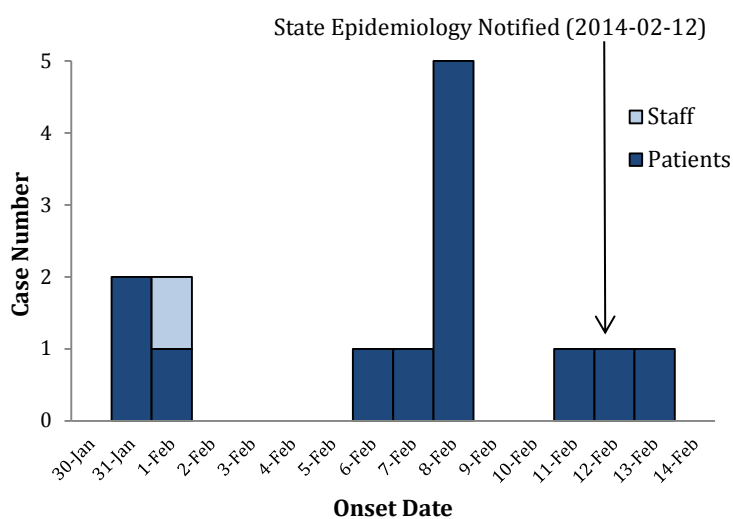


Figure 1. The epidemic curve of norovirus (n=14) associated with a rehabilitation center in Clark County, Nevada, from January 31-February 13, 2014

The peak illness onset date was February 8, 2014. Among the 14 cases, the average age was 71 years old (range 36-94 years) and males comprised 21.4% of the cases.

Symptomatic cases reported nausea (78.6%), diarrhea (64.3%), and vomiting (21.4%). The average duration of illness for cases was approximately 9 days (range 5 – 12 days) and males comprised 21.4% of the cases. The patient attack rate was 14.6%, the staff attack rate was 0.6%, and the overall attack rate was 5.8%.

Site Visit

During the site visit, the investigation team found that signs indicating an outbreak was occurring were taken down and kitchen doors were open and clients would enter in asking for food. The investigation team informed Facility “A” they needed to repost signs around the facility and to keep the kitchen doors closed to prevent clients from entering. The investigation team also recommended that facility staff take norovirus outbreak management trainings offered through the division website.

Laboratory

Of the 12 specimens tested, 4 tested positive for norovirus genogroup unspecified.

Mitigation

After the cause of the outbreak was determined to be norovirus, DPBH reiterated to the facility the same information given at the start of the outbreak for preventing and controlling norovirus gastroenteritis outbreaks along with guidance for fixing issues found during the site visit.

CONCLUSIONS

A GI illness outbreak occurred among patients and staff at Facility “A”, a rehabilitation center in Clark County, Nevada from January 31 through February 13, 2014. Confirmatory test results indicated norovirus was the causative agent and the mode of transmission was believed to be person-to-person.

In total, 14 persons were classified as cases; 13 patients and one staff member. Symptoms included diarrhea, vomiting, and nausea with illness duration lasting an average of nine days. Patients of the facility had the highest attack rate at 14.6%. The epidemiologic link between cases was believed to be the facility in which the patients were treated and the staff worked.

The outbreak ceased February 14, 2014.

RECOMMENDATIONS

To prevent such norovirus outbreaks in healthcare settings, the following public health measures are recommended:

- Follow hand-hygiene guidelines and careful washing of hands with soap and water after contact with patients with norovirus infection.
- Use gowns and gloves when in contact with or caring for patients who are symptomatic with norovirus.
- Routinely clean and disinfect high touch patient surfaces and equipment with an Environmental Protection Agency-approved product with a label claim for norovirus.
- Remove and wash contaminated clothing and linens.
- Exclude healthcare workers who have symptoms consistent with norovirus from work.¹

REFERENCES

1. Centers for Disease Control and Prevention. *Norovirus in Healthcare Settings*. February 25, 2013. Retrieved January 28, 2014, from <http://www.cdc.gov/HAI/organisms/norovirus.html>.

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