EPIDEMIOLOGIC INVESTIGATION SUMMARY

NOROVIRUS: GASTROINTESTINAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF A REHABILITATION CENTER CARSON CITY, NEVADA, 2013

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 December 12, 2013, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by a rehabilitation center staff member of a gastrointestinal illness among residents of Facility "A." The problem was first identified by staff of the facility on December 9, 2013. Symptomology of the ill residents included diarrhea, nausea, and vomiting. The outbreak investigation began on December 12, 2013.

METHODS

Epidemiology

On December 12, 2013, 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 **suspect case** was defined as a resident, employee, or staff member of Facility "A" who was not lab confirmed with a gastrointestinal agent but anecdotally had diarrhea or vomiting and possibly other gastrointestinal symptoms since December 10, 2013.

A **probable case** was defined as a resident, employee, or staff member of Facility "A" who was not lab confirmed with a gastrointestinal agent but who had diarrhea or vomiting and possibly other gastrointestinal symptoms since December 10, 2013.

A **confirmed case** was defined as a resident, employee, or staff member of Facility "A" who was lab confirmed with a gastrointestinal agent who had diarrhea or vomiting and possibly other gastrointestinal symptoms since December 10, 2013.

Laboratory

Laboratory testing for gastrointestinal illness was highly recommended for ill residents 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 rotavirus, *Clostridium difficile*, and/or norovirus.

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.

RESULTS

Epidemiology

A total of 35 people (33 probable and 2 confirmed cases) were reported. Illness onset occurred between December 9 and December 15, 2013. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The peak illness onset date was December 11, 2013. Among the 35 cases, the median age was 73 years old (range 40-94 years). Males comprised 28.6% of cases.

Symptomatic cases reported diarrhea (94.3%), vomiting (17.1%), and nausea (14.3%). The duration of illness of most cases was 4 days (range 2 – 6 days), and there was 1 hospitalization. The resident attack rate was 54.2%, the staff attack rate was 7.1%, and the overall attack rate was 34.7%.

Laboratory

Of 2 specimens tested, all tested positive for norovirus: 1 norovirus genogroup I (GI), and 1 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.

CONCLUSIONS

A gastrointestinal illness outbreak occurred among residents and staff at Facility "A," a rehabilitation center in Carson City, Nevada from December 9 through December 15, 2013. Confirmatory test results indicated norovirus was the causative agent and the mode of transmission was most likely person-to-person.

In total, 35 persons were classified as cases, 32 residents and 3 staff of the facility. Symptoms included diarrhea, nausea, and vomiting with illness duration lasting an average of 4 days. Residents of the facility had the highest attack rate (54.2%) and 1 resident required hospitalization.

The epidemiological link between cases was believed to be the facility in which the residents lived and the staff worked.

The outbreak ceased as of December 16, 2013.

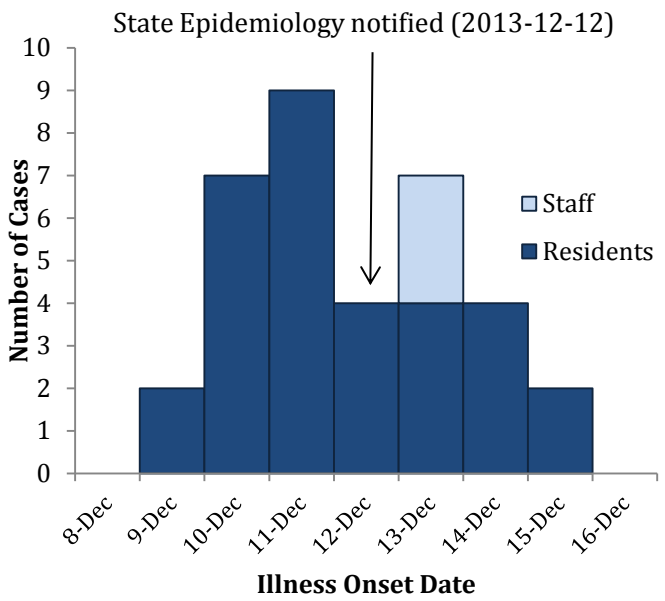

Figure 1. The epidemic curve of norovirus (n=35) associated with a rehabilitation center in Carson City, Nevada from December 9-15, 2013.

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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