

# EPIDEMIOLOGIC INVESTIGATION SUMMARY

## NOROVIRUS: GASTROINTESTINAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF A SKILLED NURSING FACILITY IN CHURCHILL COUNTY, NEVADA, 2014

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Department of Health and Human Services  
Division of Public and Behavioral Health  
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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 July 23, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by the administrator at Facility "A" of a gastrointestinal (GI) illness among residents. The problem was first identified by staff on July 20, 2014. Initial reported symptomology of the ill residents included diarrhea, nausea, and vomiting. The outbreak investigation began on July 23, 2014.

### METHODS

#### Epidemiology

On July 23, 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 resident, staff member, or visitor of Facility "A" who was lab confirmed with norovirus since July 20, 2014.

A **probable case** was defined as a resident, 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 July 20, 2014.

A **suspect case** was defined as a resident, 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 July 20, 2014.

#### Laboratory

Laboratory testing for GI 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 norovirus, rotavirus, and *C. difficile*.

Eleven laboratory tests were conducted and the specimens collected for testing 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".

### RESULTS

#### Epidemiology

A total of 38 cases (31 probable and 7 confirmed) were reported. Illness onset dates occurred between July 23 and

August 2, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The peak illness onset date was July 22, 2014. Among the 38 cases, the average age was 72 years old (range 18-97 years) and males comprised 13.2% of cases.

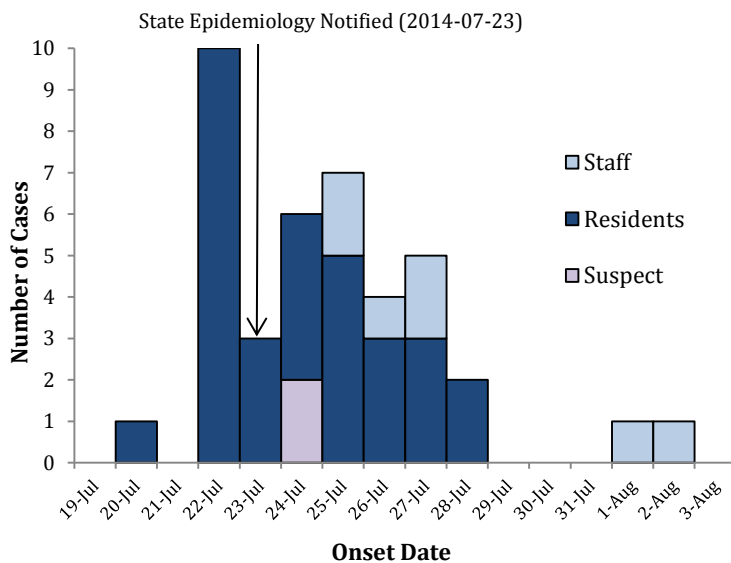


Figure 1. The epidemic curve of norovirus (n=38) associated with an skilled nursing facility in Churchill County, Nevada from July 20 to August 2, 2014

The outbreak included two suspect cases which were not counted in the final numbers because there was not enough information available to determine if they were a case or not. The large number of suspect cases was due to a lack of information on symptoms.

Symptomatic cases reported diarrhea (81.6%), vomiting (47.4%), and nausea (36.8%). The average duration of illness for cases was approximately two days (range one – six days). The resident attack rate was 34.8%, the staff attack rate was 5.2%, and the overall attack rate was 17%.

## Laboratory

Of the 11 specimens tested, seven were 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.

## CONCLUSIONS

A GI illness outbreak occurred among residents and staff at Facility “A”, a skilled nursing facility in Churchill County, Nevada from July 20 through August 2, 2014. Confirmatory test results indicated norovirus was the causative agent and the mode of transmission was believed to be person-to-person.

In total, 38 persons were classified as cases; 31 residents and seven staff of the facility. Symptoms included diarrhea, vomiting, and nausea with illness duration lasting an average of two days. Residents of the facility had the highest attack rate at 34.8% and three residents required hospitalization. The epidemiologic link between cases was believed to be the facility in which the residents lived and the staff worked.

The outbreak ceased as of August 3, 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.<sup>1</sup>

## 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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