

EPIDEMIOLOGIC INVESTIGATION SUMMARY

DIARRHEAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF A SKILLED NURSING FACILITY 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 April 21, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by the Southern Nevada Health District of a gastrointestinal (GI) illness outbreak among residents of Facility "A". The problem was first identified by facility staff on April 18, 2014. Initial symptomology of the ill residents included diarrhea, nausea, and vomiting. The outbreak investigation began on April 21, 2014.

METHODS

Epidemiology

On April 21, 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 GI agent since April 18, 2014.

A **probable case** was defined as a resident, staff member, or visitor of Facility "A" who was not lab confirmed with GI agent but had diarrhea and/or vomiting (along with possible other GI illnesses) since April 18, 2014.

A **suspect case** was defined as a resident, staff member, or visitor of Facility "A" who was not lab confirmed with GI agent but anecdotally had diarrhea and/or vomiting (along with possible other GI illnesses) since April 18, 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 recommendations were focused on the presence of norovirus, rotavirus, and *Clostridium difficile*.

Four laboratory tests were conducted and the specimens were stool samples.

Mitigation

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

RESULTS

Epidemiology

A total of 13 probable cases were reported. Illness onset ranged between April 17, and April 24, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

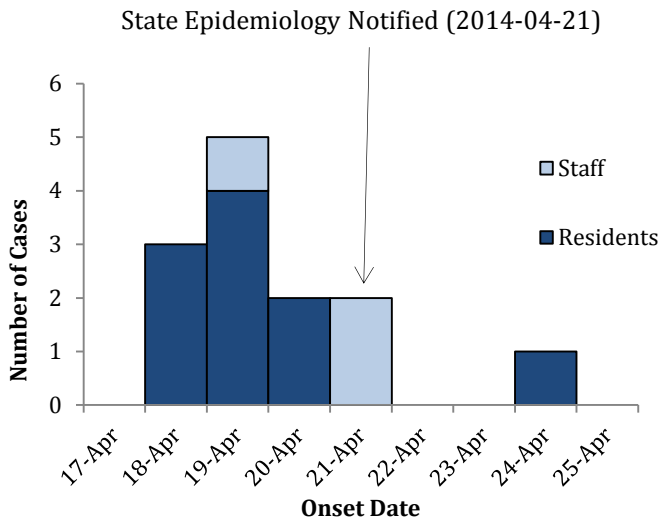


Figure 1. The epidemic curve of diarrheal illness (n=13) associated with a Skilled Nursing Facility in Clark County, Nevada from April 18 to April 24, 2014

The peak illness onset date was April 19, 2014. Among the 13 cases, the average age was 70 years old (range 34-86 years) and males comprised 38.5 % of the cases.

Symptomatic cases reported diarrhea (100%), vomiting (61.5%), and nausea (7.7%). The average duration of illness was 2 days (range 1-3 days). The resident attack rate was 4.8%, the staff attack rate was 0.9%, and the overall attack rate was 2.4%.

Laboratory

Confirmatory test results were unable to determine the causative agent.

Mitigation

Although the cause of the outbreak was undetermined, DPBH reiterated to the facility the recommendations for preventing and controlling future norovirus gastroenteritis outbreaks.

CONCLUSIONS

A diarrheal illness outbreak occurred among residents and staff at Facility "A", a skilled nursing facility in Clark County, Nevada, from April 18, to April 24, 2014. Confirmatory test results were unable to determine the causative agent resulting in the outbreak classification: diarrheal illness not otherwise specified. Mode of transmission was believed to be person-to-person.

In total, 13 persons were classified as probable cases, 10 residents and three staff of the facility. Symptoms included diarrhea, nausea, and vomiting with illness duration lasting an average of two days. Residents of the facility had the highest attack rate at 4.8%. 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 April 25, 2014.

RECOMMENDATIONS

To prevent diarrheal illness outbreaks in healthcare settings, the following public health measures are recommended:

- Follow hand-hygiene guidelines, and carefully wash hands with soap and water after contact with patients with diarrheal illness.
- Use gowns and gloves when in contact with, or caring for patients who are symptomatic.
- Routinely clean and disinfect high touch patient surfaces and equipment.
- Remove and wash contaminated clothing and linens.
- Exclude healthcare workers who have symptoms consistent with diarrheal illness 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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