EPIDEMIOLOGIC INVESTIGATION SUMMARY

DIARRHEAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF AN ASSISTED LIVING FACILITY CARSON CITY, 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 7, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by an administrator at Facility "A" that the facility experiencing a gastrointestinal (GI) illness outbreak among its residents. The first ill resident was identified on April 2, 2014, and the outbreak investigation began on April 7, 2014. Initial reported symptomology of the ill residents was diarrhea.

METHODS

Epidemiology

On April 7, 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, employee, or visitor Facility "A" who was lab confirmed with GI agent since April 2, 2014.

A **probable case** was defined as a resident, employee, 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 2, 2014.

A **suspect case** was defined as a resident, employee, or visitor of Facility "A" who was not lab confirmed with a GI agent, but who anecdotally had diarrhea and/or vomiting (along with possible other GI illnesses) since April 2, 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*.

Two laboratory tests were conducted and the specimens collected 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 to the facility.

The facility included their own steps in preventing the spread of illness in the facility by practicing proper steps for isolation and quarantine. They performed these measures along with active surveillance in order to identify additional cases.

RESULTS

Epidemiology

A total of 27 probable cases were reported. Illness onset dates occurred between April 2, and April 17, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

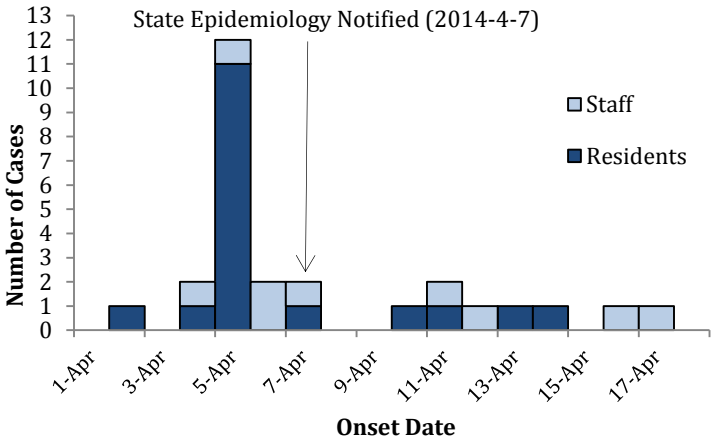

Figure 1. The epidemic curve of diarrheal illness (n=27) associated with an assisted living facility in Carson City, Nevada from April 2, to April 17, 2014

The peak illness onset date was April 5, 2014. Among the 27 cases, the average age was 73 years old (range 56-98 years) and males comprised 25.9% of the cases.

Symptomatic cases reported diarrhea (92.6%), vomiting (81.5%), nausea (7.4%), and abdominal pain (3.7%). The resident attack rate was 29.0%, the staff attack rate was 20.5%, and the overall attack rate was 25.5%.

Laboratory

Both specimens collected and sent for laboratory testing had reported "pending" results.

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 GI illness outbreak occurred among residents and staff at Facility "A", an assisted living facility in Carson City, Nevada from April 2, through April 17, 2014. 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, 27 persons were classified as probable cases; 18 residents and 9 staff members. Symptoms included diarrhea, nausea, vomiting, and abdominal cramps. Residents of the facility had the highest attack rate at 29.0%. 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 18, 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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