EPIDEMIOLOGIC INVESTIGATION SUMMARY

DIARRHEAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF AN ASSISTED LIVING 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 January 14, 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 (SNHD) of a gastrointestinal (GI) illness among residents in Facility "A". The problem was first identified by facility staff on January 11, 2014, and was reported to SNHD on that day. Symptomology of the ill residents included diarrhea, abdominal cramps and vomiting. The outbreak investigation began on January 14, 2014.

METHODS

Epidemiology

On January 14, 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 and exclusion of symptomatic employees from the facility until 72 hours after symptoms resolved.

A **confirmed case** was defined as a resident, staff member, or visitor of Facility "A" who was lab confirmed with a GI agent since January 11, 2014.

A **probable case** was defined as a resident, staff member, or visitor of Facility "A" who was not lab confirmed with a GI agent but had diarrhea and/or vomiting (along with possible other GI illnesses) since January 11, 2014.

A **suspect case** was defined as a resident, staff member, or visitor of Facility "A" who was not lab confirmed with a GI agent but anecdotally had diarrhea and/or vomiting since January 11, 2014.

Site Visit

Due to an increase in cases on January 19, 2014, a site visit was conducted at Facility "A" on January 22, 2014 to investigate the continuing outbreak. The details of the index case were revisited and facilities in which cases had been seen were contacted to determine if an increase in GI illness was present in those facilities. Review of staff and resident crossovers between sections of the facility, food production and transportation, cleaning, and isolation procedures was conducted.

Laboratory

Facility "A" collected a stool sample for laboratory testing prior to contacting DPBH, and at the time of the site visit the facility was awaiting collection of a second stool sample from a new case to be sent for testing.

Mitigation

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

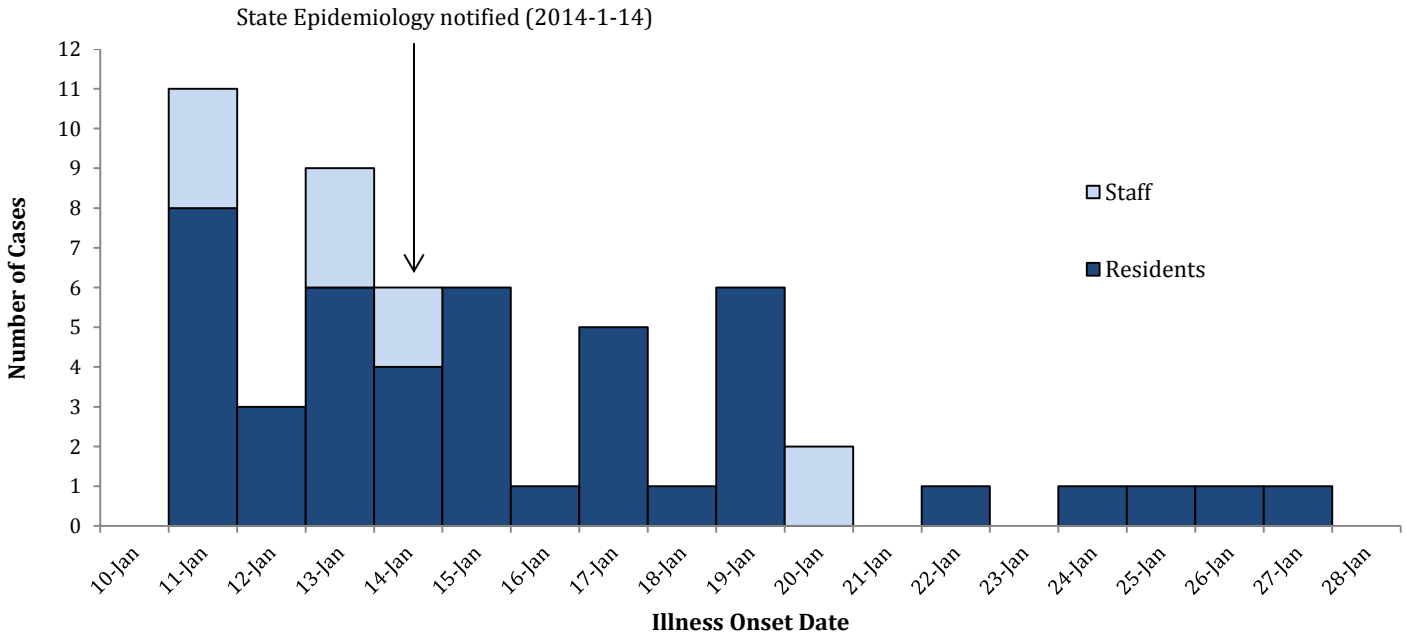

Figure 1. The epidemic curve of diarrheal illness (n=55) associated with an assisted living facility in Clark County, Nevada from January 1-27, 2014

RESULTS

Epidemiology

A total of 55 probable cases were reported. Illness onset ranged between January 11, and January 27, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The peak illness onset date was January 11, 2014. Among the 55 cases, the average age was 75 years old (range 23-98 years) and males comprised 27.3% of the cases.

Symptomatic cases reported diarrhea (89.1%), vomiting (70.9%), nausea (18.2%), and abdominal pain (3.6%). The average duration of illness was 3 days (range 1-9 days). The resident attack rate was 50.0%, the staff attack rate was 14.5%, and the overall attack rate was 34.6%.

During the site visit, no major areas of concern were noted. Signs pertaining to the outbreak, warnings for visitors, and notification of the practices in place were on the doors and front desk along with alcohol sanitizer available for use. Dining activities were suspended in the area of the facility where residents were still ill; food was being delivered to residents' rooms. All activities, new admissions, and entertainment were suspended until the outbreak was over. Residents were unable to move between different floors and sections of the facility, and there was no staff crossover between sections. Staff was observed cleaning the facility during the visit. It was recommended that staff who were previously ill to only work with residents who were previously or currently ill, ensure proper glove use and hand washing took place when staff dispose of soiled diapers, and to place signage on the doors of ill residents to alert staff of illness prior to entering the room. There was no reported increase in GI cases in other facilities which cases had visited.

Laboratory

No specimens were able to be tested and reported. The presiding physician did not write an order for laboratory testing of the first stool sample collected by the facility. There was a new case on January 22, and this resident's physician agreed to write an order for laboratory testing; no positive testing results were reported.

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 Clark County, Nevada from January 11, through January 27, 2014. No confirmatory test results were conducted, resulting in the outbreak classification: diarrheal illness not otherwise specified. It was believed to be transmitted person-to-person.

In total, 55 persons were classified as probable cases: 45 residents and 10 staff of the facility. Symptoms included diarrhea, nausea, vomiting, and abdominal pain with illness duration lasting an average of 3 days. Residents of the facility had the highest attack rate (50.0%). 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 January 28, 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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