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 February 25, 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 facility staff on February 25, 2014. Symptomology of the ill residents included diarrhea, nausea, vomiting, and abdominal pain. The outbreak investigation began on February 25, 2014.

METHODS

Epidemiology

On February 25, 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 resolve.

A **suspect case** was defined as a resident, employee, or staff member of Facility "A" who was not lab confirmed with a GI agent but who anecdotally had diarrhea or vomiting and/or other GI symptoms since February 24, 2014.

A **probable case** was defined as a resident, employee, or staff member of Facility "A" who was not lab confirmed with a GI agent but had diarrhea or vomiting and/or other GI symptoms as well since February 24, 2014.

A **confirmed case** was defined as a resident, employee, or staff member of Facility "A" who was lab confirmed with a GI agent who had diarrhea or vomiting and possibly other GI symptoms as well since February 24, 2014.

Laboratory

Laboratory testing for GI illness was recommended for ill residents, but stool samples were unable to be obtained by Facility "A" due to lack of provider cooperation. OPHIE recommended lab testing again at a site visit on March 12, 2014, but Facility "A" did not meet this request due difficulties obtaining stool samples from currently symptomatic individuals.

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.

A site visit to Facility "A" was conducted on March 12, 2014, to investigate a sudden increase of cases after a period of decline. Infection control procedures and facility activities were examined including the reopening of the dining facility, use of proper cleaning supplies, and facility procedures.

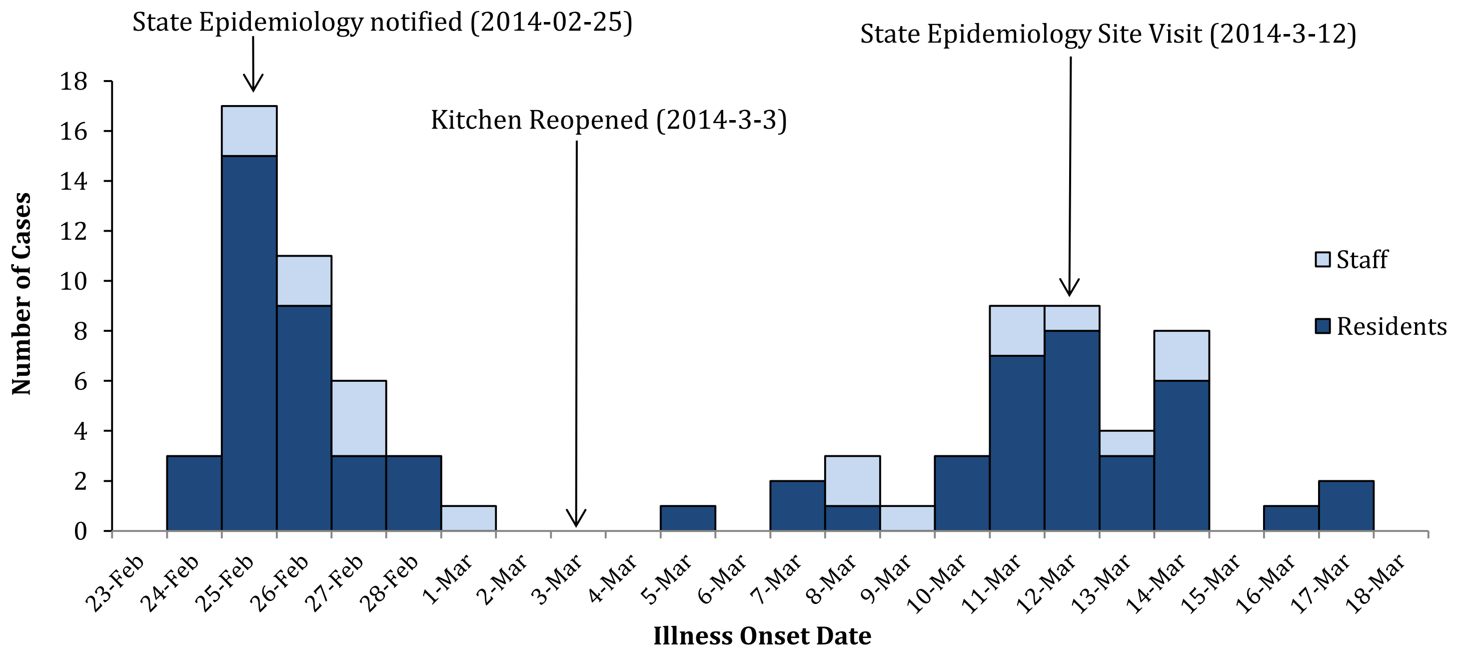

Figure 1. Epidemic curve of GI illness (n=84) associated with an assisted living facility in Clark County, Nevada, by onset date, from Febuary 24-March 17, 2014.

RESULTS

Epidemiology

A total of 84 people (probable cases) were reported. Illness onset ranged between February 24 and March 17, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The peak illness onset date was February 25, 2014. Among the 84 cases, the average age was 74 years old (range 23-100 years). Males comprised 39.3 % of cases.

Symptomatic cases reported diarrhea (85.7%), vomiting (73.8%), nausea (26.2%), and abdominal pain (1.2%). The duration of illness of most cases was 2 days (range 1-4 days). The resident attack rate was 50.4%, the staff attack rate was 35.4%, and the overall attack rate was 46.9%. No new cases were reported for three days from March 2 through March 4, 2014. On March 3, 2014, the kitchen of the facility was reopened against OPHIE's recommendations to keep communal facilities closed for two incubation periods of the suspected illness, norovirus. New cases were identified on March 5, 2014.

Mitigation

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

The site visit on March 12, 2014, confirmed that the kitchen was reopened despite the recommendation to keep the kitchen closed until notified by OPHIE. During the site visit, OPHIE staff members showed the administrator of Facility "A" the epidemic curve to show the rise in illness after the kitchen was reopened. Facility "A" was instructed to close the kitchen again until the outbreak investigation was completed.

CONCLUSIONS

A diarrheal illness outbreak occurred among residents and staff at Facility "A," an assisted living facility in Clark County, Nevada, from February 24 through March 17, 2014. No confirmatory test results were conducted, resulting in the outbreak classification: diarrheal illness not otherwise specified. It was most likely transmitted person-to-person. OPHIE recommended that the kitchen stay closed until the outbreak was officially closed, but the facility did not follow that recommendation. There was a spike in cases after the kitchen reopened on March 3, 2014, which likely contributed to the long duration of the outbreak.

In total, 84 persons were classified as probable cases, 67 residents and 17 staff of the facility. Symptoms included diarrhea, nausea, vomiting and abdominal pain with illness duration lasting an average of 2 days. Residents of the facility had the highest attack rate (50.4%). 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 March 17, 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.

For additional information regarding this publication, contact:

Office of Public Health Informatics and Epidemiology
4126 Technology Way, Ste 200
Carson City NV 89706
Email: outbreak@health.nv.gov
Tel: (775) 684-5911

Brian Sandoval
Governor
State of Nevada

Romaine Gilliland
Director
Department of Health and Human Services

Richard Whitley, MS
Administrator
Division of Public and Behavioral Health

Tracey D Green, MD
Chief Medical Officer
Division of Public and Behavioral Health

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