EPIDEMIOLOGIC INVESTIGATION SUMMARY

NOROVIRUS: GASTROINTESTINAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF A REHABILITATION CENTER 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 March 28, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by a rehabilitation center's Chief Nursing Manager of a gastrointestinal (GI) illness outbreak among staff of Facility "A". Those ill were first identified on March 27, 2014, and initial symptomology of the ill staff included diarrhea, nausea, and vomiting. The outbreak investigation began on March 28, 2014.

METHODS

Epidemiology

On March 28, 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 March 27, 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 March 27, 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 March 27, 2014.

A **secondary probable case** was defined as someone directly epidemiologically linked to a resident, employee, 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 March 27, 2014.

During this outbreak, Clark County, Nevada, was experiencing a community wide diarrheal illness outbreak attributed to norovirus. Starting in March 2014, Clark County had experienced increases in reports of norovirus: gastrointestinal illness. It is believed that the norovirus outbreak at Facility "A" is linked to this increase in Clark County and the various outbreaks that occur throughout the county.

Laboratory

Laboratory testing for GI illness was highly recommended for ill residents and staff in order to identify the etiologic agent, target infection prevention measures, and control the outbreak within Facility "A". Laboratory testing was focused on identifying norovirus, parasites, ova, and cysts.

Seven laboratory tests were conducted and the specimens collected were stool samples.

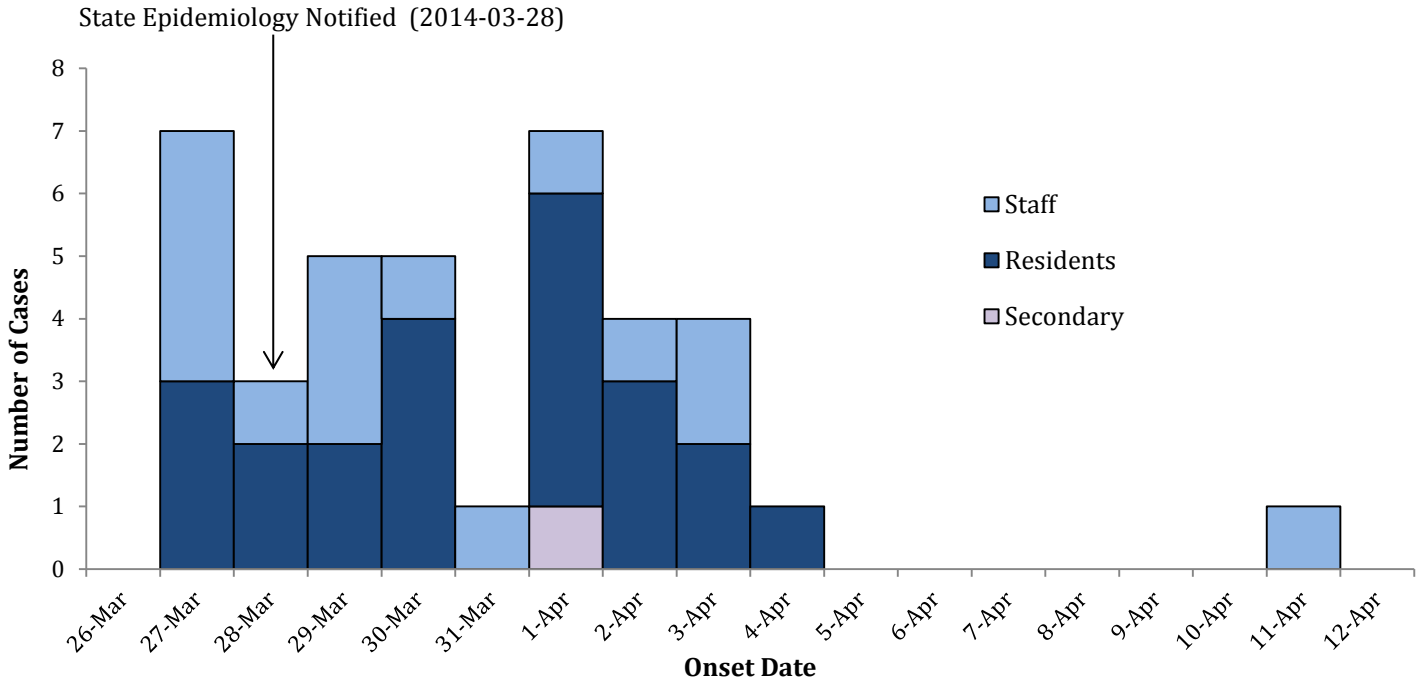

Figure 1. The epidemic curve of norovirus (n=38) associated with a rehabilitation center in Clark County, Nevada from March 27, to April 11, 2014

Mitigation

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

RESULTS

Epidemiology

A total of 38 cases (32 probable, 5 confirmed, and 1 secondary probable) were reported. Illness onset occurred between March 27, and April 11, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The outbreak included 12 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 and illness onset dates. Since information for many of the suspect cases did not include the illness onset dates, they are not included in the epidemic curve.

Among the 38 cases, the average age was 70 years old (range 73-93 years) and males comprised 42.1% of the cases.

Symptomatic cases reported diarrhea (73.7%), vomiting (50%), nausea (39.5%), abdominal pain (13.2), chills (5.3%), and body aches (5.3%). The average duration of illness was two days (range 1 – 5 days), and there were 3 hospitalization. The resident attack rate was 28.2%, the staff attack rate was 13%, and the overall attack rate was 19.2%.

Laboratory

Of seven specimens tested, five tested 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 rehabilitation center in Clark County, Nevada, from March 27, through April 11, 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; 22 residents, 15 staff, and one secondary probable. Symptoms included diarrhea, vomiting, nausea, abdominal pain, chills, and body aches with illness duration lasting an average of two days. Residents of the facility had the highest attack rate at 28.2% 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 April 12, 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.[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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