EPIDEMIOLOGIC INVESTIGATION SUMMARY

NOROVIRUS: GASTROINTESTINAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF AN ASSISTED LIVING FACILITY WASHOE COUNTY, NEVADA, 2014

Department of Health and Human Services
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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 June 2, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by an administrator of a gastrointestinal (GI) illness outbreak among residents and staff of Facility "A". Those ill were first identified on May 27, 2014, and initial symptomology of the ill included diarrhea, vomiting, and nausea. The outbreak investigation began on June 2, 2014.

METHODS

Epidemiology

On June 2, 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 June 2, 2014.

A **probable case** was defined as an 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 June 2, 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 June 2, 2014.

Site Visit

A site visit was conducted on June 4, 2014, at Facility "A" due to reoccurrence of outbreaks at the facility for the past four years. The site visit occurred during a deep cleaning of the facility.

HCQC Notifications

On June 9, 2014, OPHIE notified the Bureau of Health Care Quality and Compliance (HCQC) of the outbreak due to multiple food service workers becoming probable cases. On June 11, 2014, OPHIE again contacted HCQC regarding a complaint it received by two visitors who had become ill after visiting Facility "A" on June 4, 2014. The visitors were known to have had contact with a resident who had been classified as a probable case. The visitors stated they had been invited into the facility without being told of the outbreak occurring.

Facility Follow-Up

On June 16, 2014, OPHIE, along with HCQC, conducted a conference call with Facility "A" to discuss ongoing outbreak issues. OPHIE, HCQC, and Facility "A" walked through proper

outbreak procedures and OPHIE and HCQC reiterated the importance of the following: proper food service during an outbreak, use of proper cleaners for disinfection, thorough cleaning of linens and common areas, exclusion of symptomatic employees from work until 72 hours after symptoms cease, and collecting laboratory specimens for testing.

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.

Three 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 recommendations for the prevention and control of norovirus gastroenteritis outbreaks.

RESULTS

Epidemiology

A total of 111 cases (109 probable and 2 confirmed) were reported. Illness onset occurred between May 27, and June 28, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The outbreak included 8 suspect cases, which were not counted in the final numbers due to a lack of information on symptoms.

Among the 111 cases, the average age was 69 years old (range 18-95 years) and males contributed 26.1% of cases. Symptomatic cases reported diarrhea (74.8%), vomiting (63.1%), nausea (53.2%), abdominal pain (4.5%), body aches (1.8%), fever (0.9%), and headache (0.9%). The average duration of illness was 2 days (range 1 – 15 days). The resident attack rate was 37.0%, the staff attack rate was 24.4%, and the overall attack rate was 32.1%.

Site Visit

No discrepancies were noted by the investigators during the site visit conducted on June 4, 2014. The outbreak investigators who conducted the site visit reiterated the following recommendations to the staff of Facility "A": have signage throughout the facility stating an outbreak was occurring, use proper cleaning supplies on high touch surfaces, and conduct safe dining procedure (i.e. no table clothes, use paper plates etc.).

Laboratory

Of 3 specimens tested, 2 tested positive for norovirus genogroup II (GII).

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 along with guidance given during the conference call.

CONCLUSIONS

A diarrheal illness outbreak occurred among residents and staff at Facility "A", an assisted living facility in Washoe County, Nevada from May 27, through June 28, 2014. Confirmatory test results indicated norovirus was the causative agent and the mode of transmission was believed to be person-to-person.

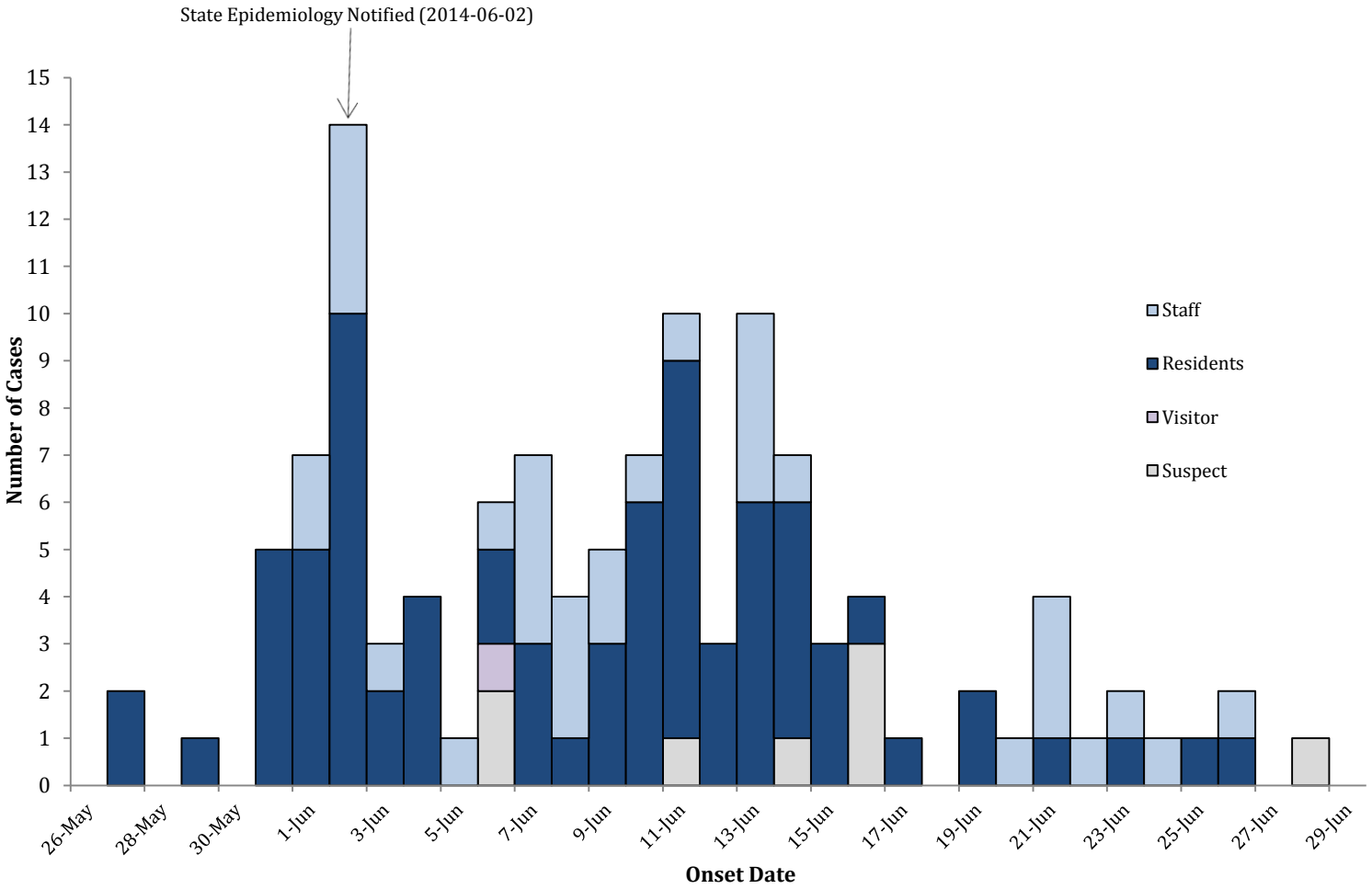

Figure 1. The epidemic curve of norovirus (n=111) associated with an assisted living facility in Washoe County, Nevada from May 27-June 28, 2014

In total, 111 persons were classified as cases; 77 residents, 33 staff, and 1 visitor (the other visitor was classified as a suspect case). Symptoms included diarrhea, vomiting, nausea, abdominal pain, body aches, fever, and headache with illness duration lasting an average of two days. Residents of the facility had the highest attack rate at 37.0%. The epidemiologic link between cases was believed to be the facility in which the residents lived, the staff worked, and the visitors had visited.

The outbreak ceased as of June 18, 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. [1]
- Use gowns and gloves when in contact with or caring for patients who are symptomatic with norovirus. [1]
- Routinely clean and disinfect high touch patient surfaces and equipment with an Environmental Protection Agency-approved product with a label claim for norovirus. [1]
- Remove and wash contaminated clothing and linens.
- Exclude healthcare workers who have symptoms consistent with norovirus from work.[1]
- Restrict non-essential visitors from affected areas during norovirus outbreak.[2]
- Ensure any visitors allowed into facility follow proper hand hygiene and are screened for symptoms.[2]

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.

2. Centers for Disease Control and Prevention. *Updated Norovirus Outbreak Management and Disease Prevention Guidelines.* MMWR 2011; 60(3): [2-20]. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6003a1.htm

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