

EPIDEMIOLOGIC INVESTIGATION SUMMARY

NOROVIRUS: GASTROINTESTINAL ILLNESS OUTBREAK AMONG RESIDENTS AND STAFF OF A LONG TERM CARE FACILITY IN 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 May 5, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by the Director of Education of Facility "A" of a gastrointestinal (GI) illness outbreak among residents and staff of Facility "A". The problem was first identified on April 30, 2014 and the outbreak investigation began on May 5, 2014. Initial reported symptomology of the ill included diarrhea and vomiting.

METHODS

Epidemiology

On May 5, 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 April 30, 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 April 30, 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 April 30, 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 in order to identify the etiologic agent, target infection prevention measures and control the outbreak within Facility "A." Laboratory testing was focused on the presence of norovirus.

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

Mitigation

In order to prevent further spread of illness, the OPHIE Outbreak Response Team disseminated recommendations

for the prevention and control of norovirus gastroenteritis outbreaks to Facility "A".

The facility also conducted its own prevention measures during the outbreak to include: isolation of the ill, closing of the dining room, posting of outbreak signs throughout the facility, and reduced visitation. The facility also re-educated its staff on proper hand hygiene and glove use.

RESULTS

Epidemiology

A total of 71 cases (63 probable and eight confirmed) were reported. Illness onset dates occurred between April 30 and May 17, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The outbreak included 3 suspect cases which were not counted in the final numbers due to a lack of information on symptoms.

staff attack rate was 8.9%, and the overall attack rate was 16.8%.

Laboratory

Of the 11 specimens tested, 8 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.

During the investigation period, three employees were dismissed from duty by Facility "A" for failure to follow proper mitigation protocols. The lack of adherence to mitigation efforts could have led to the increase in the amount of cases and length of the outbreak.

CONCLUSIONS

A GI illness outbreak occurred among residents and staff at Facility "A", a long term care facility in Clark County, Nevada from April 30 through May 17, 2014. Confirmatory test results indicated norovirus was the causative agent and the mode of transmission was believed to be person-to-person.

In total, 71 persons were classified as cases; 63 probable and 8 confirmed. Symptoms included diarrhea, vomiting, nausea, and fever with illness duration lasted an average of 4 days. Residents of the facility had the highest attack rate at 26.9% and 2 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 May 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.

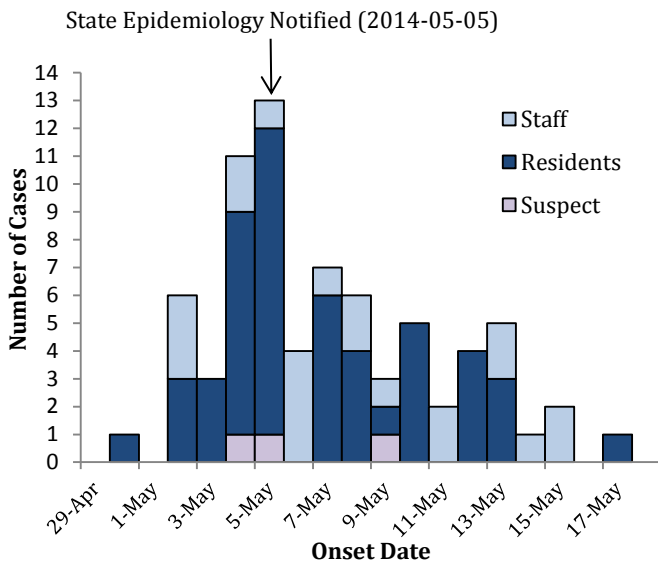


Figure 1. The epidemic curve of norovirus (n=71) associated with a long term care facility in Clark County, Nevada from April 30-May 17, 2014

The peak illness onset date was May 5, 2014. Among the 71 cases, the average age was 69 years old (range 74-95 years) and males comprised 16.9% of the cases.

Symptomatic cases reported diarrhea (74.6%), vomiting (45.6%), nausea (5.6%), and fever (1.4%). The average duration of illness for cases was approximately four days (range 2 - 12 days). The resident attack rate was 26.9%, the

- 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>.

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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