

EPIDEMIOLOGIC INVESTIGATION SUMMARY

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

Department of Health and Human Services
Division of Public and Behavioral Health
Office of Public Health Informatics and Epidemiology

September 2014
Edition 1.0
2014 volume, issue 24

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 26, 2014, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed by Southern Nevada Health District of a gastrointestinal (GI) illness among residents of Facility "A". The problem was first identified by staff of the facility on March 22, 2014. Symptomology of the ill residents included diarrhea, vomiting, nausea, abdominal pain, and malaise/body aches. The outbreak investigation began on March 26, 2014.

METHODS

Epidemiology

On March 26, 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 25, 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 25, 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 25, 2014.

A **secondary confirmed** case was defined as having a direct epidemiologic link to a resident, staff member, or visitor of Facility "A" who was lab confirmed with Norovirus since March 25, 2014.

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 rotavirus, *Clostridium difficile*, and norovirus.

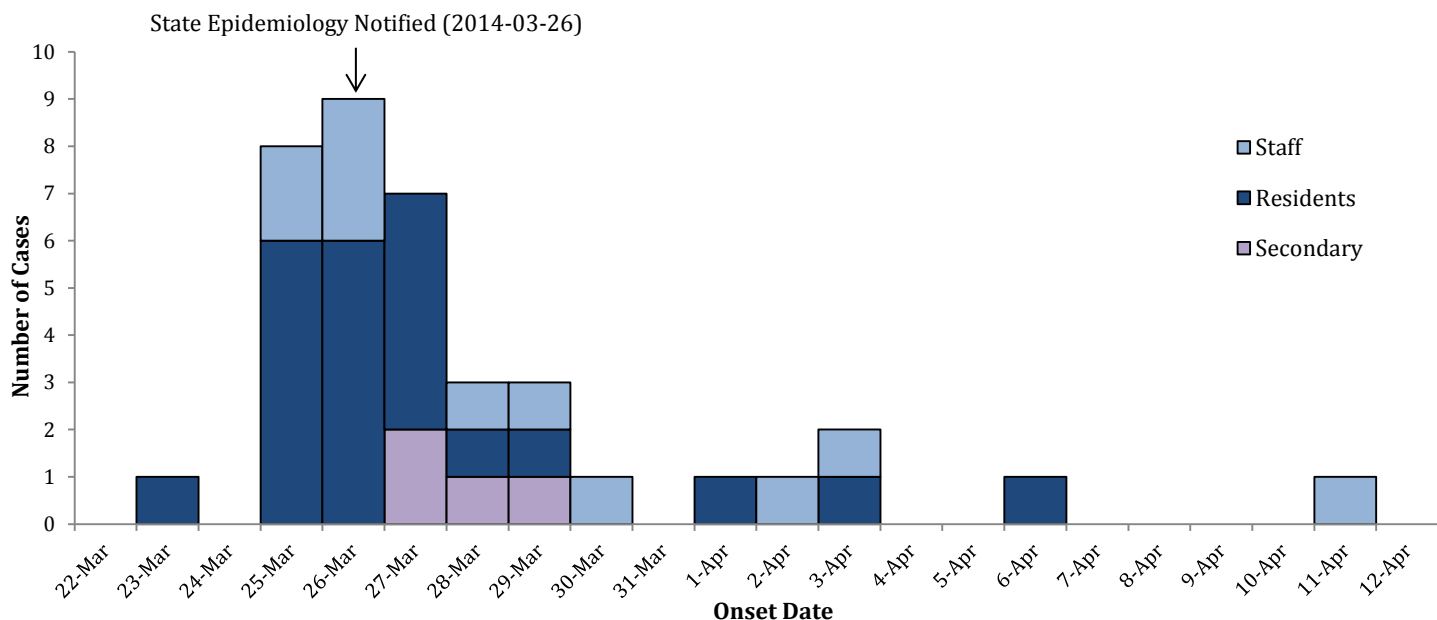


Figure 1. The epidemic curve of norovirus (n=38) associated with an assisted living facility in Las Vegas, Nevada, from March 22-April 11, 2014.

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”.

RESULTS

Epidemiology

A total of 38 cases (30 probable, 4 confirmed, and 4 secondary probable) were reported. All secondary cases were relatives of residents. Illness onset occurred between March 22, and April 11, 2014. The epidemic curve is presented in Figure 1 and shows the distribution of illness onset dates.

The peak illness onset date was March 26, 2014. Among the cases, the average age was 70 years old (range 22-98 years) and males comprised 15.8% of cases. Symptomatic cases reported diarrhea (86.8%), vomiting (44.7%), malaise/body aches (42.1%), and nausea (36.8%), and abdominal pain (7.9%). There was no significant difference in symptomatology between primary and secondary cases. The average duration of illness was 5 days (range 1 – 18 days), and there were 3 hospitalizations (all residents). The average duration of illness for secondary cases was approximately 2 days (range 1 – 2 days).

The resident attack rate was 82.1%, the staff attack rate was 36.7%, and the overall attack rate was 58.6%.

Laboratory

Four samples tested positive for norovirus from 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.

CONCLUSIONS

A GI illness outbreak occurred among residents and staff at Facility “A”, an assisted living facility in Las Vegas, Nevada, from March 22, through April 11, 2014. Confirmatory test results indicated norovirus GII was the causative agent and the mode of transmission was most likely person-to-person.

In total, 38 persons were classified as cases: 23 residents and 11 staff of the facility, as well as 4 secondary cases. Symptoms included diarrhea, vomiting, nausea, abdominal pain, and malaise/body aches with illness duration lasting an average of approximately 2 days. Residents of the facility had the highest attack rate (82.1%) and 3 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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RECOMMENDED CITATION

Division of Public and Behavioral Health. Office of Public Health Informatics and Epidemiology. Epidemiologic Investigation Summary, *Norovirus: Gastrointestinal Illness Outbreak among Residents and Staff of an Assisted Living Facility in Las Vegas, Nevada, 2014*, Nevada. v 2014. i 24. e 1.0. September 2014.

ACKNOWLEDGEMENTS

Thank you to all persons who contributed to this publication:

Danika Williams, MPH; Maximillian Wegener, MPH; Brian Parrish, MPH; Peter Dieringer, MPH; Kimisha Griffin, MPH; Adrian Forero, BS; Judy Dumonte; Rick Sowadsky, MSPH; Julia Peek, MHA; Ihsan Azzam, MD, MPH; Jay Kvam, MSPH

This report was produced by the Office of Public Health Informatics and Epidemiology of the Division of Public and Behavioral Health with funding from budget account 3219.