

EPIDEMIOLOGIC INVESTIGATION SUMMARY

CLOSTRIDIUM DIFFICILE OUTBREAK AMONG RESIDENTS AND STAFF OF A SKILLED NURSING FACILITY IN CLARK COUNTY, NEVADA, 2017

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 July 20, 2017, the Division of Public and Behavioral Health (DPBH), Office of Public Health Informatics and Epidemiology (OPHIE) was informed of a gastrointestinal (GI) illness among residents of Facility "A." The outbreak or increase in illness was first identified by staff of the facility on July 19, 2017. Initial symptomology of the ill residents included diarrhea. The outbreak investigation began on July 20, 2017.

CASE DEFINITIONS

Clinical criteria An illness with gastroenteritis that presents with the following symptoms: vomiting, diarrhea, abdominal cramps or stomach ache, nausea, with or without fever between July 18, 2017 to August 8, 2017.

Epidemiological criteria Any residents or staff members associated with Facility "A" identified through investigations.

Laboratory criteria Any laboratory confirmation by PCR or other method from a human specimen for an enteric etiology.

Case classification

A **confirmed case** was defined as a resident, staff member, or visitor of Facility "A" who is lab confirmed with *Clostridium difficile* (*C. difficile*).

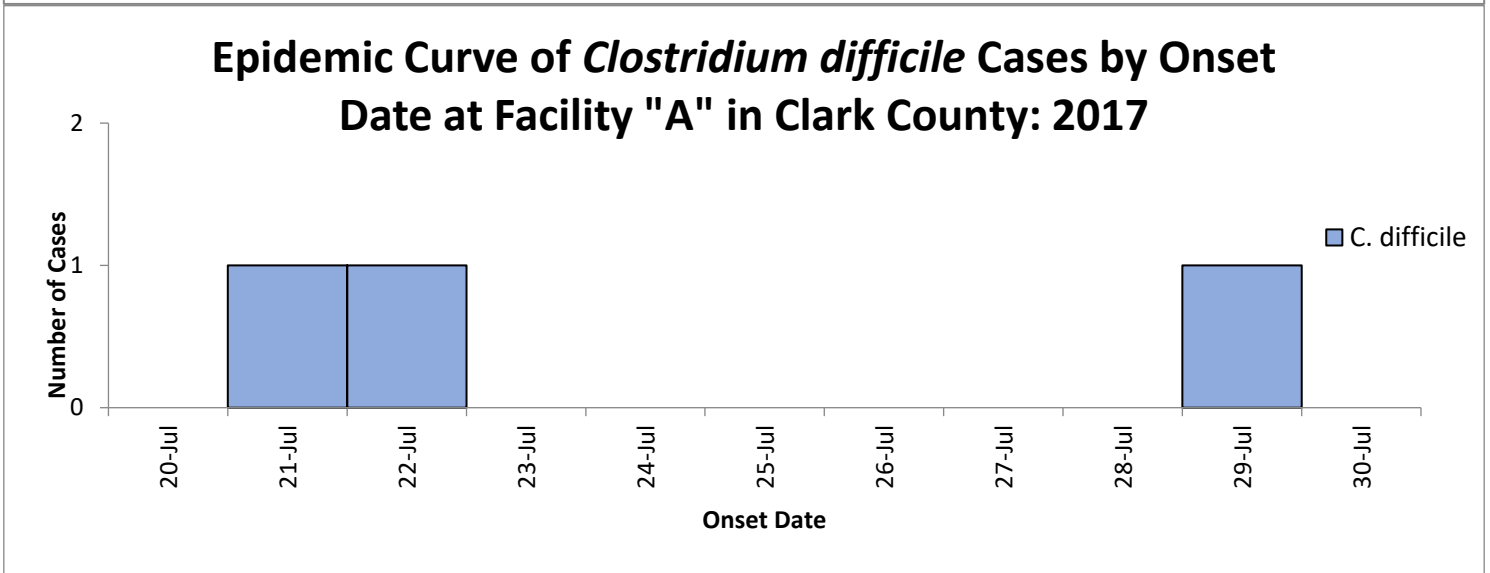
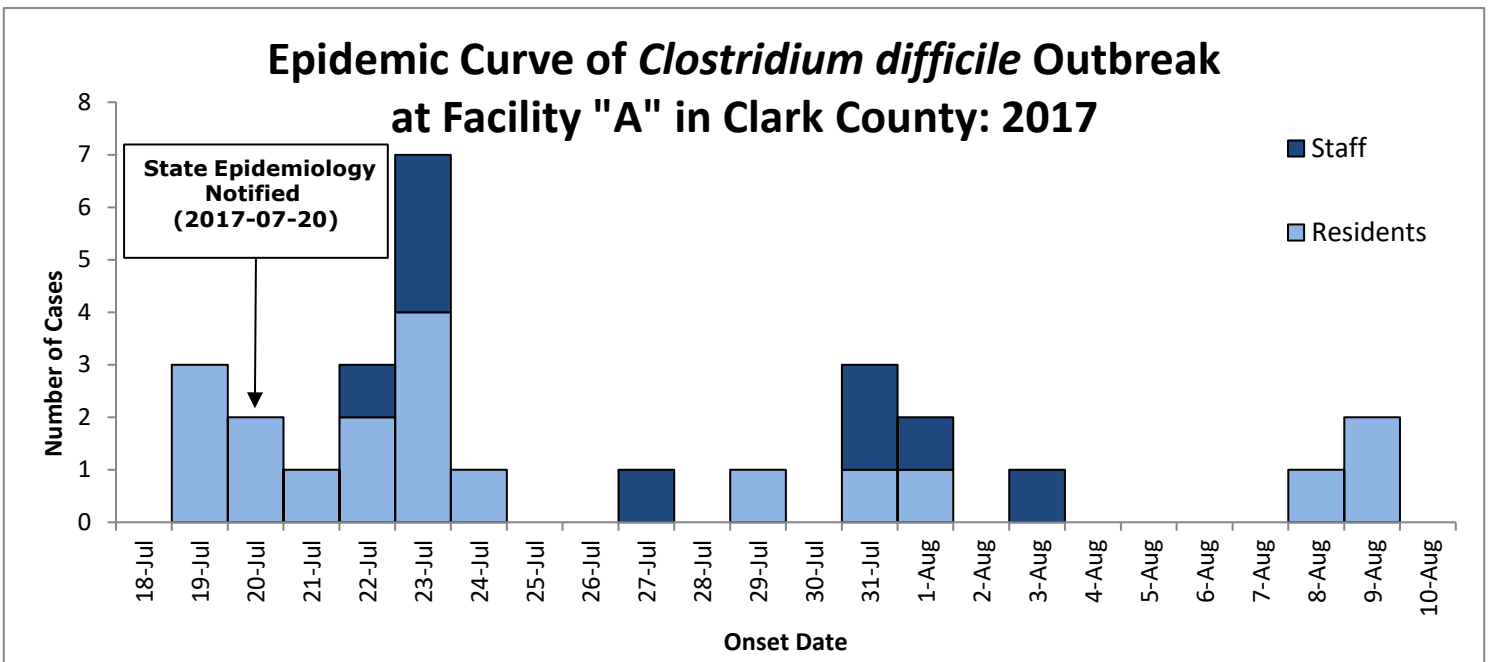
A **probable case** was defined as a resident, staff member, or visitor of Facility "A" who is not lab

confirmed with *C. difficile* but who has diarrhea (and possibly other GI symptoms).

Epidemiology

Onset Date

The peak illness onset date was July 23, 2017.



Epidemiology Summary

A total of 28 cases met the confirmed and probable case definition (three lab-confirmed and twenty-five probable). There were no deaths associated with this outbreak and there were two hospitalizations (one resident and one staff member). The resident attack rate was 10.7% (19/178) and the staff attack rate was 6.4% (9/140). The overall attack rate was 8.8%.

Age- The median age was 61 (range: 21 – 97 years).

Age	n	Total N	%
20-49 years	7	28	25%
50-74 years	13	28	46.4%
> = 75	8	28	28.6%

Sex- Male n=12 (42.9%), Female n=16 (57.1%)

Incubation period- The incubation period for *C. difficile* is approximately 2-3 days.

Duration of illness- The average duration of illness was approximately five days (range three – seventeen days).

Summary of Symptoms-

Symptoms	n	Total N	%
Diarrhea	26	28	93%
Fever	1	28	3.5%
Vomiting	7	28	25%

Laboratory

There was a total of seventeen specimens tested, three of which were positive for *C. difficile* (all residents).

Data Sources

Residents who reported complaints consistent with GI illness. (line listing form)

Staff who called in with complaints consistent with GI illness. (line listing form)

CONCLUSIONS

The latest onset date occurred on August 9, 2017. The facility completed over two incubation periods with no new cases, therefore the outbreak investigation was closed on August 17, 2017.

Mitigation

After lab results confirmed that the cause of the outbreak was *C. difficile*, which has an incubation period of two-three days¹, DPBH reiterated the importance of continued outbreak control measures in order to interrupt further transmission. The facility continued their own mitigation efforts as well.

RECOMMENDATIONS

To prevent *C. difficile* outbreaks in healthcare settings, the following public health measures are recommended:

- Use contact precautions for the duration of resident diarrhea.
- Abide by proper use of gloves.
- Follow proper hand hygiene that follows CDC/WHO guidelines.
- Clean and disinfect equipment and environment; the use of a bleach solution is most effective.
- Educate healthcare workers, housekeepers, administration staff, residents, and families on *C. difficile*.
- Isolate residents with symptoms until a *C. difficile* confirmation is made.
- Immediately notify infection control about positive *C. difficile* laboratory results².

REFERENCES

1. Centers for Disease Control and Prevention. Healthcare Associated infections (HAIs). *Clostridium difficile* Infection Information for Patients. February 24, 2015. Retrieved December 8, 2017, from <http://www.cdc.gov/hai/organisms/cdiff/Cdiff-patient.html>
2. Centers for Disease Control and Prevention. *Clostridium difficile* Infections (CDI) Toolkit. December 23, 2009. Retrieved December 8, 2017, from <http://www.cdc.gov/hai/pdfs/toolkits/CDItoolkit2-29-12.pdf>

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RECOMMENDED CITATION

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