

Clostridioides difficile

HOSPITALIZATIONS AMONG MICHIGAN RESIDENTS 2016-2019

WHAT IS CLOSTRIDIOIDES DIFFICILE?



Clostridioides difficile (*C. difficile*), previously known as *Clostridium difficile*, is a bacterium that causes severe diarrhea and colitis. It is estimated to cause almost half a million infections in the U.S. each year. *C. difficile* is contagious and easily spreads from person to person. The most common risk factors for *C. difficile* are antibiotic use, being 65 years or older, and having recently stayed in a hospital or nursing home.

DATA SOURCES



Data in this fact sheet are taken from the Michigan Inpatient Database (MIDB) for the years 2016-2019, Michigan Department of Health and Human Services (MDHHS), and Division for Vital Records and Health Statistics. Nearly all acute care hospitals (98%) in Michigan submitted data to MIDB. Census data from the United States Census Bureau are used to calculate rates.

1

Hospitalization Rates of *C. difficile* Infection in Michigan, 2016-2019

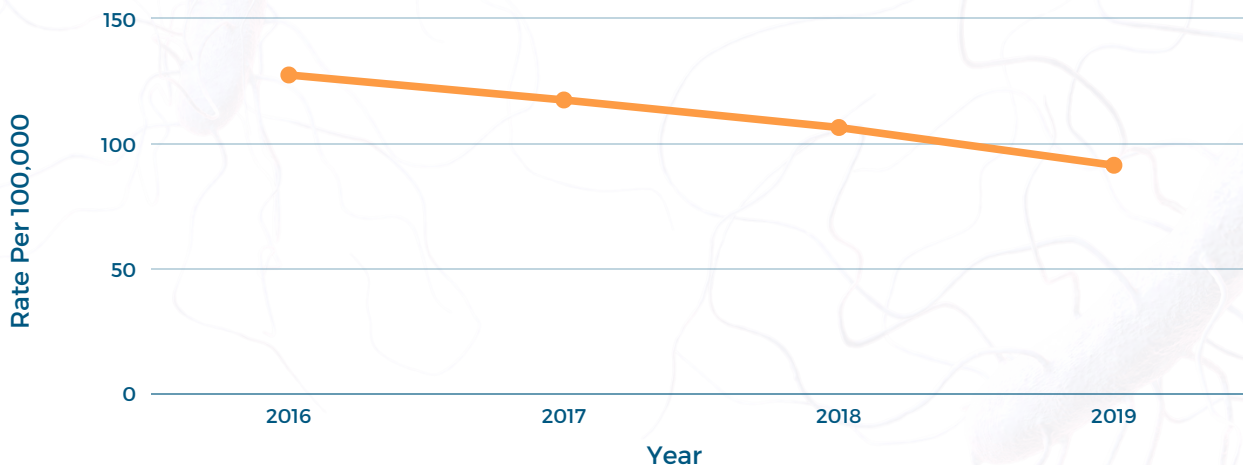


FIGURE 1

C. difficile Hospitalization Rates (per 100,000) in Michigan (2016-2019).

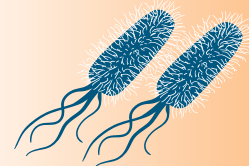
These data represent 44,104 hospitalizations in which *C. difficile* was recorded as a diagnosis. The rate per 100,000 persons decreased each year between 2016 and 2019, with a 28.3% decrease over the 4-year period.



**Causes diarrhea and
colitis**

0.5M

**Almost half a million
infections in the U.S.
each year**



Contagious

2

Hospitalization Rates of *C. difficile* Infection in Michigan by Sex, 2016-2019

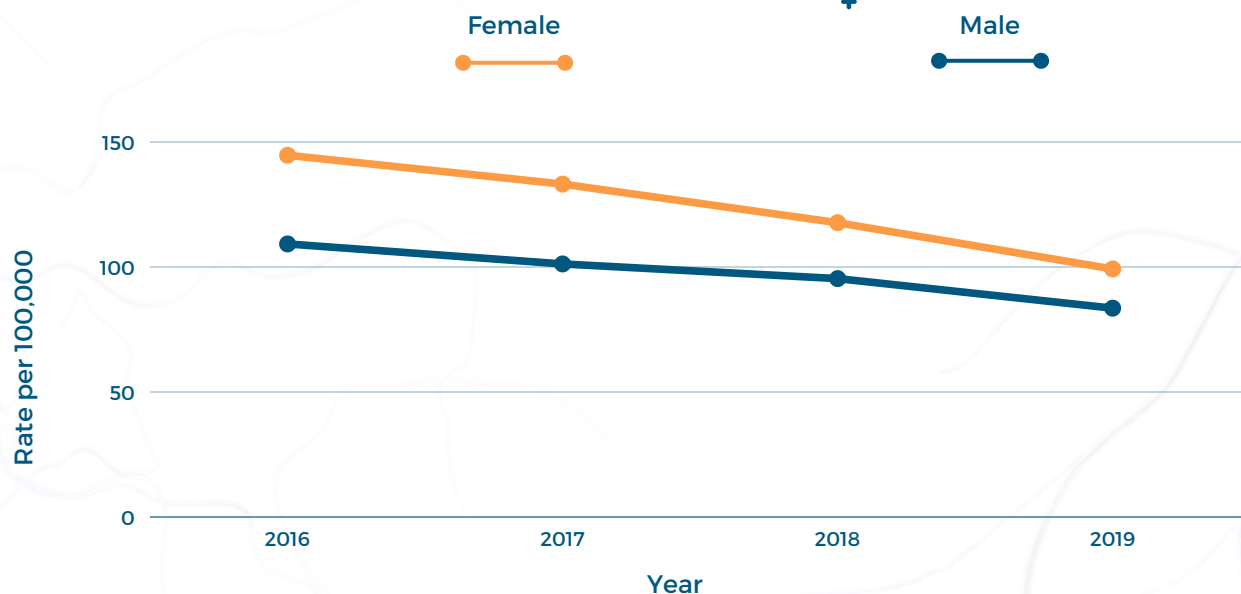


FIGURE 2

C. difficile Hospitalization Rates by Sex (per 100,000) in Michigan (2016-2019).

Hospitalization rates for females were higher than those for males. Possible risk factors include infant exposure, increased antibiotic use, and host factors related to the immune system.

3

Hospitalization Rates of *C. difficile* Infection in Michigan by Age Group, 2016-2019

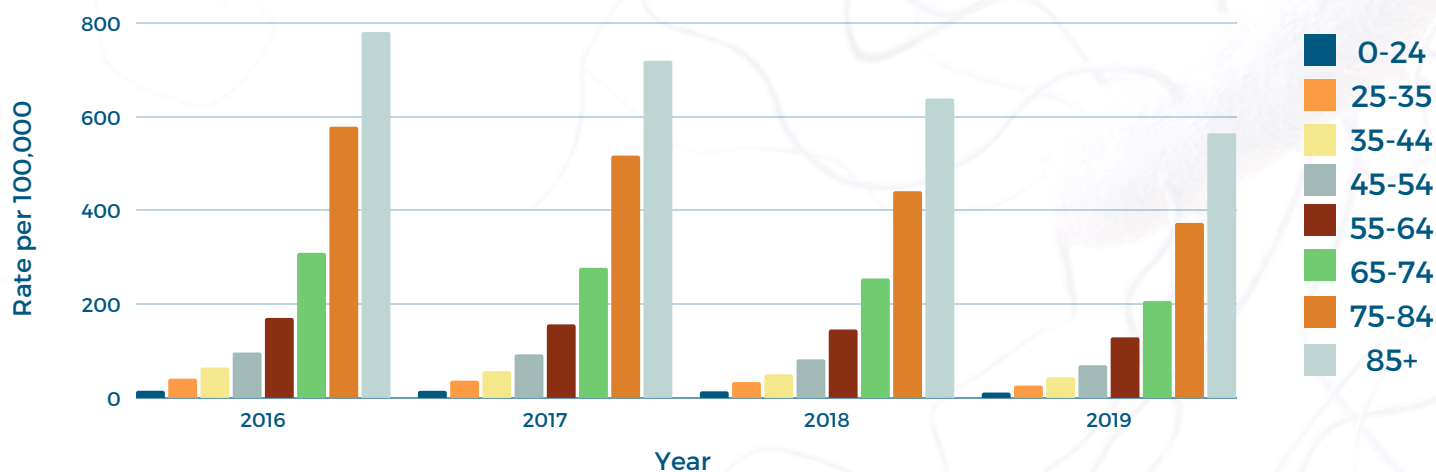


FIGURE 3

C. difficile Hospitalization Rates by Age (per 100,000) in Michigan (2016-2019).

Hospitalization due to *C. difficile* is higher among persons 85+. Risk factors include increased exposure to healthcare settings, increased antibiotic use, and impaired immune response.

4

Hospitalization Rates of *C. difficile* Infection in Michigan by Race, 2016-2019

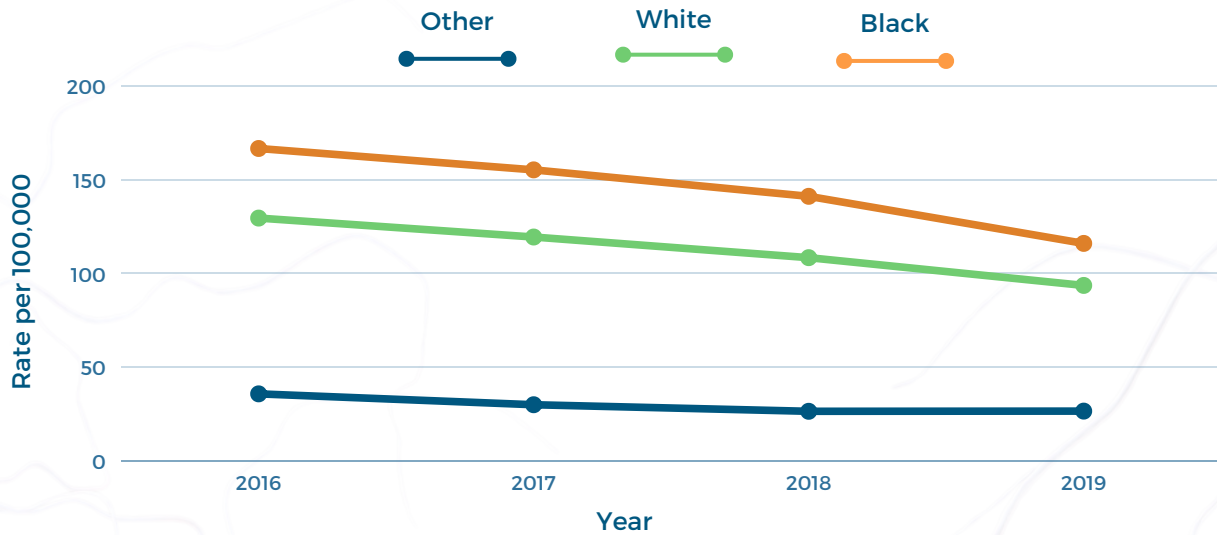


FIGURE 4

C. difficile Hospitalization Rates by Race (per 100,000) in Michigan (2016-2019).

These data represent 44,091 hospitalizations in which *C. difficile* was recorded as a diagnosis; unknown race (n=13) excluded. The rate per 100,000 persons decreased yearly for each race, except for a slight increase 2018-2019 among other races. The hospitalization rates for Blacks, who comprise 13.8% of Michigan’s population were greater than those for whites, who comprise 78.4% of the state’s population.

5

C. difficile Hospitalization Rates in Michigan by County per 100,000 – 2016-2019

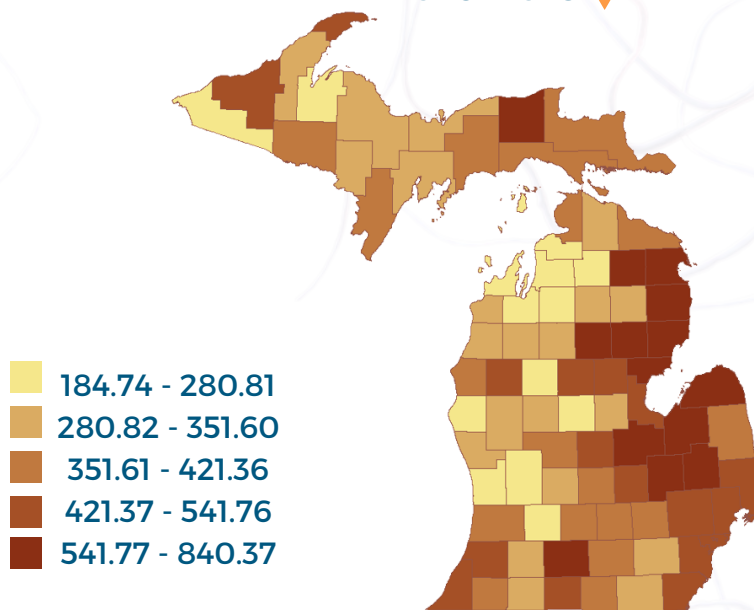


FIGURE 5

C. difficile Hospitalization Rate (per 100,000) by Michigan County (2016-2019).

Hospitalization rates in which *C. difficile* was a diagnosis are highest among residents of Saginaw, Arenac, Tuscola, Luce, and Roscommon counties, and lowest among those who reside in Baraga, Oceana, Gogebic, Kalkaska, and Leelanau counties.

KEY FINDINGS

Hospitalization rates in which *C. difficile* was a diagnosis are higher in the following groups:

- Female
- Black
- Older adults
- Individuals living in the following counties:
Saginaw, Arenac, Tuscola, Luce, and Roscommon

Further review and analysis of MIDB data may identify potential determinants of hospitalization for *C. difficile* infection among these groups.

LIMITATIONS

1. Among acute care hospitals in Michigan, 1-2% did not report data to MIDB.
2. Records in which *C. difficile* appeared in the admitting diagnosis only were excluded.
3. There were missing/unknown values for some demographic variables.

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