

Clostridioides difficile Infections (CDI) Update, Quarter 4 of 2020/21

August 18, 2021

Summary Table

	Current Quarter (Q4 2020/21)	Previous quarter (Q3 2020/21)	Same quarter of previous year (Q4 2019/20)	Last 4 Quarters (Q1 – Q4 2020/21)
Total CDI cases identified*	568	437	516	1,833
Number of new CDI cases associated with the reporting facility	287	220	266	943
Total inpatient days	849,639	637,166	888,639	2,661,648
Rate of CDI associated with the reporting facility per 10,000 inpatient days (95% CI)	3.4 (3.0-3.8)	3.5 (3.0-3.9)	3.0 (2.7-3.4)	3.5 (3.3-3.8)

Highlights for Q4 of 2020/21

- The provincial rate of CDI cases associated with the reporting facility in Q4 of 2020/21 was 3.4 per 10,000 inpatient days
- The CDI rate in Q4 of 2020/21 was not statistically significantly different from the previous quarter (3.5 in Q3 of 2020/21) or the same quarter of the previous year (3.0 in Q4 of 2019/20)
- There is a significant downward trend in the quarterly provincial rates of CDI from Q1 of 2016/17 to Q4 of 2020/21 (see Figure 1)

What is *Clostridioides difficile* infection (CDI)?

Clostridioides (formerly known as *Clostridium*) *difficile*, often called *C. diff*, is a bacterium that can be part of the normal bacterial flora in some people's bowels, without causing harm. For healthy people, *C. diff* does not pose a health risk. However, for people taking antibiotics or with weakened immune systems (e.g. patients who are elderly or undergoing chemotherapy), the normal balance of healthy bacteria in the digestive system can be altered, allowing *C. diff* to grow to unusually high levels and produce toxins that can damage the bowel and lead to a variety of symptoms including diarrhea, fever, abdominal cramping, dehydration, and even death.

How is *Clostridioides difficile* transmitted?

C. diff germs and their spores are shed in feces and can spread from person to person through hands. When someone with *C. diff* or someone caring for a person with *C. diff* doesn't clean their hands thoroughly, they can contaminate every item and surface they touch. Then, when someone else touches that person's hands, or the items or surfaces that have been contaminated, they can pick up the germs on their hands. *C. diff* germs when outside the body become spores, an inactive form of the germ with a protective coating allowing them to live for months on surfaces and in the soil. The germs become active again when these spores are swallowed and reach the intestines. Most healthy adults who come in contact with *C. diff* won't get sick but can carry *C. diff* and infect others.

How can *Clostridioides difficile* transmission be prevented?

C. diff transmission can be prevented by good hand washing practices, thorough environmental cleaning and

* A health authority modified reporting of CDI surveillance data to PICNet from Q1 of 2019/20 onwards, such that only the CDI cases that were associated with the facility in their health authority were reported to PICNet. The changes have no effect on the number and rate of CDI associated with the reporting facility, however, it may affect the total CDI cases reported.

disinfection, and careful use of antibiotics. It is important to wash your hands with plain soap and water when caring for or touching someone with *C. diff*, prior to eating, and after using the washroom. Use disinfectant with a sporicidal agent (e.g. chlorine-based disinfectants) for environmental surface disinfection after cleaning. Only use antibiotics as directed and when necessary.

Why is *Clostridioides difficile* infections being monitored in BC hospitals?

Monitoring CDI in acute care facilities helps identify patients who have *C. diff* so they can receive appropriate treatment and infection prevention and control precautions can be implemented to protect both patients and health care providers from acquiring *C. diff*. It also provides an opportunity to increase awareness and understanding of CDI among health care professionals and the public.

Where can I find information about CDI in BC?

The PICNet website (www.picnet.ca) offers provincial guidance, toolkits, and related resources about CDI prevention and control, as well as the surveillance protocol and reports on CDI in BC. If you have questions or suspect that you have CDI, please contact your doctor or healthcare provider.

About this report

This quarterly update presents the latest data on incidence and trends of new cases of CDI that were health care-associated (HCA) with the reporting facility among inpatients in the last five years. In the following graphs,

- 1) Relapses of CDI and new cases that were associated with another health care facility, community-associated, or of unknown origin were not included.
- 2) The data were aggregated by fiscal quarter for each health authority except Provincial Health Services Authority (PHSA), which aggregated the data by calendar quarter.
- 3) The time frame of each fiscal quarter varied by fiscal year. Generally, there were more days in the fourth fiscal quarter (Q4) than in the other three quarters (Q1, Q2, and Q3) of each fiscal year.
- 4) The line in each graph represents the overall linear trend over time.
- 5) Direct comparison of the number of cases or the rate between health authorities is not recommended due to variations in laboratory testing for confirmation of CDI diagnosis and in the application of CDI case definition. Please refer to the most recent annual surveillance report at <https://www.picnet.ca/surveillance/> for more details of the data limitations.

Figure 1. Provincial rate and number of new cases of CDI associated with the reporting facility, by fiscal year and quarter, 2016/17 - 2020/21, British Columbia

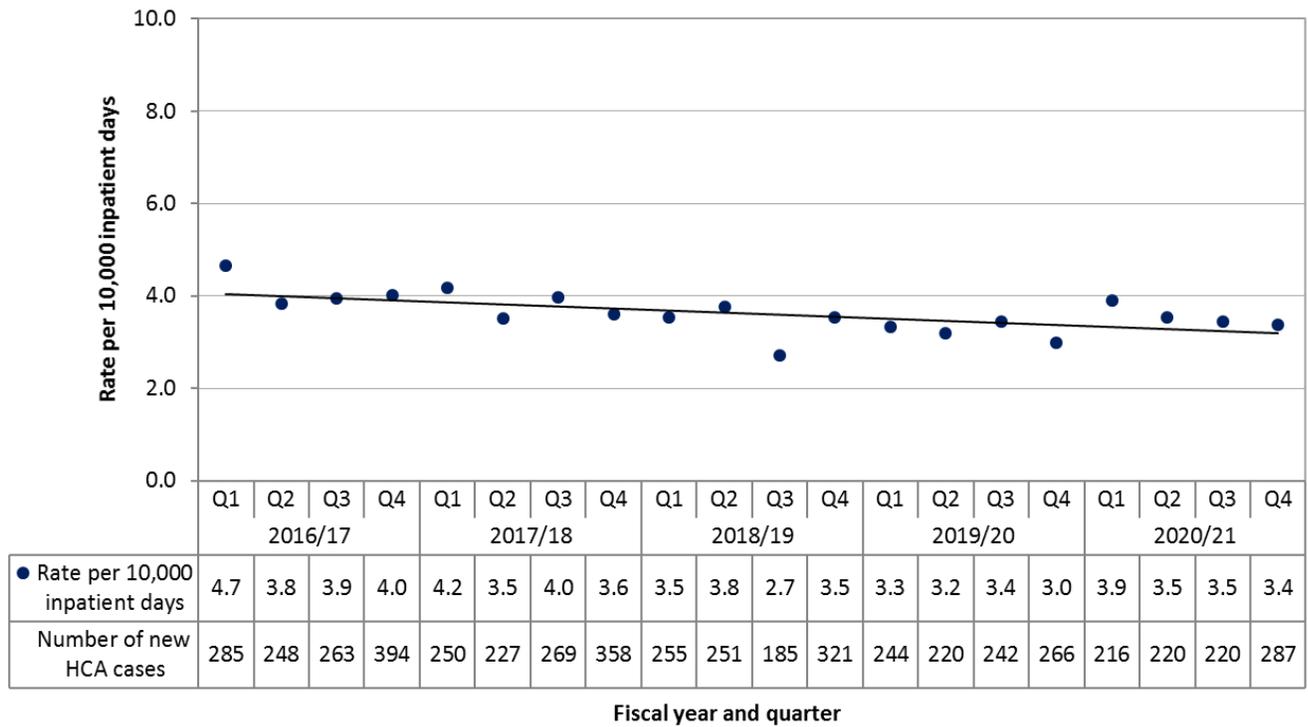


Figure 2. Rate and number of new cases of CDI associated with the reporting facility, by fiscal year and quarter, 2016/17 - 2020/21, Interior Health

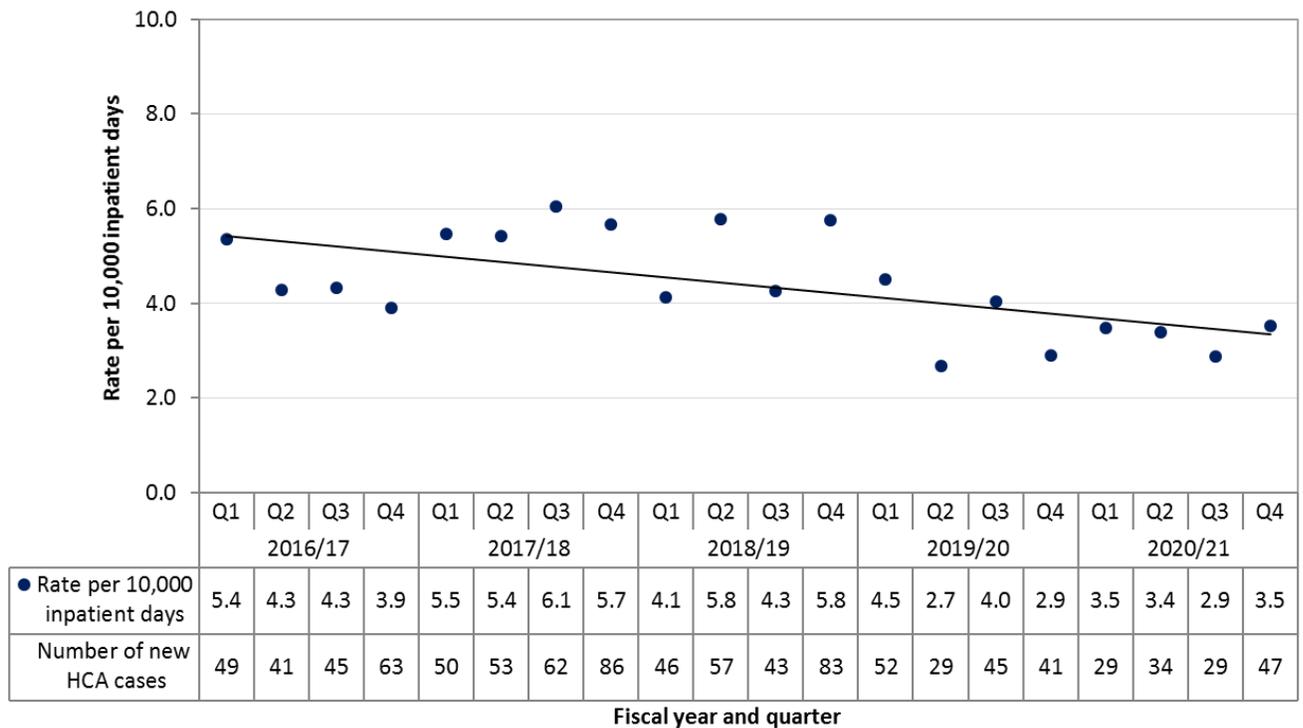


Figure 3. Rate and number of new cases of CDI associated with the reporting facility, by fiscal year and quarter, 2016/17 - 2020/21, Fraser Health¹

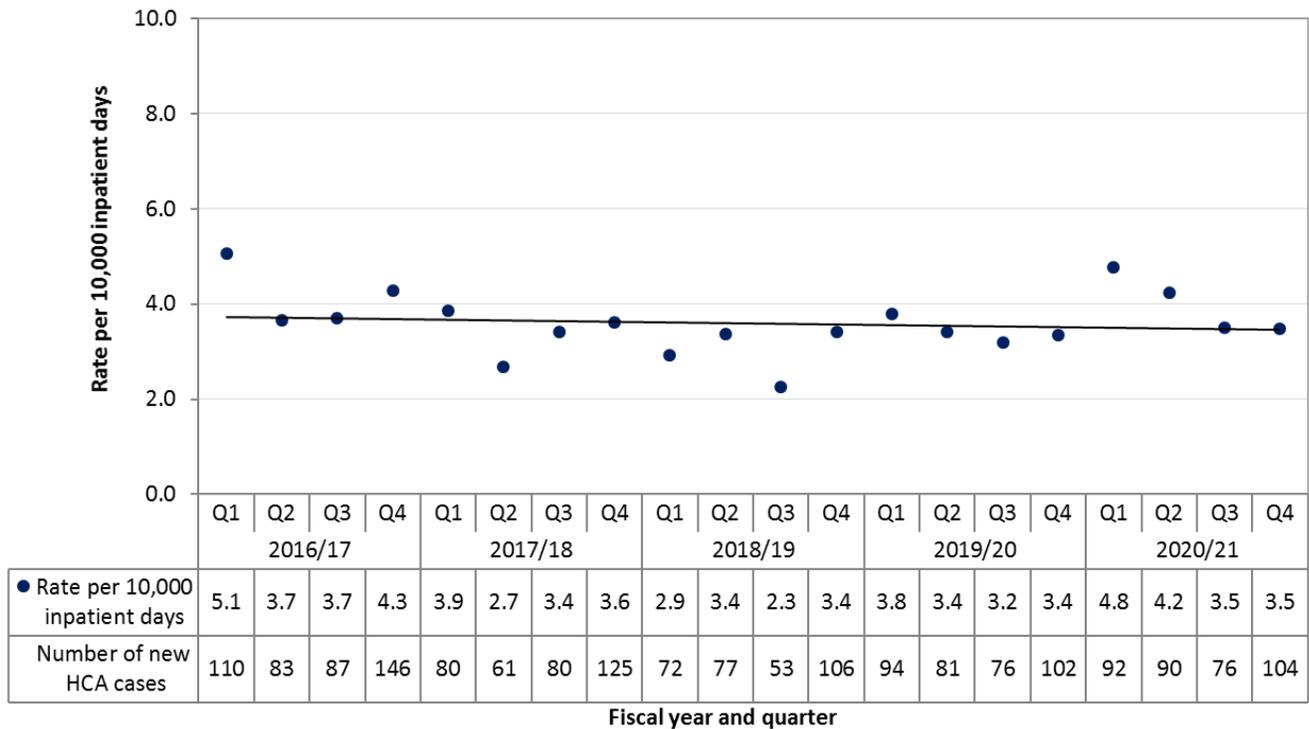
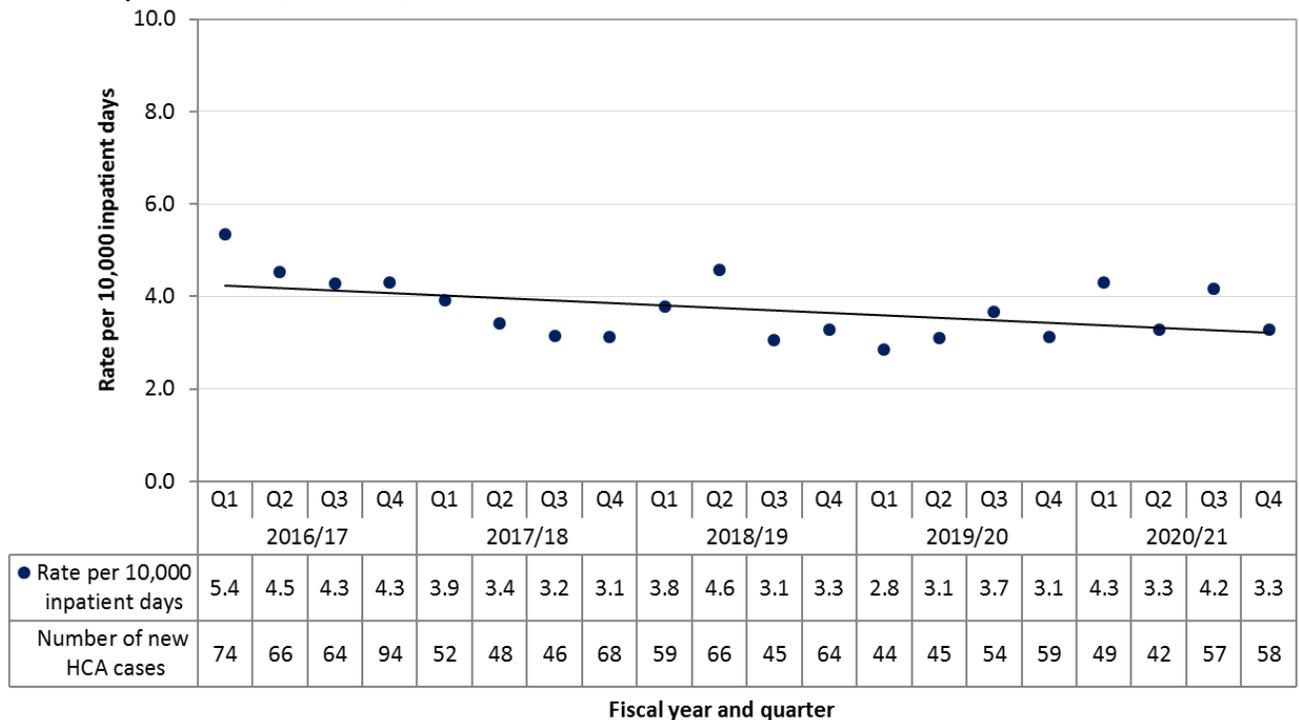


Figure 4. Rate and number of new cases of CDI associated with the reporting facility, by fiscal year and quarter, 2016/17 - 2020/21, Vancouver Coastal Health²



¹ Fraser Health expanded its CDI surveillance program to a new acute care site from Q4 of 2017/18 and another new acute care site during Q4 2018/19.

² Data from acute care facilities of Providence Health Care (PHC) were included

Figure 5. Rate and number of new cases of CDI associated with the reporting facility, by fiscal year and quarter, 2016/17 - 2020/21, Island Health³

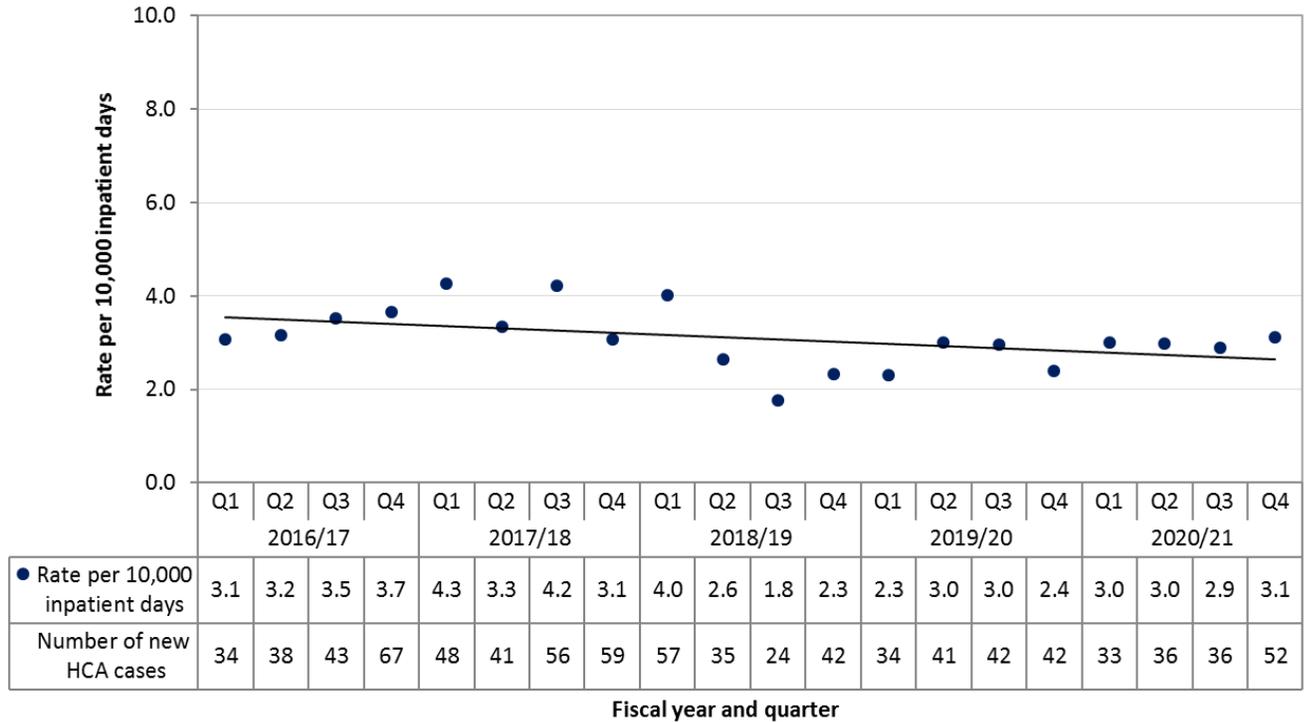
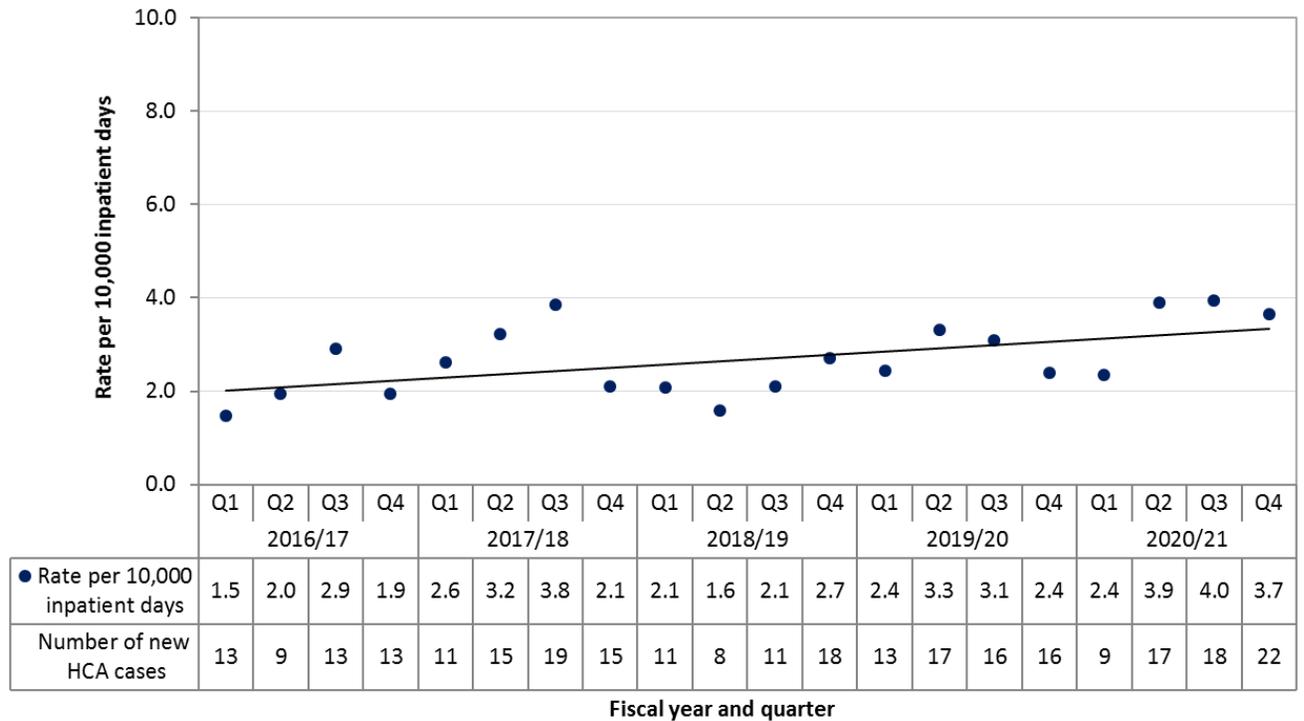
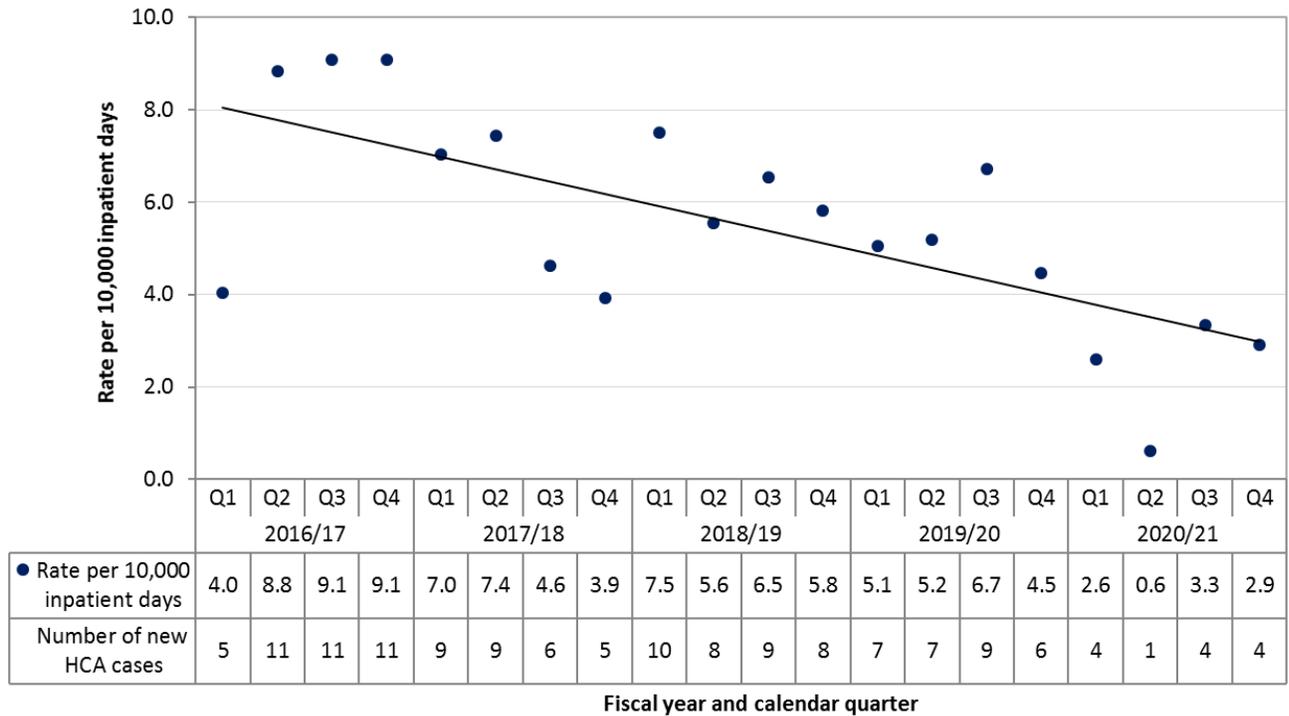


Figure 6. Rate and number of new cases of CDI associated with the reporting facility, by fiscal year and quarter, 2016/17 - 2020/21, Northern Health



³ Data include two new hospitals opened during Q3 of 2017/18 and historical data from two closed hospitals. A new and more sensitive multiplex testing for *C. difficile* was introduced during Q3 of 2017/18 and onwards.

Figure 7. Rate and number of new cases of CDI associated with the reporting facility, by fiscal year and calendar quarter, 2016/17 - 2020/21, Provincial Health Services Authority⁴



⁴ Data from BC Cancer - Vancouver were included from Q1 of 2018/19. The laboratory testing algorithm for *C. difficile* among children was modified from Q1 of 2020/21.

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