



Clostridium difficile (*C difficile*) Reports Questions and Answers (Q&A)

What is *C difficile*?

Clostridium difficile (*C difficile*) is a bacterium (germ) that causes diarrhea and more serious intestinal conditions such as colitis. It is the most common cause of infectious diarrhea in hospitalized patients in the industrialized world. The use of antibiotics increases the chances of developing *C difficile* diarrhea. Treatment with antibiotics alters the normal levels of good bacteria found in the intestines and colon. When there are fewer of these good bacteria, *C difficile* can thrive and produce toxins (poisons) that can cause an infection. The presence of *C difficile* in hospitals combined with the number of people receiving antibiotics in these settings can lead to [outbreaks](#). (Reference: MOHLTC website)

Why are we reporting our *C difficile* rates?

The Ministry of Health and Long Term Care has recently introduced full public reporting on certain patient safety indicators. We are now required to publish the rates of infection with *C difficile* that occur in our hospital. This is being done as an example of our commitment to patient safety in our hospital and in the province.

“Ontario’s hospitals are committed to providing the safest possible care to patients,” said Tom Closson, President and CEO of the Ontario Hospital Association. “We strongly support the public reporting of patient safety indicators because we believe it will inspire improved performance, enhance patient safety, and strengthen the public’s confidence in Ontario’s hospitals.”

What do the numbers mean?

You will see two sets of numbers on the website. One is the number of new *C difficile* cases that occur each month, and the other is the rate of *C difficile* infection. The rate is calculated by dividing the number of new cases by the number of patient days that were used in the same month. That number is then multiplied by 1,000 so that it is easily compared from one month to another.

What is a patient day?

One patient day is counted for each day that a patient is admitted into a bed at our hospital. So if one patient was in the hospital from September 1 to September 30, we would count 30 patient days. If another patient was in the hospital from September 20 to September 25, we would add five more patient days.

Why are we using patient days instead of the number of patients?

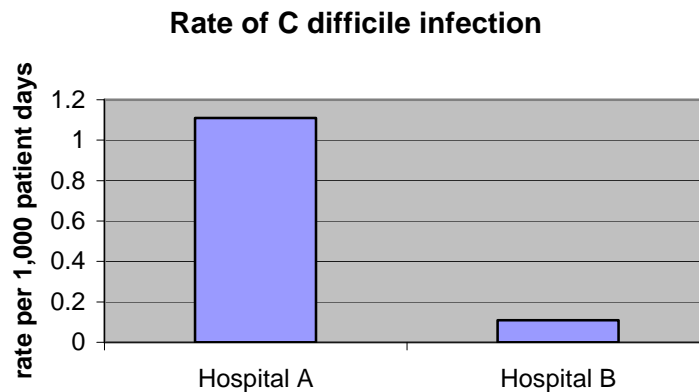
The rate is based on patient days instead of the number of patients in the hospital (admissions) because we recognize that patients who stay a long time in the hospital have more risk of getting a healthcare acquired infection than patients who are in for just a few days. If we calculated our rate based on the number of patients we would be suggesting that every patient had the same risk, and that is false. So to provide a more accurate calculation of the rate of infection, patient days are used.

Why are the rates different in different hospitals?

Rates of *C difficile* infection are affected by many factors. Some of these include the [size of the facility](#), [the kinds of patients seen](#), [the kinds of treatments given](#) and the [presence of an outbreak](#) in a hospital. For more information on each of these factors, please click on the underlined section.

- **Size of the facility:** In smaller facilities, a single case of *C difficile* can look very big when we put it in a “rate”. This is because the denominator used (patient days) is much smaller than in a big facility. For example, if “Hospital A” with 30 beds was completely full for 30 days in a month, they would have 900 patient days for the month. If a much larger hospital (Hospital B) had 300 beds, and they were all full for the month, the denominator of patient days would be 9,000.
 - If hospital A has 1 case of *C difficile* in the month, the rate would be $1/900 \times 1,000 = 1.11$ for every 1,000 patient days.
 - If hospital B has 1 case of *C difficile* in the month, the rate would be $1/9,000 \times 1,000 = 0.11$ for every 1,000 patient days.

If we made a graph of this information, it would look like this:



But both hospitals only had one case of *C difficile*. So the size of the hospital is an important consideration if you are comparing rates of *C difficile* from one hospital to another.

- **The kinds of patients seen:** Some patients are at a greater risk of getting *C difficile* infection than other patients. Generally speaking, this includes patients who have serious underlying immune system problems, patients with bowel diseases like Crohn’s disease or ulcerative colitis, patients over 65 years old, and patients who take lots of antacid treatments (like Tums®).
- **The kinds of treatments given:** Some hospitals have special programs that use treatments that put patients at a higher risk of getting *C difficile* infection. This includes cancer chemotherapy, surgery on the bowel, and the extensive use of antibiotics.

Hospitals that regularly see patients with the kinds of diseases and treatments that we have talked about might have a higher rate of *C difficile* infection simply because the patients are at a higher risk.

- **The presence of an outbreak:** If a hospital has a [cluster](#) of *C difficile* cases or an [outbreak](#), that can make the rate for the month appear very high. As soon as an outbreak is identified, the hospital will put in very strict measures to ensure that the outbreak is stopped as quickly as possible. Once things are back to normal, the rates will return to a normal level.

Where do I get more information:

If you have additional questions, please contact:

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