

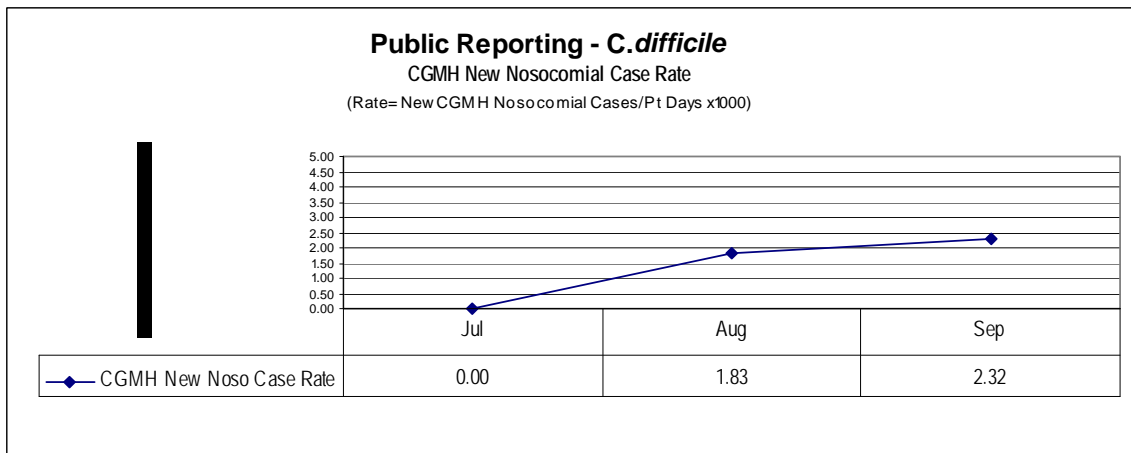
Infection Prevention & Control Performance Indicator: Clostridium difficile (C. difficile)

Interpretation of C. diff data

Our infection rates are based on the number of new, identified infections, divided by the number of patient days, multiplied by 1000. Effective September 30, 2008, all Ontario hospitals will measure and post their C. diff rates. These legislated postings are comparable across Ontario because the standard definitions (*) are the same. However, it is important to note that in small hospitals, such as ours, any single case of reportable infection can have a significant impact on the infection rate. This is because the total numbers are lower and typically the types of patients we treat are different than larger urban centers and therefore the resulting percentage rate can be misleading. In addition, the type of patients that any hospital treats can greatly affect the posted infection rates. For example, a maternity hospital would generally have much healthier patients than a hospital that cares for elderly patients. Comparing these two hospitals would not be appropriate or meaningful for infection rates.

* New G&M Hospital-Associated (Nosocomial) case of CDAD is defined as a case that meet the case definition for CDAD AND

- CDAD was not present on admission (onset of symptoms occur more than 72 hours after admission) OR
- The infection was present at time of admission but is related to a previous admission to G&M Hospital within the last 4 weeks AND
- The case has not had CDAD in the past 8 weeks.



G&M Hospital C. diff. Data Table

Performance Indicator	Reporting Period	Rate	Total # of Cases
C. difficile/1000 patient days	July 1 – July 31, 2008	0	0
C. difficile/1000 patient days	August 1 – August 31, 2008	1.83	4
C. difficile/1000 patient days	September 1- September 30, 2008	2.32	5

What is C.difficile? (also known as Clostridium difficile and Clostridium difficile associated diarrhea (CDAD))

Clostridium difficile (also known as C. difficile) is a spore forming bacterium that is commonly found in the environment and can live in the intestines of healthy people. In fact, 3.5% of healthy adults have this type of bacteria, without symptoms (colonization). In addition, 75% of infants (less than one year old) carry it naturally and do not get sick. However, when the balance between “good” bacteria and “bad” bacteria gets upset, this type of bacteria may cause severe diarrhea, which may also be known as C. difficile associated diarrhea (CDAD). C. difficile is the most common cause of infectious diarrhea in hospitalized patients.

Who gets C. difficile?

Risk factors include:

- History of antibiotic use. Antibiotics can change the normal balance of bacteria in the large intestine allowing C. diff bacteria to grow out of control. For example, a caregiver who is on antibiotics and changing diapers is at higher risk for getting C. diff. because the antibiotics reduce the amount of good bacteria in their intestinal track and the infant may be a potential source of the C. diff bacteria.
- Bowel surgery. Patients scheduled for bowel surgery typically have enemas to clean out their intestines, which can change the ideal bacteria mix. Candidates for surgery also are typically put on antibiotics to reduce the chance of infection during their post-operative period, however this also kills off “good” bacteria. During surgery, the bowels are at rest which also creates a climate for potentially “bad” bacteria to grow.
- Chemotherapy. Patients undergoing a course of chemotherapy treatment have reduced ability to fight disease as their immune system is temporarily suppressed. This could potentially allow any C. diff bacteria to take over, leading to an infection in their bowel.
- Prolonged hospitalization
- Increased age
- Serious underlying illness or debilitated condition.

How is it spread?

C. difficile is mainly spread through the stool of someone who is sick with CDAD. After going to the bathroom, they may get C. difficile on their hands. They can then pass it from their hands to anything they touch. A person can get C. difficile if they touch something that happens to have the bacterium on it, and then touch their mouth. This is *why hand washing is so important*. C. difficile spores can survive on objects for several months and is very difficult to kill with standard housekeeping solutions.

What are the symptoms?

Because Clostridium difficile bacteria produce a type of poison (toxin) that can irritate or cause an inflammation of the intestinal tract, symptoms may include:

- watery diarrhea
- lower abdominal pain
- cramps and tenderness
- fever
- loss of appetite
- nausea
- general weakness.

How is CDAD diagnosed?

A stool sample sent for testing will tell you if you are infected with C. difficile.

What is the treatment for CDAD?

If you have mild symptoms, you might not need treatment. If you are taking antibiotics, your doctor may tell you to stop taking them. Your symptoms will usually go away. If you have more severe symptoms, antibiotics or surgery may be needed.

How do I protect myself and others?

You can help stop the spread of C. difficile infections by washing your hands after using the toilet, before preparing foods and before eating. Rigorously washing your hands for 15 seconds with soap and water is best.

Facts to Know about C. diff.

1. It has been a known cause of healthcare and community associated diarrhea for about 30 years. Today, the toxins (poison) C. diff. creates are stronger and more resistant to treatment. The poisons irritate the patient's bowel and create diarrhea or life-threatening disease.
2. C. diff. produces spores (protective capsules) that are hard to kill and can survive for long periods until a suitable environment is found to survive in (i.e. hand to mouth transfer to intestines).

3. Not washing your hands plus poor cleaning of the environment and shared items contributes to the spread of C. diff. Hospitals are vigilant about proper hand hygiene and environmental cleaning as part of a system to prevent the spread of all infections.
4. A case definition for C. diff. infection is diarrhea with laboratory confirmation of a positive toxin assay (A/B) for C. difficile OR visualization of pseudomembranes on sigmoidoscopy or colonoscopy OR histological/pathological diagnosis of pseudomembranous colitis.
5. Diarrhea is defined as loose/watery bowel movements (feces conform to the shape of the container) AND the bowel movements are unusual or different for the patient AND there is not other recognized reason for the diarrhea (e.g. laxative use).

Are there any special concerns about C. difficile?

Some people are at a higher risk of getting CDAD, such as adults who must be hospitalized for long periods, the elderly, and those who use certain antibiotics or antacids. Other groups at risk include those with serious illnesses, such as cancer, or those who have had surgery to the stomach or intestines. Children rarely get C. difficile infections. If you live with people who are at higher risk of getting CDAD, you can protect yourself and them by washing your hands properly and frequently.

If you are in hospital and have diarrhea you will be placed on "Contact Precautions" (remember C. diff is spread by touching). You may be placed in a private room and your healthcare workers and visitors will be asked to wear gloves and gowns when caring for you. They will need to wash their hands when they enter and leave your room. You may have to stay in your room until you no longer have diarrhea. Contact precautions are needed to stop the spread of possible C. difficile and usually are only needed while you have diarrhea.