

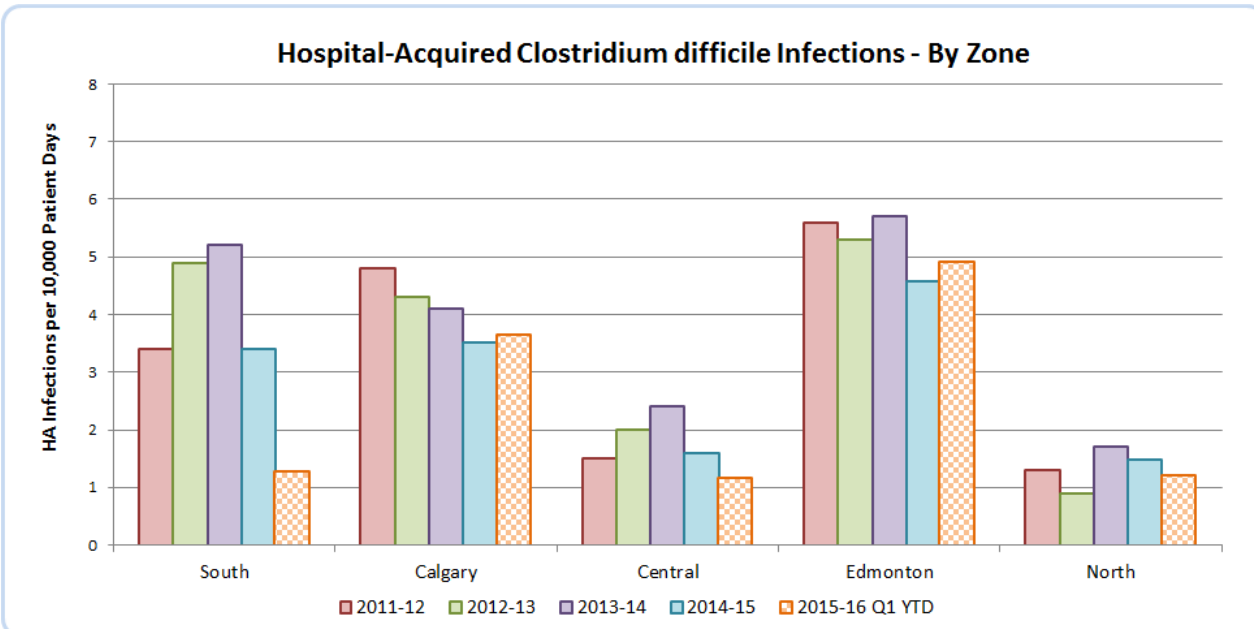
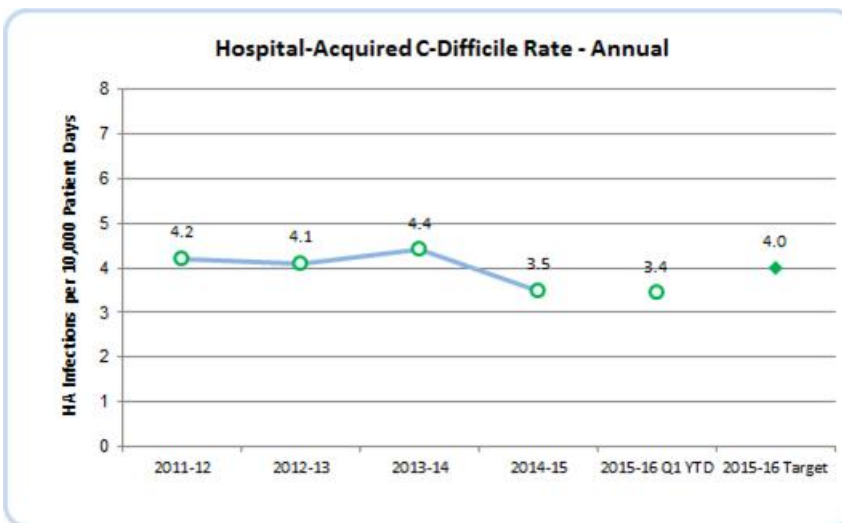
Hospital-Acquired Clostridium difficile Infections

Measure Definition

The number of *Clostridium difficile* infections (C-diff) acquired in hospital for every 10,000 patient days. A rate of 4.0 means approximately 100 patients per month acquire C-diff infections in Alberta. AHS is performing better than the national average of 7.0. C-diff infection cases include patients with a new infection or re-infection while in hospital. Patients are considered to have a C-diff if they exhibit symptoms and confirmation by a laboratory test or colonoscopy.

Understanding this Measure

Some individuals carry C-diff in their intestines while others may acquire it while in hospital. C-diff is the most frequently identified cause of hospital-acquired diarrhea. This infection complicates and prolongs hospital stays and impacts resources and costs in the health care system. Monitoring C-diff trends provide important information about effectiveness of infection prevention and control strategies.



Hospital-Acquired Infections – Actions

Provincial/ Strategic Clinical Network (SCN)	<ul style="list-style-type: none"> • Zone-based Clostridium Difficile Infection (CDI or <i>C. difficile</i>) working groups established. • Zone CDI clinical management guidelines and algorithms are being implemented in all zones. • Environmental Services standards and protocols for clean patient environment established.
South	<ul style="list-style-type: none"> • Surgical site infection surveillance work continues with physician engagement. • Implementation of antimicrobial stewardship initiatives is underway.
Calgary	<ul style="list-style-type: none"> • Under direction of the Antimicrobial Stewardship Committee, antibiotic utilization data was obtained and reported for the 15 units with the highest <i>C. difficile</i> infection rates. • Electronic patient care system medical logic order sets for the management of CDI were built, evaluated and implemented. An “app” is available to Calgary Zone physicians. • The Microbial Health clinic at Foothills Medical Centre provides novel treatment options for patients with recurrent <i>C. difficile</i>.
Central	<ul style="list-style-type: none"> • Implemented the CDI tool kit, co-led by IPC and Pharmacy which includes treatment algorithms, standardized care orders, an environmental cleaning protocol, and a roll out/communication plan for nurses and physicians. • Continued monitoring of surveillance reports and daily activities on any new <i>C. difficile</i> cases with investigation and interventions when an increase in cases is identified. • Antimicrobial stewardship and urinary tract infection management programs, led by AHS Pharmacy, are underway in select long term care facilities. Education includes documentation, why and when urine collection is appropriate, and interventions prior to urine collection.
Edmonton	<ul style="list-style-type: none"> • Under direction of Antimicrobial Stewardship Committee, antibiotic utilization data was obtained and reported for top 15 <i>C. difficile</i> infection units. • Work underway to create a response process / bundle for facilities with high <i>C. difficile</i> infection rates. • Pre-printed patient care orders have been implemented across the zone. The form will be placed on the chart when the patient presents with, or develops diarrhea. • Assessing the use of antibiotics and acid blocking agents in patients before and after <i>C. difficile</i> infection diagnosis.
North	<ul style="list-style-type: none"> • Continued implementation of the Antimicrobial Stewardship Committee, with an initial focus on the roll-out of CDI pre-print orders. • Monitoring of <i>C. difficile</i> rates continues throughout the zone.

IN SUMMARY

AHS Infection Prevention and Control works collaboratively with physicians, staff and public health by providing *C. difficile* rates and assisting with intervention and control strategies.

DID YOU KNOW

Clostridium difficile (C.difficile) is a bacterium that produces toxins that can cause swelling in the intestinal tract. Antibiotic treatment may increase the risk of developing *C.difficile* infection. Thorough cleaning practices must be followed to prevent the spread of *C. difficile*.

Antimicrobial stewardship is the practice of minimizing the emergence of antimicrobial resistance by using antibiotics only when necessary and, if needed, by selecting the appropriate antibiotic at the right dose, frequency and duration to optimize outcomes while minimizing adverse effects.

Hospital-Acquired Infections – Zone and Site Details

The number of *Clostridium difficile* infections (C-diff) acquired in hospital for every 10,000 patient days. A rate of 4.0 means approximately 100 patients per month acquire C-diff infections in Alberta.

Hospital Acquired Infections	2012-13	2013-14	2014-15	Q1 YTD		Trend *	2015-16 Target
				2014-15 Last Year	2015-16 Current		
Provincial	4.1	4.4	3.5	3.8	3.4	↑	4.0
South Zone Total	4.9	5.2	3.4	3.8	1.3	↑	4.4
Chinook Regional Hospital	7.9	7.5	5.4	5.7	1.8	↑	6.9
Medicine Hat Regional Hospital	1.3	2.8	1.7	1.8	1.2	↑	1.3
All Other Hospitals	4.2	4.3	2.0	3.0	0.0	↑	4.0
Calgary Zone Total	4.3	4.1	3.5	3.5	3.6	↓	4.1
Alberta Children's Hospital	2.4	3.5	1.4	0.0	3.9	↓	2.4
Foothills Medical Centre	6.5	5.4	5.2	5.3	4.8	↑	6.1
Peter Lougheed Centre	2.1	3.4	2.8	3.7	3.3	↑	2.1
Rockyview General Hospital	3.5	4.0	3.2	2.3	3.2	↓	3.4
South Health Campus	N/A	2.2	2.3	2.6	3.1	↓	4.1
All Other Hospitals	2.4	1.5	0.9	0.5	1.0	↓	2.3
Central Zone Total	2.0	2.4	1.6	1.3	1.2	↑	1.9
Red Deer Regional Hospital Centre	3.1	3.3	3.1	2.5	1.3	↑	2.8
All Other Hospitals	1.6	2.0	1.0	0.8	1.1	↓	1.5
Edmonton Zone Total	5.3	5.7	4.6	5.7	4.9	↑	4.9
Grey Nuns Community Hospital	5.7	5.9	3.5	2.9	3.7	↓	5.4
Misericordia Community Hospital	6.9	6.3	3.9	5.2	3.2	↑	6.4
Royal Alexandra Hospital	6.5	7.3	6.7	10.7	7.4	↑	6.1
Stollery Children's Hospital	2.1	3.1	4.0	5.7	6.0	↓	2.0
Sturgeon Community Hospital	5.6	9.3	6.0	5.8	13.5	↓	5.3
University of Alberta Hospital	8.7	8.6	7.1	8.1	5.2	↑	7.8
All Other Hospitals	1.6	1.9	1.4	1.1	2.2	↓	1.6
North Zone Total	0.9	1.7	1.5	1.0	1.2	↓	0.8
Northern Lights Regional Health Centre	1.0	0.7	2.0	0.0	1.3	↓	1.0
Queen Elizabeth II Hospital	1.1	3.0	1.2	2.5	2.6	↓	1.0
All Other Hospitals	0.8	1.5	1.5	0.7	0.8	↓	0.8

N/A: No results available. South Health Campus opened February 2013.

* Trend: ↑ Improvement → Stability ↓ Area requires additional focus

Number of Cases	2012-13	2013-14	2014-15	Q1 YTD	
				2014-15 Last Year	2015-16 Current
Provincial	1,166	1,265	1,065	289	252
South Zone	91	101	69	19	6
Calgary Zone	378	374	353	85	89
Central Zone	83	100	68	14	12
Edmonton Zone	594	650	539	165	138
North Zone	20	40	36	6	7