PICNet
PROVINCIAL INFECTION CONTROL NETWORK OF BRITISH COLUMBIA
A program of the Provincial Health Services Authority

Healthcare-associated infections surveillance report

Clostridium difficile Infections (CDI) Update, Q4 2014/2015

August 2015

Summary Table

	Q4 2014/2015	Previous quarter	Last 4 quarters
Total CDI cases identified	831	482	2,186
Number of new CDI associated with the reporting facility	465	240	1,130
Total inpatient days	946,826	673,303	2,878,240
Provincial rate per 10,000 inpatient days (95% CI)	**4.9 (4.5-5.4)**	**3.6 (3.1-4.0)**	**3.9 (3.7-4.2)**

Highlights

- The provincial rate of new cases of CDI associated with the reporting facility increased significantly in Q4 of 2014/2015, compared to the previous quarter (Q3 of 2014/2015) and the last four quarters (Q4 of 2013/2014 – Q3 of 2014/2015).
- The higher provincial rate in Q4 reflects an increase in the CDI rate for certain health authorities. These health authorities have been monitoring and addressing the increase of CDI in their facilities.
- The overall downtrend in the provincial CDI rates from Q1 of 2009/2010 to Q4 of FY 2014/2015 was still statistically significant (trend $\chi^2 = 699.97$, $p < 0.0001$).

The provincial CDI surveillance program was established to monitor the incidence and trends of healthcare-associated CDI among patients who have been hospitalized in acute care facilities.

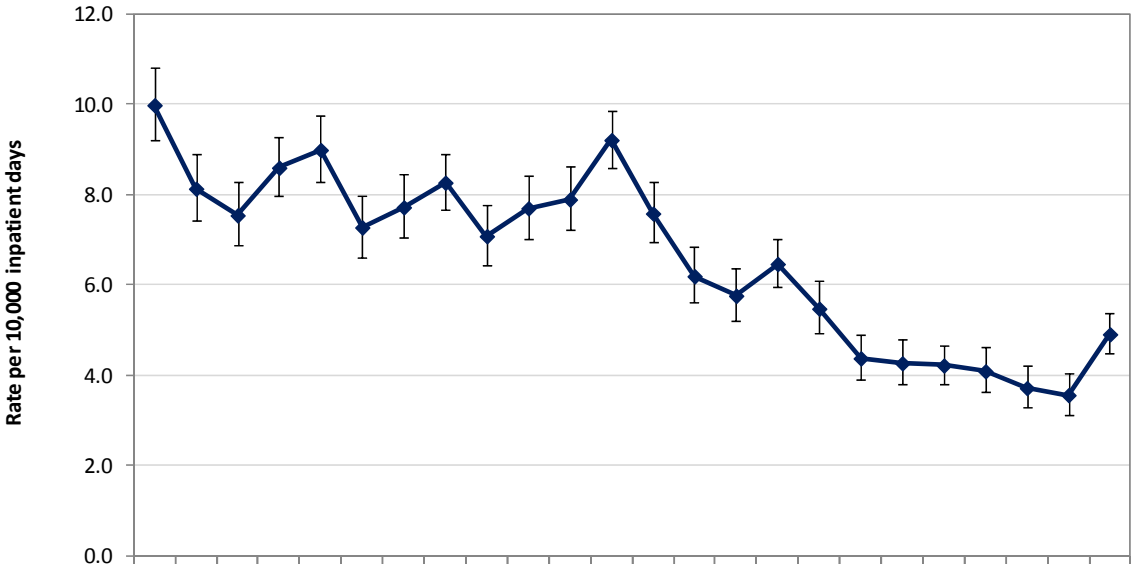
Clostridium difficile or *C. difficile* is a germ that can live in the bowel without causing harm. However, if the normal bacteria in the gut are destroyed by taking certain antibiotics in high doses or over a prolonged period of time, *C. difficile* can grow to unusually high levels and produce toxins that can damage the bowel and cause diarrhea, fever, abdominal cramping, dehydration, and even death.

C. difficile bacteria and their spores are shed in feces. People can acquire the bacteria if they touch surfaces (e.g., toilets, commodes, bathing tubs, and electronic rectal thermometers) contaminated with feces, and then touch their mouth. For healthy people, *C. difficile* does not often pose a health risk. The elderly and those with other illnesses or who are taking antibiotics are at a greater risk of developing infections.

Regular hand hygiene by healthcare providers and patients is the most effective way of preventing the transmission of *C. difficile* in the healthcare setting. Using antibiotics wisely, keeping the environment as clean as possible (especially around ill patients), and good hand hygiene can help reduce the risk of *C. difficile* spreading to patients and visitors.

The PICNet website (www.picnet.ca) has general information about CDI prevention and control, as well as the case definition, data sources, and limitations used to generate this report. If you have questions or suspect that you have CDI, please contact with your doctor or healthcare provider.

Figure 1. Number of new cases and rate of CDI associated with the reporting facility, by fiscal year and quarter, British Columbia[1]



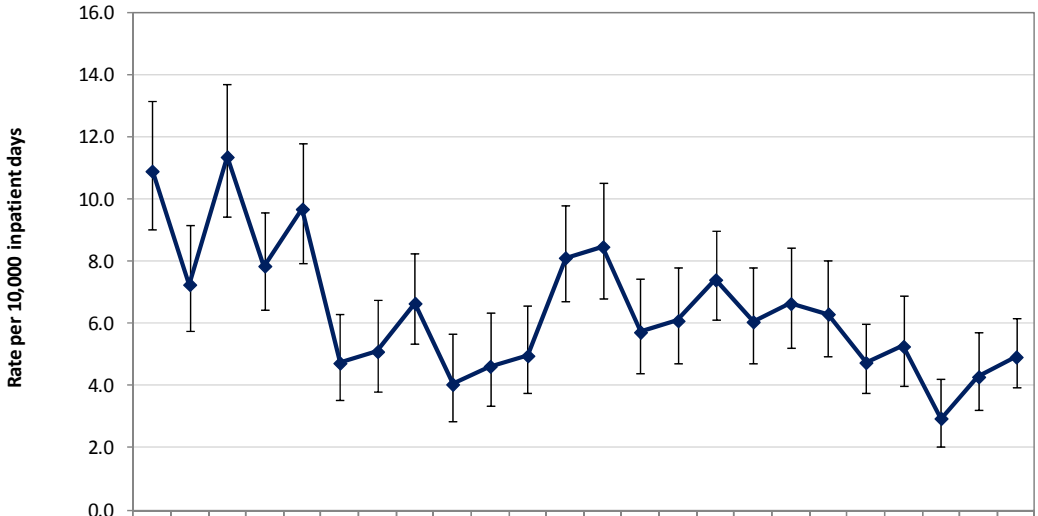
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2009/2010				2010/2011				2011/2012				2012/2013				2013/2014				2014/2015			
Rate per 10,000 inpatient days	10.	8.1	7.5	8.6	9.0	7.3	7.7	8.3	7.1	7.7	7.9	9.2	7.6	6.2	5.8	6.5	5.5	4.4	4.3	4.2	4.1	3.7	3.6	4.9
Number of cases	611	476	450	673	557	438	473	684	431	464	509	808	480	390	377	588	351	285	286	389	259	242	240	465

Fiscal year and quarter

Bars in the line chart represent 95% confidence interval of the rates. There were changes and variations in the laboratory testing for confirmation of CDI diagnosis and application of case definition over time and by health authority. The time frame of each fiscal quarter varied by fiscal year and there were more days in Q4 than in Q1, Q2, and Q3 each fiscal year. The same hereinafter.

[1] Excluded from this report were certain acute care facilities in Interior Health from Q3 of FY 2011/2012 to Q2 of FY 2012/2013. Data were aggregated by fiscal quarter for each health authority except PHSA, which aggregated the data by calendar quarter.

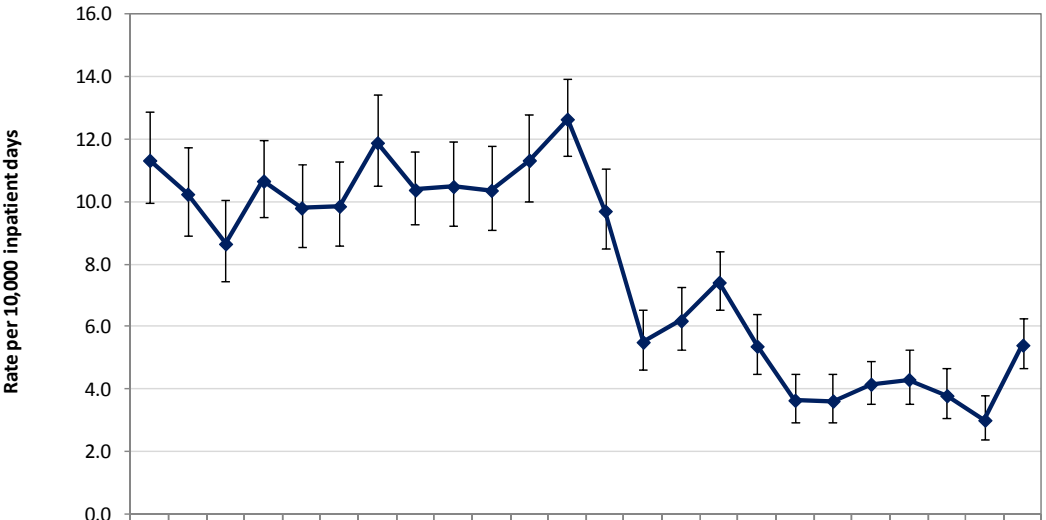
Figure 2. Number of new cases and rate of CDI associated with the reporting facility, by fiscal year and quarter for Interior Health[2]



	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2009/2010				2010/2011				2011/2012				2012/2013				2013/2014				2014/2015			
Rate per 10,000 inpatient days	10.	7.3	11.	7.9	9.7	4.7	5.1	6.6	4.0	4.6	5.0	8.1	8.5	5.7	6.1	7.4	6.1	6.6	6.3	4.7	5.3	3.0	4.3	4.9
Number of cases	110	71	109	98	98	47	47	80	33	38	49	110	82	55	61	104	60	66	65	69	52	30	45	75

Fiscal year and quarter

Figure 3. Number of new cases and rate of CDI associated with the reporting facility, by fiscal year and quarter for Fraser Health

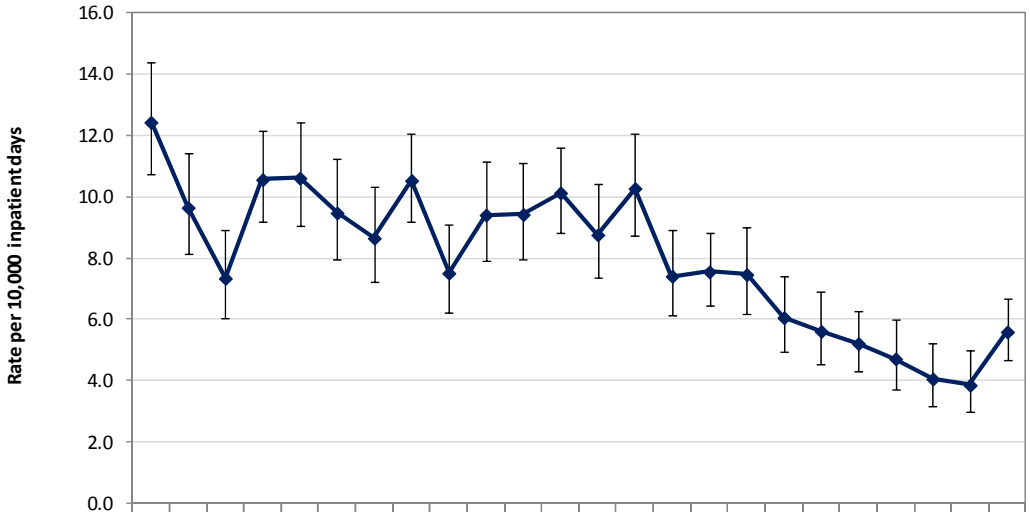


	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2009/2010				2010/2011				2011/2012				2012/2013				2013/2014				2014/2015			
Rate per 10,000 inpatient days	11.	10.	8.6	10.	9.8	9.8	11.	10.	10.	10.	11.	12.	9.7	5.5	6.2	7.4	5.4	3.7	3.6	4.2	4.3	3.8	3.0	5.4
Number of cases	232	203	172	287	211	209	258	309	235	228	259	397	220	125	144	241	123	85	87	138	99	89	73	185

Fiscal year and quarter

[2] Excluded certain acute care facilities from Q3 of FY 2011/2012 to Q2 of FY 2012/2013

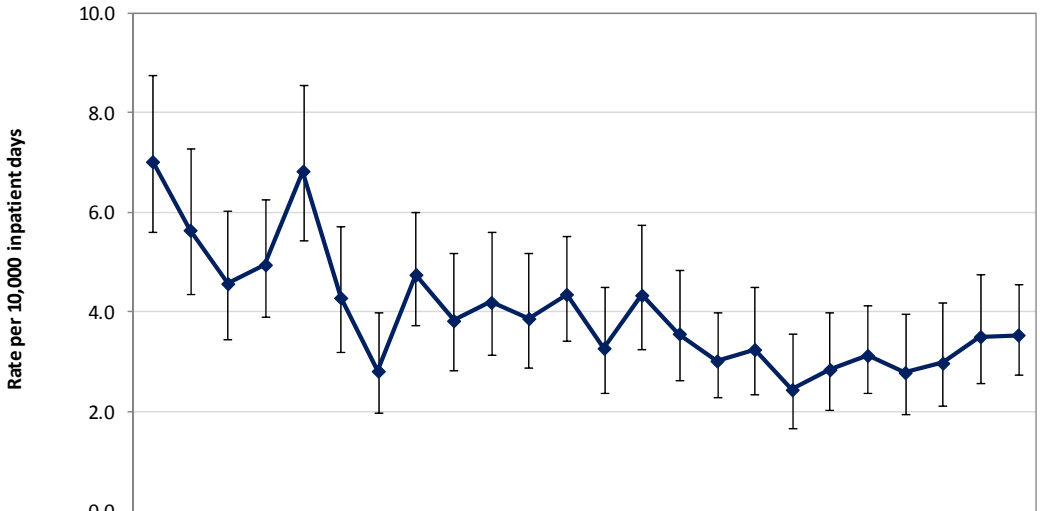
Figure 4. Number of new cases and rate of CDI associated with the reporting facility, by fiscal year and quarter for Vancouver Coastal Health[3]



	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2009/2010				2010/2011				2011/2012				2012/2013				2013/2014				2014/2015			
Rate per 10,000 inpatient days	12.	9.6	7.3	10.	10.	9.5	8.6	10.	7.5	9.4	9.4	10.	8.8	10.	7.4	7.6	7.5	6.1	5.6	5.2	4.7	4.1	3.9	5.6
Number of cases	179	132	103	192	151	128	123	203	106	132	139	202	125	146	111	159	110	93	87	111	68	60	59	119

Fiscal year and quarter

Figure 5. Number of new cases and rate of CDI associated with the reporting facility, by fiscal year and quarter for Island Health[4]



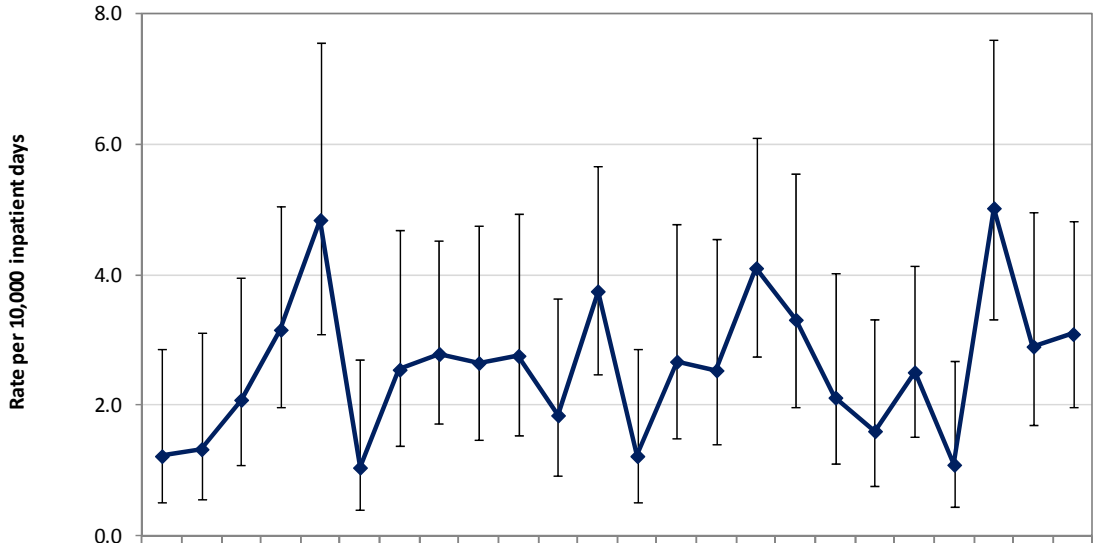
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2009/2010				2010/2011				2011/2012				2012/2013				2013/2014				2014/2015			
Rate per 10,000 inpatient days	7.0	5.6	4.6	5.0	6.8	4.3	2.8	4.8	3.8	4.2	3.9	4.4	3.3	4.3	3.6	3.0	3.3	2.4	2.9	3.1	2.8	3.0	3.5	3.5
Number of cases	77	58	49	70	75	45	31	69	41	45	44	68	37	48	41	49	36	27	33	50	30	33	41	59

Fiscal year and quarter

[3] Includes acute care facilities of Providence Health Care (PHC)

[4] Formerly known as Vancouver Island Health Authority.

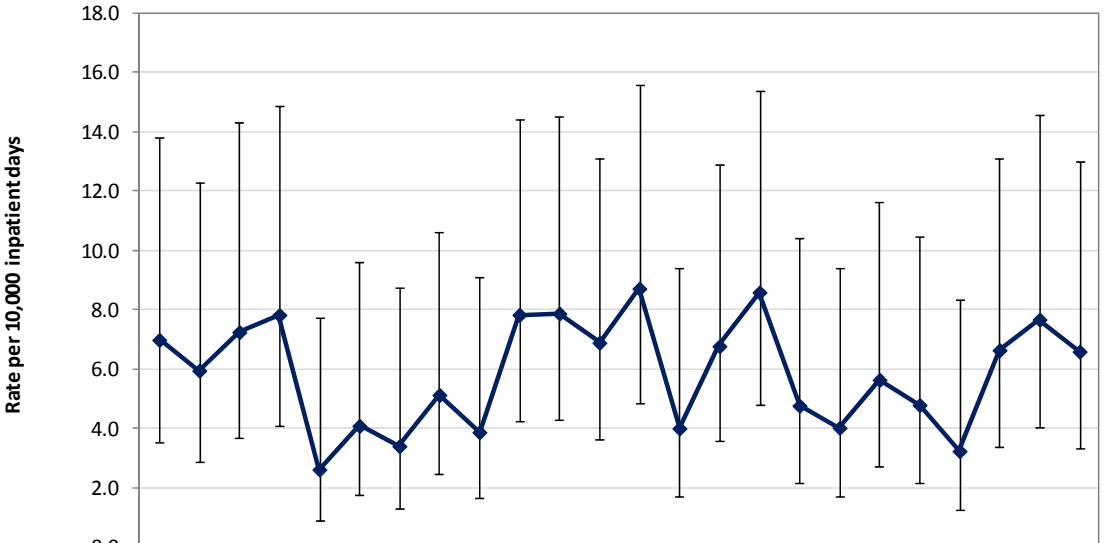
Figure 6. Number of new cases and rate of CDI associated with the reporting facility, by fiscal year and quarter for Northern Health



	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2009/2010				2010/2011				2011/2012				2012/2013				2013/2014				2014/2015			
Rate per 10,000 inpatient days	1.2	1.3	2.1	3.2	4.8	1.0	2.5	2.8	2.6	2.8	1.8	3.7	1.2	2.7	2.5	4.1	3.3	2.1	1.6	2.5	1.1	5.0	2.9	3.1
Number of cases	*	*	*	17	19	*	10	16	11	11	*	22	*	11	11	24	14	*	*	15	*	22	13	19

Fiscal year and quarter

Figure 7. Number of new cases and rate of CDI associated with the reporting facility, by fiscal year and calendar quarter for Provincial Health Services Authority



	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2009/2010				2010/2011				2011/2012				2012/2013				2013/2014				2014/2015			
Rate per 10,000 inpatient days	7.0	6.0	7.3	7.8	2.6	4.1	3.4	5.1	3.9	7.8	7.9	6.9	8.7	4.0	6.8	8.6	4.8	4.0	5.6	4.8	3.2	6.6	7.7	6.6
Number of cases	*	*	*	*	*	*	*	*	*	10	10	*	11	*	*	11	*	*	*	*	*	*	*	*

Fiscal year and calendar quarter

* represents that the number of cases is <10 to ensure patient confidentiality

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