Healthcare-associated infections surveillance report

Methicillin-resistant *Staphylococcus aureus* (MRSA) Update, Q3 of 2016/17

March 2017

Summary Table

	Q3 2016/17	Previous quarter (Q2 2016/17)	Same quarter of previous year (Q3 2015/16)	Year-to-date 2016/17
Total new MRSA cases identified	708	759	785	2,180
Number of new MRSA cases associated with the reporting facility	353	344	382	1,021
Total inpatient days	715,803	692,786	738,513	2,063,675
Rate of MRSA associated with the reporting facility per 10,000 inpatient days (95% CI)	**4.9 (4.4-5.5)**	**5.0 (4.5-5.5)**	**5.2 (4.7-5.7)**	**4.9 (4.7-5.3)**

Highlights

- The provincial rate of new MRSA cases associated with the reporting facility in Q3 2016/17 was not significantly different from the previous quarter (Q2 of 2016/17).
- The MRSA rate in Q3 of 2016/17 was lower than the same quarter of the previous year (Q3 of 2015/16); however, the difference was not statistically significant.
- The overall trend in provincial MRSA rates was not statistically significantly from Q1 of 2012/13 to Q3 of 2016/17.

The provincial Methicillin-resistant *Staphylococcus aureus* (MRSA) surveillance program was established to monitor the incidence and trends of healthcare-associated MRSA (either colonization or infection) among patients who have been hospitalized in acute care facilities.

MRSA is a type of *S. aureus* that has become resistant to certain antibiotics such as methicillin, penicillin, amoxicillin, etc., and is thus more difficult to treat. MRSA often lives on the skin or in the nose of healthy people without causing symptoms (this is called colonization). It can, however, cause skin and other infections. Most infections are minor, such as pimples and boils. Serious infections — such as severe skin/wound infections, pneumonia, or septicaemia (infections getting into the bloodstream) — can result in life-threatening illness or, if left untreated, death. Those with weakened immune systems and chronic illnesses are more susceptible to developing an infection.

MRSA is primarily spread by skin-to-skin contact or through contact with surfaces contaminated with the bacteria. It has been shown to spread easily in health care settings; therefore hospital patients and residents in residential care facilities are at a higher risk of acquiring MRSA. In addition, MRSA has been found in community settings.

Hand hygiene is the most important measure to prevent the spread of MRSA in both healthcare settings and the community. Hospitals perform active surveillance (e.g., screening of high-risk individuals) to identify patients colonized with MRSA so that precautions can be taken to prevent transmission to other patients.

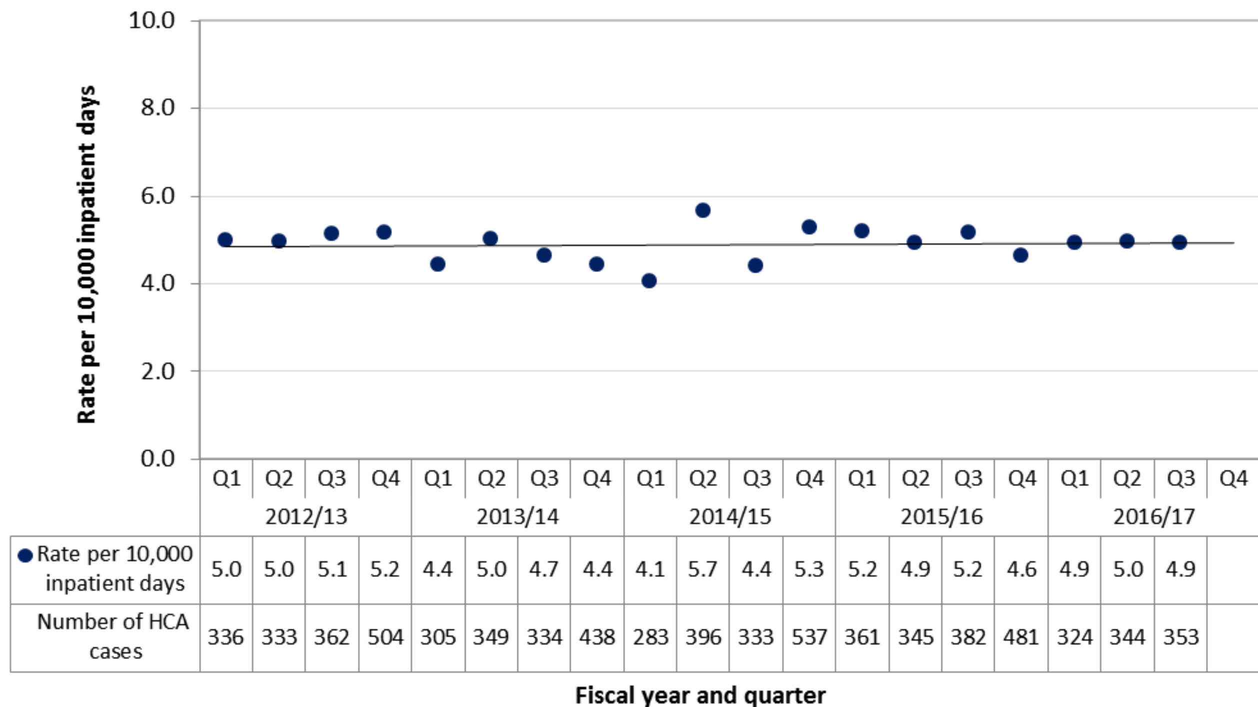
The PICNet website (www.picnet.ca) has general information about MRSA prevention and control, as well as the case definition, data sources, and limitations used to generate this report. If you have questions or suspect that you have MRSA, please contact your doctor or healthcare provider.

Graphs

Note: in the following graphs,

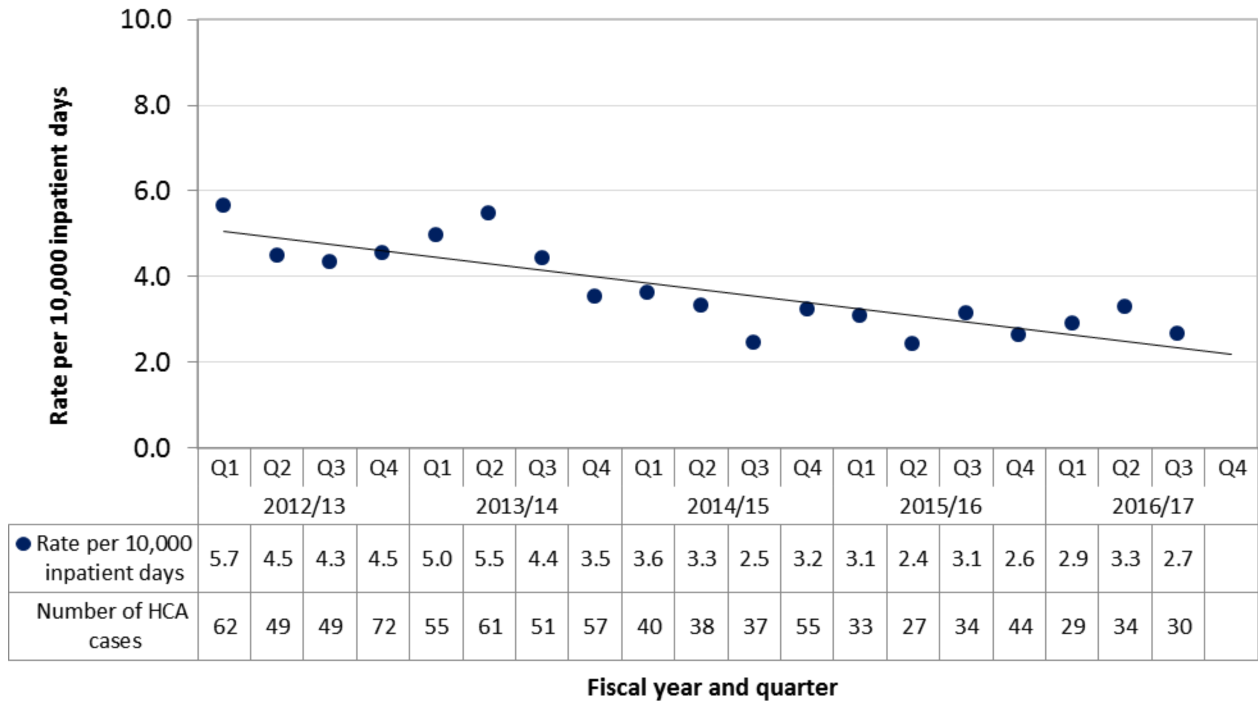
- The data were aggregated by fiscal quarter for each health authority except PHSA, which aggregated the data by calendar quarter. The time frame of each fiscal quarter varied by fiscal year, and there were more days in Q4 than in Q1, Q2, and Q3 of each fiscal year.
- The line in each graph represents the overall linear trend over time.
- Direct comparison of the number of rate or the cases between health authorities is not recommended due to variations in case finding strategy and application of case classification for MRSA surveillance among the health authorities.

Figure 1. Provincial rate and number of new cases of MRSA associated with the reporting facility, 2012/13 - 2016/17, British Columbia



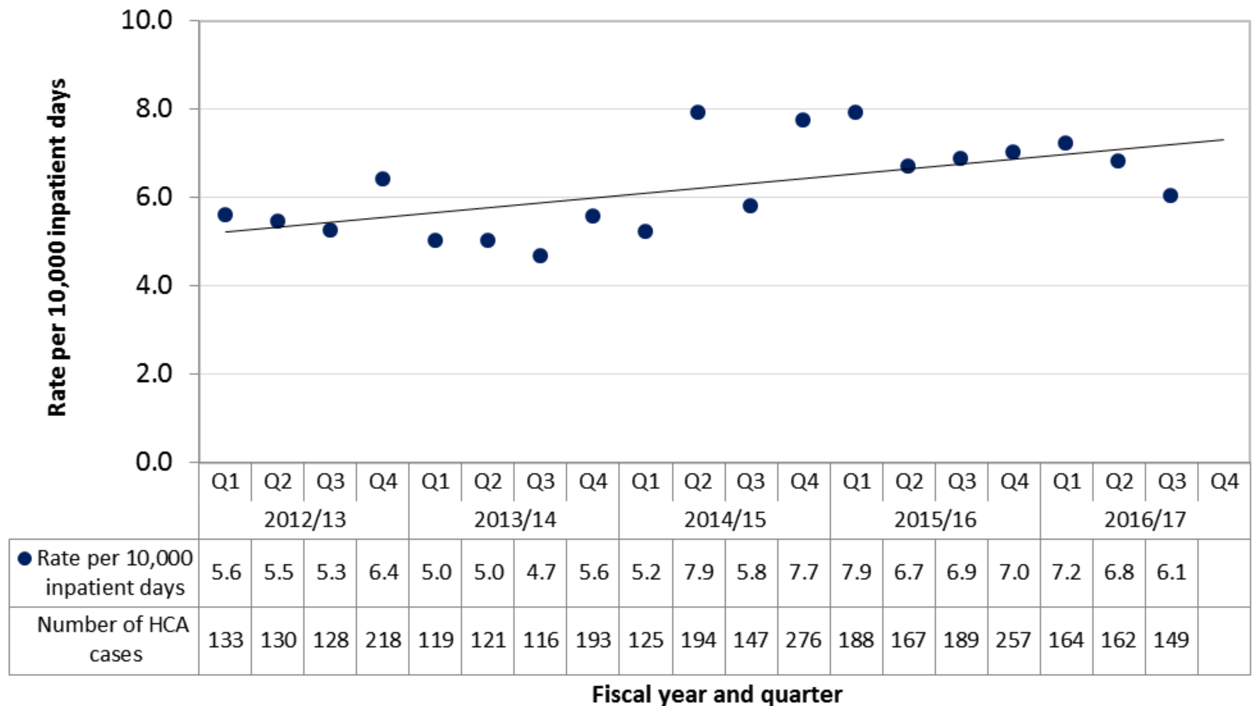
	2012/13				2013/14				2014/15				2015/16				2016/17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
● Rate per 10,000 inpatient days	5.0	5.0	5.1	5.2	4.4	5.0	4.7	4.4	4.1	5.7	4.4	5.3	5.2	4.9	5.2	4.6	4.9	5.0	4.9	
Number of HCA cases	336	333	362	504	305	349	334	438	283	396	333	537	361	345	382	481	324	344	353	

Figure 2. Rate and number of new cases of MRSA associated with the reporting facility, 2012/13 - 2016/17, Interior Health[1]



	2012/13				2013/14				2014/15				2015/16				2016/17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
● Rate per 10,000 inpatient days	5.7	4.5	4.3	4.5	5.0	5.5	4.4	3.5	3.6	3.3	2.5	3.2	3.1	2.4	3.1	2.6	2.9	3.3	2.7	
Number of HCA cases	62	49	49	72	55	61	51	57	40	38	37	55	33	27	34	44	29	34	30	

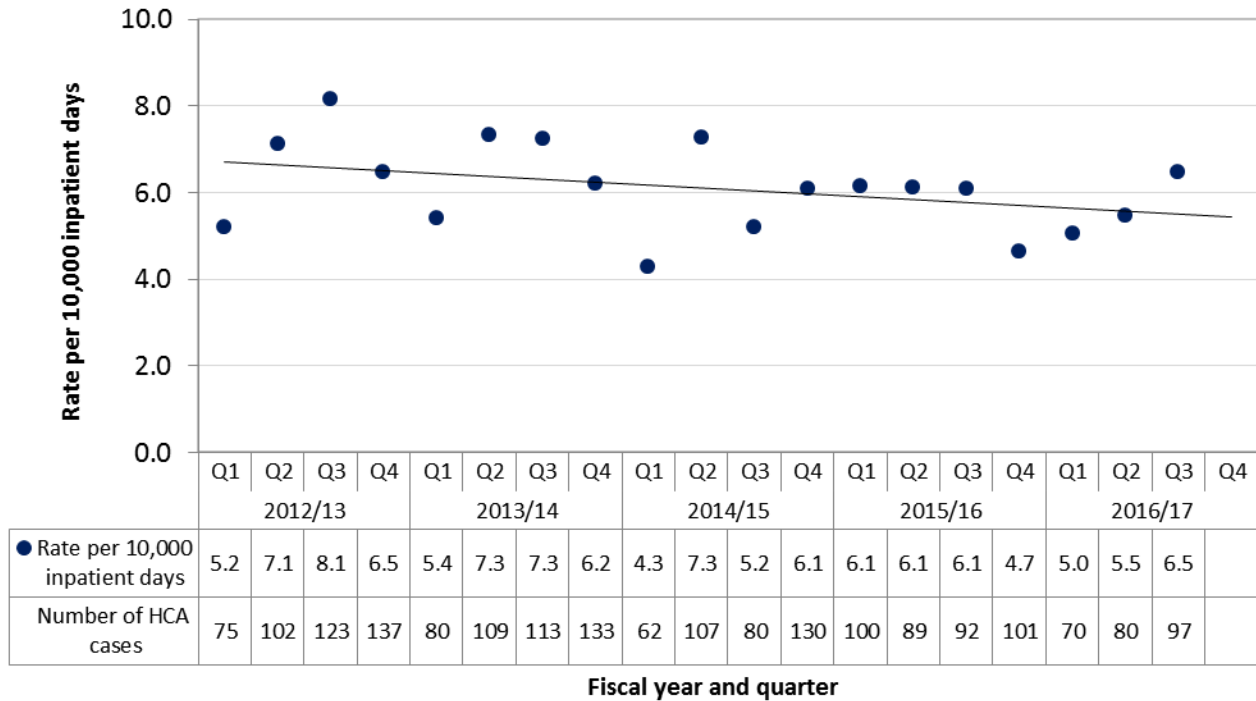
Figure 3. Rate and number of new cases of MRSA associated with the reporting facility, 2012/13 - 2016/17, Fraser Health



	2012/13				2013/14				2014/15				2015/16				2016/17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
● Rate per 10,000 inpatient days	5.6	5.5	5.3	6.4	5.0	5.0	4.7	5.6	5.2	7.9	5.8	7.7	7.9	6.7	6.9	7.0	7.2	6.8	6.1	
Number of HCA cases	133	130	128	218	119	121	116	193	125	194	147	276	188	167	189	257	164	162	149	

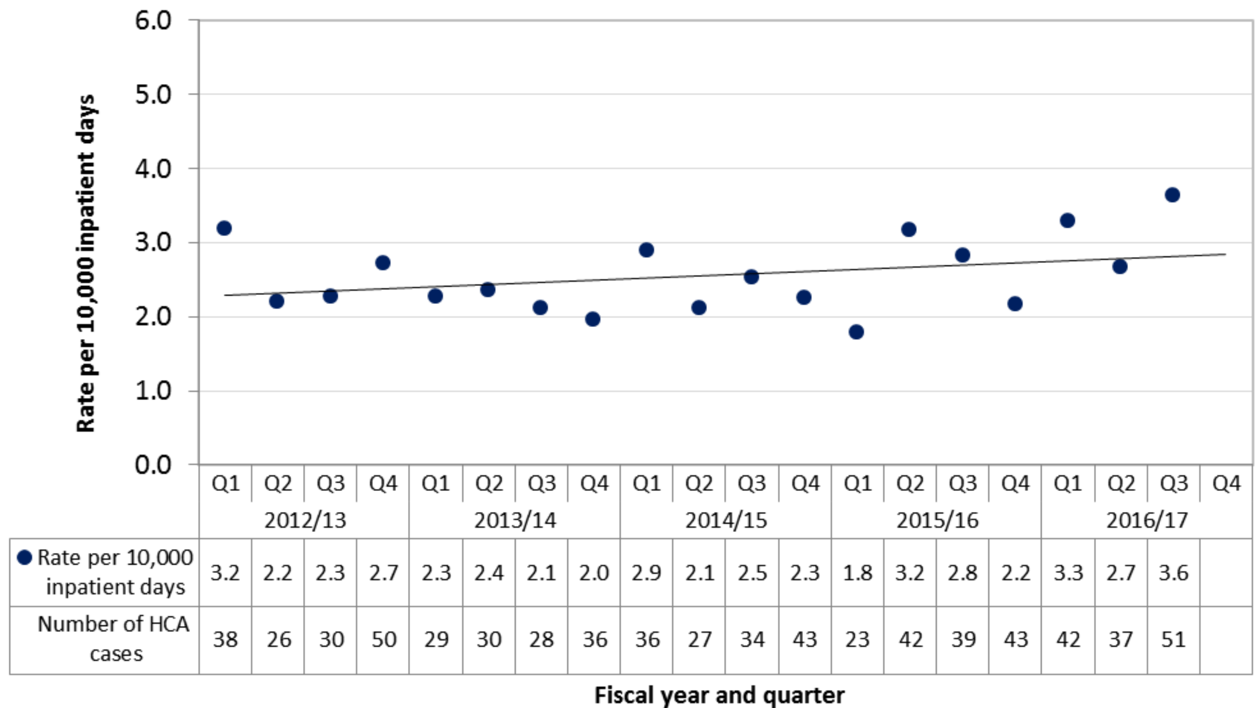
[1] Excluded certain acute care facilities from Q1 to Q2 of FY 2012/2013

Figure 4. Rate and number of new cases of MRSA associated with the reporting facility, 2012/13 - 2016/17, Vancouver Coastal Health[2]



	2012/13				2013/14				2014/15				2015/16				2016/17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
● Rate per 10,000 inpatient days	5.2	7.1	8.1	6.5	5.4	7.3	7.3	6.2	4.3	7.3	5.2	6.1	6.1	6.1	6.1	4.7	5.0	5.5	6.5	
Number of HCA cases	75	102	123	137	80	109	113	133	62	107	80	130	100	89	92	101	70	80	97	

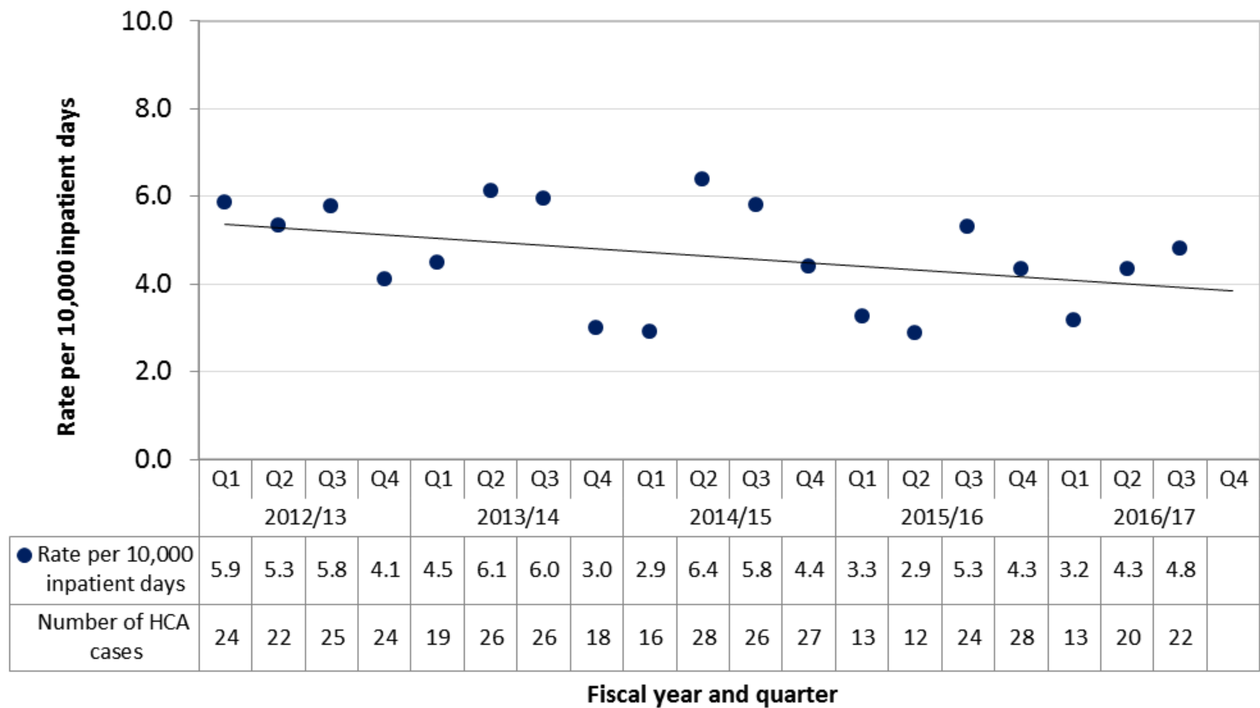
Figure 5. Rate and number of new cases of MRSA associated with the reporting facility, 2012/13 - 2016/17, Island Health



	2012/13				2013/14				2014/15				2015/16				2016/17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
● Rate per 10,000 inpatient days	3.2	2.2	2.3	2.7	2.3	2.4	2.1	2.0	2.9	2.1	2.5	2.3	1.8	3.2	2.8	2.2	3.3	2.7	3.6	
Number of HCA cases	38	26	30	50	29	30	28	36	36	27	34	43	23	42	39	43	42	37	51	

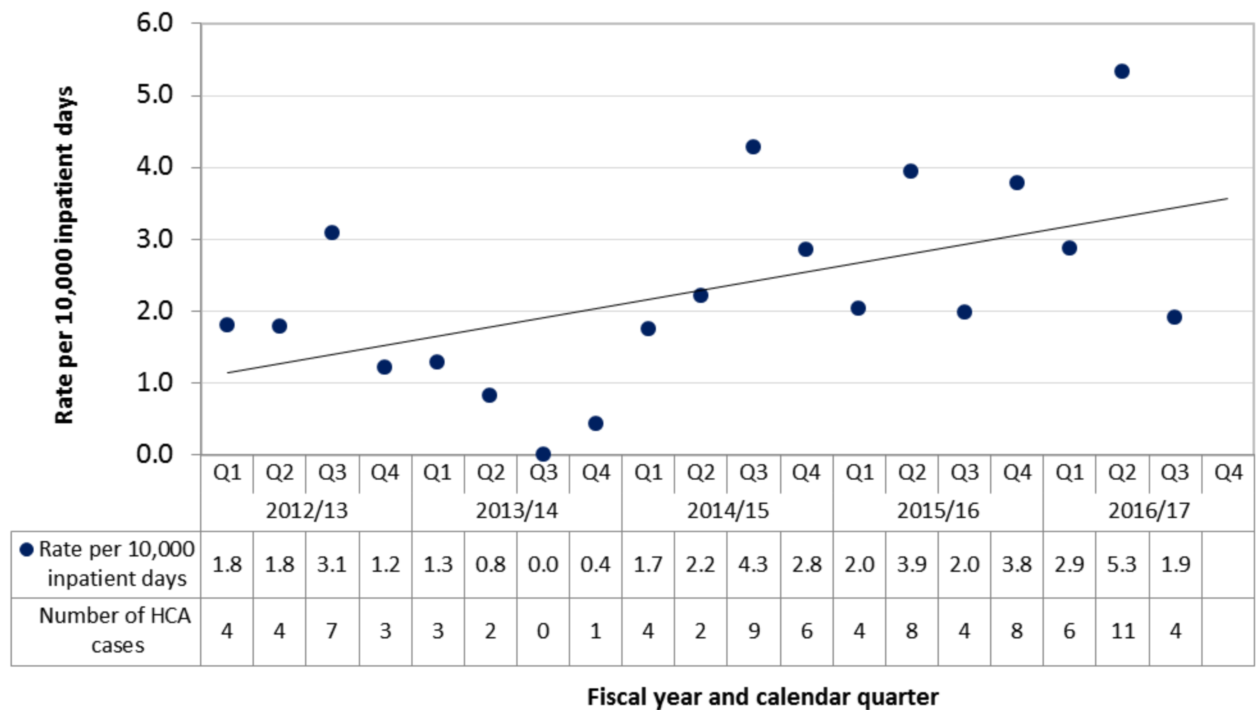
[2] Includes acute care facilities of Providence Health Care (PHC)

Figure 6. Rate and number of new cases of MRSA associated with the reporting facility, 2012/13 - 2016/17, Northern Health



	2012/13				2013/14				2014/15				2015/16				2016/17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
● Rate per 10,000 inpatient days	5.9	5.3	5.8	4.1	4.5	6.1	6.0	3.0	2.9	6.4	5.8	4.4	3.3	2.9	5.3	4.3	3.2	4.3	4.8	
Number of HCA cases	24	22	25	24	19	26	26	18	16	28	26	27	13	12	24	28	13	20	22	

Figure 7. Rate and number of new cases of MRSA associated with the reporting facility, 2012/13 - 2016/17, Provincial Health Services Authority



	2012/13				2013/14				2014/15				2015/16				2016/17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
● Rate per 10,000 inpatient days	1.8	1.8	3.1	1.2	1.3	0.8	0.0	0.4	1.7	2.2	4.3	2.8	2.0	3.9	2.0	3.8	2.9	5.3	1.9	
Number of HCA cases	4	4	7	3	3	2	0	1	4	2	9	6	4	8	4	8	6	11	4	

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Disclaimer

The purpose of this report is to provide information on healthcare-associated infections identified among the patients admitted to the acute care facilities to healthcare providers, decision-makers, patients, and the public. This report may be used, in whole or in part, as the basis for infection prevention and control practices to improve the quality of healthcare services. PICNet does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information in the report; neither does it intend to provide specific medical advice. Commercial uses are prohibited without express written permission.

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