

Methicillin-resistant *Staphylococcus aureus* (MRSA) Update, Q3 of 2018/19

March 2019

Summary Table

	Q3 2018/19	Previous quarter (Q2 2018/19)	Same quarter of previous year (Q3 2017/18)	Last 4 Quarters (Q4 2017/18 – Q3 2018/19)
Total new MRSA cases identified	615	687	749	3,0565
Number of new MRSA cases associated with the reporting facility	284	332	331	1,414
Total inpatient days	732,933	722,252	726,230	3,277,590
Rate of MRSA associated with the reporting facility per 10,000 inpatient days (95% CI)	3.9(3.4-4.4)	4.6(4.1-5.1)	4.6(4.1-5.1)	4.3(4.1-4.5)

Highlights for Q1 2018/19

- The provincial rate of new MRSA cases associated with the reporting facility in Q3 of 2018/19 was 3.9 per 10,000 inpatient days, which was lower than the previous quarter (4.6 per 10,000 inpatient days). However, the difference was not statistically significant.
- The MRSA rate in Q3 of 2018/19 was also not significantly different from the same quarter of the previous year (4.6 per 10,000 inpatient days in Q3 of 2017/18).
- There is a downward trend in the provincial rate of MRSA from Q1 of 2014/15 to Q3 of 2018/19, which is statistically significant.

What is Methicillin-resistant *Staphylococcus aureus* (MRSA)?

MRSA is a type of *Staph* bacteria that has become resistant to many antibiotics, including methicillin, penicillin, and amoxicillin, 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 wound infections, pneumonia, or septicaemia (infection in 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.

How is MRSA transmitted?

MRSA is primarily spread by skin-to-skin contact or through contact with surfaces contaminated with the bacteria. About 2 in 100 people in the community carry MRSA. People who carry MRSA but do not have signs of infection can spread the bacteria to others. It has shown to spread easily in healthcare settings; therefore hospital patients and residents in residential care facilities are at a higher risk of acquiring MRSA.

How can MRSA transmission be prevented?

Clean your hands often with soap and water or use an alcohol-based hand rub (sanitizer); do not share personal items; cover your wounds or cuts with clean, dry bandages until healed; and wash used sheets, towels, and clothes with warm water and laundry detergent. The spread of MRSA can be prevented in healthcare settings through adherence to infection control measures such as contact precautions, careful cleaning of patient rooms and medical equipment, and good hand hygiene on the part of physicians, nursing staff, and other healthcare providers.

Why is MRSA being monitored in BC hospitals?

MRSA bacteria have many virulence factors that enable them to cause disease. For example, MRSA is a cause of healthcare-associated bloodstream and catheter-related infections. MRSA is also a common cause of community-associated infections, especially skin and soft tissue infections, and can also cause necrotizing pneumonia. Active surveillance (e.g., screening of high-risk individuals) can identify patients colonized with MRSA so that precautions can be taken to prevent transmission to other patients.

Where can I find information about MRSA in BC?

The PICNet website (www.picnet.ca) provides provincial guidance, toolkits, and related resources for the prevention and control of MRSA and other antimicrobial organisms, as well as the surveillance protocol and reports on MRSA in BC. If you have questions or suspect that you have MRSA, please contact your doctor or healthcare provider.

This quarterly update presents the latest data on the incidence and trends of healthcare-associated (HCA) cases of MRSA that were newly identified among inpatients in the last five years. In the following graphs,

- 1) MRSA cases that were associated with another healthcare facility, community-associated, or of unknown origin were not included.
- 2) The data were aggregated by fiscal quarter for each health authority except Provincial Health Services Authority (PHSA), which aggregated the data by calendar quarter.
- 3) The time frame of each fiscal quarter varied by fiscal year. Generally, there were more days in the fourth fiscal quarter (Q4) than in the other three quarters (Q1, Q2, and Q3) of each fiscal year.
- 4) The line in each graph represents the overall linear trend over time.
- 5) Direct comparison of the number of cases or the rate between health authorities is not recommended due to variations in case finding strategies and the application of MRSA case classification for surveillance among the health authorities.

Figure 1. Provincial rate and number of new cases of MRSA associated with the reporting facility, by fiscal year and quarter, 2014/15 - 2018/19, British Columbia

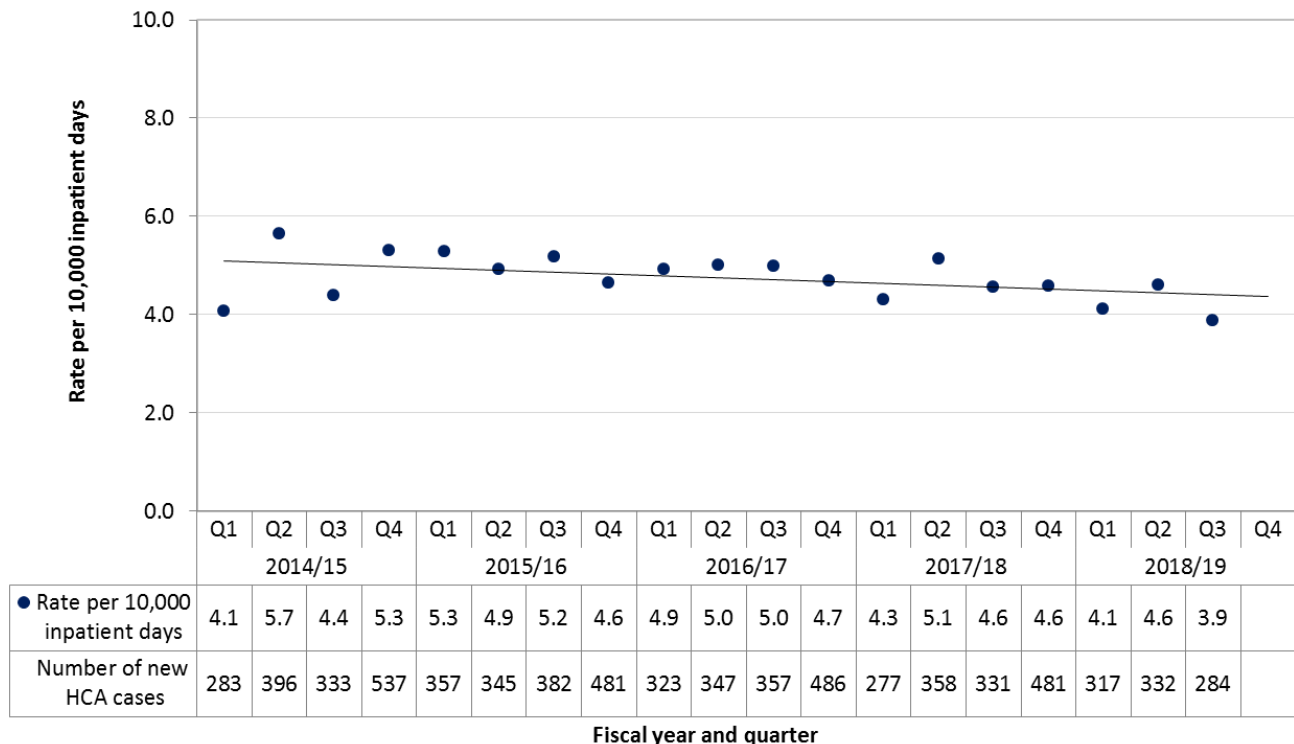


Figure 2. Rate and number of new cases of MRSA associated with the reporting facility, by fiscal year and quarter, 2014/15 - 2018/19, Interior Health

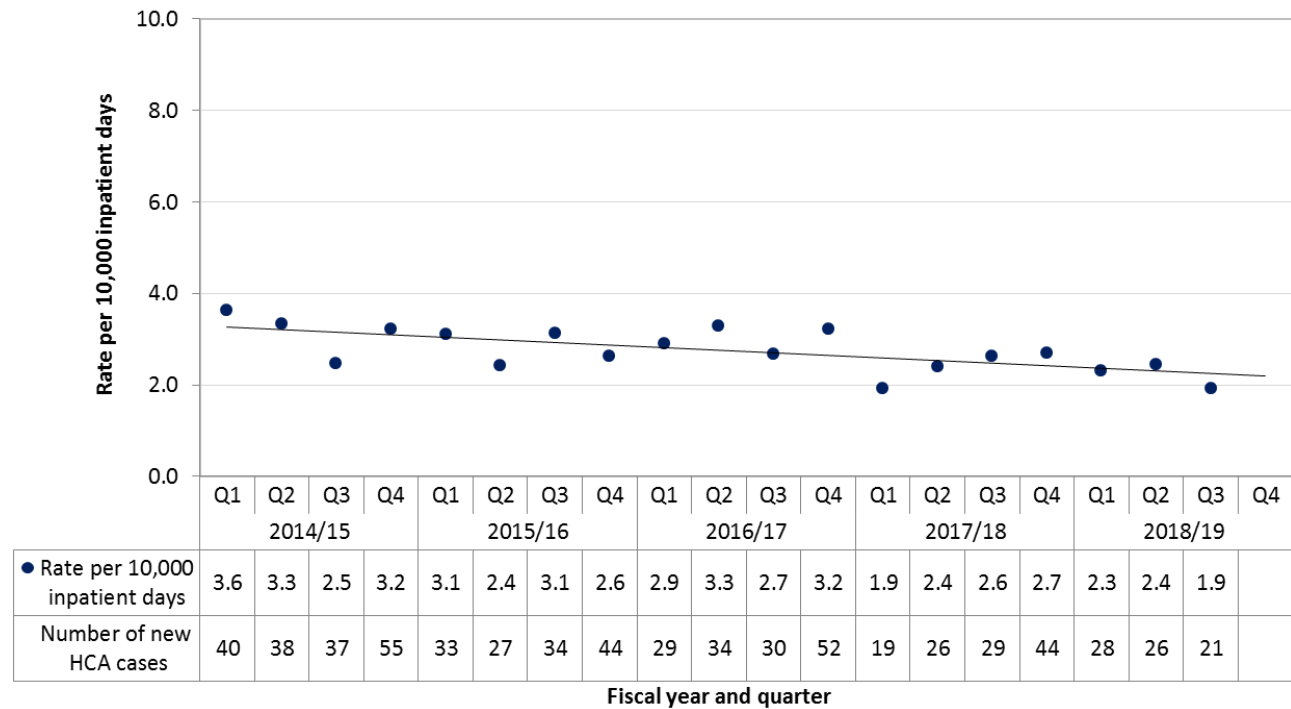
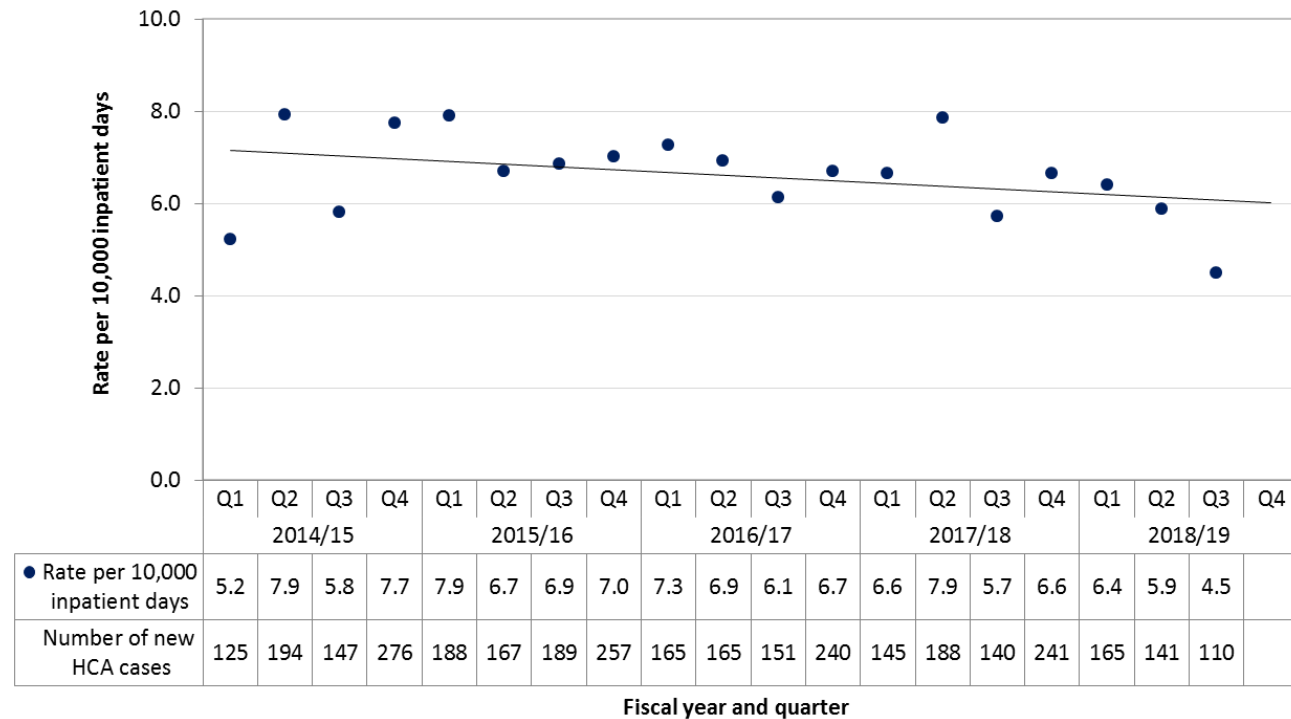


Figure 3. Rate and number of new cases of MRSA associated with the reporting facility, by fiscal year and quarter, 2014/15 - 2018/19, Fraser Health¹



¹ Fraser Health expanded its surveillance program for MRSA to a new acute care site during Q4 2017/18

Figure 4. Rate and number of new cases of MRSA associated with the reporting facility, by fiscal year and quarter, 2014/15 - 2018/19, Vancouver Coastal Health²

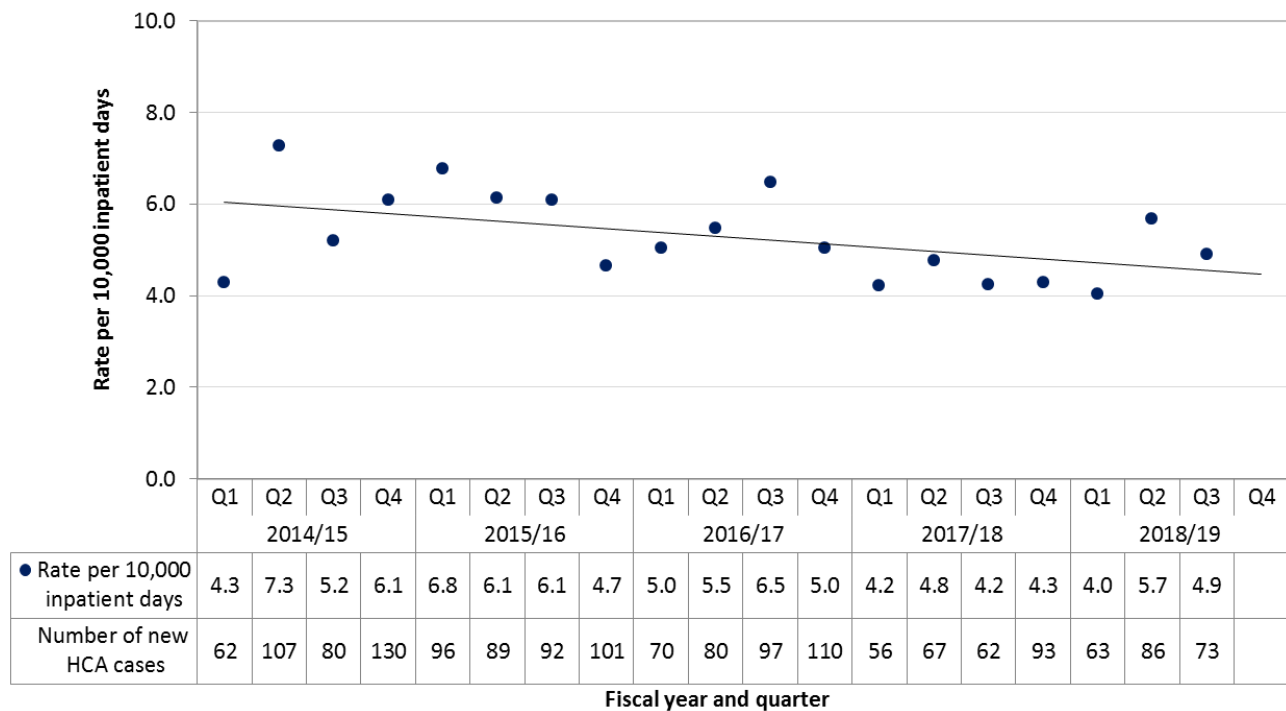
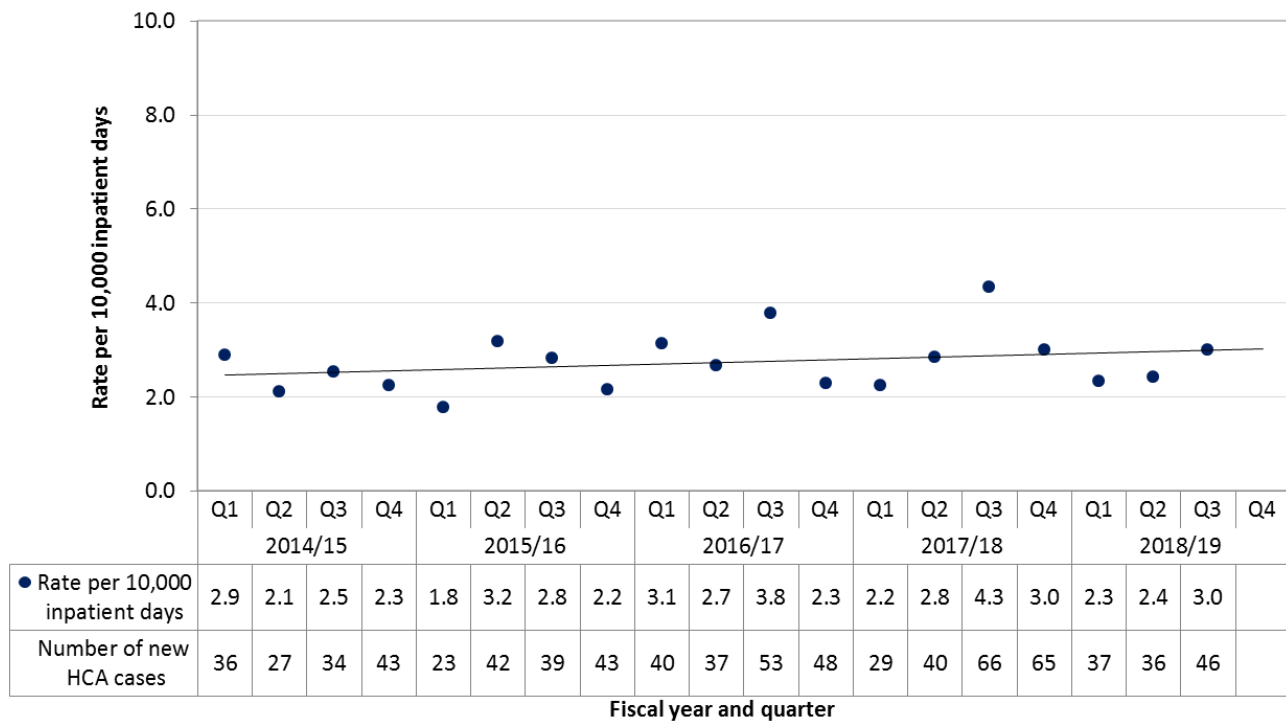


Figure 5. Rate and number of new cases of MRSA associated with the reporting facility, by fiscal year and quarter, 2014/15 - 2018/19, Island Health³



² Data from acute care facilities of Providence Health Care (PHC) were included.

³ Data include two new hospitals opened during Q3 of 2017/18 and historical data from two closed hospitals.

Figure 6. Rate and number of new cases of MRSA associated with the reporting facility, by fiscal year and quarter, 2014/15 - 2018/19, Northern Health

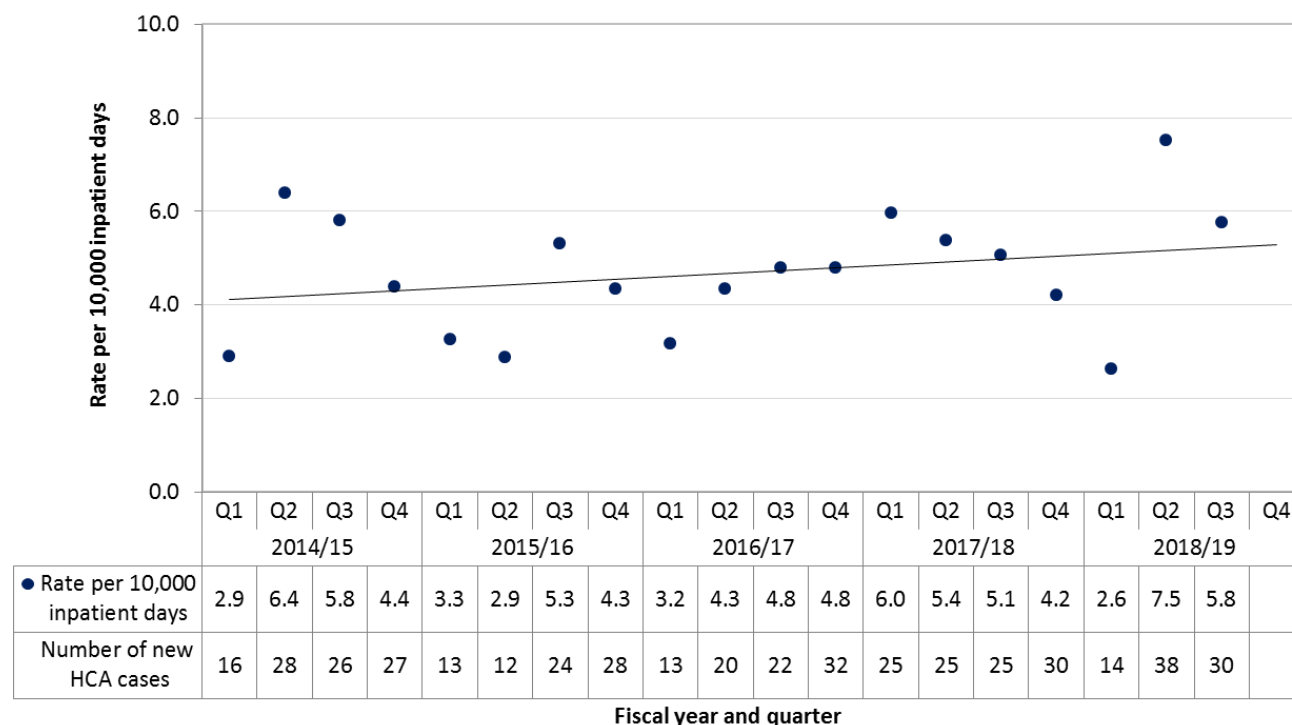
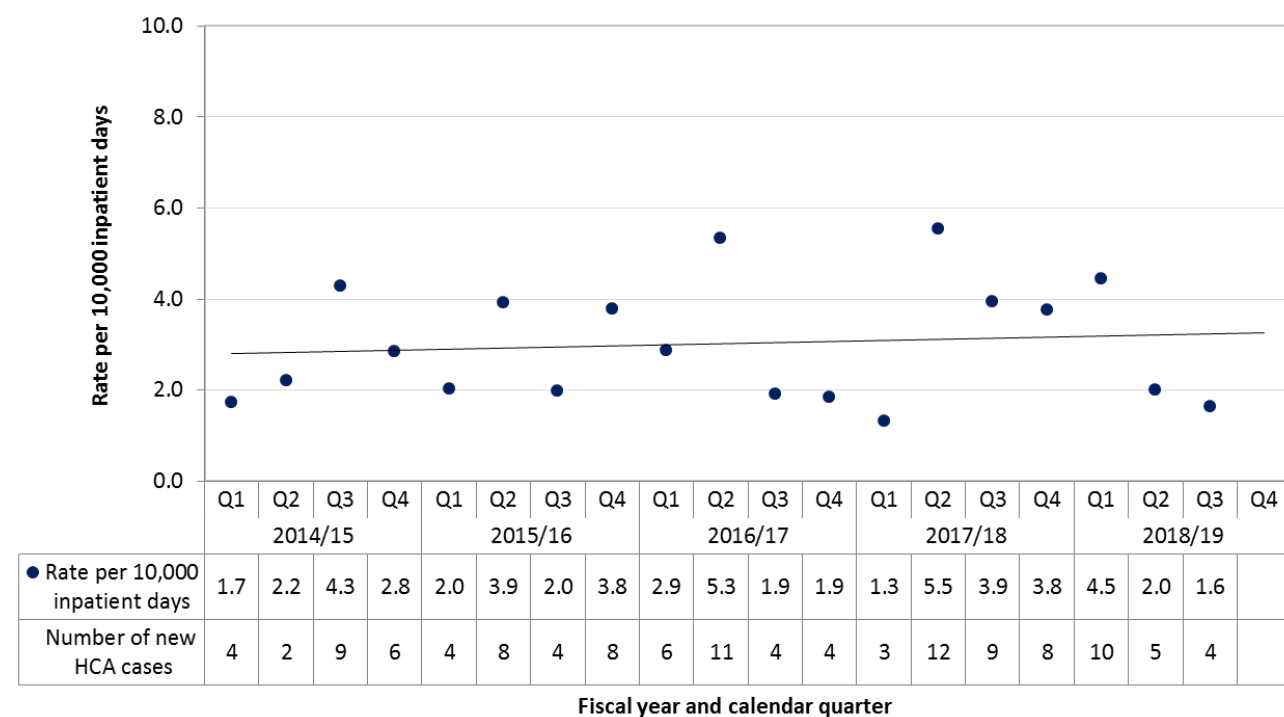


Figure 7. Rate and number of new cases of MRSA associated with the reporting facility, by fiscal year and calendar quarter, 2014/15 - 2018/19, Provincial Health Services Authority⁴



⁴ Data from BC Cancer - Vancouver were included starting from Q1 of 2018/19.

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