



Government of **Western Australia**
Department of **Health**

Healthcare Infection Surveillance Western Australia (HISWA)

Quarterly Report

Quarter 2 2019-20

Data for October to December 2019

Healthcare Associated Infection Unit

Communicable Disease Control Directorate

25 February 2020

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Data Quality Statement

Date Extracted: 18/02/2020

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The following data was not received at time of data extraction for this report and may impact on aggregated rates:

2019-20

No Same Day bed days or Central Line days submitted for Bunbury Hospital for October 2019

2018-19

No CLAB denominators submitted for Mount Hospital April 2019.

2014-15 - 2017-18

Please refer to previous reports or contact HAIU for details if you wish your data to be updated.

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HAIU News

ICNet

ICNet Project roll out for wave 1 has commenced and is progressing well. Baxter has conducted a successful 2 day training workshop of the Infection Prevention Module for Super Users. The wave 1 roll out has commenced with Armadale Health Service going live on the week beginning 24 February 2020. The other sites that will go live in this wave are WACHS Great Southern, WACHS Wheatbelt, WACHS Pilbara, WACHS Kimberley, PCH and Kalamunda Hospital. The wave 2 roll out is scheduled for April to June 2020.

ICNet Outbreak Module is in the User Acceptance Testing phase. The roll out is scheduled for early April with Super User training planned as a Webex from Baxter.

The business requirements for ICNet Protect have been completed and handed over to Baxter. The vaccination part of the module is expected to be delivered by quarter 2 of 2020.

Work has commenced on additional interfaces for the Infection Prevention Module. The midwifery interface has been tested and deployed. Work is progressing on the dialysis interface, AIR interface and Rostar interface.

HISWA Forum

The next forum is scheduled for 04 March 2020, 1430 – 1630 and will be held at 189 Royal St, East Perth, room 3/C Function Room. The topic of discussion will be COVID-19 and there will be member of the State Health Incident response team available to answer questions. Anyone wishing to participate via video-conference or if you have any issues you would like discussed, please email us at hiswa@health.wa.gov.au

HAIU Team

We welcome back Claire Tinson, who is on secondment assisting the team during the COVID-19 management period.

Reminders

- **Email communications**

Please can all email communications relating to HISWA be directed to hiswa@health.wa.gov.au This ensures one of us will always be available to respond to your query in a timely manner.

- **Data finalisation**

Please finalise your data asap to meet prescribed data submission deadlines. If a data deadline is on the horizon when you are going on leave, let us know and you can finalise data early.

Report Highlights

- The SSI rate following deep hip arthroplasty decreased this quarter.
- The SSI rate following emergency and elective caesarean section both decreased this quarter.
- The adult ICU CLABSI rate is consistently below the national benchmark and has decreased for the last three consecutive quarters.

Report Concerns

- The Haematology CLABSI rate has increased sharply this quarter. This increase is mainly attributable to centrally inserted central lines.
- The majority (53%) of HA-SAB were attributed to intravascular devices. The IV SAB rate has increased for the last two quarters.

Surgical site infection following hip arthroplasty

Key Points

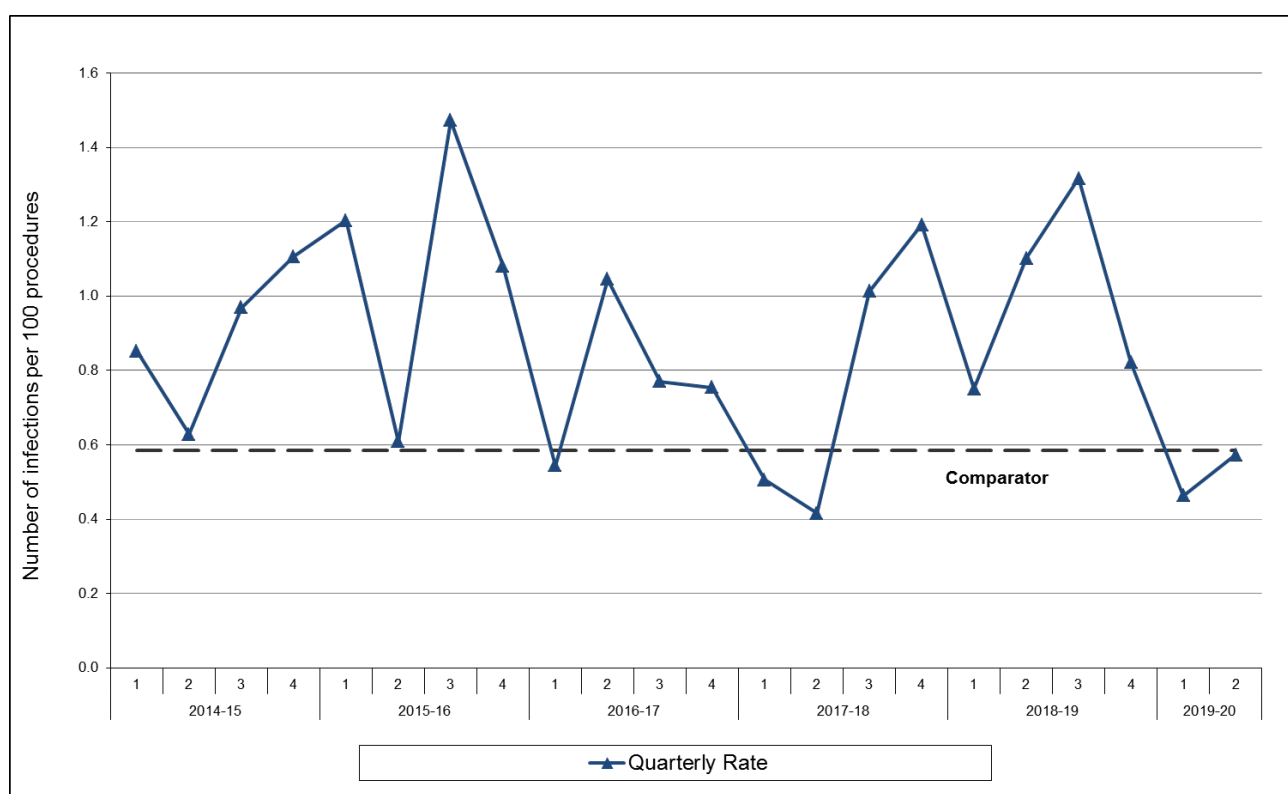
- ❑ There were 1,409 procedures reported (1,293 primary; 116 revision).
- ❑ A total of eight (8) SSI (all following primary arthroplasty) were reported, five (5) were deep / organ space infections.
- ❑ All eight (8) SSI were detected on readmission to hospital.
- ❑ The total SSI rate following hip arthroplasty increased to 0.57 infections per 100 procedures from 0.46 seen in Qtr 1 2019-20.
- ❑ The deep SSI hip rate decreased to 0.35 infections per 100 procedures from 0.46 seen in Qtr 1 2019-20 (Table 3 and Figure 3).

Table 1 Hip arthroplasty SSI rate, by risk index

Risk Index	Number of contributing hospitals	Number of procedures	Number of SSI	Aggregate rate (95% CI)	Cumulative aggregate rate (95% CI)
Risk All *	0	0	0	0.00 [0.00 – 0.00]	0.84 [0.57 – 1.25]
Risk index 0	22	795	1	0.13 [0.00 – 0.80]	0.70 [0.61 - 0.81]
Risk index 1	20	549	6	1.09 [0.45 – 2.44]	1.71 [1.52 – 1.92]
Risk index 2	11	52	1	1.92 [0.00 – 11.25]	3.61 [2.87 – 4.53]
Risk index 3	0	0	0	0.00 [0.00 – 0.00]	5.15 [2.37 – 10.49]
Total hip arthroplasty	22	1396	8	0.57 [0.27 – 1.16]	1.16 [1.07 – 1.26]

*Refer to Appendix 1- SSI Data Notes

Figure 1 Hip arthroplasty SSI rate



Surgical site infection following knee arthroplasty

Key Points

- There were 2,054 procedures reported (1,908 primary; 146 revision).
- A total of twelve (12) SSI were reported, ten (10) following primary procedure and nine (9) were deep/ organ space infections.
- Ten (10) SSI were detected on readmission to hospital.
- The total SSI rate following knee arthroplasty increased to 0.58 infections per 100 procedures from 0.22 reported in Qtr 1 2019-20.
- The deep SSI knee rate increased to 0.44 per 100 procedures from 0.22 per 100 procedures reported in Qtr 1 2019-20 (Table 3 and Figure 4).

Table 2 Knee arthroplasty SSI rate, by risk index

Risk Index	Number of contributing hospitals	Number of procedures	Number of SSI	Aggregate rate (95% CI)	Cumulative aggregate rate (95% CI)
Risk All *	0	0	0	0.00 [0.00 – 30.54]	1.41 [1.11 – 1.81]
Risk index 0	21	1177	2	0.17 [0.01 – 0.67]	0.64 [0.57 – 0.73]
Risk index 1	22	769	6	0.78 [0.32 – 1.75]	1.08 [0.96 – 1.22]
Risk index 2	15	105	3	2.86 [0.66 – 8.51]	2.74 [2.25 – 3.34]
Risk index 3	2	3	1	33.33 [6.20 – 79.52]	8.16 [4.65 – 13.90]
Total knee arthroplasty	23	2,054	12	0.58 [0.33 – 1.04]	0.95 [0.88 – 1.02]

*Refer to Appendix 1- SSI Data Notes

Figure 2 Knee arthroplasty SSI rate

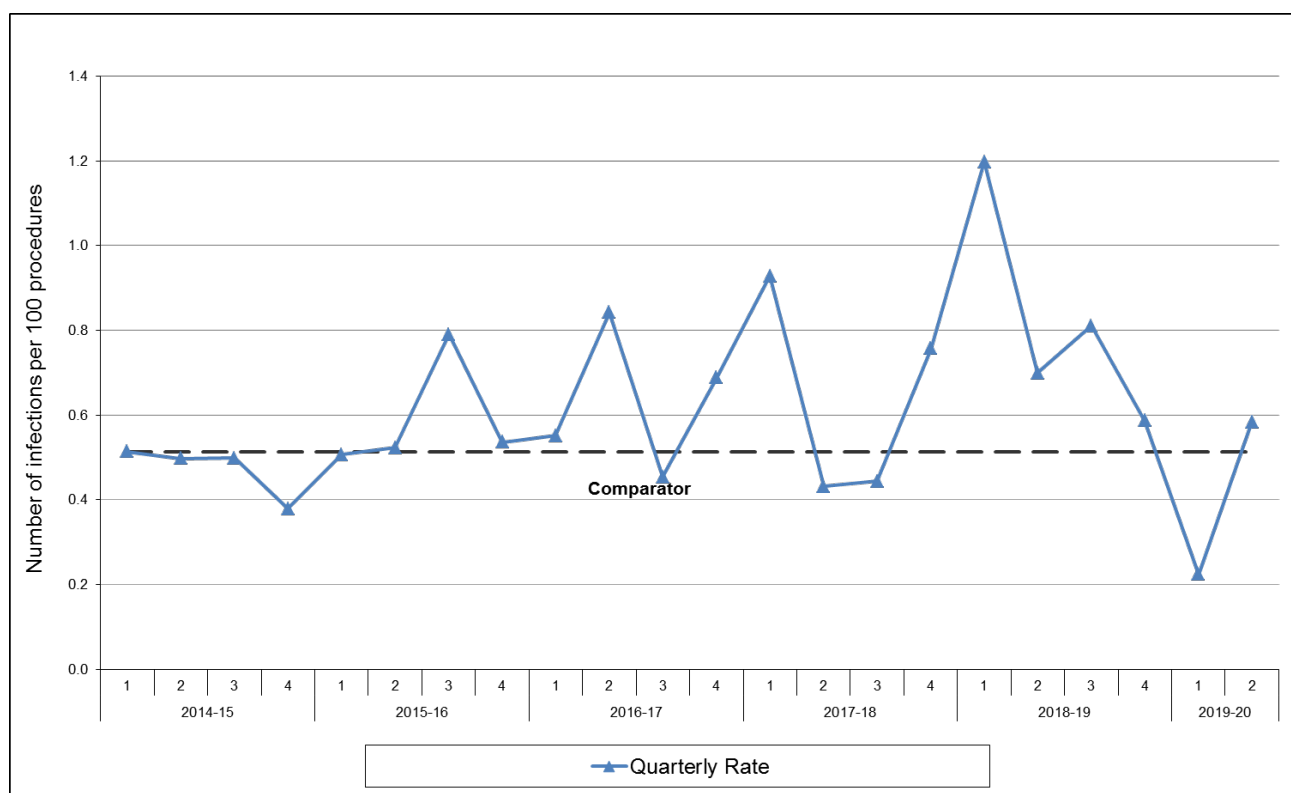


Table 3 SSI rates, by superficial and deep or organ/ space infections

	Number of superficial SSI	Number of deep SSI	Total number of SSI	Number of procedures	Aggregate superficial SSI rate (95%CI)	Aggregate deep SSI rate (95%CI)	Aggregate total SSI rate (95%CI)
Hip arthroplasty	3	5	8	1396	0.21 [0.04 – 0.67]	0.36 [0.13 – 0.87]	0.57 [0.27– 1.16]
Knee arthroplasty	3	9	12	2054	0.15 [0.03 – 0.46]	0.44 [0.22 – 0.85]	0.58 [0.33 – 1.04]
Total arthroplasty	6	14	20	3450	NA	NA	NA

Figure 3 Hip arthroplasty SSI rate, by superficial and deep

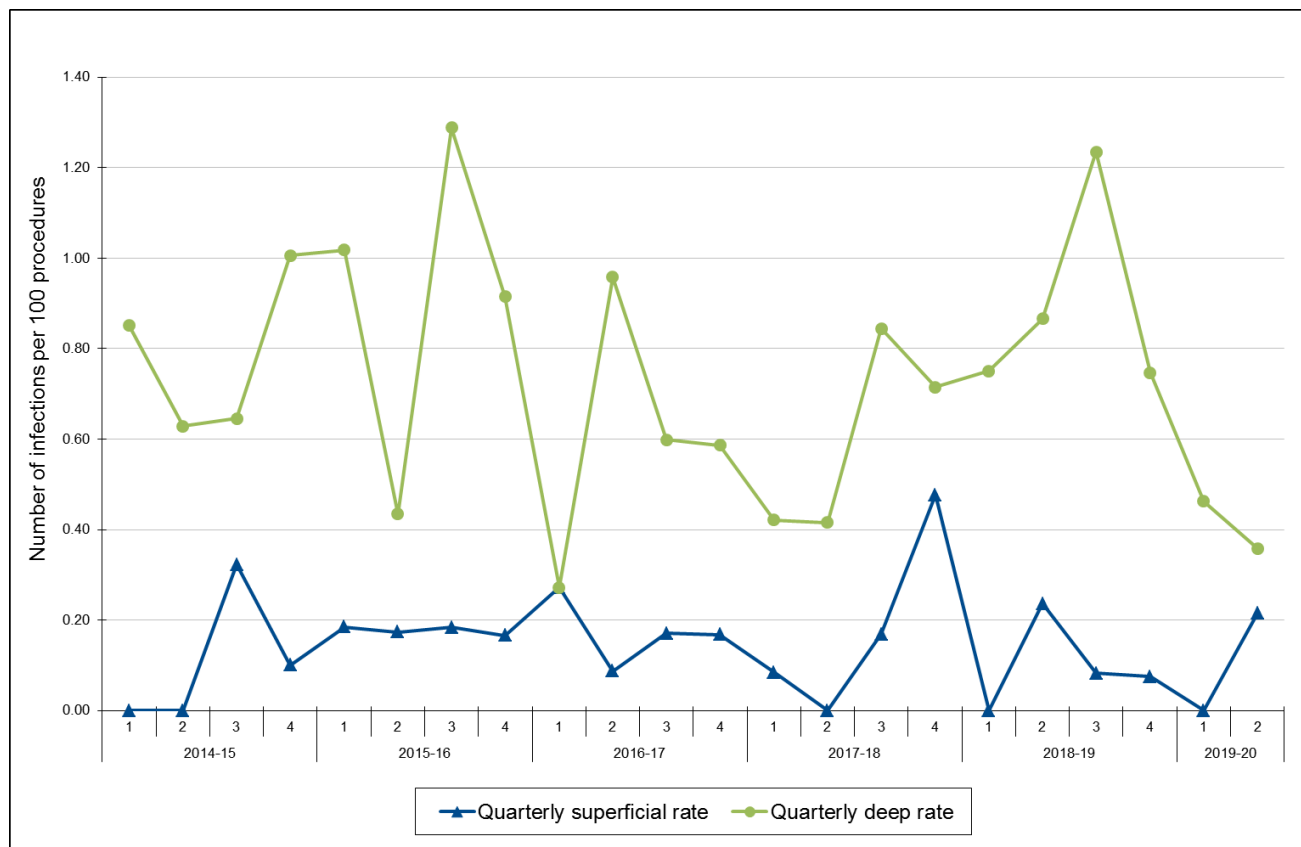
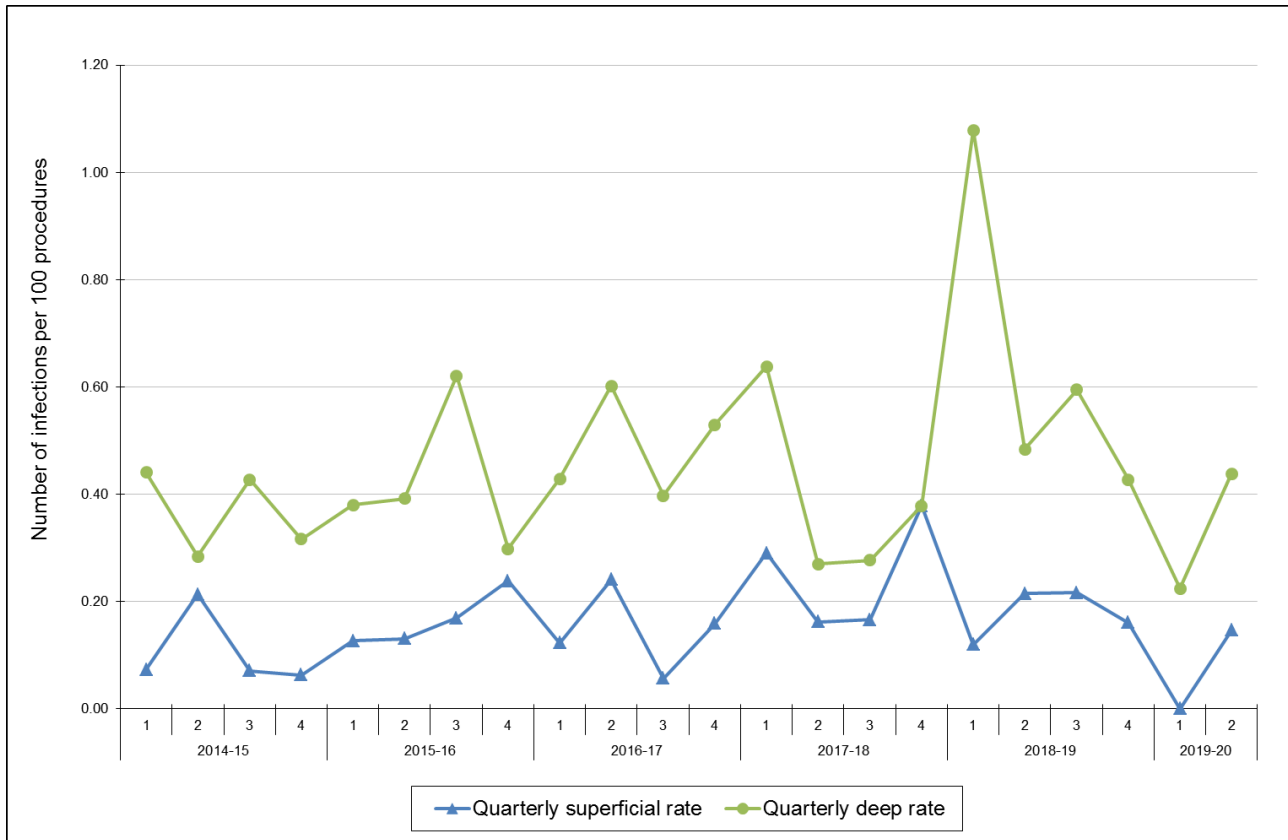


Figure 4 Knee arthroplasty SSI rate, by superficial and deep



Surgical site infection following caesarean section

Key Points

- 2,430 caesarean section procedures were reported, of which 1,273 (53%) were emergency and 1,157 (47%) were elective procedures.
- A total of 17 SSIs were reported, two (2) identified during initial admission and 15 (88%) were detected on readmission to hospital. A further six (6) SSI (all superficial) were detected post-discharge and are not included in further data analysis or in HISWA calculated rates*.
- Nine (53%) SSIs reported were deep /organ space infections.
- Twelve (71%) SSIs reported were following emergency procedures and included seven (7) deep SSIs.
- The total inpatient SSI rate (includes readmissions and excludes post-discharge) decreased to 0.70 infections per 100 procedures from 0.83 reported in Qtr 1 2019-20.
- The inpatient emergency procedure SSI rate decreased to 0.94 infections per 100 procedures from 0.97 reported in Qtr 1 2019-20.

Table 4 Caesarean section SSI rate per 100 procedures, by risk index

	Number of contributing hospitals	Number of procedures	Number of superficial SSI	Number of deep SSI	Total number of SSI	Total aggregate rate (95% CI)	Cumulative aggregate (95% CI)
Risk All	6	51	1	0	1	1.96 [0.00 – 11.46]	0.74 [0.60 – 0.92]
Risk index 0	19	1305	4	0	4	0.31 [0.09 – 0.82]	0.34 [0.29 – 0.41]
Risk index 1	18	840	2	6	8	0.95 [0.45 – 1.91]	0.84 [0.72 – 0.97]
Risk index 2	14	216	1	3	4	1.85 [0.57 – 4.88]	1.93 [1.56 – 2.38]
Risk index 3	4	18	0	0	0	0.00 [0.00 – 21.10]	1.29 [0.40 – 3.43]
Total in-patient	26	2430	8	9	17	0.70 [0.43 – 1.13]	0.64 [0.59 – 0.70]
Post-discharge	NA	NA	6	0	6	NA	NA
Total SSI*	NA	2430	14	9	23	NA	NA

*HISWA does not include SSI detected by post discharge surveillance (PDS) or identified in outpatient clinics in calculated rates as not all hospitals perform PDS.

Figure 5 Caesarean section SSI rates by deep and superficial (inpatient only)

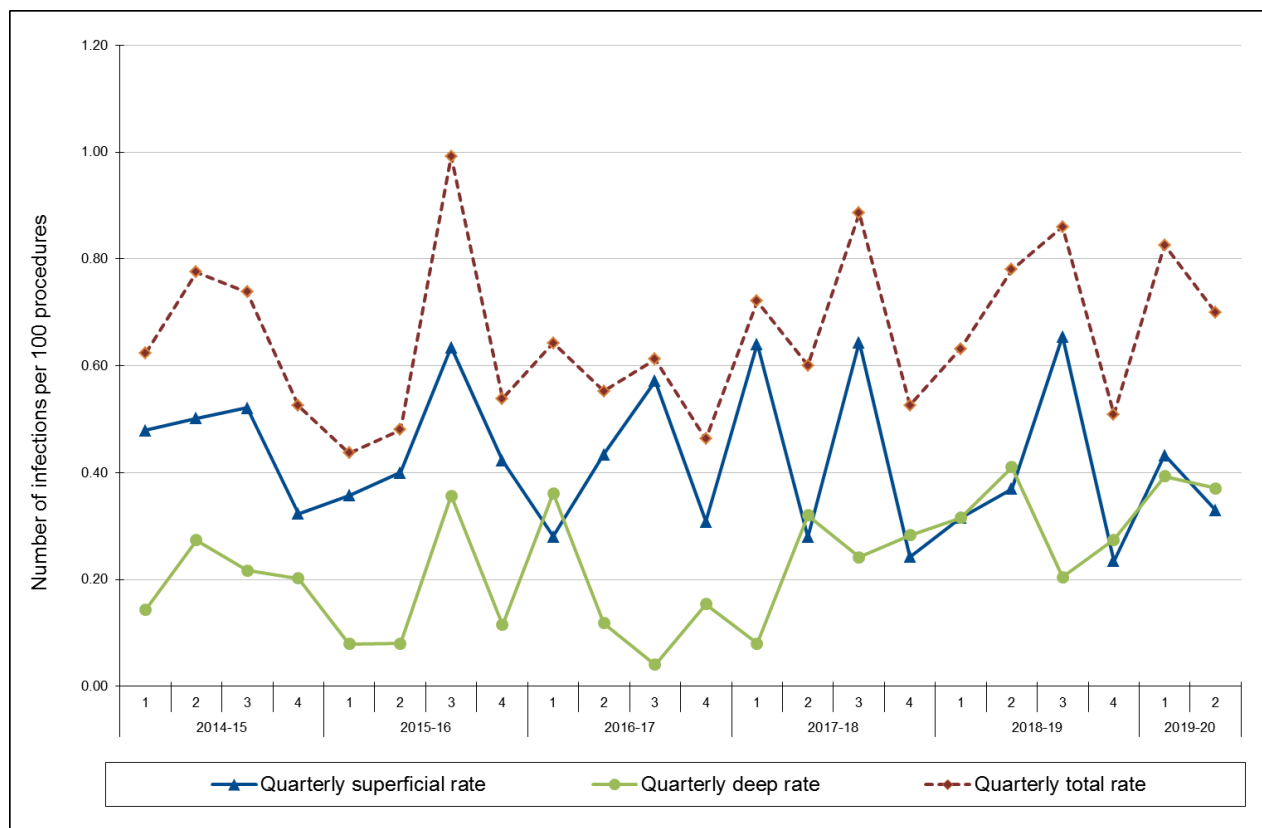
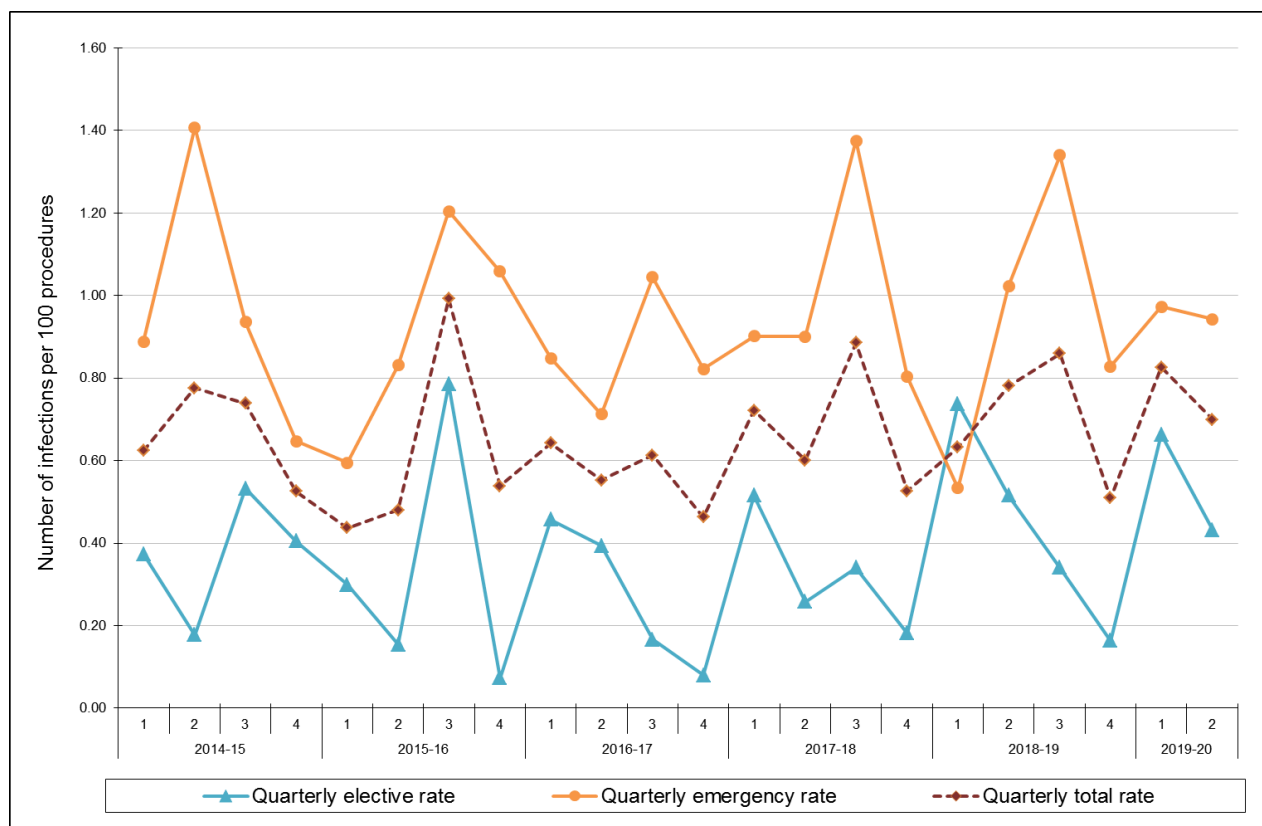


Figure 6 Caesarean section SSI rates by elective and emergency procedures (inpatient only)



Healthcare associated *Staphylococcus aureus* bloodstream infection

Key Points

- There were 47 HA-SABSI (MSSA 40; MRSA 7) reported
- The total HA-SABSI rate increased to 0.71 infections per 10,000 bed-days from 0.42 reported in Qtr 1 2019-20, and is below the comparator rate of 0.73.
- The MSSA HA-SABSI rate increased to 0.61 infections per 10,000 bed-days from 0.36 reported in Qtr 1 2019-20 and is above the comparator rate of 0.60.
- The MRSA HA-SABSI rate increased to 0.11 infections per 10,000 bed-days from 0.06 reported in Qtr 1 2019-20 and is above the comparator rate of 0.03.
- Of the 47 HA-SABSI reported, 25 (53%) were attributable to IVDs. A further two (4%) had an organ site focus and thirteen (28%) were related to procedures. Of the 25 IVD related HA-SABSI, 6 (24%) were associated with PIVC
- The IVD SABSI rate increased to 0.38 infections per 10,000 bed-days from 0.26 infections per 10,000 bed-days reported in Qtr 1 2019-20 (Figure 10).

Table 5 HA-SABSI rates per 10,000 bed-days

	Number of contributing hospitals	Number of bed-days	Number of HA-SABSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)
Total methicillin-sensitive <i>Staphylococcus aureus</i> (MSSA) bloodstream infection	49	659,629	40	0.61 [0.44 – 5.94]	0.56 [0.53 – 0.59]
Total methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) bloodstream infection	49	659,629	7	0.11 [0.05 – 0.23]	0.12 [0.10 – 0.13]
Total <i>Staphylococcus aureus</i> bloodstream infection	49	659,629	47	0.71 [0.53- 0.95]	0.68 [0.65 – 0.71]

Figure 7 HA-SABSI rates, by MRSA, MSSA and total

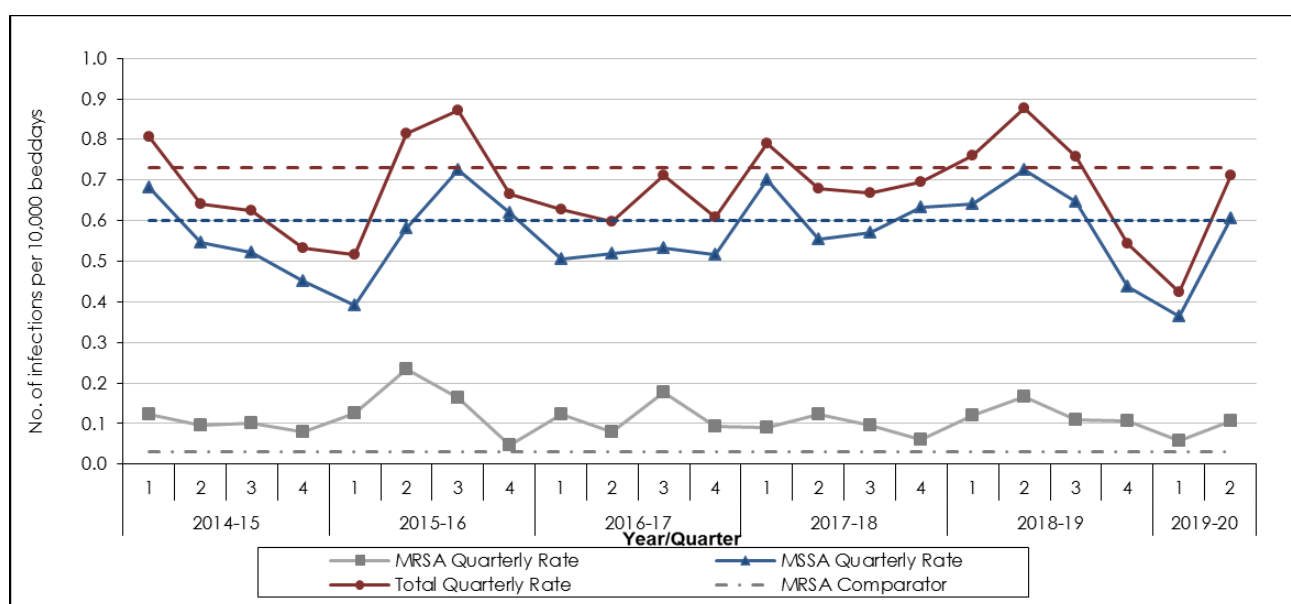


Figure 8 Number of HA-SABSI, by attributable source

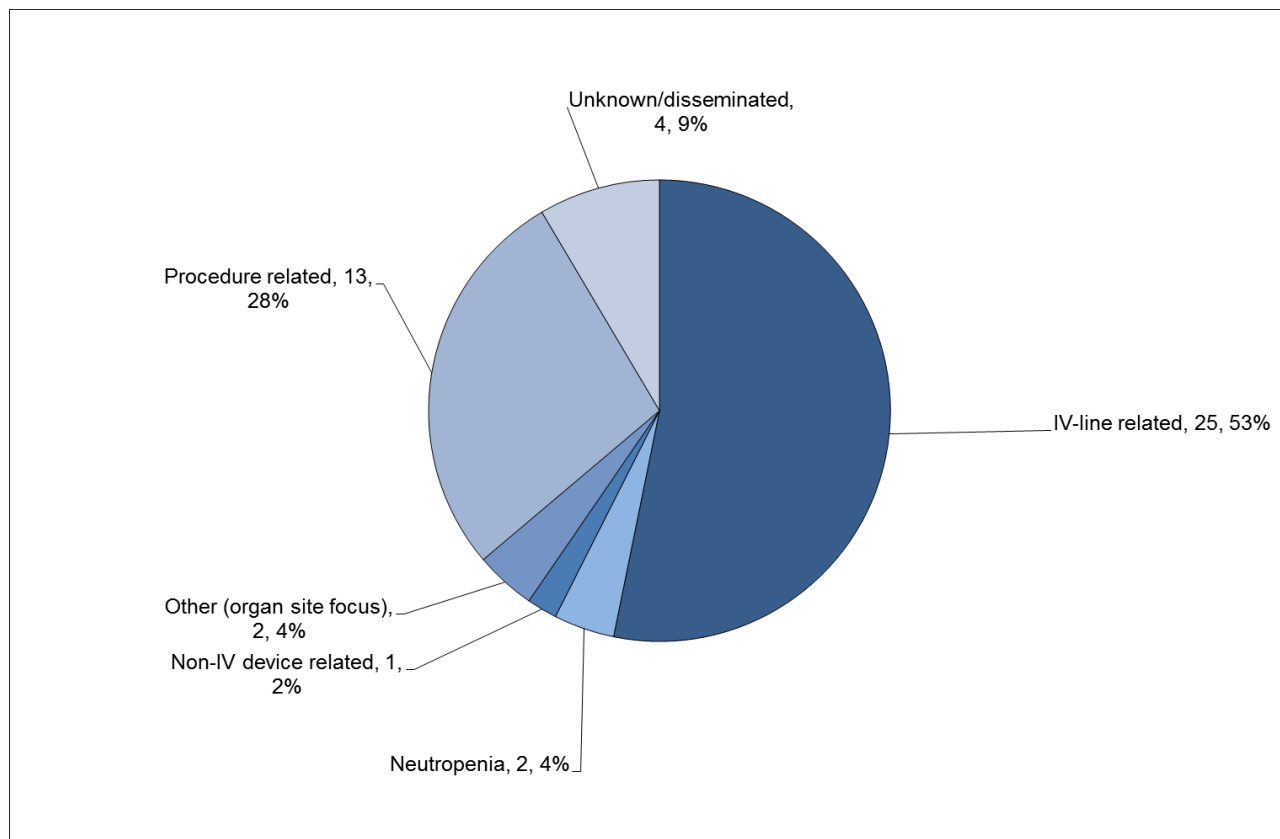


Figure 9 HA-SABSI rates, by hospital group

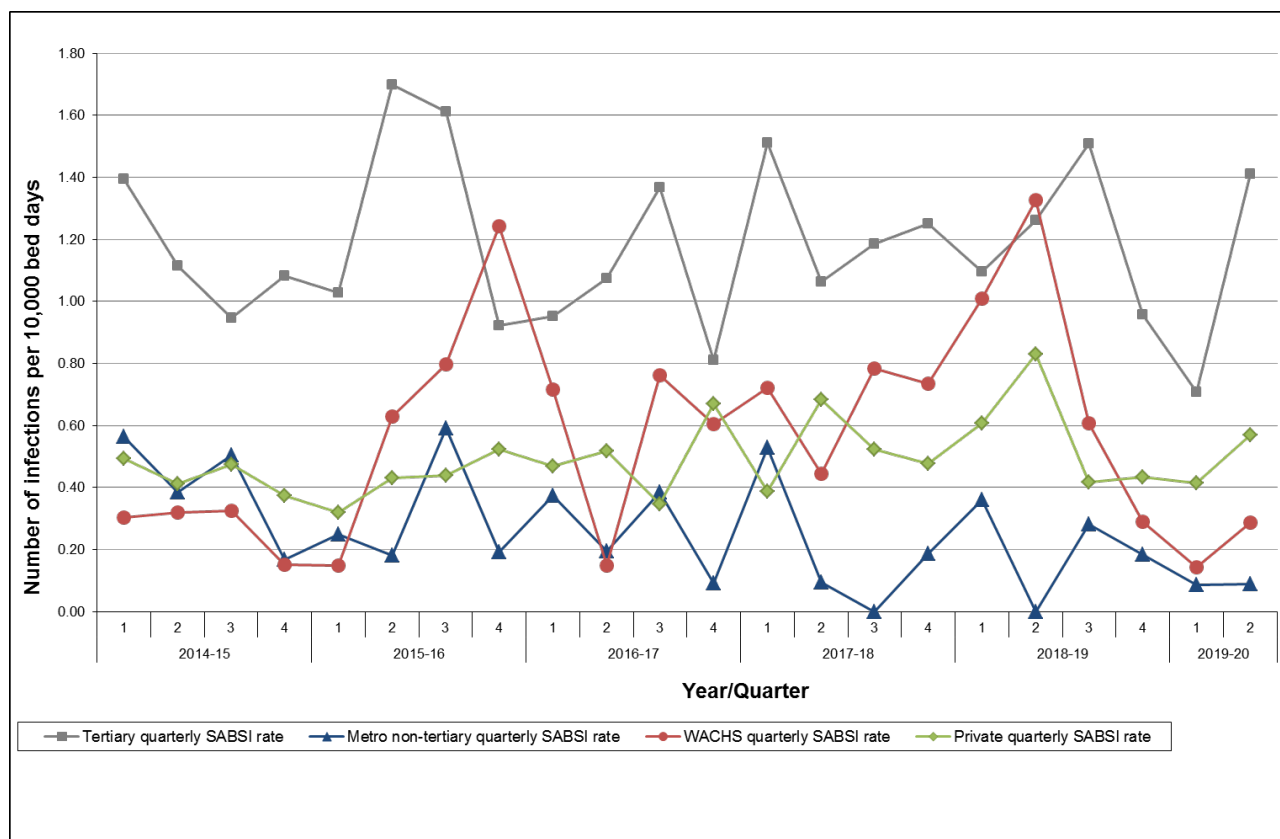


Figure 10 Proportion and rate of HA-SABSI attributed to intravascular devices

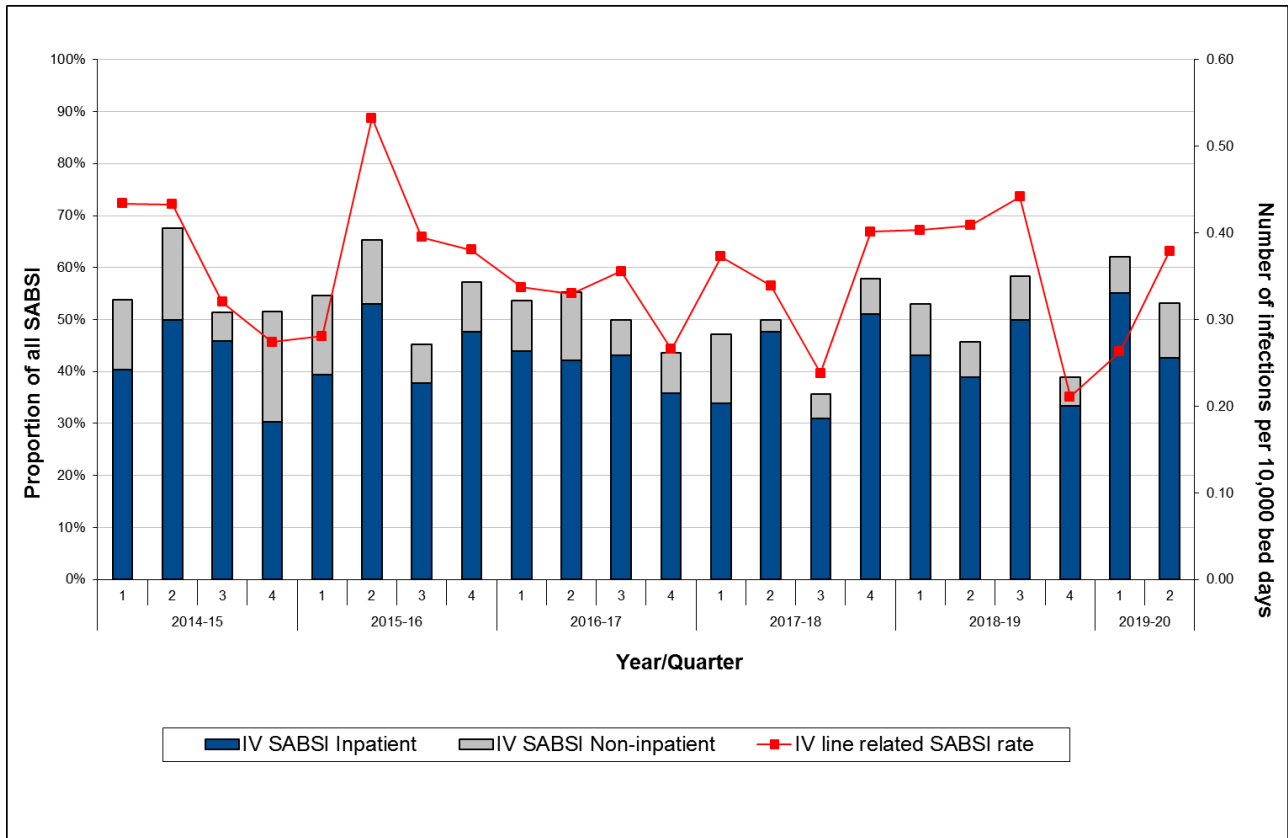
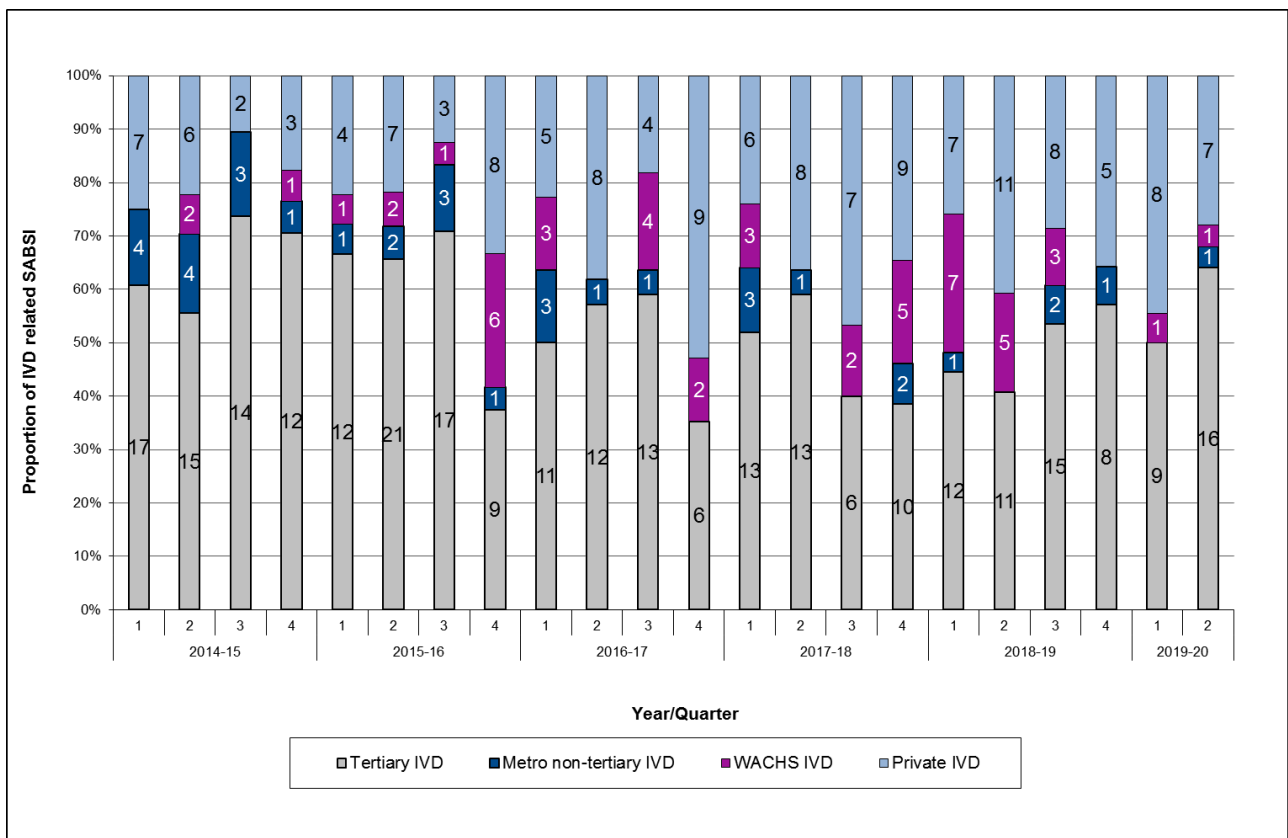


Figure 11 Proportion and number of HA-SABSI attributed to intravascular devices, by hospital group



Haemodialysis access-associated bloodstream infections

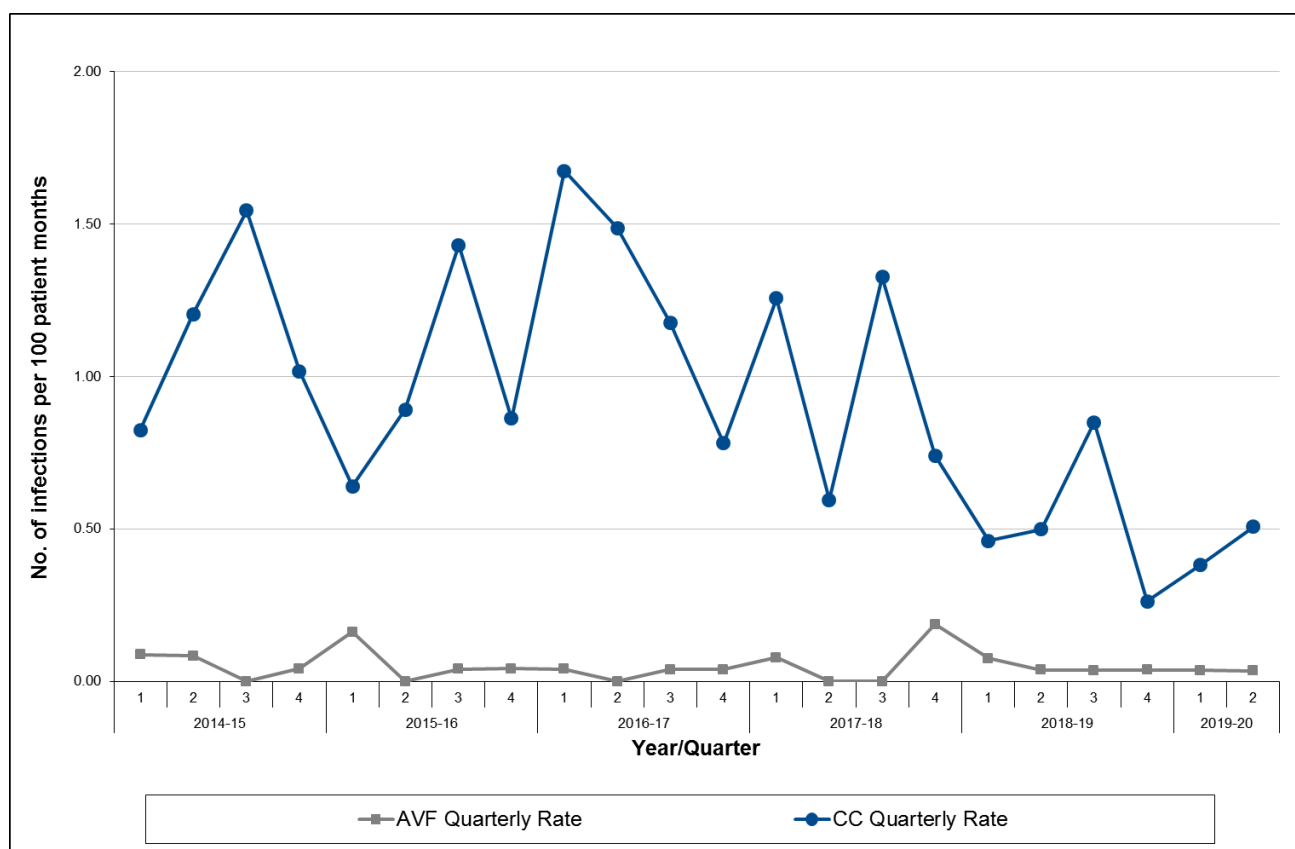
Key Points

- The majority (78%) of patients received haemodialysis via an AVF.
- There were four cuffed catheter and one AVF access-associated BSIs reported.
- The cuffed catheter BSI rate increased to 0.51 infections per 100 patient-months from 0.38 in Qtr 1, 2019-20.
- The AVF BSI rate of 0.04 per 100 patient-months remained unchanged from that reported in Qtr 1, 2019-20.

Table 6 HD-BSI rate, by type of access

Type of access	Number of contributing units	Aggregate utilisation ratio (%)	Number of BSI	Number of patient months	Aggregate rate. (95% CI)	Cumulative aggregate (95% CI)
AVF	24	76.33	1	2857	0.04 [0.00 – 0.22]	0.06 [0.05 – 0.08]
AVG	24	2.30	0	86	0.00 [0.00 – 5.27]	0.47 [0.30 – 0.72]
Cuffed catheter (CC)	24	21.05	4	788	0.51 [0.15 – 1.36]	1.40 [1.28 – 1.54]
Non-cuffed catheter	24	<1	0	12	0.00 [0.00 – 28.71]	0.95 [0.48 – 1.84]

Figure 12 AVF and cuffed catheter BSI rate



Central line-associated bloodstream infection

Key Points

- ❑ Zero adult ICU CLABSI were reported, down from a rate of 0.15 infections per 1,000 line days reported in Qtr 1, 2019-20.
- ❑ The majority (79%) of central lines utilised in adult ICUs were centrally-inserted.
- ❑ Six haematology CLABSI were reported this Qtr and the rate increased to 1.38 infections per 1,000 line days from 0.00 reported in Qtr 1, 2019-20.
- ❑ Two oncology CLABSI were reported and the rate decreased to 0.03 infections per 1,000 line days from 0.06 reported in Qtr 1, 2019-20.

Table 7 Adult ICU CLABSI

	Number of contributing hospitals	Number of line days	Number of CLABSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)
ICU peripherally inserted CLABSI	12	1,199	0	0.00 [0.00 – 3.96]	0.57 [0.34 – 0.98]
ICU centrally inserted CLABSI	12	5,241	0	0.00 [0.00 – 0.91]	0.57 [0.48 – 0.68]
Total ICU CLABSI	12	6,440	0	0.00 [0.00 – 0.74]	0.57 [0.49 – 0.68]

Table 8 Adult ICU central line utilisation ratio (CLUR)

	Number of contributing hospitals	Number of line days	Number of bed-days	Tertiary Aggregate CLUR (%)	Total Aggregate CLUR (%)
Adult ICU peripherally inserted CLUR	12	1,199	15,254	18	7.86
Adult ICU centrally inserted CLUR	12	5,241	15,254	69	34.36

Table 9 Haematology Unit CLABSI

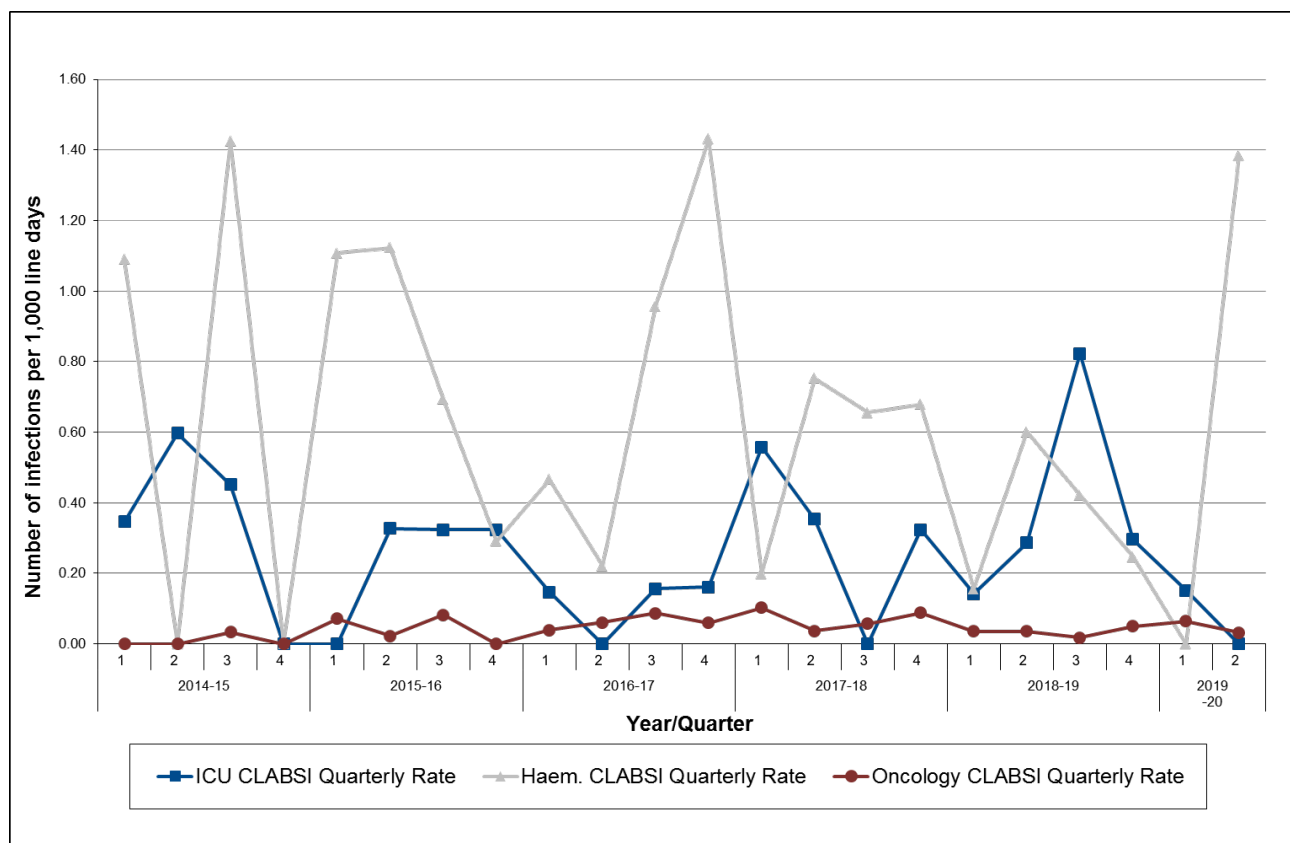
	Number of contributing hospitals	Number of line days	Number of CLABSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)
Haematology peripherally inserted CLABSI	3	2,554	1	0.39 [0.00 – 2.50]	1.04 [0.88 – 1.23]
Haematology centrally inserted CLABSI	3	1,779	5	2.81 [1.02 – 6.83]	2.06 [1.74 – 2.44]
Total Haematology CLABSI	3	4,333	6	1.38 [0.57 – 3.12]	1.37 [1.22 – 1.54]

Table 10 Oncology Unit CLABSI

	Number of contributing hospitals	Number of line days	Number of CLABSI	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)
Oncology peripherally inserted CLABSI	5	9,047	0	0.00 [0.00 – 0.53]	0.12 [0.09 – 0.16]
Oncology centrally inserted CLABSI	5	53,482	2	0.04 [0.00 – 0.15]	0.02 [0.02 – 0.04]
Total Oncology CLABSI	5	62,529	2	0.03 [0.00 – 0.13]	0.05 [0.04 – 0.06]

All rates per 1,000 central line days

Figure 13 ICU, haematology, and oncology unit CLABSI rates



Methicillin-resistant *Staphylococcus aureus* healthcare associated infection

Key Points

- There were 44 MRSA HAIs reported.
- The total MRSA HAI rate increased to 0.75 infections per 10,000 bed-days from 0.65 reported in Qtr 1, 2019-20 and is below the comparator rate of 0.96.
- 42 of the 44 MRSA HAIs reported were identified from the inpatient setting (10 ICU and 32 non-ICU).
- 18 (41%) patients were known to have prior MRSA colonisation.
- Of the 44 MRSA HAIs, 15 (34%) were related to surgical wounds and seven (16%) were BSIs.
- The majority (61%) of MRSA HAIs were caused by micro-B PVL negative strains.

Table 11 MRSA HAI rate per 10,000 bed-days (inpatient and non-inpatient)

	Number of contributing hospitals	Number of MRSA HAI	Number of bed-days	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)
MRSA Non-ICU sterile site	48	11	427,769	0.26 [0.14 – 0.47]	0.24 [0.22 – 0.26]
MRSA Non-ICU non-sterile site	48	21	427,769	0.49 [0.32 – 0.76]	0.65 [0.62 – 0.68]
MRSA ICU sterile site	12	2	17,564	1.14 [0.05– 4.51]	0.36 [0.26 – 0.51]
MRSA ICU non-sterile site	12	8	17,564	4.55 [2.17 – 9.22]	1.54 [1.31 – 1.80]
Total inpatient MRSA HAI	48	42	445,333	0.94 [0.70 – 1.28]	0.93 [0.89 – 0.96]
MRSA HAI non-inpatient	48	2	NA	NA	NA
Total MRSA healthcare associated infection	48	44	587,545	0.75[†] [0.56 – 1.01]	0.81[†] [0.78 – 0.84]

[†] Rate per 10,000 multi and same-day bed-days

Table 12 MRSA HAI, by strain group, site and place of acquisition

	Micro-B PVL negative MRSA	Micro-B PVL positive MRSA	Micro-C MRSA	No typing available	Total
Non ICU sterile	6	1	4	0	11
Non ICU non-sterile	12	2	7	0	21
ICU sterile	2	0	0	0	2
ICU non-sterile	6	2	0	0	8
Non-inpatient sterile	0	0	0	0	0
Non-inpatient non-sterile	1	1	0	0	2
Proportion	61%	14%	25%	0%	100%
Strain	Not characterised	Qld clone (5) WA 121 (1)	UK 15 (11)	NA	NA
TOTAL	27	6	11	0	44

Figure 14 Total MRSA HAI rate per 10,000 multi and same day bed-days (inpatient and same-day patient)

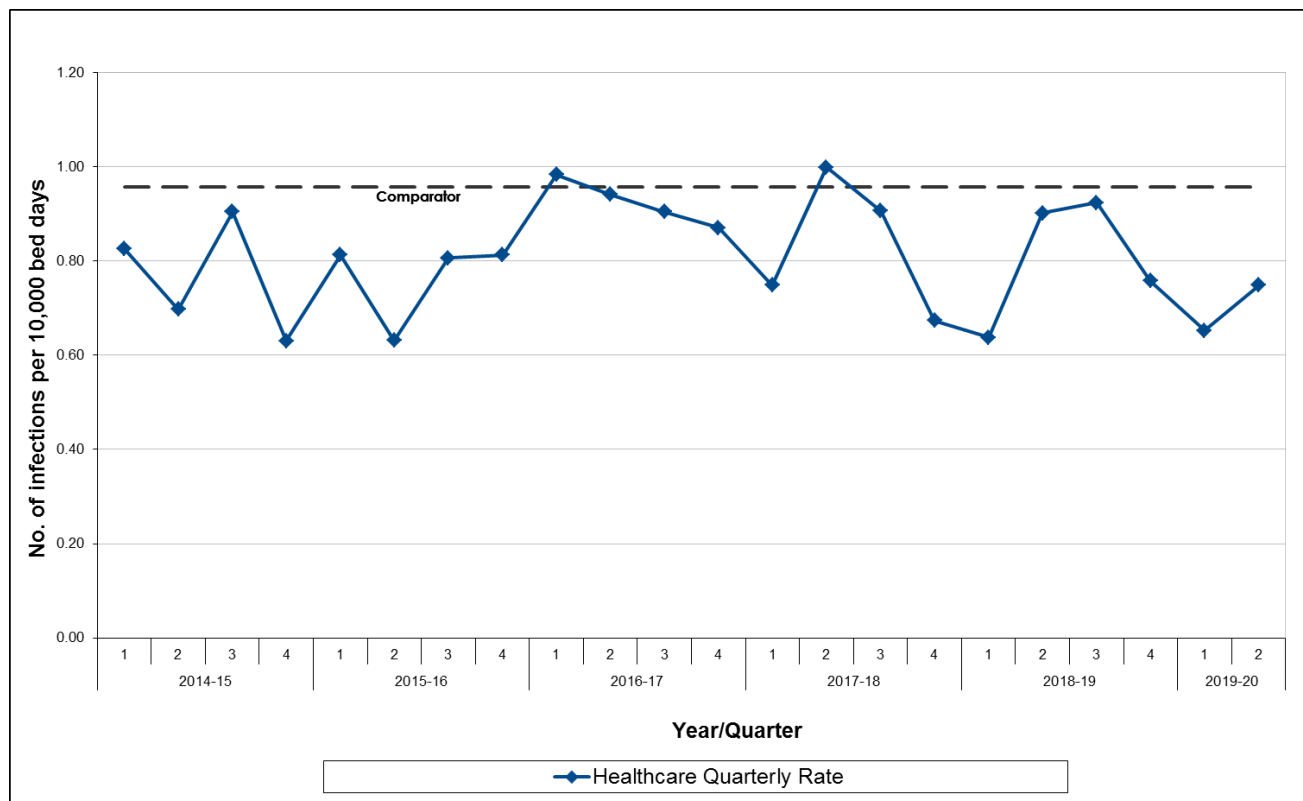


Figure 15 Proportion of MRSA HAIs, by specimen site

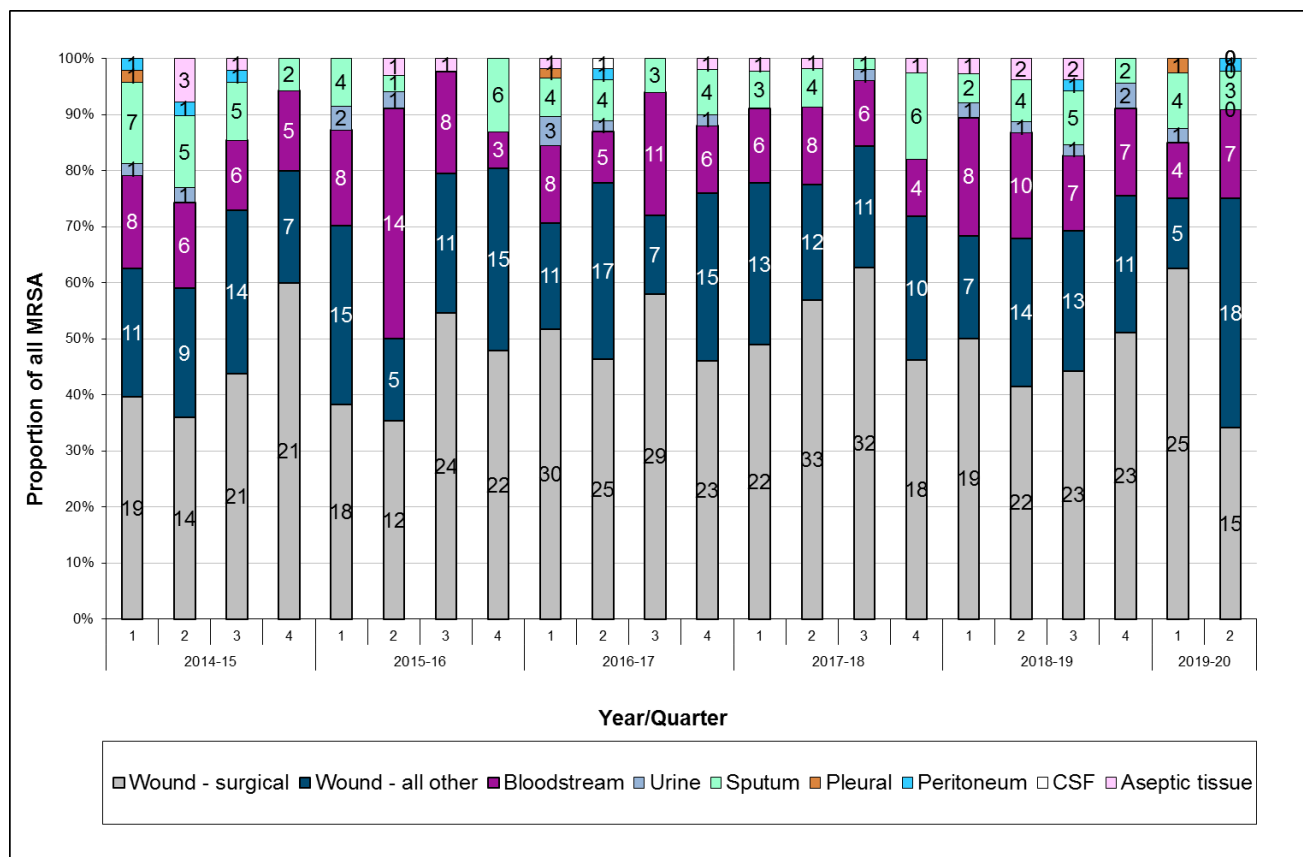


Figure 16 Rate of MRSA HAI, by strain group

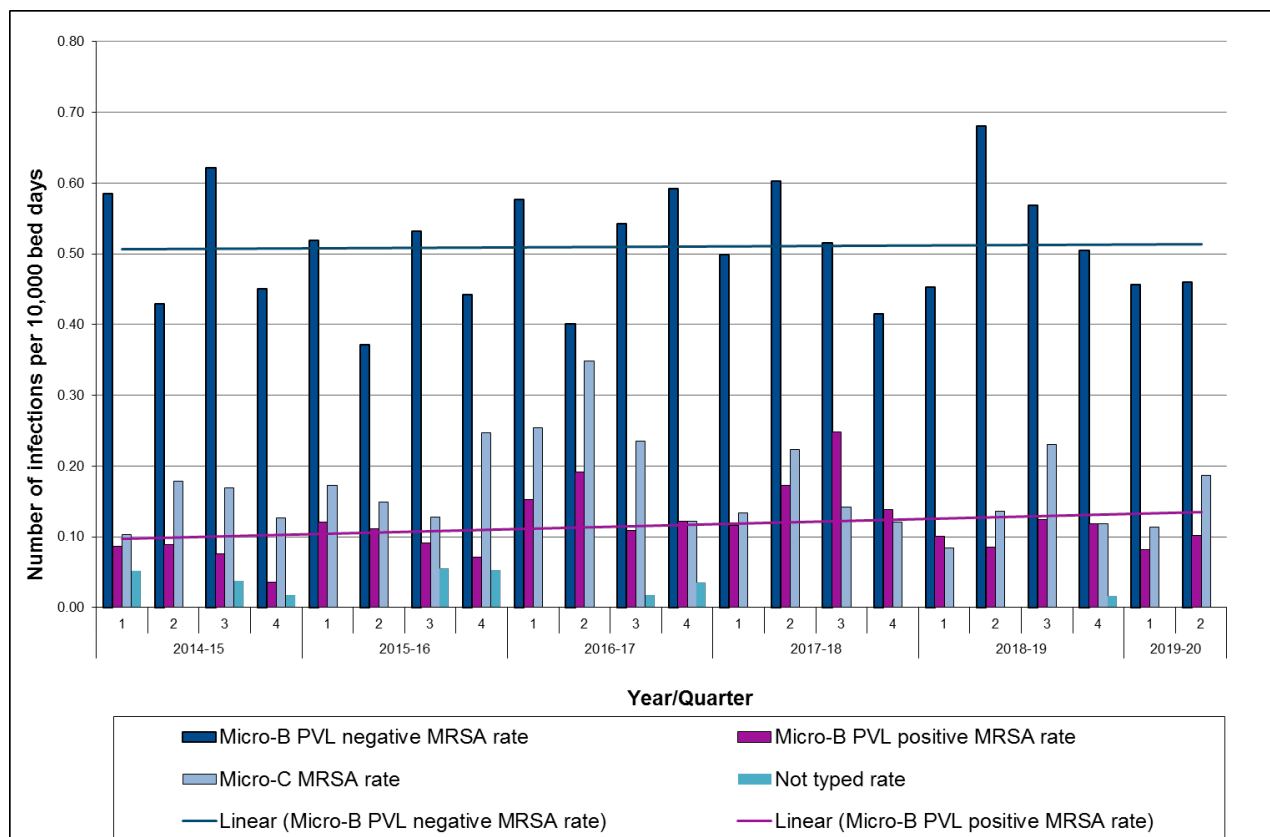
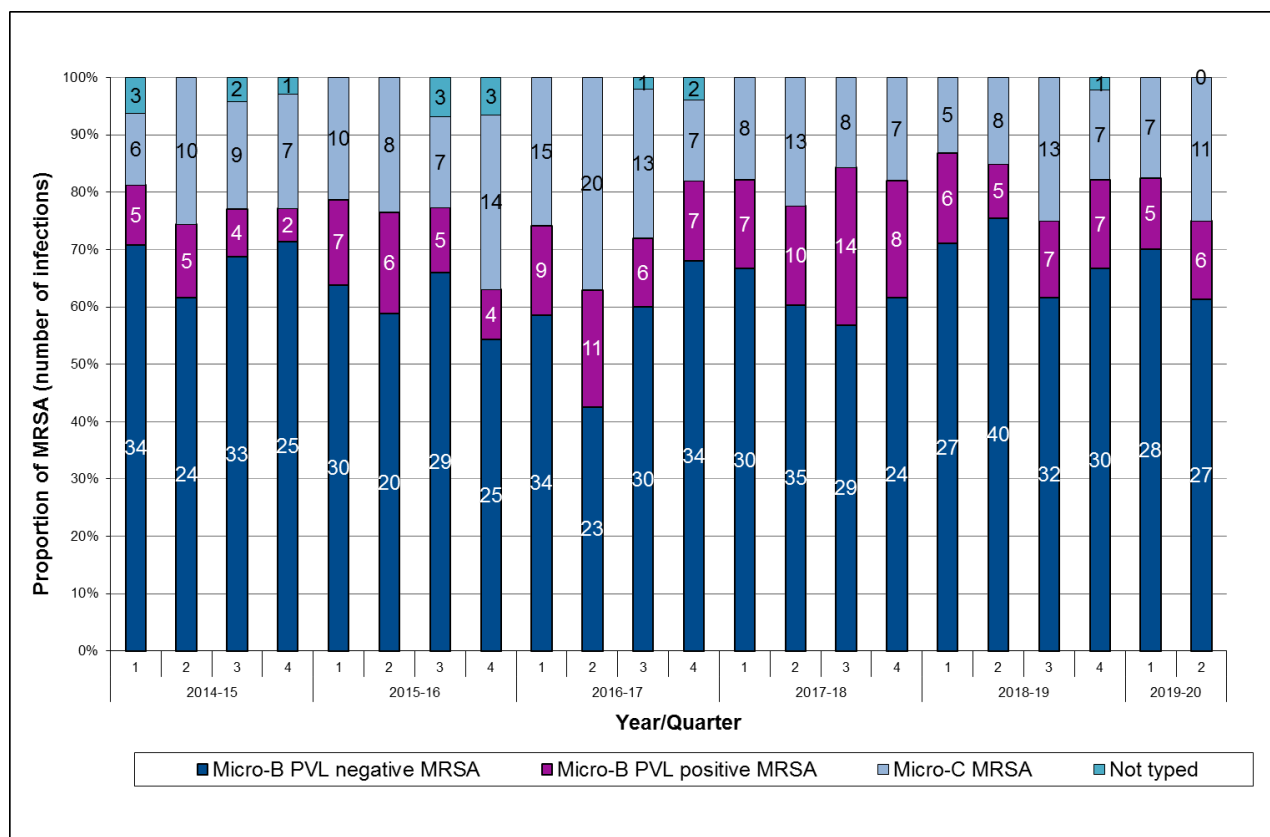


Figure 17 Proportion of MRSA HAI, by strain group



Hospital-identified *Clostridioides difficile* infection

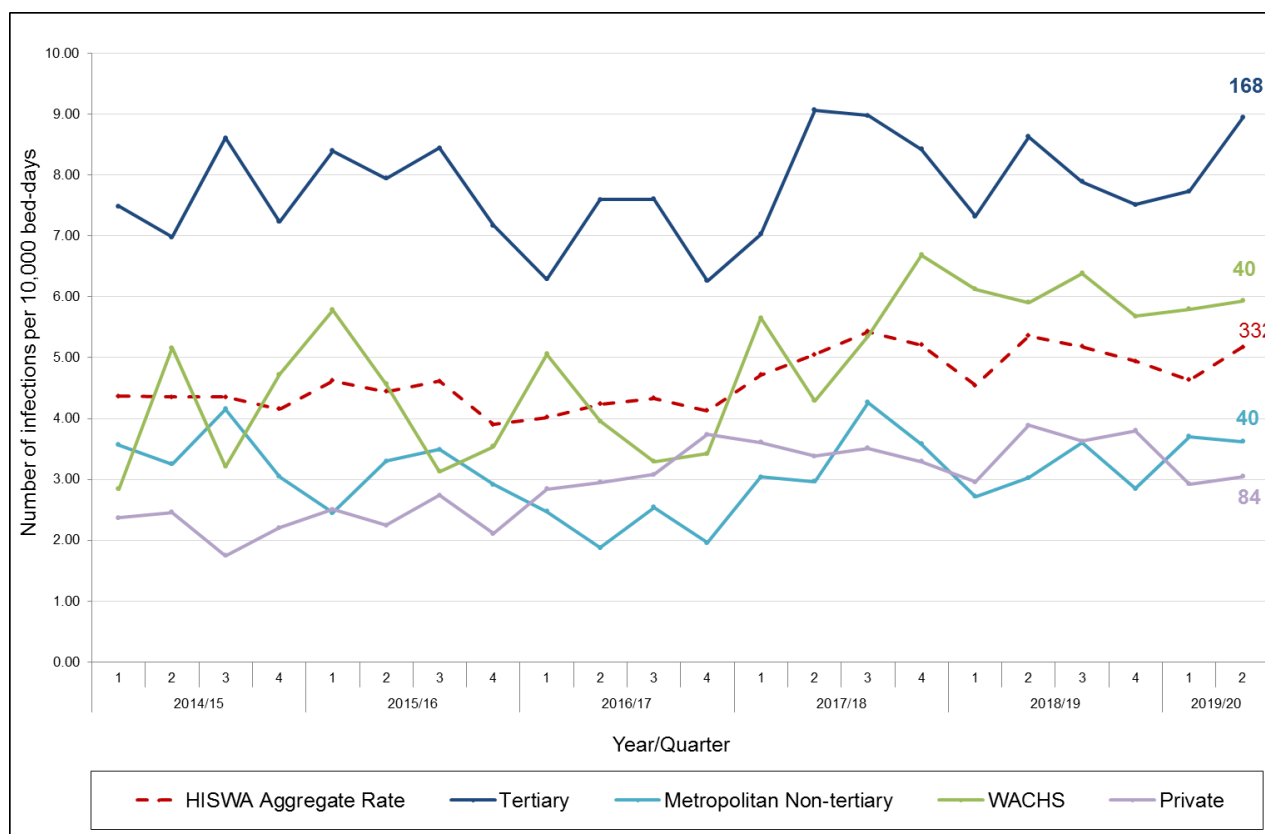
Key Points

- The HISWA aggregate HI-CDI rate of 5.18 per 10,000 bed-days was increased from that of 4.63 reported in Qtr 1 2019-20.
- There was an increase in the rate reported from metro tertiary, WACHS and private hospital groups and a slight decrease from metro non-tertiary hospitals.
- The majority (51%) of HI-CDI were reported from the tertiary hospitals.

Table 13 HI-CDI rates, by hospital group

Hospital Group	Number of contributing hospitals	Number of HI-CDI	Number of bed-days	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)
Tertiary	5	168	187830	8.62 [7.040 – 10.07]	6.44 [6.27 – 6.62]
Metropolitan non-tertiary	8	40	110389	3.35 [2.42 – 4.64]	3.01 [2.84 – 3.19]
WACHS	21	40	67438	5.434 [3.84 – 7.43]	3.60 [3.37 – 3.85]
Private	15	84	275803	3.05 [2.46 – 378]	2.38 [2.28 – 2.49]
Total	49	332	641,460	5.18 [4.65 – 5.77]	4.03 [3.95 – 4.11]

Figure 18 HI-CDI rates, by hospital group



Vancomycin-resistant *Enterococci* sterile-site infections

Key Points

- There was one sterile site infection reported from a tertiary hospital. The patient developed an *E.faecium* vanB peritoneal infection following complex bowel surgery. The patient did not have prior VRE colonisation.
- Refer to **Data Notes** for information on categorisation of sterile specimen sites.

Figure 19 Number of VRE, by sterile body sites

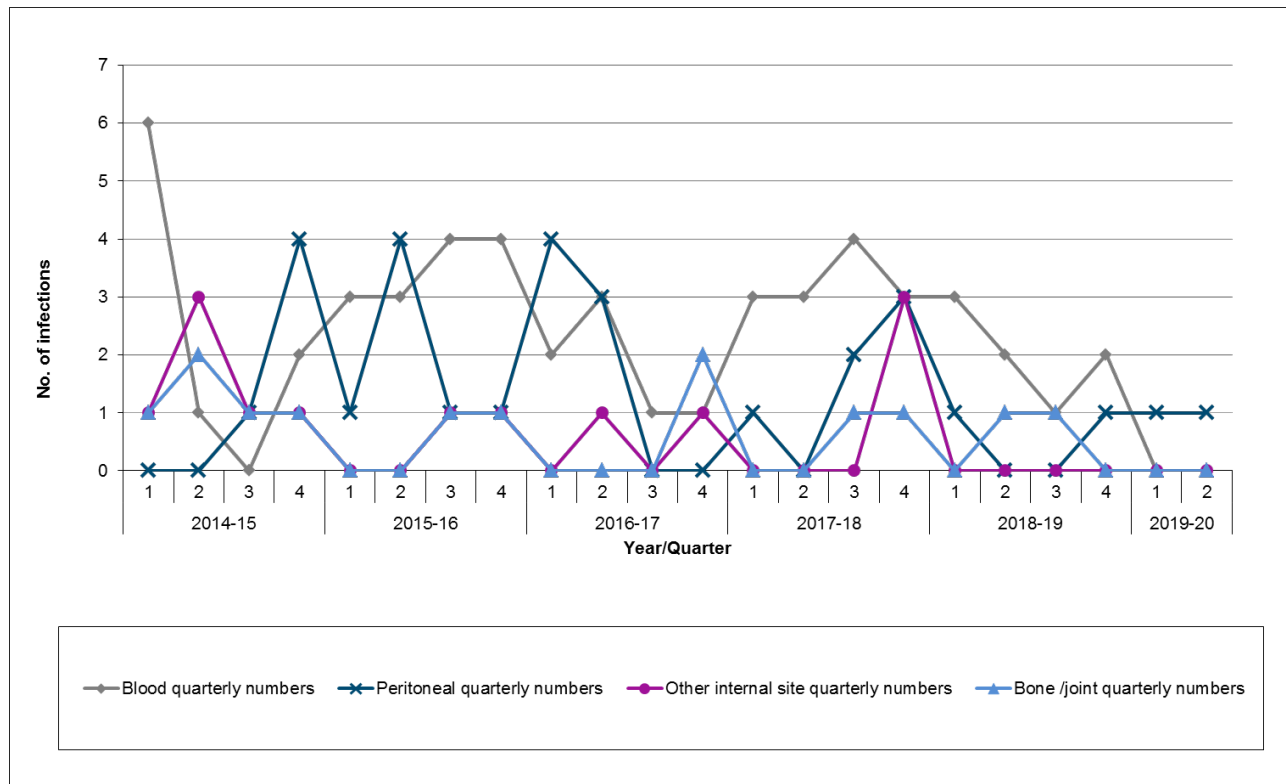
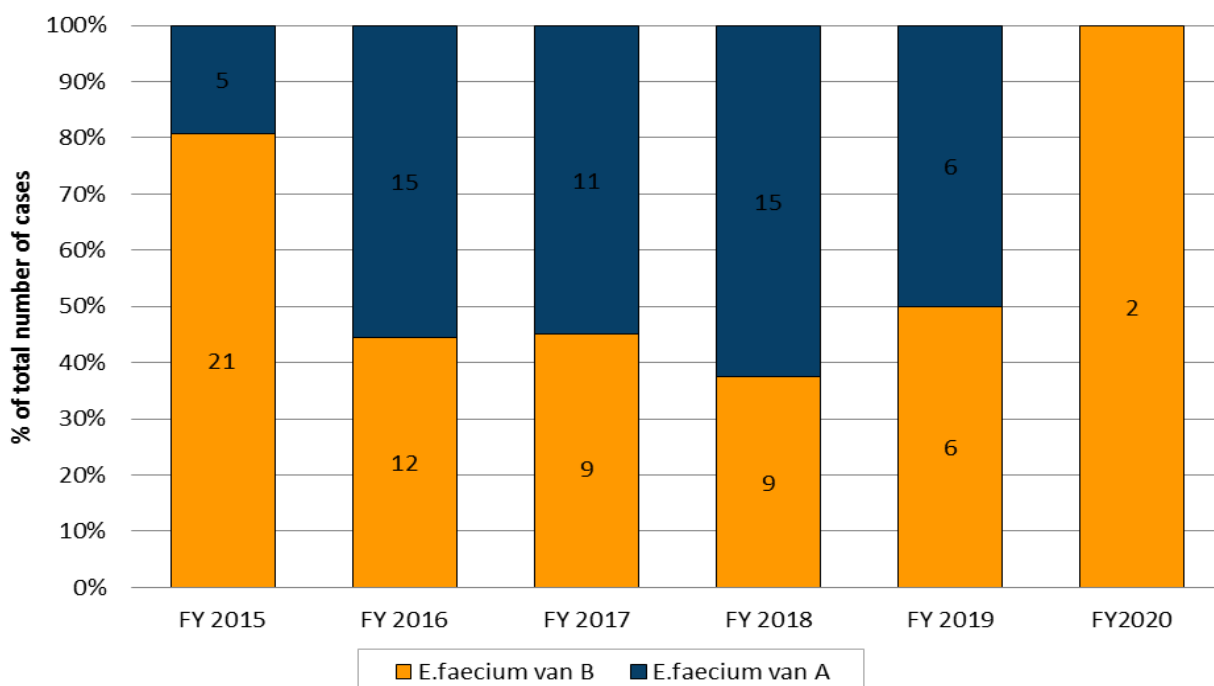


Figure 20: VRE HAI and CAI by organism and van type, 2014-15 to 30 Sep 2019



Carbapenemase-producing *Enterobacteriaceae*

Key Points

- Surveillance of CPE is performed by the HAIU in liaison with the PathWest Gram-negative Reference Laboratory located at the QE11 site.
- For this Qtr, 17 of the 41 referred patient isolates were confirmed CPE.
- Two patients were confirmed with an IMP-4, four carried an NDM-1, and one carried a VIM.
- Of the patients identified with a non-IMP type CPE, four had a history of recent overseas travel or hospitalisation and one was unknown.

Occupational exposures

Key Points

- The total occupational exposure rate increased to 5.31 exposures per 10,000 bed-days from 5.01 reported in Qtr1, 2019-20.
- The parenteral rate increased to 3.86 exposures per 10,000 bed-days from 3.63 in Qtr 1, 2019-20.
- The non-parenteral rate increased to 1.45 exposures per 10,000 bed-days from 1.38 in Qtr 1, 2019-20.
- The majority of both parenteral exposures (44%) and non-parenteral exposures (65%) were reported by nurses.
- 17 HCWs who are not primary users of sharps sustained a parenteral exposure.

Table 14 Occupational exposures, by parenteral and non-parenteral

Exposure Type	Number of contributing hospitals	Number of Exposures this Qtr	Number of bed-days	Aggregate rate (95% CI)	Cumulative aggregate (95% CI)
Parenteral	50	255	660,520	3.86 [3.42 – 4.37]	4.14 [4.07 – 4.22]
Non-Parenteral	50	96	660,520	1.45 [1.19– 1.78]	1.45 [1.41 – 1.50]
Total Exposures	50	351	660,520	5.31 [4.79 – 5.90]	5.60 [5.51 – 5.68]

Figure 22 Occupational exposure rate per 10,000 bed-days, by parenteral and non-parenteral

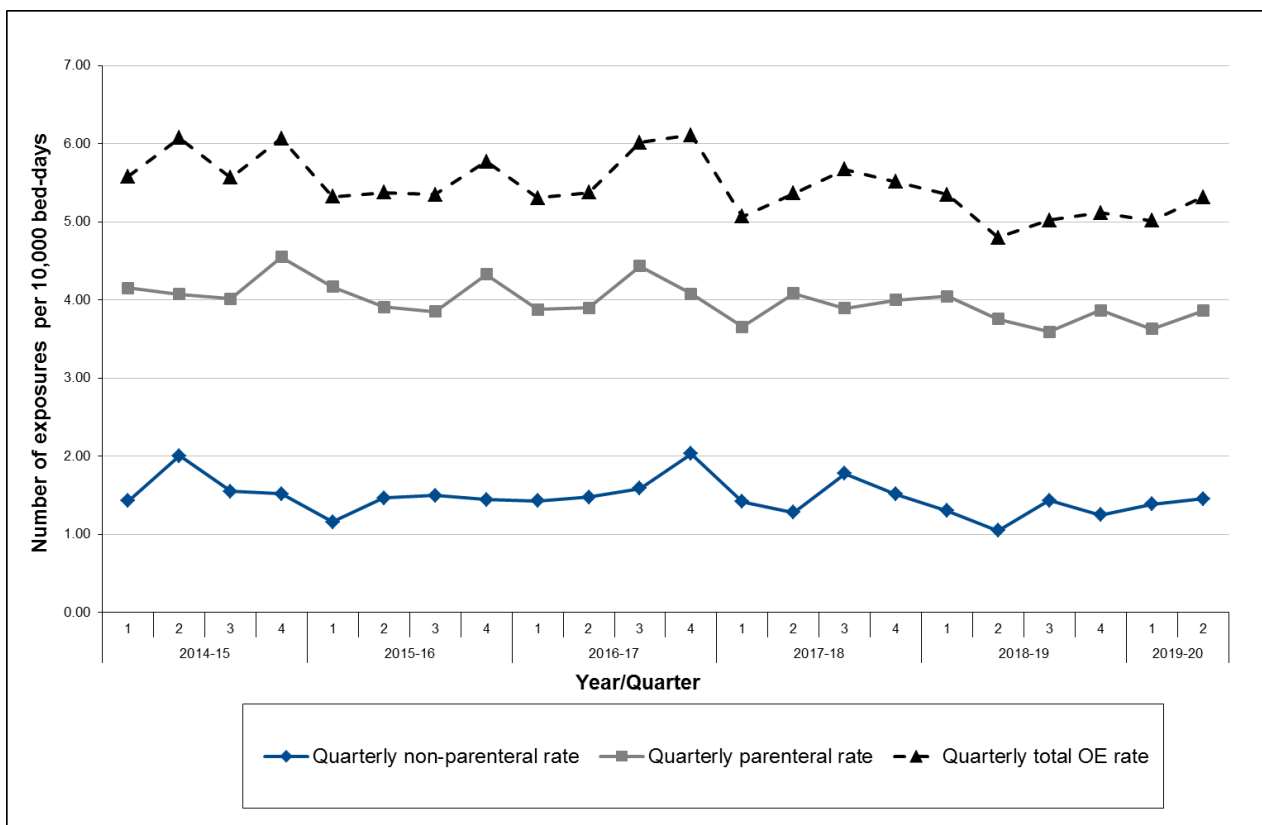


Figure 23 Parenteral occupational exposures, by HCW category

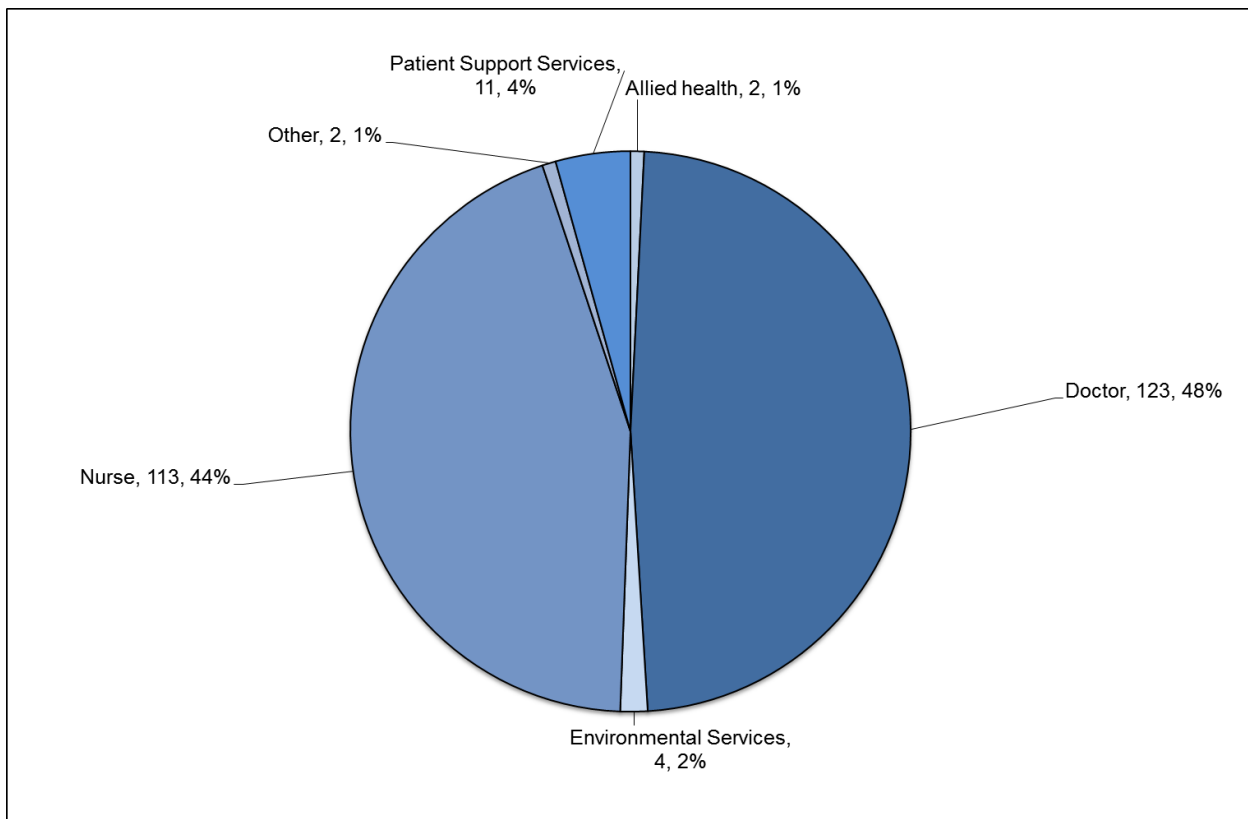
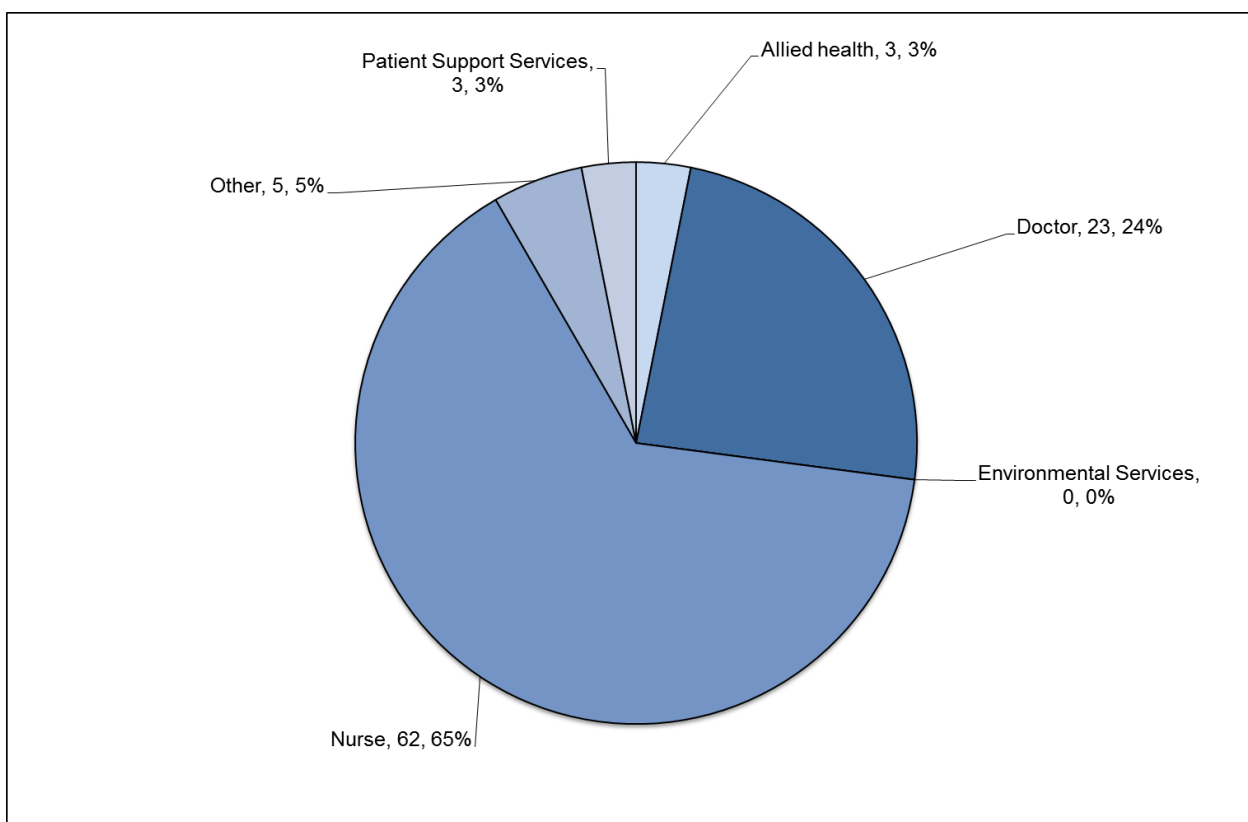


Figure 24 Non-parenteral occupational exposures, by HCW category



Data Notes

Data Refresh

All data changes requested by HISWA contributors or late submissions are refreshed each quarter when HISWA data is extracted for each reporting schedule and therefore data from previous reports may not reflect current data.

Data Comparators

We continue to seek suitable up-to-date comparators for the surveillance indicators. Refer to specific indicator notes for information on available comparators.

Mandatory Indicators

Mandatory indicators were introduced for public hospitals and those contracted health entities who provide contracted services to public patients in 2007. Mandatory Indicators are those marked with an asterisk.

HISWA Indicators

Surgical Site Infections

Arthroplasty*

- 22 hospitals (11 private; 11 public) submit data to HISWA. This represents 100% of all hospitals in WA that perform hip and knee arthroplasty procedures. One integrated district hospital commenced performing these procedures in July 2018. NB one Regional Resource Centre is currently not performing procedures.
- The comparator is Public Health England, *Surveillance of Surgical Site Infections in NHS hospitals in England, 2017-18 Report (Table 3)*.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765967/SSI_annual_report_NHS_hospitals_2017_18.pdf
- The follow up period for surveillance on implanted devices changed from 365 days to 90 days in July 2014.
- Risk stratification:
 - Risk stratification is based on the CDC-NHSN (USA) risk index.
 - Risk 'All' applies to HISWA hospitals that perform less than 100 procedures annually and are not required to assign a risk index score
 - Procedure type: primary and revision
- The HAIU commenced data submission to the Performance Reporting Branch in February 2019 for SSIs following primary hip and knee arthroplasty for inclusion in the Health Service Performance Report (HSPR).

Caesarean section

- 27 hospitals (5 private and 22 public) submit data to HISWA.
- Risk stratification:
 - Risk stratification is based on the CDC-NHSN (USA) risk index.
 - Risk 'All' applies to HISWA hospitals that perform less than 100 procedures annually and are not required to assign a risk index score.
 - Procedure type: elective and non elective procedures.

- Caesarean section SSI are frequently superficial infections that are treated outside the hospital setting. There is no standardised post-discharge surveillance methodology used in WA. SSI detected and treated post-discharge (i.e. as outpatients or by primary care provider) are likely to be an under-estimation and are not included in HISWA rate calculations or used for benchmarking purposes.

Bloodstream Infections

HA-SABSI*

- 49 hospitals (14 private; 35 public) submit data to HISWA. Data is included from North Metropolitan Mental Health Service since 2014-15.
- HA-SABSI data has been included as an indicator in National Healthcare Agreements since 2009 and is reported on the MyHospitals website. The HAIU also submits HA-SABSI data to the Performance Reporting Branch on behalf of public hospitals as it is included in the HSPR.
- Data collection is in accordance with the Australian national definition.
- From 1 July 2017, unqualified newborn bed-day data was excluded from denominator data to align with changes to National definitions. This was also retrospectively applied to reporting periods and therefore previously published data will not align.
- All public hospital HA-SABSI data is validated by the Healthcare Associated Infection Unit.
- The comparator is the Australian national public hospital aggregate 2017-18 rate. Refer to Australian Institute Health and Welfare: Bloodstream infections associated with hospital care 2017-18: Australian hospital statistics.

Haemodialysis*

- 23 haemodialysis units (15 private, 8 public) submit data to HISWA, including two home dialysis units.
- The rate per 100 pt-months can be interpreted as: the average % of dialysis patients acquiring an access associated BSI per month.
- Arterio-venous grafts (AVG) – synthetic and native vessel grafts are combined in data.
- There is currently no suitable comparator.

Central Line-associated BSI

- CLABSI definitions changed in July 2014. The new definitions identify BSI that are likely to be related to mucosal barrier injury as a result of neutropenia or graft versus host disease and exclude them from CLABSI data.
- Data is risk adjusted to peripherally and centrally inserted central lines.
- Adult ICU CLABSI*
 - 12 adult ICUs (6 private, 6 public) submit data to HISWA
- Oncology CLABSI
 - Data from five oncology units (3 private, 2 public) submit data to HISWA
- Haematology CLABSI
 - Data from two haematology units (1 private, 1 public) submit data to HISWA.

Multi-resistant Organism HAIs

Methicillin-resistant *Staphylococcus aureus* (MRSA)*

- MRSA (infection and colonisation) is a notifiable condition in WA under the Public Health Act 2016 via laboratory reporting
- 48 hospitals (14 private, 34 public) submit data to HISWA
- Data is risk adjusted by ICU / non ICU and inpatient/ non-inpatient.
- Since 1 July 2014 there have been three MRSA strain reporting groups in WA:
 - Micro-alert B PVL negative (strain not characterised).
 - Micro-alert B PVL positive (strain characterised).
 - Micro-alert C (strain characterised).
- The comparator is SA Health, Infection Prevention and Control Service, 2017-18 (personal communication).

Vancomycin-resistant *Enterococci* (VRE)*

- VRE (infection and colonisation) is a notifiable condition in WA under the Public Health Act 2016 via laboratory reporting.
- HISWA VRE data includes all VRE isolates both community and healthcare associated.
- HISWA currently only reports sterile site infections.
- The HAIU receives VRE data from
 - HISWA Surveillance – VRE sterile site infections submitted by ICPs
 - Notification of all VRE clinical isolates referred to the PathWest Gram-positive Reference Laboratory.
- Categories for sterile site specimens:
 - Blood
 - Peritoneal: fluid and tissue from peritoneal space / peritoneum (includes abdominal fluid and ascites)
 - Bone and joint: bone biopsy, synovial fluid
 - Other internal sites: specimens from body sites that are normally sterile where a specimen has been obtained surgically or by aspirate e.g. deep soft tissue (muscle and fascia), pleura, liver, pancreas, kidney, spleen, vascular tissue, heart, brain, lymph node, ovarian tissue.

Carbapenem-resistant *Enterobacteriaceae* (CRE)

- CRE (infection and colonisation) is a notifiable condition in WA under the Public Health Act 2016 via laboratory reporting.
- The HAIU collates all CRE data submitted to the PathWest QEII Gram-negative Reference Laboratory.

Hospital-identified *Clostridioides difficile* Infection (HI-CDI)*

- Data collection is in accordance with the Australian national definition.
- The purpose of this indicator is to describe the burden of disease presenting at hospitals and includes both community and healthcare associated infections.
- These data are not suitable for use as a performance measure or for benchmarking.
- Metropolitan non-tertiary group includes North Metropolitan Mental Health Service data since July 2014 and Fremantle Hospital since January 2015.

Healthcare Worker Exposures

Occupational Exposures*

- 49 hospitals (14 private, 35 public) voluntarily submit data on parenteral (percutaneous) and non-parenteral (mucous membrane or non-intact skin) exposures.
- Participation in this indicator includes mental health facilities in WA.
- Data is risk adjusted by healthcare worker classification and type of exposure.

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