PUBLIC HEALTH SERVICES

Tasmanian Acute Public Hospitals

Healthcare Associated Infection Surveillance Report

Report 28 – Quarter 4 2015

Department of Health and Human Services

Tasmanian Government

Tasmanian Acute Public Hospitals Healthcare Associated Infection Surveillance Report

Public Health Services

Department of Health and Human Services, Tasmania

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Peer reviewed and approved by the Tasmanian Healthcare Associated Infection Advisory Committee and the Acting Director of Public Health, DHHS Tasmania.

Notes

Data from previous reports should not be relied upon. Use the most up to date report when citing data.

Tasmanian Infection Prevention and Control

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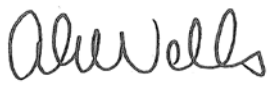
Executive summary

This quarterly report provides an overview of the Tasmanian acute public hospitals' healthcare associated infection surveillance. The TIPCU website (www.dhhs.tas.gov.au/tipcu) contains details of the surveillance program, including the rationale for the indicators surveyed and the methodologies used in data collection, validation and analysis.

Any form of comparison between hospitals should be done with caution because data are not adjusted for patient characteristics that vary between hospitals. Further, the relatively small Tasmanian population and small number of events can result in volatility of rates from time to time. The raw data in the appendices illustrate this.

This report contains the following findings.

- The rate of healthcare associated *Staphylococcus aureus* bacteraemia (SAB) remains low.
- The number and rate of both 'hospital identified *Clostridium difficile* infection (CDI)' and 'healthcare associated-healthcare facility onset (HCA-HCF) CDI' remains stable.
- The numbers of new isolates of VRE remains high but has not increased over Q3 2015.



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Staphylococcus aureus bacteraemia (SAB)

Staphylococcus aureus, a common cause of serious healthcare associated bloodstream infection, causes significant patient morbidity and has an estimated mortality of around 25-30 per cent. Many healthcare associated *Staphylococcus aureus* bloodstream infections (SAB) are preventable. *Staphylococcus aureus* bacteraemia was made a notifiable condition in Tasmania in 2008 pursuant to the *Public Health Act 1997*. Tasmania is the first and only Australian jurisdiction to introduce this measure.

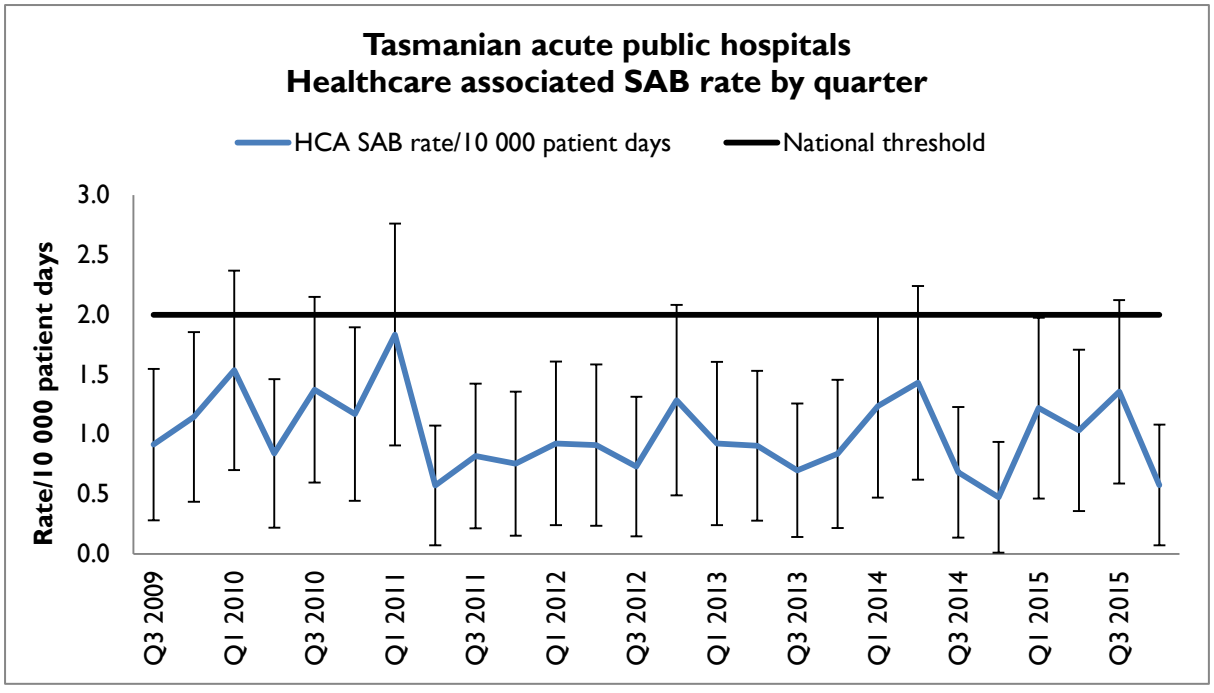
Surveillance of SAB is carried out in Tasmania using the nationally agreed surveillance definitions published by the Australian Commission on Safety and Quality in Health Care (ACSQHC). Under this definition a SAB is defined as healthcare associated if the patient's first SAB positive blood culture was collected either >48 hours after hospital admission or <48 hours after discharge (Criterion A) **OR** 2) ≤48 hours after hospital admission and one of four key clinical criteria was met (Criterion B).

The National Healthcare Agreement (2011) target is no more than two HCA SAB per10 000 patient days.

Tasmanian rates

Figure 1presents the Tasmanian combined acute public hospital rates with 95% confidence intervals, of healthcare associated *Staphylococcus aureus* bacteraemia (HCA SAB) by quarter.

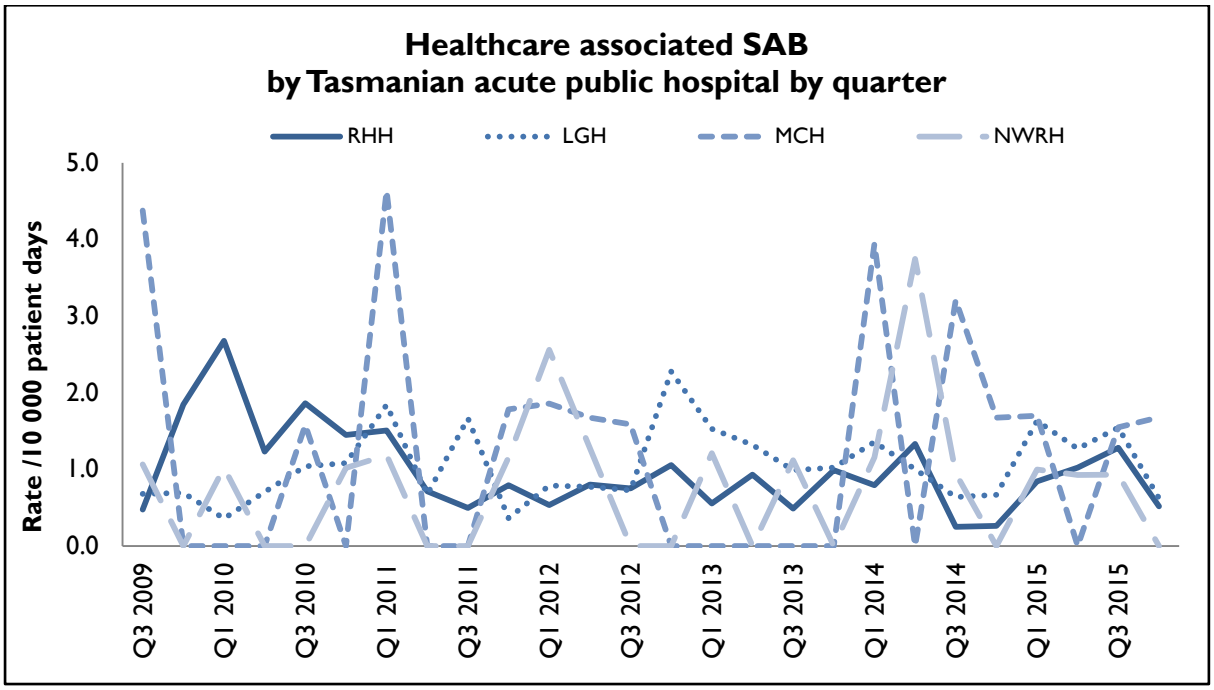
Figure 1 Healthcare associated *Staphylococcus aureus* bacteraemia rate by quarter



Hospital rates

Figure 2 presents the individual acute public hospitals rates of healthcare associated *Staphylococcus aureus* bacteraemia. This information is also contained in tables within the appendix.

Figure 2 Healthcare associated *Staphylococcus aureus* bacteraemia - rate by quarter



Summary

- The rate of healthcare associated *Staphylococcus aureus* bacteraemia for Q4 2015 was 0.6 per 10 000 patient days (95% CI 0.1-1.1).
- Both the individual hospitals' and the quarterly Tasmanian combined acute public hospital HCA SAB rates remain less than the National Healthcare Agreement target of no more than two HCA SAB per 10 000 patient days.

Clostridium difficile infection

Clostridium difficile infection (CDI) is a bowel infection caused by the bacterium *Clostridium difficile* and is a common cause of healthcare associated diarrhoea. CDI causes significant patient morbidity and mortality and can result in increased hospital stays and costs. Factors that may contribute to higher CDI rates include the overuse of antibiotics, ineffective infection control processes and suboptimal levels of environmental cleanliness.

Surveillance of CDI in Tasmania uses the ACSQHC's nationally agreed surveillance definitions. **Hospital identified CDI** are CDI infections identified in a hospital; this category includes healthcare facility and community associated infections.

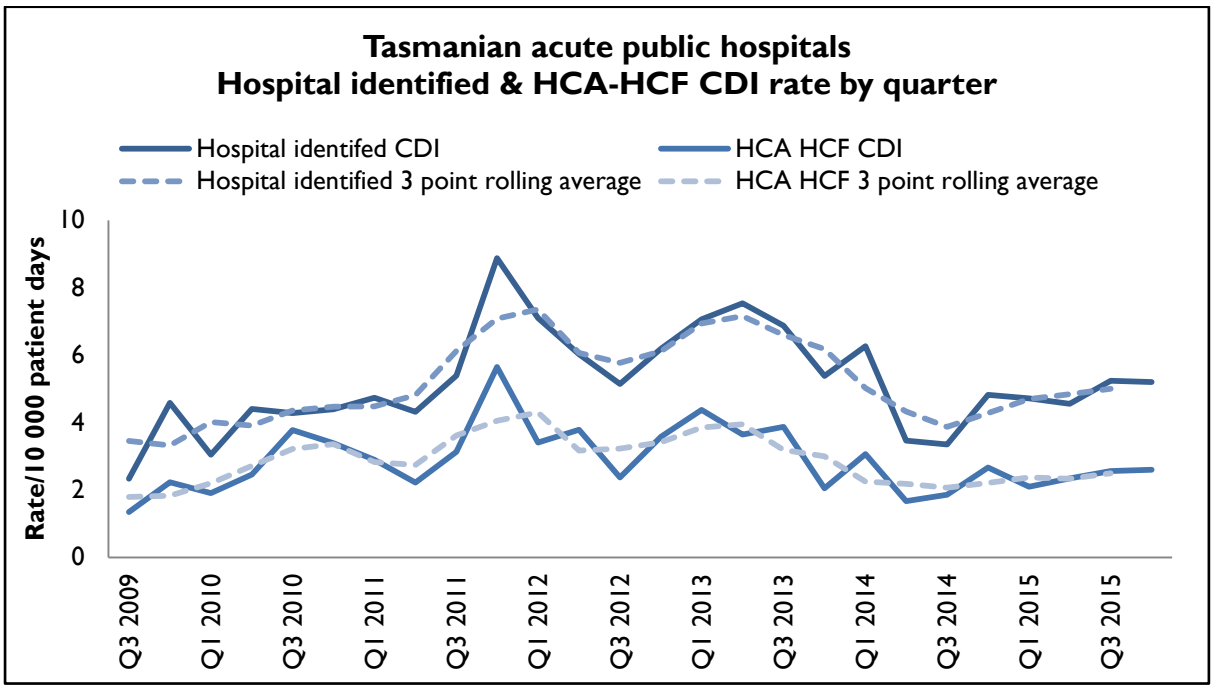
Healthcare associated – healthcare facility onset (HCA-HCF) CDI are a sub-group of hospital identified cases. This category only includes infections that occurred 48 hours or more after a patient was admitted to hospital. The HCA – HCF rate excludes people who present to hospital with symptoms of CDI and/or develop symptoms within two days of admission.

TIPCU use a three point rolling average to calculate the average rate of the current and two previous quarters and uses this to show changes in trends over time. This rate will always be reported up to the end of the previous quarter. Data for the quarter are in the accompanying tables in Appendix 2.

Tasmanian rates

Figure 3 presents the Tasmanian combined acute public hospital rates of hospital identified CDI and HCA-HCF CDI by quarter.

Figure 3 Hospital identified and HCA-HCF CDI – rate by quarter



Hospital rates

Figure 4 and Figure 5 presents the individual acute public hospital rates of **hospital identified CDI** and **healthcare associated – healthcare facility onset (HCA-HCF) CDI** by quarter**.**

Figure 4 Hospital identified CDI by quarter

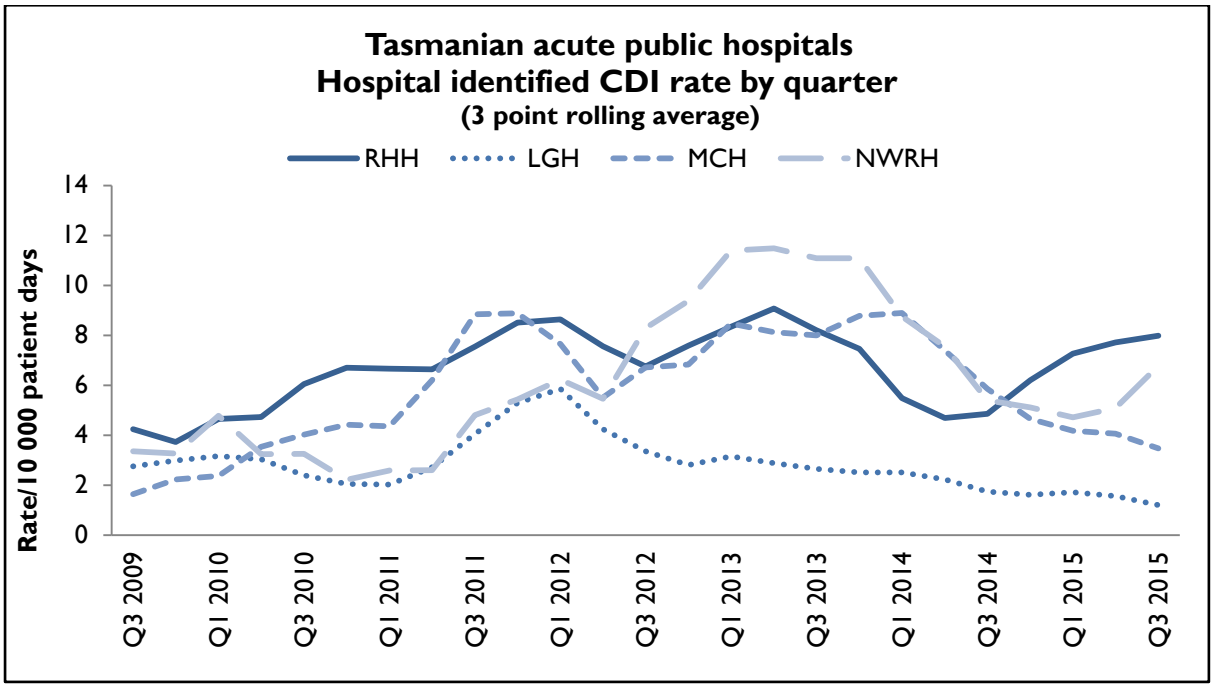
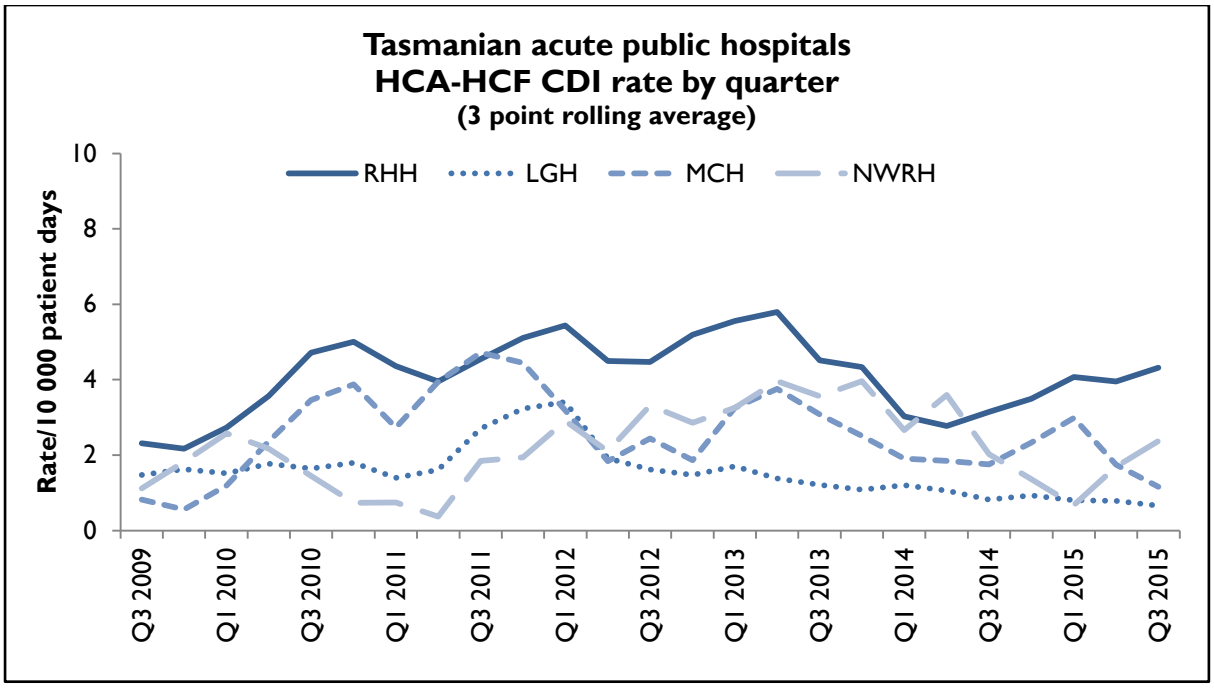


Figure 5 HCA-HCF CDI by quarter



Summary

- The rate of hospital identified CDI for Q4 2015 was 5.2 per10 000 patient days (95%CI 3.6-6.8) and the rate of HCA-HCF over the same period was 2.6 per10 000 patient days (95%CI 1.5-3.7).
- The mean (average) rate of hospital identified CDI between 1 January 2015 and 31 December 2015 was 4.9 per 10 000 patient days (95% CI 4.2-5.7) and the mean rate of HCA-HCF CDI over the same period was 2.4 per 10 000 patient days (95% CI 1.9-2.9).
- The number and rate of hospital identified and HCA-HCF have remained stable over the past year.

Vancomycin resistant enterococcus (VRE)

Enterococci are bacteria normally present in the human gastrointestinal and female genital tract. Enterococci can cause infections of the urinary tract, bloodstream and wounds. Enterococci that have acquired resistance to the antibiotic vancomycin are called vancomycin-resistant Enterococcus or VRE. VRE infections can be more difficult to treat then those caused by vancomycin sensitive Enterococci sensitive. Factors believed to contribute to the transmission of VRE in hospitals are ineffective infection control practices, overuse of antibiotics and suboptimal environmental cleanliness.

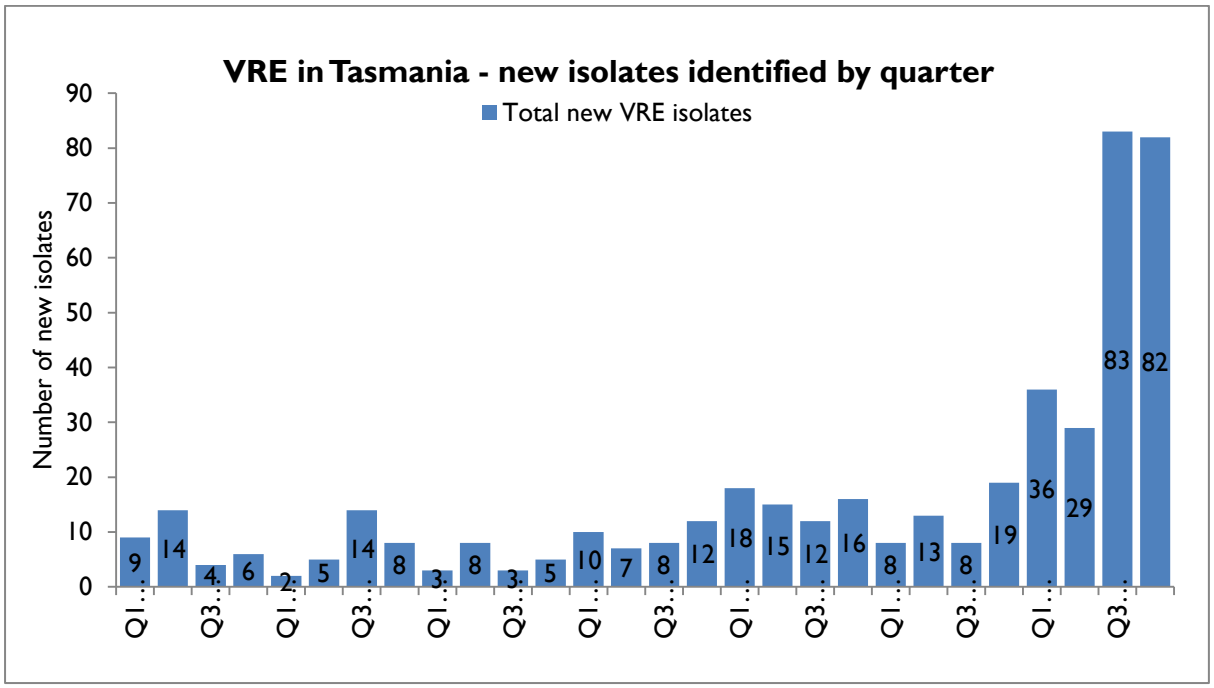
Identification of VRE is a notifiable condition in Tasmania pursuant to the *Public Health Act 1997*.

The number of people newly identified with VRE within hospitals via either a clinical or screening specimen, does not necessarily reflect that VRE was acquired at that hospital. Numbers of VRE isolates identified can be affected by the amount of screening undertaken by hospitals. Some hospitals may have a more intense screening program and hence may identify more VRE.

The total number of reported cases of people newly identified with VRE includes all new cases identified within Tasmania and includes isolates from public and private hospitals, rural hospitals, GP clinics and long term and residential care facilities.

Figure 6 presents the total of all new VRE isolates identified within Tasmania by quarter.

Figure 6 New VRE isolates by quarter



Summary

- VRE specimens are initially classified as either a screening specimen or a clinical specimen; a positive screening specimen indicates VRE colonisation while VRE found in a clinical specimen can indicate either colonisation or infection.
- Over the past 5 quarters (Q4 2014 – Q4 2015), there has been an increase in both colonisations and infections compared to the previous 12 months (Q4 2013 – Q3 2014) with a particularly sharp increase in Q3 and Q4 2015. See Tables 9 – 11 in Appendix 2 for a detailed breakdown of data with increased detection of mostly colonised patients.
- The reasons for the overall increase in new VRE isolates appear to be related to transmission of VRE amongst hospitalised patients.
- Management of people with VRE in acute hospitals includes using Contact Precautions – single room with en-suite (if available); staff wear gowns and gloves when caring for the patient, enhanced environmental cleaning and surveillance screening of contacts.

Acknowledgements

The production of this report is the culmination of data collection, analysis and input from a number of different organisations. In particular, we would like to acknowledge:

- Executive Director of Nursing THS Northern Region
- Executive Director of Nursing THS North West Region
- Executive Director of Nursing THS Southern Region
- Launceston General Hospital Infection Control Unit
- North West Regional Hospital Infection Control Team
- Mersey Community Hospital Infection Control Team
- Royal Hobart Hospital Infection Prevention and Control Unit
- Microbiology Departments at the Royal Hobart Hospital, Launceston General Hospital and DSPL
- Hand Hygiene Australia
- Communicable Diseases Prevention Unit, Public Health Services
- Contributing Primary Health Sites

Appendix 1

Explanatory notes

What healthcare associated infection indicators are used in Tasmania?

TIPCU undertakes surveillance of the following indicators.

- *Staphylococcus aureus* bacteraemia (bloodstream infection).
- *Clostridium difficile* infection (CDI).
- Vancomycin resistant enterococci (VRE).
- Hand hygiene compliance rates.
- Antibiotic utilisation surveillance.

What do the rates mean?

The rates of infections presented in the TIPCU report are presented as a rate per 10 000 patient days (SAB and CDI) or as a percentage (hand hygiene compliance).

What are the definitions for *Clostridium difficile* infection (CDI)?

TIPCU use the national surveillance definitions published by the Australian Commission on Safety and Quality in Health Care (ACSQHC) to classify CDI. TIPCU reports on:

1. **Hospital identified CDI** is defined as a case diagnosed in a patient attending an acute care facility. This includes positive specimens obtained from admitted patients and those attending the emergency department and outpatient departments. This definition excludes patients less than two years old and cases with a positive test within the previous eight weeks.
2. **Healthcare associated – healthcare facility onset CDI** (HCA-HCF CDI) is defined as a patient with CDI symptom onset (or date and time of stool specimen collection if a laboratory system is used) more than 48 hours after admission to a healthcare facility. This definition excludes patients less than two years old and cases with a positive test within the previous 8 weeks.

What are the definitions for healthcare associated *Staphylococcus aureus* bacteraemia (SAB)?

Criterion A the patient's first SAB blood culture was collected more than 48 hours after hospital admission or less than 48 hours after discharge.

OR

Criterion B the patient's first positive SAB blood culture was collected less than or equal to 48 hours after hospital admission and one or more of the following key clinical criteria was met for the patient-episode of SAB.

Key clinical criteria:

1. SAB is a complication of the presence of an indwelling medical device (eg Intravascular line, haemodialysis vascular access, CSF shunt, urinary catheter).
2. SAB occurs within 30 days of a surgical procedure where the SAB is related to the surgical site.
3. SAB was diagnosed within 48 hours of a related invasive instrumentation or incision.
4. SAB is associated with neutropenia (less 1 x 10^9/L) contributed to by cytotoxic therapy.

What are the definitions for vancomycin resistant enterococci (VRE)?

The definition for VRE is an isolate identified as VRE by an accredited laboratory. TIPCU reports on the total number of people with new isolates of VRE identified in Tasmania per quarter and this number includes all people with new VRE isolates from public and private hospitals, rural hospitals, GP clinics and long term and residential care facilities.

Confidence intervals

Confidence intervals are used to calculate the range in which the true rate probably lies. As an example, when looking at the hand hygiene compliance (HHC) data "confidence intervals calculate the range in which the true compliance result lies, based on the data collected and the compliance measured, thus providing an indication of the reliability of the reported HHC level. When only a small number of moments are collected, the confidence interval will be larger, as it is more difficult to establish the true compliance level from a small sample of moments. If a large number of moments are collected the confidence interval will be smaller, meaning the reliability of the result is higher. Hand Hygiene Australia (HHA) calculates 95 per cent confidence intervals, indicating the intervals in which 95 per cent of the time the true compliance level lies." (HHA 2011)

Patient care days

Patient days is the term to explain the total days patients are in hospital. In each of Tasmania's four larger acute public hospitals there are around 330 000 patient care days a year. When a rate is presented as a number per 10 000 patient days this presents the number of infections that occur for every 10 000 patient care days.

Can I compare Tasmanian hospital infection rates?

Each Tasmanian hospital provides different services and has patients with different levels of illness. This affects infection rates. For example, very sick immuno-compromised patients may be more likely to get infections. It is difficult to remove all of the factors outside the control of a hospital that can cause its infection rate to differ from other hospitals.

Other reasons for caution when comparing hospitals include:

- some hospitals may screen patients more than others. This can affect rates for CDI and VRE
- hospital laboratories may use different ways of identifying organisms. A laboratory that has a very sensitive way of looking for organisms may find more
- for hand hygiene, rural hospitals do not collect as much data as the four acute public hospitals, so comparisons between rural and acute hospitals are not recommended.

Appendix 2

Staphylococcus aureus bacteraemia (SAB)

Table 1 Tasmanian numbers and rate per 10 000 patient days of HCA-SAB.

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	8	7	1	0.9
Q4 2009	10	10	0	1.1
Q1 2010	13	13	0	1.5
Q2 2010	7	7	0	0.8
Q3 2010	12	11	1	1.4
Q4 2010	10	7	3	1.2
Q1 2011	15	13	2	1.8
Q2 2011	5	5	0	0.6
Q3 2011	7	7	0	0.8
Q4 2011	6	4	2	0.8
Q1 2012	7	6	1	0.9
Q2 2012	7	6	1	0.9
Q3 2012	6	6	0	0.7
Q4 2012	10	9	1	1.3
Q1 2013	7	7	0	0.9
Q2 2013	8	7	1	0.9
Q3 2013	6	6	0	0.7
Q4 2013	7	7	0	0.8
Q1 2014	10	9	1	1.2
Q2 2014	12	10	2	1.4
Q3 2014	6	6	0	0.7
Q4 2014	4	4	0	0.5
Q1 2015	10	9	1	1.2
Q2 2015	9	7	2	1.0
Q3 2015	12	10	2	1.4
Q4 2015	5	4	1	0.6

Table 2 Royal Hobart Hospital numbers and rates per10 000 patient days of HCA-SAB

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	2	2	0	0.5
Q4 2009	8	8	0	1.8
Q1 2010	11	11	0	2.7
Q2 2010	5	5	0	1.2
Q3 2010	8	7	1	1.9
Q4 2010	6	5	1	1.4
Q1 2011	6	4	2	1.5
Q2 2011	3	3	0	0.7
Q3 2011	2	2	0	0.5
Q4 2011	3	2	1	0.8
Q1 2012	2	2	0	0.5
Q2 2012	3	3	0	0.8
Q3 2012	3	3	0	0.8
Q4 2012	4	4	0	1.1
Q1 2013	2	2	0	0.6
Q2 2013	4	4	0	0.9
Q3 2013	2	2	0	0.5
Q4 2013	4	4	0	1.0
Q1 2014	3	3	0	0.8
Q2 2014	5	4	1	1.3
Q3 2014	1	1	0	0.3
Q4 2014	1	0	0	0.3
Q1 2015	3	2	1	0.8
Q2 2015	4	4	0	1.0
Q3 2015	5	5	0	1.3
Q4 2015	2	2	0	0.5

Table 3 Launceston General Hospital numbers and rates per10 000 patient days of HCA-SAB

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	2	1	1	0.7
Q4 2009	2	2	0	0.7
Q1 2010	1	1	0	0.4
Q2 2010	2	2	0	0.7
Q3 2010	3	3	0	1.0
Q4 2010	3	1	2	1.1
Q1 2011	5	5	0	1.8
Q2 2011	2	2	0	0.7
Q3 2011	5	5	0	1.7
Q4 2011	1	1	0	0.4
Q1 2012	2	1	1	0.8
Q2 2012	2	2	0	0.8
Q3 2012	2	2	0	0.7
Q4 2012	6	5	1	2.3
Q1 2013	4	4	0	1.5
Q2 2013	4	3	1	1.3
Q3 2013	3	3	0	1.0
Q4 2013	3	3	0	1.0
Q1 2014	4	4	0	1.4
Q2 2014	3	2	1	1.0
Q3 2014	2	2	0	0.6
Q4 2014	2	2	0	0.7
Q1 2015	5	5	0	1.6
Q2 2015	4	2	2	1.3
Q3 2015	5	3	2	1.5
Q4 2015	2	1	1	0.6

Table 4 Mersey Community Hospital numbers and rates per10 000 patient days of HCA-SAB

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	3	3	0	4.4
Q4 2009	0	0	0	0.0
Q1 2010	0	0	0	0.0
Q2 2010	0	0	0	0.0
Q3 2010	1	1	0	1.6
Q4 2010	0	0	0	0.0
Q1 2011	3	3	0	4.6
Q2 2011	0	0	0	0.0
Q3 2011	0	0	0	0.0
Q4 2011	1	0	1	1.8
Q1 2012	1	1	0	1.9
Q2 2012	1	1	0	1.7
Q3 2012	1	1	0	1.6
Q4 2012	0	0	0	0.0
Q1 2013	0	0	0	0.0
Q2 2013	0	0	0	0.0
Q3 2013	0	0	0	0.0
Q4 2013	0	0	0	0.0
Q1 2014	2	2	0	3.9
Q2 2014	0	0	0	0.0
Q3 2014	2	2	0	3.2
Q4 2014	1	1	0	1.7
Q1 2015	1	1	0	1.7
Q2 2015	0	0	0	0.0
Q3 2015	1	1	0	1.5
Q4 2015	1	1	0	1.7

Table 5 North West Regional Hospital numbers and rates per10 000 patient days of HCA-SAB.

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	1	1	0	1.1
Q4 2009	0	0	0	0.0
Q1 2010	1	1	0	1.0
Q2 2010	0	0	0	0.0
Q3 2010	0	0	0	0.0
Q4 2010	1	1	0	1.0
Q1 2011	1	1	0	1.2
Q2 2011	0	0	0	0.0
Q3 2011	0	0	0	0.0
Q4 2011	1	1	0	1.2
Q1 2012	2	2	0	2.6
Q2 2012	1	0	1	1.3
Q3 2012	0	0	0	0.0
Q4 2012	0	0	0	0.0
Q1 2013	1	1	0	1.2
Q2 2013	0	0	0	0.0
Q3 2013	1	1	0	1.1
Q4 2013	0	0	0	0.0
Q1 2014	1	0	1	1.2
Q2 2014	4	4	0	3.7
Q3 2014	1	1	0	1.0
Q4 2014	0	0	0	0.0
Q1 2015	1	1	0	1.0
Q2 2015	1	1	0	0.9
Q3 2015	1	1	0	0.9
Q4 2015	0	0	0	0.0

Clostridium difficile infection (CDI)

Table 6 Tasmanian numbers and rates per10 000 patient days of CDI

Quarter	Total hospital identified CDI	Rate	Total HCA HCF	Rate
Q3 2009	19	2.3	11	1.4
Q4 2009	37	4.6	18	2.2
Q1 2010	24	3.0	15	1.9
Q2 2010	34	4.4	19	2.5
Q3 2010	34	4.3	30	3.8
Q4 2010	35	4.4	27	3.4
Q1 2011	35	4.7	22	2.9
Q2 2011	35	4.3	18	2.2
Q3 2011	43	5.4	25	3.1
Q4 2011	66	8.9	42	5.6
Q1 2012	50	7.1	24	3.4
Q2 2012	43	6.0	27	3.8
Q3 2012	39	5.1	18	2.4
Q4 2012	45	6.2	26	3.6
Q1 2013	50	7.1	31	4.4
Q2 2013	57	7.5	27	3.6
Q3 2013	55	6.9	31	3.9
Q4 2013	42	5.4	16	2.1
Q1 2014	47	6.3	23	3.1
Q2 2014	27	3.5	13	1.7
Q3 2014	27	3.4	15	1.9
Q4 2014	38	4.8	21	2.7
Q1 2015	36	4.7	16	2.1
Q2 2015	37	4.6	19	2.3
Q3 2015	43	5.2	21	2.6
Q4 2015	42	5.2	21	2.6

Table 7 Hospital numbers and rates per10 000 patient days of hospital identified CDI

Quarter	Royal Hobart		Launceston General		Mersey Community		NW Regional	
	Total	Rate	Total	Rate	Total	Rate	Total	Rate
Q3 2009	8	2.1	9	3.3	1	1.6	1	1.1
Q4 2009	25	6.4	6	2.2	1	1.7	5	5.8
Q1 2010	10	2.7	9	3.5	2	3.5	3	3.1
Q2 2010	18	4.9	10	3.8	1	1.9	5	5.6
Q3 2010	25	6.7	5	1.9	3	5.1	1	1.1
Q4 2010	25	6.6	4	1.5	3	4.9	3	3.1
Q1 2011	25	6.9	7	2.8	2	3.3	2	2.4
Q2 2011	25	6.5	5	1.8	3	4.9	2	2.2
Q3 2011	24	6.5	10	3.6	6	10.8	3	3.2
Q4 2011	34	9.8	18	7.0	6	11.5	8	9.4
Q1 2012	32	9.4	13	5.5	2	4.0	3	3.9
Q2 2012	23	6.7	12	5.0	4	7.3	4	5.2
Q3 2012	24	6.6	6	2.4	3	5.1	6	7.3
Q4 2012	24	6.9	7	2.8	4	7.9	10	12.3
Q1 2013	31	9.4	8	3.3	4	7.7	7	8.6
Q2 2013	32	8.7	9	3.4	5	9.8	11	13.2
Q3 2013	34	9.1	6	2.1	4	7.0	11	12.5
Q4 2013	25	6.8	7	2.6	4	7.3	6	7.3
Q1 2014	22	6.4	8	2.9	6	12.5	11	13.2
Q2 2014	11	3.2	6	2.1	4	7.3	6	6.1
Q3 2014	16	4.5	5	1.7	2	3.4	4	4.1
Q4 2014	24	6.9	4	1.4	4	7.1	6	5.9
Q1 2015	24	7.4	5	1.7	2	3.6	5	5.3
Q2 2015	27	7.5	6	2.0	1	1.8	3	3.0
Q3 2015	29	8.2	3	1.0	4	6.5	7	7.0
Q4 2015	29	8.2	2	0.7	1	1.8	10	10.6

Table 8 Hospital numbers and rates per10 000 patient days of HCA-HCF CDI

Quarter	Royal Hobart		Launceston General		Mersey Community		NW Regional	
	Total	Rate	Total	Rate	Total	Rate	Total	Rate
Q3 2009	6	1.6	5	1.8	0	0.0	0	0.0
Q4 2009	12	3.1	3	1.1	1	1.7	2	2.3
Q1 2010	7	1.9	5	1.9	0	0.0	3	3.1
Q2 2010	12	3.3	4	1.5	1	1.9	2	2.2
Q3 2010	21	5.6	5	1.9	3	5.1	1	1.1
Q4 2010	20	5.3	4	1.5	2	3.2	1	1.0
Q1 2011	15	4.1	5	2.0	2	3.3	0	0.0
Q2 2011	14	3.7	2	0.7	1	1.6	1	1.1
Q3 2011	15	4.1	6	2.1	4	7.2	0	0.0
Q4 2011	21	6.0	14	5.4	3	5.8	4	4.7
Q1 2012	18	5.3	5	2.1	0	0.0	1	1.3
Q2 2012	17	5.0	6	2.5	2	3.6	2	2.6
Q3 2012	12	3.3	3	1.2	1	1.7	2	2.4
Q4 2012	18	5.2	3	1.2	1	2.0	4	4.9
Q1 2013	24	7.2	5	2.1	1	1.9	1	1.2
Q2 2013	16	4.4	5	1.9	3	5.9	3	3.6
Q3 2013	22	5.9	1	0.4	2	3.5	6	6.8
Q4 2013	12	3.2	4	1.5	0	0.0	0	0.0
Q1 2014	13	3.8	4	1.4	2	4.2	4	4.8
Q2 2014	7	2.0	2	0.7	1	1.8	3	3.1
Q3 2014	9	2.5	3	1.0	0	0.0	3	3.1
Q4 2014	17	4.9	2	0.7	2	3.5	0	0.0
Q1 2015	10	3.1	3	1.0	2	3.6	1	1.1
Q2 2015	15	4.2	2	0.7	1	1.8	1	1.0
Q3 2015	16	4.5	2	0.7	0	0.0	3	3.0
Q4 2015	15	4.2	2	0.7	1	1.8	3	3.2

Vancomycin resistant enterococcus (VRE) data

Table 9 VRE isolates identified per quarter within a) acute public hospitals, b) other healthcare settings (private hospitals, rural hospitals, GP clinics and long term and residential care facilities) and c) total Tasmanian isolates.

	RHH	LGH	MCH	NWRH	Other healthcare settings	Total
Q1 2008	11	-	-	-	2	13
Q2 2008	17	6	-	7	3	32
Q3 2008	1	1	-	10	-	12
Q4 2008	3	9	-	5	1	18
Q1 2009	-	4	2	3	-	9
Q2 2009	8	-	4	2	-	14
Q3 2009	1	-	2	1	-	4
Q4 2009	2	2	1	-	1	6
Q1 2010	1	-	1	-	-	2
Q2 2010	4	-	1	-	-	5
Q3 2010	10	-	2	2	-	14
Q4 2010	3	-	3	1	1	8
Q1 2011	-	-	2	1	-	3
Q2 2011	3	1	-	-	4	8
Q3 2011	1	1	-	-	1	3
Q4 2011	3	-	-	-	2	5
Q1 2012	3	2	2	2	1	10
Q2 2012	4	2	-	1	-	7
Q3 2012	3	2	2	-	1	8
Q4 2012	1	7	1	1	2	12
Q1 2013	13	0	3	-	2	18
Q2 2013	8	3	-	1	3	15
Q 3 2013	8	1	-	2	1	12
Q4 2013	5	3	-	3	5	16
Q1 2014	5	-	1	1	1	8
Q2 2014	3	6	1	1	2	13
Q3 2014	1	2	3	2	-	8
Q4 2014	1	5	1	5	7	19
Q1 2015	10	12	2	5	7	36
Q2 2015	5	13	2	1	8	29
Q3 2015	33	17	9	5	19	83
Q4 2015	36	22	0	11	13	82

Table 10 New VRE isolates – number of screening and clinical specimens; and of clinical specimens that indicate an infection

Quarter	Total VRE	Screening specimens	Clinical specimens	Clinical specimens that indicate an infection
Q1 2009	9	9	0	0
Q2 2009	14	13	1	1
Q3 2009	5	2	3	1
Q4 2009	5	5	0	0
Q1 2010	2	2	0	0
Q2 2010	5	4	1	1
Q3 2010	14	13	1	1
Q4 2010	8	5	3	2
Q1 2011	3	3	0	0
Q2 2011	8	6	2	2
Q3 2011	3	3	0	0
Q4 2011	5	3	2	1
Q1 2012	10	8	2	2
Q2 2012	7	7	0	0
Q3 2012	8	8	0	0
Q4 2012	12	9	3	3
Q1 2013	18	17	1	0
Q2 2013	15	13	2	2
Q3 2013	12	10	2	1
Q4 2013	16	14	2	0
Q1 2014	8	6	2	1
Q2 2014	13	11	2	0
Q3 2014	8	8	0	0
Q4 2014	19	19	0	0
Q1 2015	36	27	9	7
Q2 2015	29	16	13	11
Q3 2015	83	72	11	6
Q4 2015	82	70	12	3

Table 11 Number and site of VRE infections

Quarter	Total VRE Infections	Sterile site	Urine	Other
Q1 2009	0			
Q2 2009	1			1 - wound
Q3 2009	1		1	
Q4 2009	0			
Q1 2010	0			
Q2 2010	1		1	
Q3 2010	1		1	
Q4 2010	2		2	
Q1 2011	0			
Q2 2011	2		2	
Q3 2011	0			
Q4 2011	1			1 - wound
Q1 2012	2		1	1 – abscess
Q2 2012	0			
Q3 2012	0			
Q4 2012	3	1 - tissue	2	
Q1 2013	0			
Q2 2013	2		2	
Q3 2013	1			1 - wound
Q4 2013	0			
Q1 2014	1	1 – pleural fluid		
Q2 2014	0			
Q3 2014	0			
Q4 2014	0			
Q1 2015	7	1 – blood	4	2 - wound
Q2 2015	11	3 - blood 1 - peritoneal fluid	5	1 - drain fluid 1 - wound
Q3 2015	6	1 - blood	5	
Q4 2015	3	1 - tissue		2 - wound