

Tasmanian Acute Public Hospitals

Healthcare Associated Infection Surveillance Report.

Report No 15 (period ending 30th September 2012)
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Tasmanian Acute Public Hospitals Healthcare Associated Infection Surveillance Report

Tasmanian Infection Prevention and Control Unit (TIPCU)

Department of Health and Human Services, Tasmania

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Editors

- Brett Mitchell, TIPCU
- Dr Alistair McGregor, TIPCU
- Anne Wells, TIPCU
- Fiona Wilson, TIPCU

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Notes

- This report does not contain the methodology used to collect the data. Protocols relating to the surveillance programs are published on the TIPCU website, www.dhhs.tas.gov.au/tipcu
- An explanatory document is available on the TIPCU website. This document provides insight into understanding the surveillance report.
- Data from previous reports should not be relied upon. Use the most to date report when quoting/using data.

TASMANIAN INFECTION PREVENTION AND CONTROL UNIT

Population Health

Department of Health and Human Services

GPO Box 125 Hobart 7001

Ph: 6222 7779 Fax: 6233 0553

www.dhhs.tas.gov.au/tipcu

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Executive summary

This surveillance report describes data relating to a number of key Healthcare Associated Infection (HAI) 'indicators'. It is the intention of the Tasmanian Infection Prevention and Control Unit (TIPCU) to publish this report quarterly. 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. These details are not contained in this report but are freely available online should further information be required. In addition, an explanatory document has been developed to accompany this surveillance report.

Any form of comparison between hospitals should be done with extreme caution and direct comparisons are not recommended. Information about how Tasmanian rates compare with those of other Australian states and internationally, are provided in the Key Points sections of this report. A question and answer document and an explanatory document are also available on the TIPCU website (www.dhhs.tas.gov.au/tipcu). The Appendices in this report contain more detailed information.

The key findings of this report are:

- The rate of healthcare associated *Staphylococcus aureus* bacteraemia remains low.
- The rate of hospital identified *Clostridium difficile* infection and healthcare associated healthcare facility onset *Clostridium difficile* infection have decreased since the increase noted in late 2011.
- The occurrence of vancomycin resistant enterococcus remains low

No hand hygiene compliance data for the final collection period of 2012 is included in this report as it has not yet been validated.

From this current report, the TIPCU will be using patient days as the denominator, consistent with the approaches taken in other Australian State and Territories as part of collaborative work in the past months. We have reviewed and updated past data to the third quarter of 2009 to ensure that comparative data can be maintained.



Mr Brett Mitchell
Assistant Director of Nursing, TIPCU



Dr Alistair McGregor
Specialist Medical Advisor, TIPCU

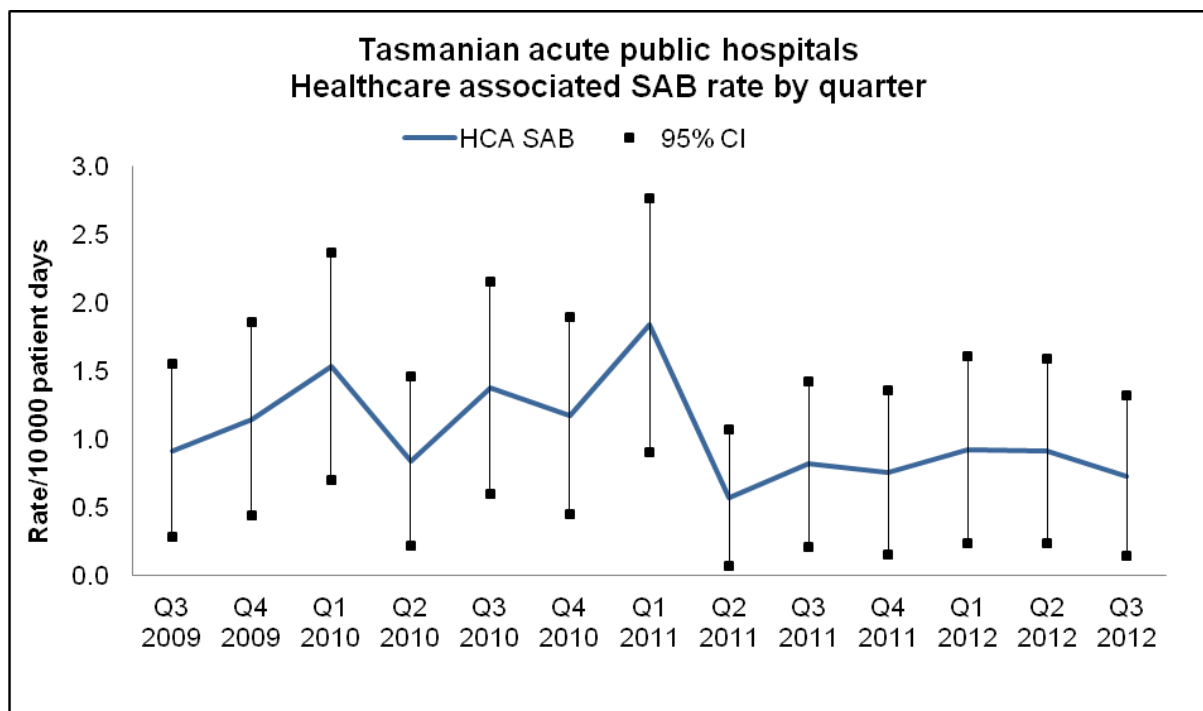
Staphylococcus aureus bacteraemia (SAB)

Tasmanian rates

Figure I outlines the Tasmanian combined acute public hospital rates of healthcare associated *Staphylococcus aureus* bacteraemia (HCA SAB).

The mean (average) rate of healthcare associated *Staphylococcus aureus* bacteraemia between July 1st 2009 and September 30th 2012 is 1.04 per 10 000 patient days (95% CI 1.23 – 0.85).

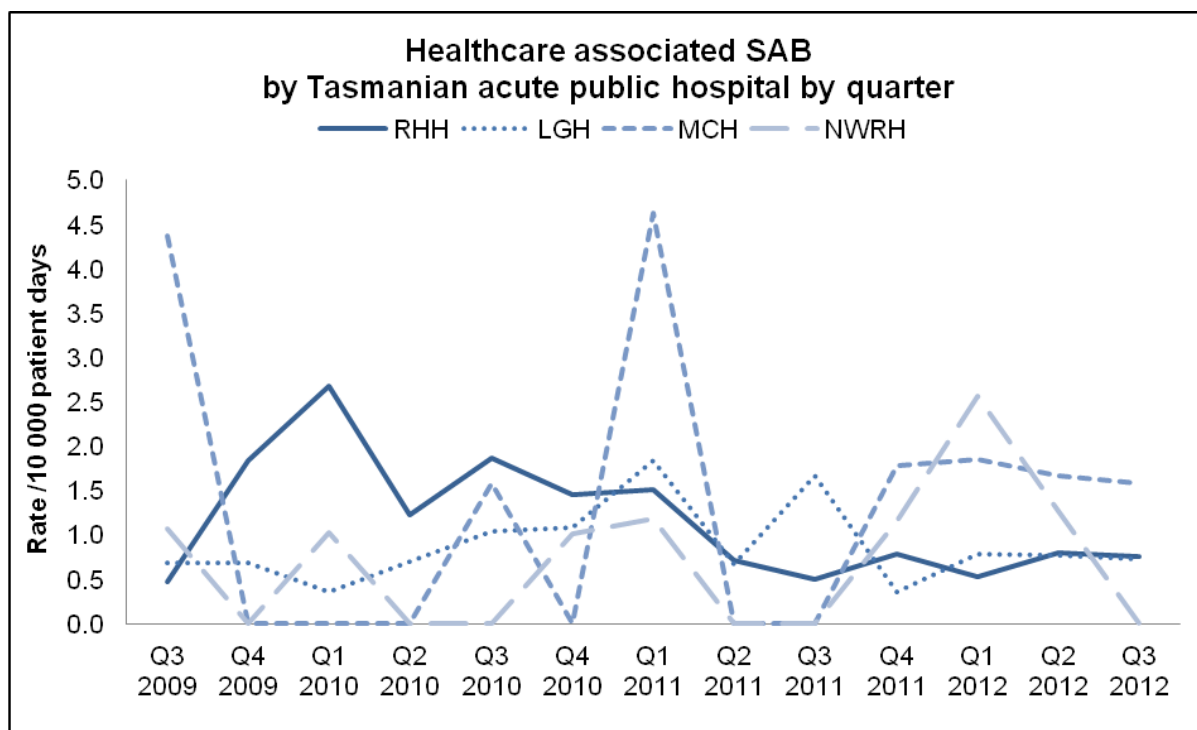
Figure I Healthcare associated *Staphylococcus aureus* bacteraemia rate.



Hospital rates

Figure 2 outlines 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 hospital



Key points

- The Tasmanian rate of healthcare associated *Staphylococcus aureus* bacteraemia (HCA SAB) is comparable to data reported in other Australian states and territories.
 - The rate of HCA SAB in Western Australia public hospitals (2010–11) was 1.11 per 10 000 bed days¹.
 - The rate of HCA SAB in South Australia is reported as 1.0 per 10 000 patient days in 2011².
 - The rate of hospital onset SAB in New South Wales is reported as 1.1 per 10 000 bed days in 2010³. ‘Hospital onset’ rates are an underestimate of the total HCA rate as they only include cases in hospital >48hrs.
 - The rate of HCA SAB at The Canberra Hospital in 2010-2011 is reported as 1.06 cases per 10,000 days of patient care⁴.

¹HISWA Annual Report 2010-2011.

²South Australian Healthcare Associated Infection Bloodstream Report 2011

³NSW Health, NSW Healthcare Associated Infections. http://www.health.nsw.gov.au/resources/quality/hai/pdf/report_jan_mar_2010.pdf

⁴MyHospitals <http://www.myhospitals.gov.au/hospital/the-canberra-hospital/safety-and-quality/sab>

Clostridium difficile infection

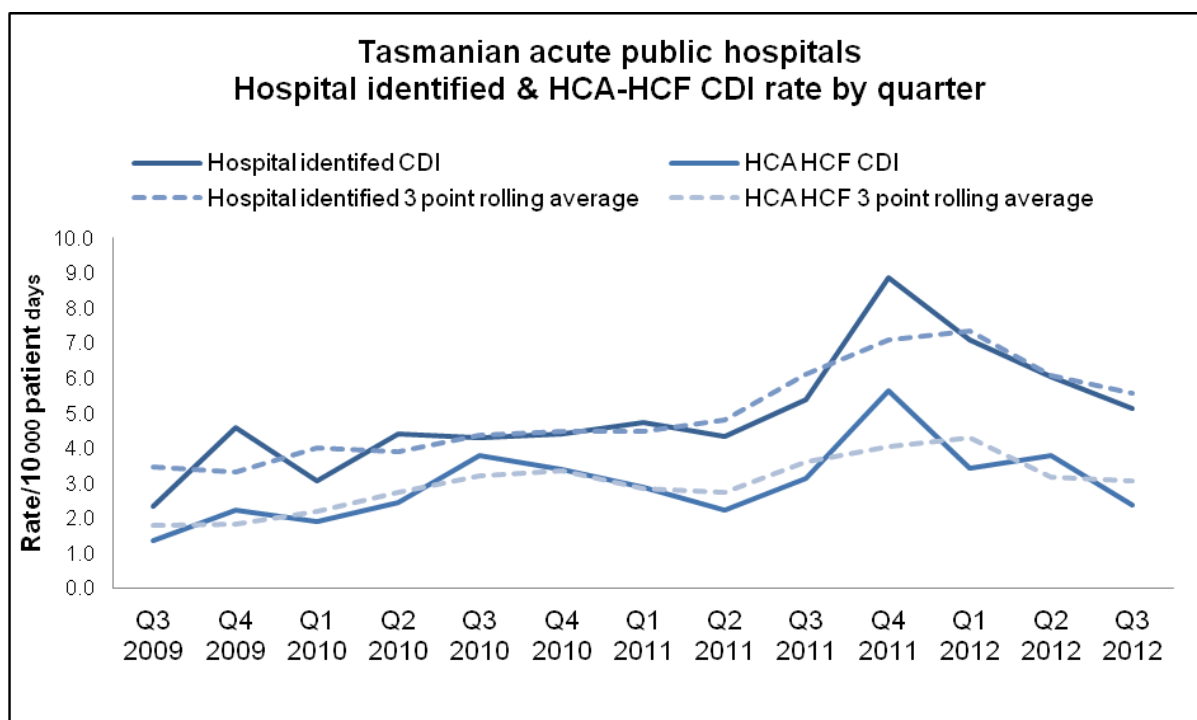
Tasmanian rates

Figure 3 outlines the Tasmanian combined acute public hospital rates of **hospital identified** and the **healthcare associated-healthcare facility onset (HCA-HCF)** rates of *Clostridium difficile* infection.

The mean (average) rate of **hospital identified** CDI between July 1st 2009 and September 30th 2012 is 4.92 per 10 000 patient days (95% CI 4.49 – 5.35).

The mean rate of **healthcare associated – healthcare facility onset (HCA-HCF)** CDI between July 1st 2009 and September 30th 2012 is 2.94 per 10 000 patient days (95% CI 2.61– 3.28).

Figure 3 Hospital identified and HCA-HCF *Clostridium difficile* infection rates.



Hospital rates

Figure 4 and Figure 5 outlines the individual acute public hospital rates of hospital identified and healthcare associated-healthcare facility onset (HCA-HCF) *Clostridium difficile* infection. This information is also contained in tables within the Appendix.

Figure 4 Hospital identified *Clostridium difficile* infection rate by hospital.

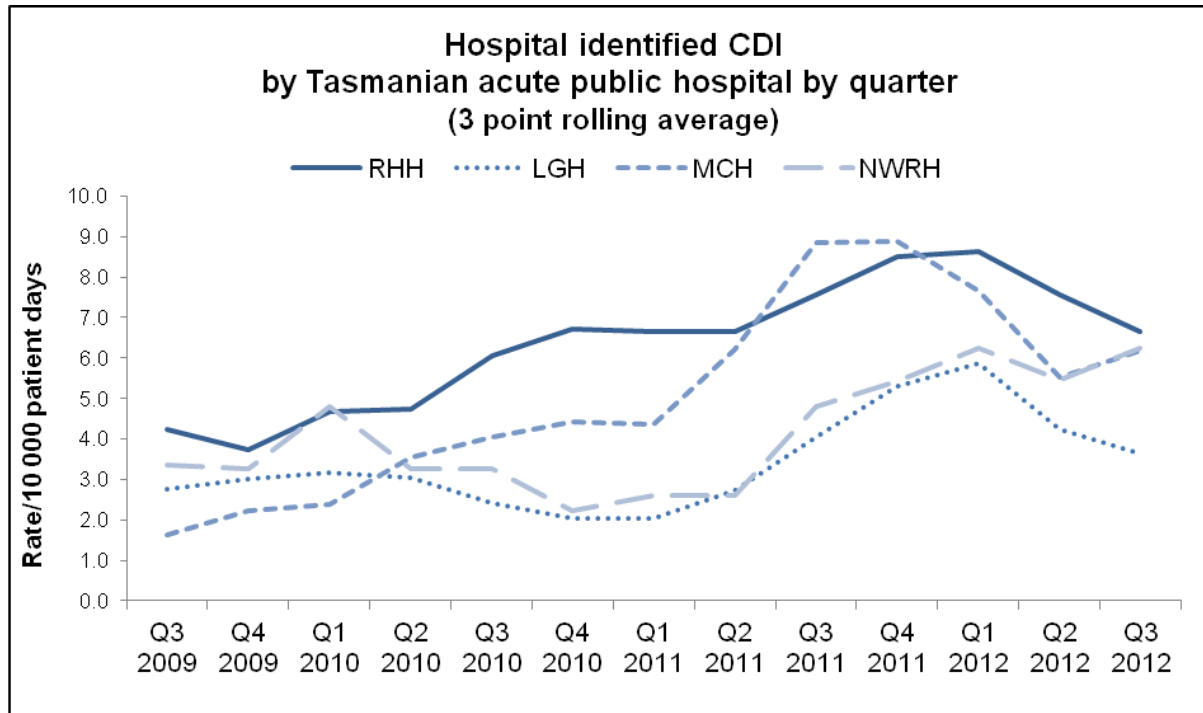
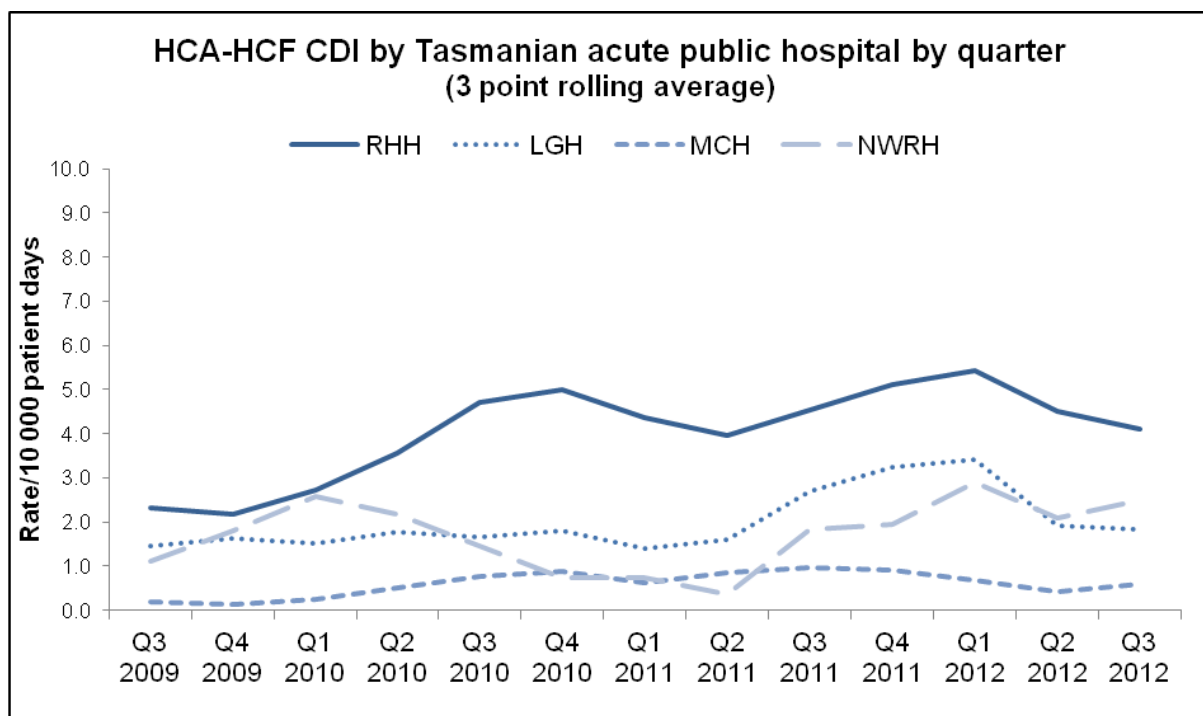


Figure 5 Healthcare associated – healthcare facility onset (HCA-HCF) *Clostridium difficile* infection rate by hospital.



Key points

- The rate of hospital identified *Clostridium difficile* infection (CDI) and healthcare associated healthcare facility onset CDI have continued to decrease since the increase noted in the final quarter of 2011. The HCA-HCF rate for the quarter ending September 2012 is the lowest since Quarter 2, 2011.
- Increases in CDI rates during the last half of 2011 were reported in Tasmania as well as in other States and Territories and this increase is being investigated by a number of organisations across Australia.
 - The overall rate of hospital identified CDI in Western Australian hospitals for 2010-11 was reported as 2.39 per 10 000 patient days¹ but had increased to 5.28 per 10 000 patient days by Quarter 1 2012².
- Rates of hospital identified and healthcare associated CDI in Tasmania have decreased over the first six months of 2012 and are currently at the same level as prior to the increase observed in late 2011.
- TIPCU is working with interstate counterparts and the Australian Commission on Safety and Quality in Health Care (ACSQHC) in standardising the reporting and testing of CDI, allowing for improved benchmarking.

¹HISWA Annual Report 2010-11.

²HISWA Quarterly Aggregate Report Quarter 1, 2012 – Number 27

Vancomycin resistant *enterococcus* (VRE)

Tasmanian numbers

Table 1 – outlines the number of people identified with VRE per quarter within acute public hospitals.

Quarter	Colonisation	Infection	Total*
Q1 2008	12	1	13
Q2 2008	28	4	32
Q3 2008	10	2	12
Q4 2008	16	2	18
Q1 2009	7	0	9 (2 cases unknown)
Q2 2009	13	1	14
Q3 2009	3	1	4
Q4 2009	5	0	5
Q1 2010	2	0	2
Q2 2010	4	1	5
Q3 2010	13	1	14
Q4 2010	6	2	8
Q1 2011	3	0	3
Q2 2011	6	2	8
Q3 2011	3	0	3
Q4 2011	3	0	3
Q1 2012	8	2	10
Q2 2012	7	0	7
Q3 2012	7	1	8

Hospital numbers

Table 2 - Number of people identified with VRE by acute public hospital

Quarter	RHH		LGH		NWRH		MCH	
	Col	Inf	Col	Inf	Col	Inf	Col	Inf
Q1 2008	10	1	-	-	-	-	-	-
Q2 2008	15	2	6	-	6	1	-	-
Q3 2008	1	-	1	-	8	2	-	-
Q4 2008	2	1	8	1	5	-	-	-
Q1 2009	-	-	4	-	3	-	2	-
Q2 2009	7	1	-	-	2	-	4	-
Q3 2009	1	-	-	-	-	1	2	-
Q4 2009	2	-	2	-	1	-	-	-
Q1 2010	1	-	1	-	-	-	-	-
Q2 2010	4	-	-	-	-	-	-	1
Q3 2010	10	-	-	-	2	-	1	1
Q4 2010	3	-	-	-	1	-	1	2
Q1 2011	-	-	-	-	1	-	2	-
Q2 2011	3	1	1	-	-	-	-	-
Q3 2011	1	-	1	-	-	-	-	-
Q4 2011	3	-	-	-	-	-	-	-
Q1 2012	3	-	2	-	2	-	1	1
Q2 2012	4	-	2	-	1	-	-	-
Q3 2012	2	1	2	-	-	-	2	-

Col - colonisation Inf – infection

Key points

- This table provides information on hospital identified VRE. This does not necessarily mean that VRE was acquired at the hospital.
- The numbers of VRE identified are affected by the amount of screening undertaken by hospitals. Some hospitals may be more aggressive in their approach and hence may identify more VRE.
- The absolute number of VRE infections identified in Tasmania is lower than many other Australian states. In Victoria, a total of 221 infections were reported during 2007¹.

¹VRE in Victorian Health Facilities. <http://www.health.vic.gov.au/infectionprevention/downloads/vre-report.pdf>

Acknowledgements

The production of this report is the culmination of work from a number of different organisations. In particular, we would like to acknowledge:

- Launceston General Hospital Infection Control Team and Executive Director of Nursing
- Royal Hobart Hospital Infection Control Team and Executive Director of Nursing
- North West Area Health Service Infection Control Team and Executive Director of Nursing
- Microbiology Departments at the Royal Hobart Hospital, Launceston General Hospital, DSPL and Gribbles Pathology
- Hand Hygiene Australia
- Communicable Disease Prevention Unit, Population Health
- Contributing Primary Health Sites

Appendix

***Staphylococcus aureus* bacteraemia**

Data which classifies healthcare associated *Staphylococcus aureus* bacteraemia into Criterion A (>48 after admission or <48 hours after discharge) OR Criterion B (\leq 48 hours after hospital admission and one of more key clinical criteria met) is available upon request.

Table 3 - Tasmanian numbers and rate/10 000 patient days of healthcare associated *Staphylococcus aureus* bacteraemia (HCA-SAB).

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	8	7	1	0.91
Q4 2009	10	10	0	1.15
Q1 2010	13	13	0	1.53
Q2 2010	7	7	0	0.84
Q3 2010	12	11	1	1.47
Q4 2010	10	7	3	1.27
Q1 2011	15	13	2	1.83
Q2 2011	5	5	0	0.67
Q3 2011	7	7	0	0.82
Q4 2011	6	4	2	0.85
Q1 2012	7	6	1	0.92
Q2 2012	7	6	1	0.91
Q3 2012	6	6	0	0.73

Table 4 - Royal Hobart Hospital numbers and rates/10 000 patient days of healthcare associated *Staphylococcus aureus* bacteraemia.

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	2	2	0	0.48
Q4 2009	8	8	0	1.85
Q1 2010	11	11	0	2.68
Q2 2010	5	5	0	1.23
Q3 2010	8	7	1	1.86
Q4 2010	6	5	1	1.45
Q1 2011	6	4	2	1.51
Q2 2011	3	3	0	0.71
Q3 2011	2	2	0	0.50
Q4 2011	3	2	1	0.79
Q1 2012	2	2	0	0.54
Q2 2012	3	3	0	0.80
Q3 2012	3	3	0	0.75

Table 5 - Launceston General Hospital numbers and rates/10 000 patient days of healthcare associated *Staphylococcus aureus* bacteraemia.

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	2	1	1	0.68
Q4 2009	2	2	0	0.69
Q1 2010	1	1	0	0.36
Q2 2010	2	2	0	0.71
Q3 2010	3	3	0	1.04
Q4 2010	3	1	2	1.08
Q1 2011	5	5	0	1.84
Q2 2011	2	2	0	0.67
Q3 2011	5	5	0	1.67
Q4 2011	1	1	0	0.36
Q1 2012	2	1	1	0.79
Q2 2012	2	2	0	0.78
Q3 2012	2	2	0	0.73

Table 6 - North West Regional Hospital numbers and rates/10 000 patient days of healthcare associated *Staphylococcus aureus* bacteraemia.

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	1	1	0	1.07
Q4 2009	0	0	0	0.00
Q1 2010	1	1	0	1.02
Q2 2010	0	0	0	0.00
Q3 2010	0	0	0	0.00
Q4 2010	1	1	0	1.02
Q1 2011	1	1	0	1.19
Q2 2011	0	0	0	0.00
Q3 2011	0	0	0	0.00
Q4 2011	1	1	0	1.16
Q1 2012	2	2	0	2.56
Q2 2012	1	0	1	1.28
Q3 2012	0	0	0	0.00

Table 7 - Mersey Community Hospital numbers and rates/10 000 patient days of healthcare associated *Staphylococcus aureus* bacteraemia.

Quarter	Total HCA-SAB	Number MSSA	Number MRSA	HCA SAB Rate
Q3 2009	3	3	0	4.38
Q4 2009	0	0	0	0.00
Q1 2010	0	0	0	0.00
Q2 2010	0	0	0	0.00
Q3 2010	1	1	0	1.58
Q4 2010	0	0	0	0.00
Q1 2011	3	3	0	4.64
Q2 2011	0	0	0	0.00
Q3 2011	0	0	0	0.00
Q4 2011	1	0	1	1.79
Q1 2012	1	1	0	1.86
Q2 2012	1	1	0	1.67
Q3 2012	1	1	0	1.59

Clostridium difficile infection

Table 8 – Tasmanian numbers and rates/10 000 patient days of *Clostridium difficile* infection.

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

^ Healthcare associated, healthcare facility onset

Table 9 - Hospital numbers and rates/10 000 patient days of **hospital identified** *Clostridium difficile* infection.

Quarter	Royal Hobart		Launceston General		NW Regional		Mersey Community	
	Total	Rate	Total	Rate	Total	Rate	Total	Rate
Q3 2009	8	2.1	9	3.3	1	1.1	1	1.6
Q4 2009	25	6.4	6	2.2	5	5.8	1	1.7
Q1 2010	10	2.7	9	3.5	3	3.1	2	3.5
Q2 2010	18	4.9	10	3.8	5	5.6	1	1.9
Q3 2010	25	6.7	5	1.9	1	1.1	3	5.1
Q4 2010	25	6.6	4	1.5	3	3.1	3	4.9
Q1 2011	25	6.9	7	2.8	2	2.4	2	3.3
Q2 2011	25	6.5	5	1.8	2	2.2	3	4.9
Q3 2011	24	6.5	10	3.6	3	3.2	6	10.8
Q4 2011	34	9.8	18	7.0	8	9.4	6	11.5
Q1 2012	32	9.4	13	5.5	3	3.9	2	4.0
Q2 2012	23	6.7	12	5.0	4	5.2	4	7.3
Q3 2012	24	6.6	6	2.4	6	7.3	3	5.1

Table 10 - Hospital numbers and rates/10 000 patient days of **healthcare associated, healthcare facility onset *Clostridium difficile* infection.**

Quarter	Royal Hobart		Launceston General		NW Regional		Mersey Community	
	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	2	2.3	1	1.7
Q1 2010	7	1.9	5	1.9	3	3.1	0	0.0
Q2 2010	12	3.3	4	1.5	2	2.2	1	1.9
Q3 2010	21	5.6	5	1.9	1	1.1	3	5.1
Q4 2010	20	5.3	4	1.5	1	1.0	2	3.2
Q1 2011	15	4.1	5	2.0	0	0.0	2	3.3
Q2 2011	14	3.7	2	0.7	1	1.1	1	1.6
Q3 2011	15	4.1	6	2.1	0	0.0	4	7.2
Q4 2011	21	6.0	14	5.4	4	4.7	3	5.8
Q1 2012	18	5.3	5	2.1	1	1.3	0	0.0
Q2 2012	17	5.0	6	2.5	2	2.6	2	3.6
Q3 2012	12	3.3	3	1.2	2	2.4	1	1.7