

# Tasmanian Acute Public Hospitals

## Healthcare Associated Infection Surveillance Report

Annual Report (Period ending 30 June 2012)  
September 2012

# **Tasmanian Acute Public Hospitals Healthcare Associated Infection Surveillance Report**

Tasmanian Infection Prevention and Control Unit (TIPCU)

Department of Health and Human Services, Tasmania

Published 2012

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ISBN 978-0-9872195-3-4

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Suggested reference: Mitchell, B., McGregor, A., Wells, A., Wilson, F. (2012). Tasmanian Acute Public Hospitals Healthcare Associated Infection Surveillance Annual Report (period ending June 30<sup>th</sup>, 2012). Hobart: Department of Health and Human Services.

## **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](http://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.

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## Executive summary

This annual report provides a broad overview that complements the quarterly surveillance data reports that the Tasmanian Infection Prevention and Control Unit (TIPCU) has been publishing since March 2009. The TIPCU website ([www.dhhs.tas.gov.au/tipcu](http://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](http://www.dhhs.tas.gov.au/tipcu)). The Appendices in this report contain more detailed information.

Compared to the quarterly reports published by the TIPCU, this report contains some additional detail, such as infection rates by financial year. From this report, the following findings can be made:

- the rate of healthcare associated *Staphylococcus aureus* bacteraemia has decreased since the introduction of the hand hygiene initiative and remains low.
- the rate of hospital identified *Clostridium difficile* infection (CDI) increased in late 2011 with the main driver of this being community associated CDI. The rate of hospital identified CDI has trended down in the first half of 2012. The rate of healthcare associated CDI is lower in 2011-12 compared to 2010-11.
- the numbers of persons with VRE continue to remain low
- the rate of hand hygiene compliance has increased significantly since the commencement of the National Hand Hygiene Initiative, but remains below the 'My Hospitals' threshold of 70%.

From our next 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. In doing so, we will go back through existing data to avoid sudden increases or decreases in reported rates and ensure that comparisons to previous data can be maintained.



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# Progress

A great deal of progress in the area of infection prevention and control has occurred in Tasmanian over the past few years. This can be demonstrated through:

- the introduction of a hand hygiene initiative into all hospitals
- the introduction of surveillance programs based on national developments
- surveillance programs that provide timely reporting to key stakeholders
- development of a range of guidance and information material for healthcare workers and the public on important issues related to healthcare associated infections
- enhanced governance and the introduction of performance indicators for key healthcare associated infections
- development of key state-wide infection prevention and control policies and protocols for those working in the DHHS.
- enhanced interaction with the private healthcare sector and education providers
- increased information for the public about healthcare associated infections
- infection control initiatives for State-wide and mental health services in the area of infection control
- ongoing involvement with work undertaken by the Australian Commission of Safety & Quality in Healthcare

# Staphylococcus aureus bacteraemia

## Introduction

Bloodstream infections (BSIs) are arguably the most important category of HAI as they cause significant patient morbidity and mortality. *Staphylococcus aureus* is the most common cause of serious healthcare associated BSI and has an estimated mortality of around 25-30%.

Of approximately 7,000 episodes of *Staphylococcus aureus* bacteraemia (SAB) that occur in Australia each year, two thirds are healthcare associated with many of these being potentially preventable.

To improve the quality and certainty of data in Tasmania, in December 2008, *Staphylococcus aureus* bacteraemia was made a notifiable condition 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).

## Tasmanian rates

Figure 1 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 1<sup>st</sup> 2008 and June 30<sup>th</sup> 2012 is 1.36 per 10 000 patient care days (95% CI 1.15 – 1.57).

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

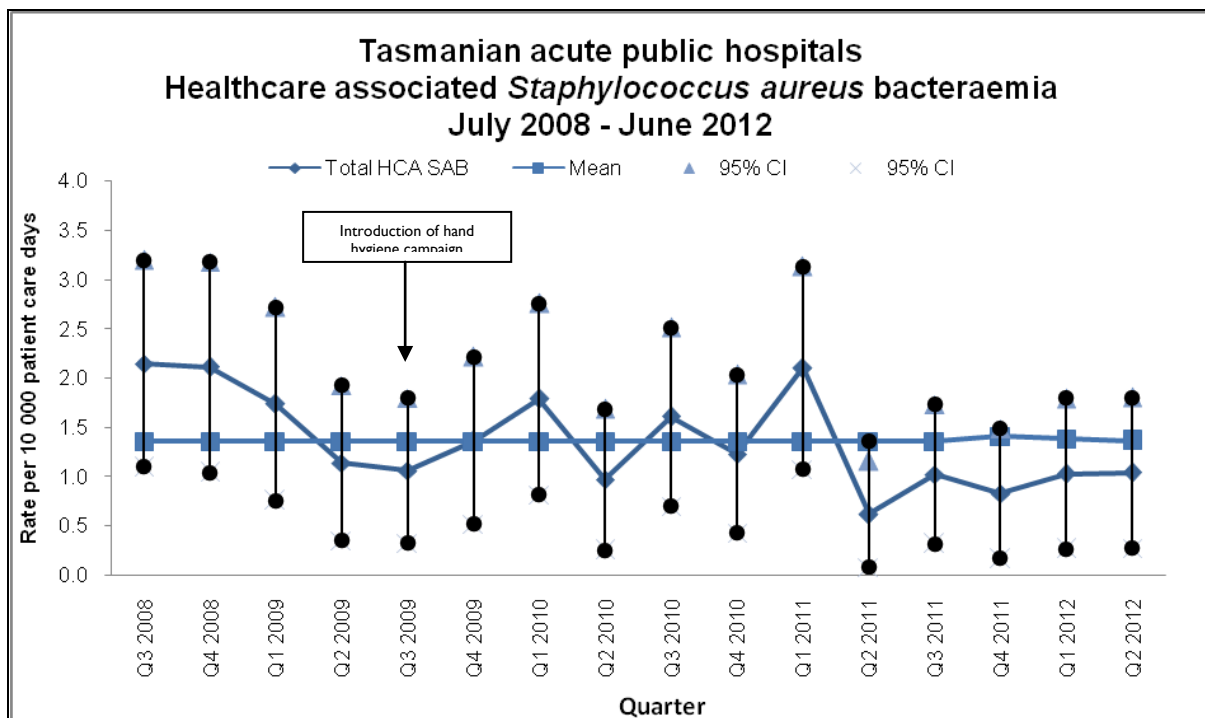
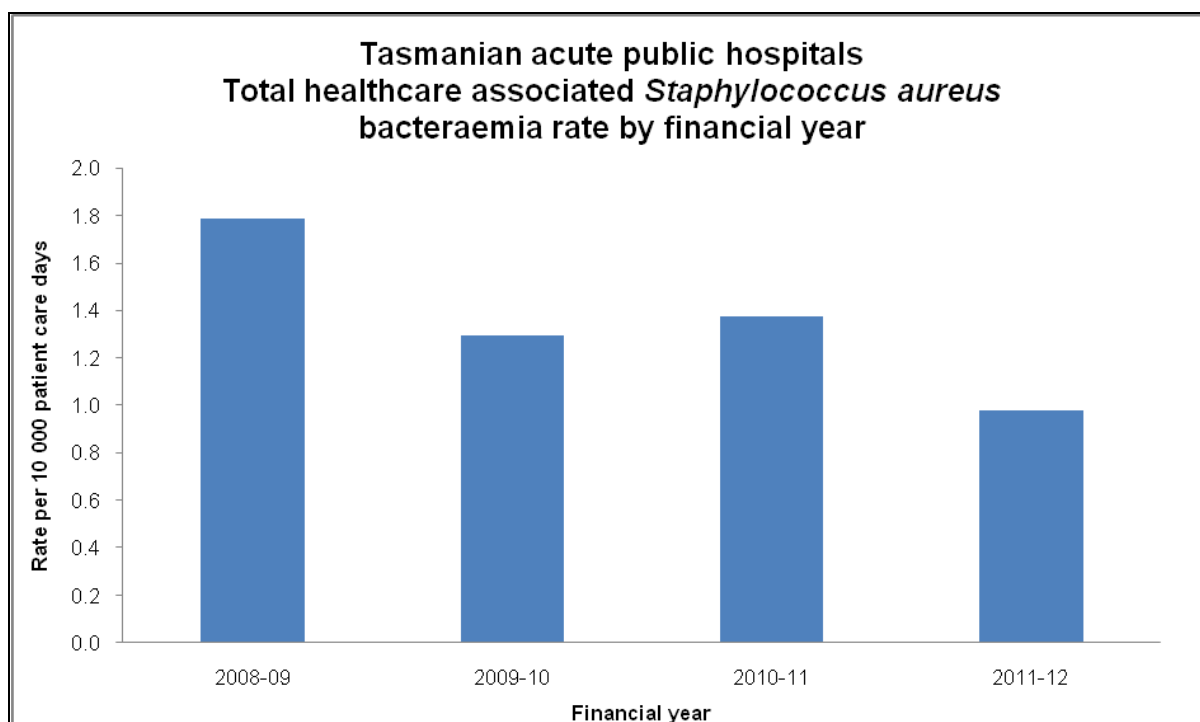


Table 1 outlines the Tasmanian combined acute public hospital annual rate, including confidence intervals, of healthcare associated *Staphylococcus aureus* bacteraemia and Figure 2 shows the same information graphically without confidence intervals. Table 2 outlines the device related healthcare associated *Staphylococcus aureus* bacteraemia

**Table 1** Healthcare associated *Staphylococcus aureus* bacteraemia - rate by financial year.

Financial Year	Rate per 10 000 patient care days	Lower 95% Confidence Interval	Upper 95% Confidence Interval
2008 – 09	1.8	1.3	2.3
2009 – 10	1.2	0.9	1.8
2010 – 11	1.4	1.0	1.9
2011 - 12	1.0	0.6	1.4

**Figure 2** Healthcare associated *Staphylococcus aureus* bacteraemia - rate by financial year.



**Table 2** Device related healthcare associated *Staphylococcus aureus* bacteraemia – percentage by financial year

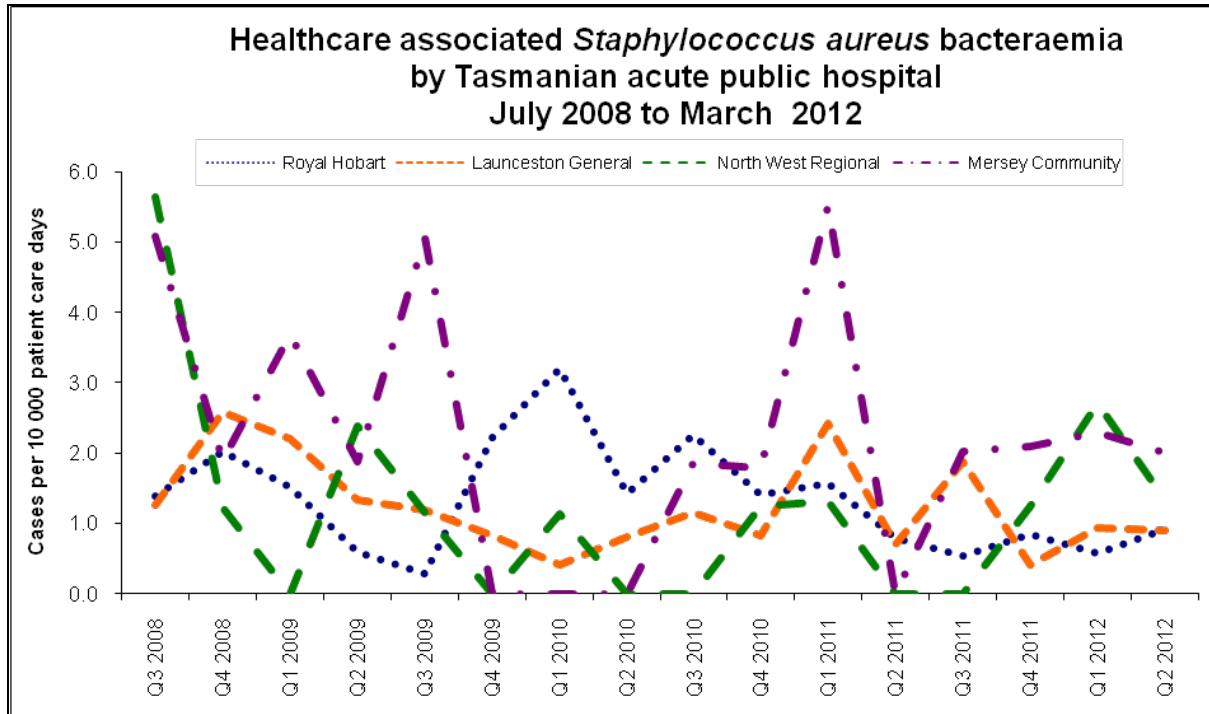
Financial Year	Total HCA SAB	Total Device Related HCA SAB	Percentage Device Related HCA SAB
2008 – 09	51	26	51%
2009 – 10	38	23	61%
2010 – 11	42	26	62%
2011 - 12	28	16	57%



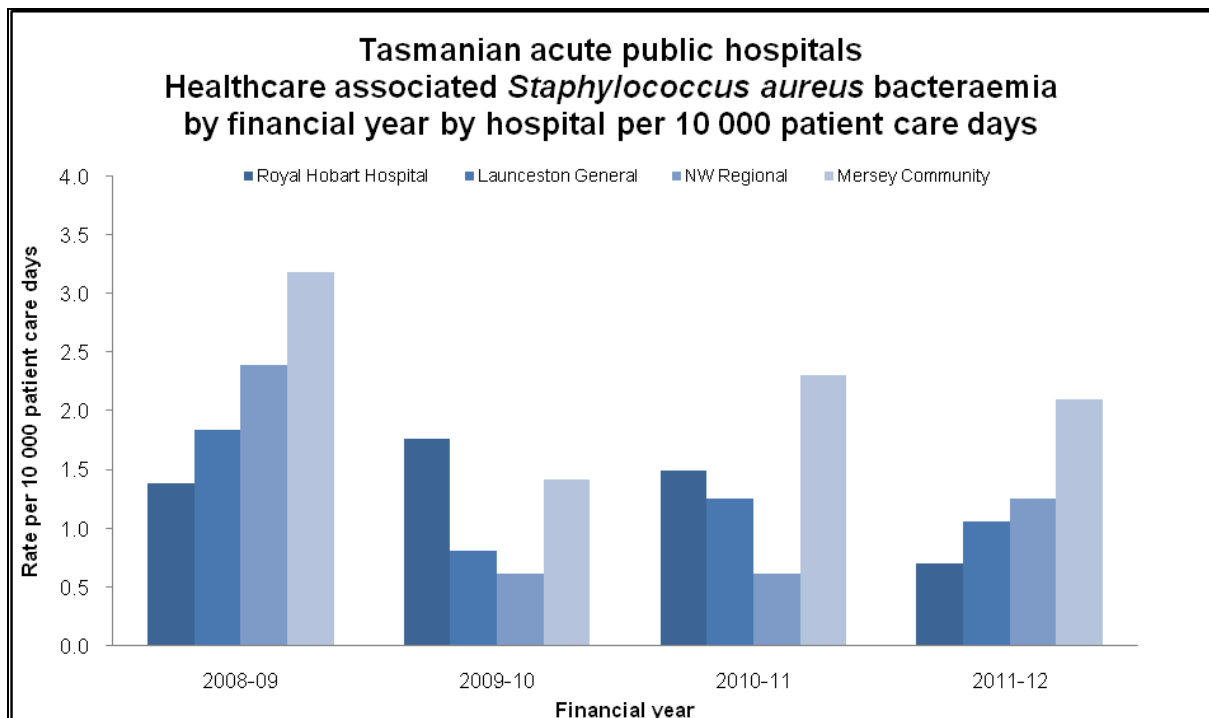
## Hospital rates

Figure 3 and Figure 4 outlines the individual acute public hospitals rates of healthcare associated *Staphylococcus aureus* bacteraemia. This information is also contained in tables within the Appendix.

**Figure 3** Healthcare associated *Staphylococcus aureus* bacteraemia - rate by quarter.



**Figure 4** Healthcare associated *Staphylococcus aureus* bacteraemia - rate by financial year.



## Community associated

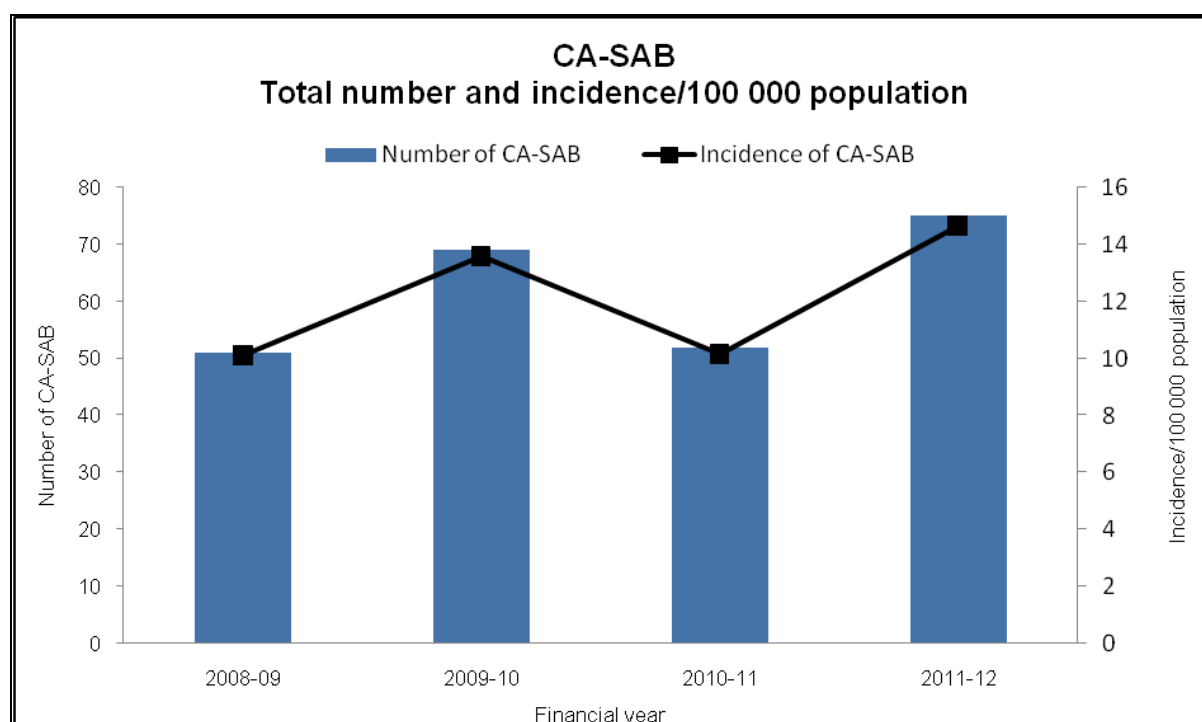
Table 3 outlines the Tasmanian number and incidence/100 000 population, including confidence intervals, of community associated *Staphylococcus aureus* bacteraemia (CA-SAB) by financial year and Figure 5 shows the same information graphically, without confidence intervals.

**Table 3** Community associated CA-SAB – number and incidence/100 000 population

Financial Year	Number	Incidence per 100 000 population*	Lower 95% Confidence Interval	Upper 95% Confidence Interval
2008 – 09	51	10.1	7.5	13.3
2009 – 10	69	13.6	10.6	17.2
2010 – 11	52	10.2	7.6	13.3
2011 - 12	75	14.7	11.5	18.4

\*Population figures from ABS 3101.0 – Australian Demographic Statistics (Table 4). Figures for 2011-12 uses the population as of December 2011.

**Figure 5** - Community associated CA-SAB – number and incidence/100 000 population



## Key points

- The Tasmanian rate of healthcare associated *Staphylococcus aureus* bacteraemia (HCA SAB) for 2011-12 is 0.98 per 10 000 patient care days. This is less than other Australian states.
  - The rate of HCA SAB in Western Australia public hospitals (2010–11) was 1.11 per 10 000 bed days<sup>1</sup>.
  - The rate of HCA SAB in South Australia is reported as 1.0 per 10 000 patient days in 2011<sup>2</sup>.
  - The rate of hospital onset SAB in New South Wales is reported as 1.1 per 10 000 bed days in 2010<sup>3</sup>. ‘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 care<sup>4</sup>.

<sup>1</sup>HISWA Annual Report 2010-2011.

<sup>2</sup>South Australian Healthcare Associated Infection Bloodstream Report 2011

<sup>3</sup>NSW Health, NSW Healthcare Associated Infections. [http://www.health.nsw.gov.au/resources/quality/hai/pdf/report\\_jan\\_mar\\_2010.pdf](http://www.health.nsw.gov.au/resources/quality/hai/pdf/report_jan_mar_2010.pdf)

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

# Clostridium difficile infection

## Introduction

*Clostridium difficile* infection (CDI) is an infection of the bowel that is 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. In recent years, new strains of *Clostridium difficile* have been recognised in the northern hemisphere which resulted in numerous hospital based outbreaks of severe CDI. In 2010, these strains were detected for the first time in Australian patients. None of these strains have been identified in Tasmania to date.

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 is carried out in Tasmania using the nationally agreed surveillance definitions published by the Australian Commission on Safety and Quality in Health Care (ACSQHC).

## Tasmanian rates

Figure 6 outlines the Tasmanian combined acute public hospital rates of hospital identified *Clostridium difficile* infection.

The mean (average) rate of hospital identified CDI between July 1<sup>st</sup> 2008 and June 30<sup>th</sup> 2012 is 4.35 per 10 000 patient care days (95% CI 4.05– 4.65) while the mean rate of healthcare associated – healthcare facility onset (HCA-HCF) CDI between July 1<sup>st</sup> 2008 and June 30<sup>th</sup> 2012 is 2.74 per 10 000 patient care days (95% CI 2.56 – 2.92).

**Figure 6** Hospital identified and HCA-HCF *Clostridium difficile* infection - rate by quarter.

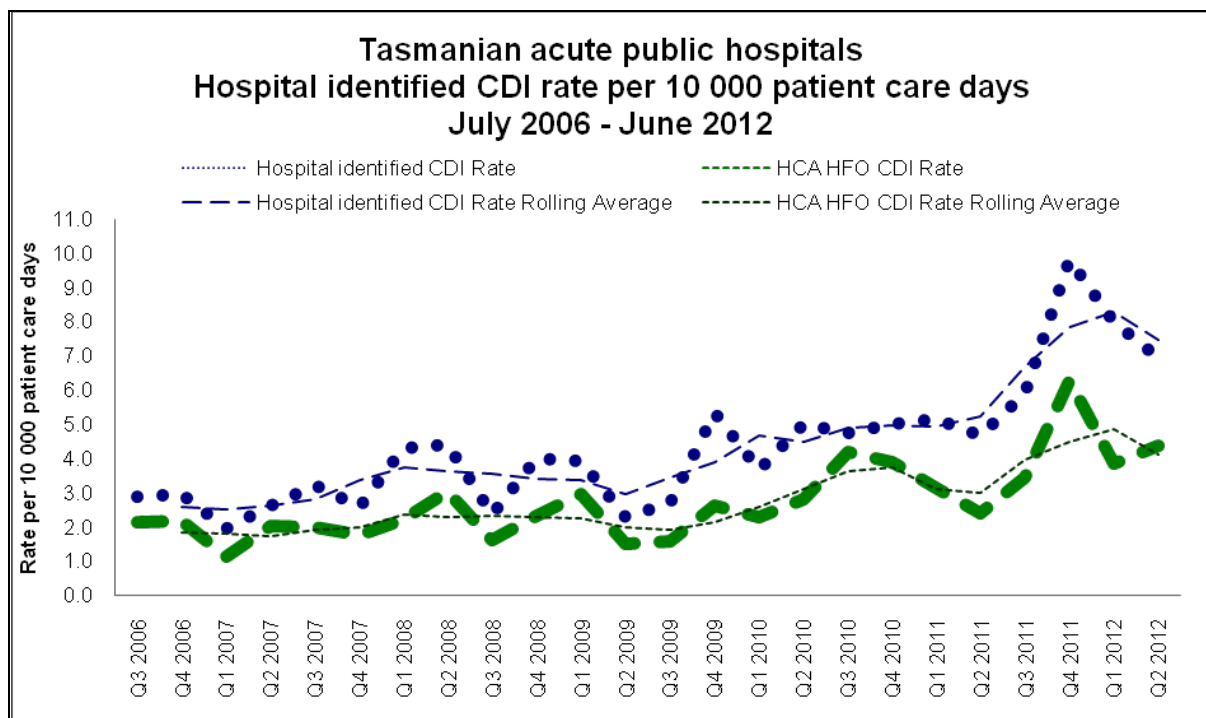
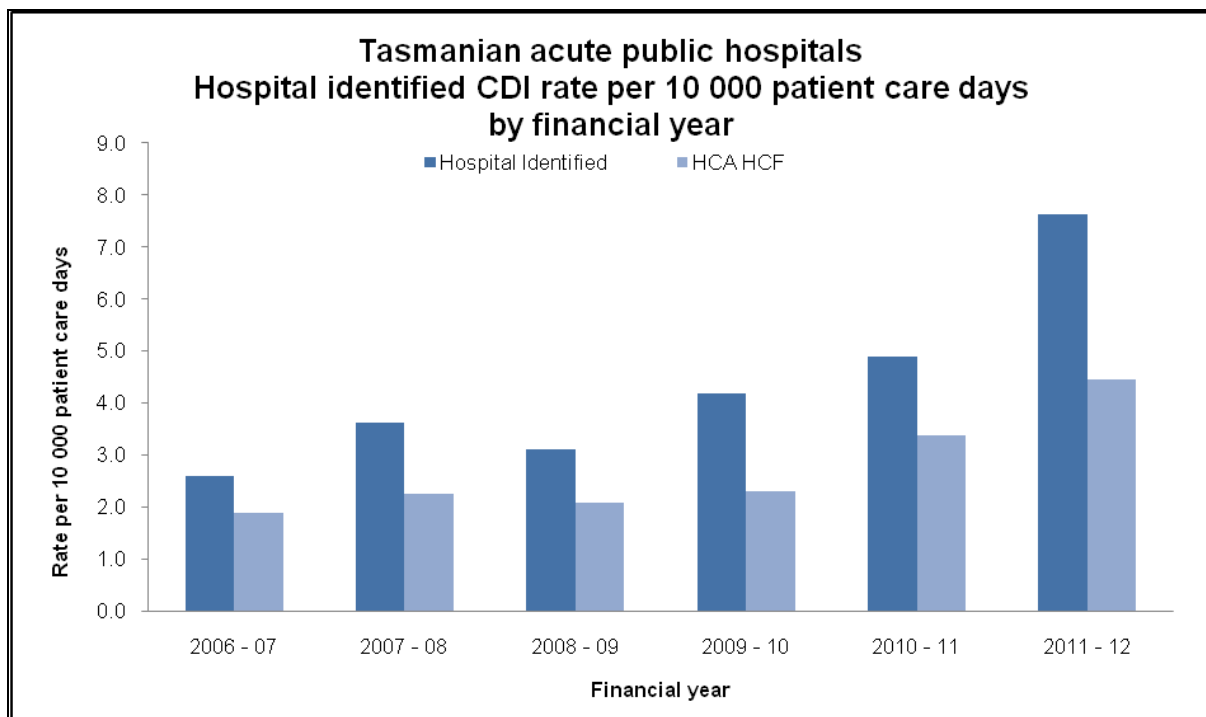


Table 4 outlines the Tasmanian combined acute public hospital rates of **hospital identified** and **healthcare associated –healthcare facility onset (HCA-HCF) *Clostridium difficile*** infection by financial year (including confidence intervals) and Figure 7 shows the same information graphically without confidence intervals.

**Table 4** Hospital identified and healthcare associated-healthcare facility onset – rate by financial year

Financial Year	Hospital identified			HCA-HCF		
	Rate per 10 000 patient care days	Lower 95% Confidence Interval	Upper 95% Confidence Interval	Rate per 10 000 patient care days	Lower 95% Confidence Interval	Upper 95% Confidence Interval
2006 – 07	2.6	2.0	3.3	1.9	1.4	2.5
2007 - 08	3.6	2.9	4.4	2.3	1.7	2.9
2008 – 09	3.1	2.5	3.9	2.1	1.5	2.7
2009 – 10	4.2	3.4	5.0	2.3	1.8	2.9
2010 – 11	4.9	4.1	5.8	3.4	2.7	4.1
2011 - 12	7.6	6.6	8.8	4.5	3.7	5.3

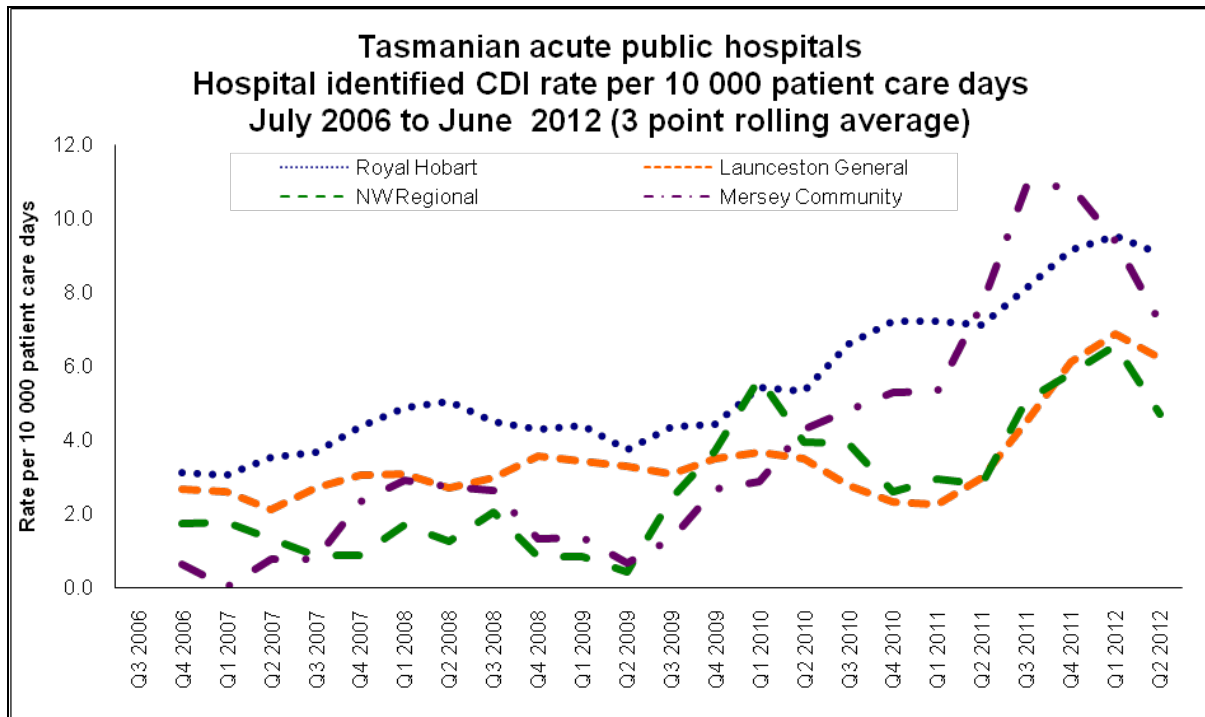
**Figure 7** Hospital identified and HCA HCF *Clostridium difficile* infection – rate by financial year



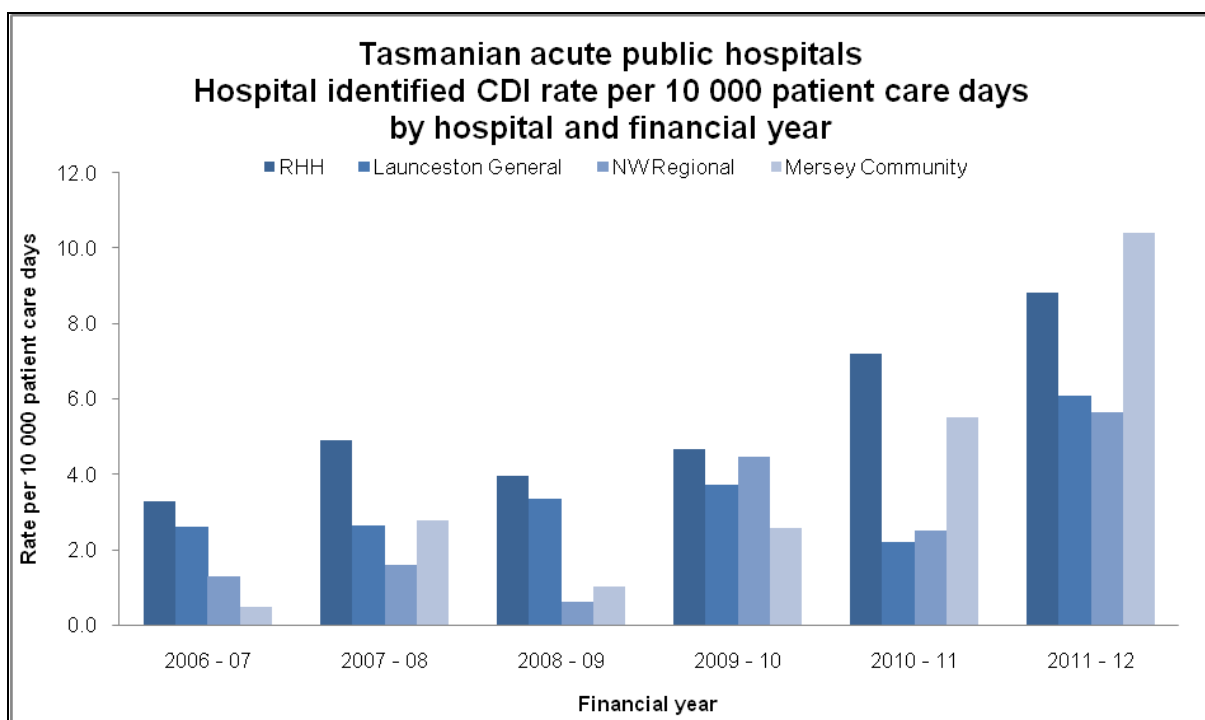
## Hospital rates

Figure 8, and Figure 9 outline the individual acute public hospital rates of hospital identified and HCA-HCF *Clostridium difficile* infection. This information is also contained in tables within the Appendix.

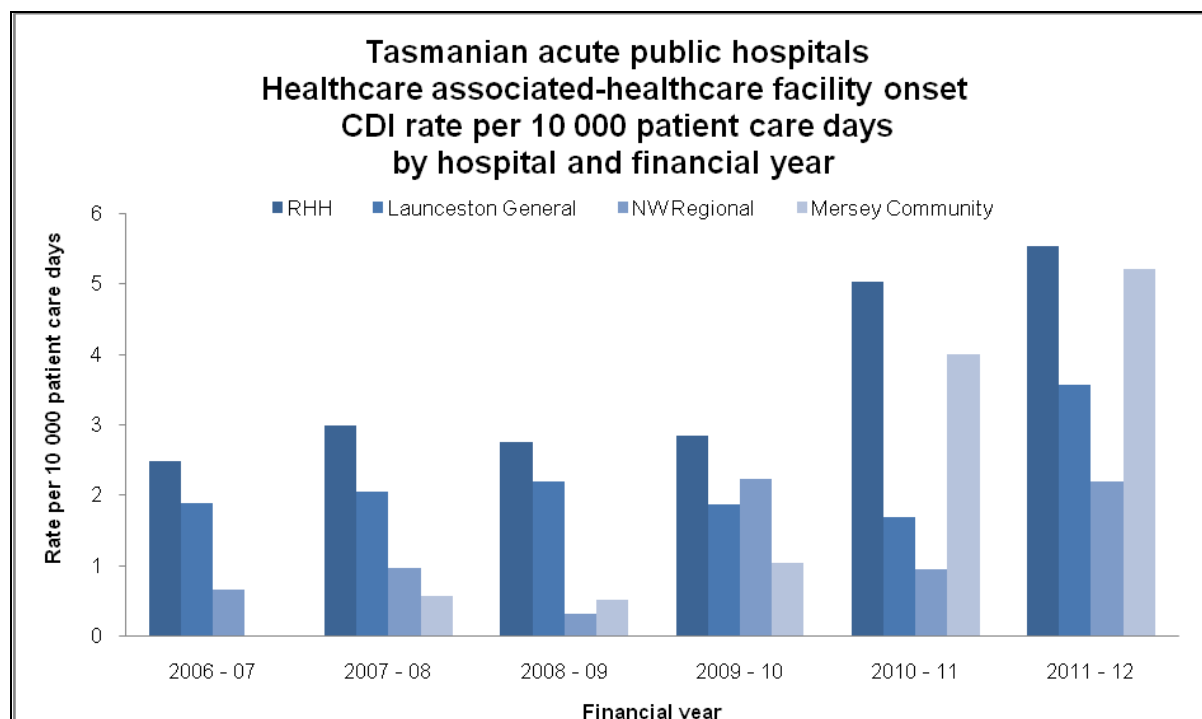
**Figure 8** Individual hospital identified *Clostridium difficile* infection - rate by quarter.



**Figure 9** Hospital identified *Clostridium difficile* infection - rate by financial year



**Figure 10** Healthcare associated-healthcare facility onset (HCA HCF) *Clostridium difficile* infection - rate by financial year



## Key points

- The Tasmanian rate of hospital identified *Clostridium difficile* infection (CDI) increased by 53% in the quarter ending December 2011.
  - The TIPCU immediately issued an alert to hospitals and reinforced infection control and prevention strategies and undertook an investigation to examine the epidemiology of CDI in Tasmania. Results of this investigation are detailed on the TIPCU website, however the investigation concluded that the driver for the observed increase of CDI cases in this category appeared to be community associated infections.
- Increases in CDI rates during the last half of 2011 were reported 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 days<sup>1</sup> but had increased to 5.28 per 10 000 patient days by Quarter 1 2012<sup>2</sup>.
- The Tasmanian rate of healthcare associated CDI increased in 2011-12 compared to 2010-11.
- 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.

<sup>1</sup>HISWA Annual Report 2010-11.

<sup>2</sup>HISWA Quarterly Aggregate Report Quarter 1, 2012 – Number 27

# Vancomycin resistant *enterococcus* (VRE)

## Introduction

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

In Tasmania, identification of VRE is a notifiable condition under the *Public Health Act (1997)* and as such, all isolates of VRE are notified to the Communicable Disease Prevention Unit (CDPU) and subsequently to TIPCU.

## Tasmanian numbers

**Table 5** - number of people identified with VRE per quarter

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



## Hospital numbers

**Table 6** - 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	-	-	-

Col - colonisation Inf – infection

## Key points

- This table provides information on hospital identified VRE. This does not necessarily mean that VRE was acquired at this hospital.
- The numbers of VRE identified are affected by the amount of screening undertaken by hospitals. There is a TIPCU developed VRE protocol for screening, but some hospitals may be more aggressive in their approach and hence are likely to 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 2007<sup>1</sup>.

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

# Hand hygiene compliance data

## Tasmanian rates

Figure 11 - Hand hygiene compliance rate in Tasmanian public hospitals

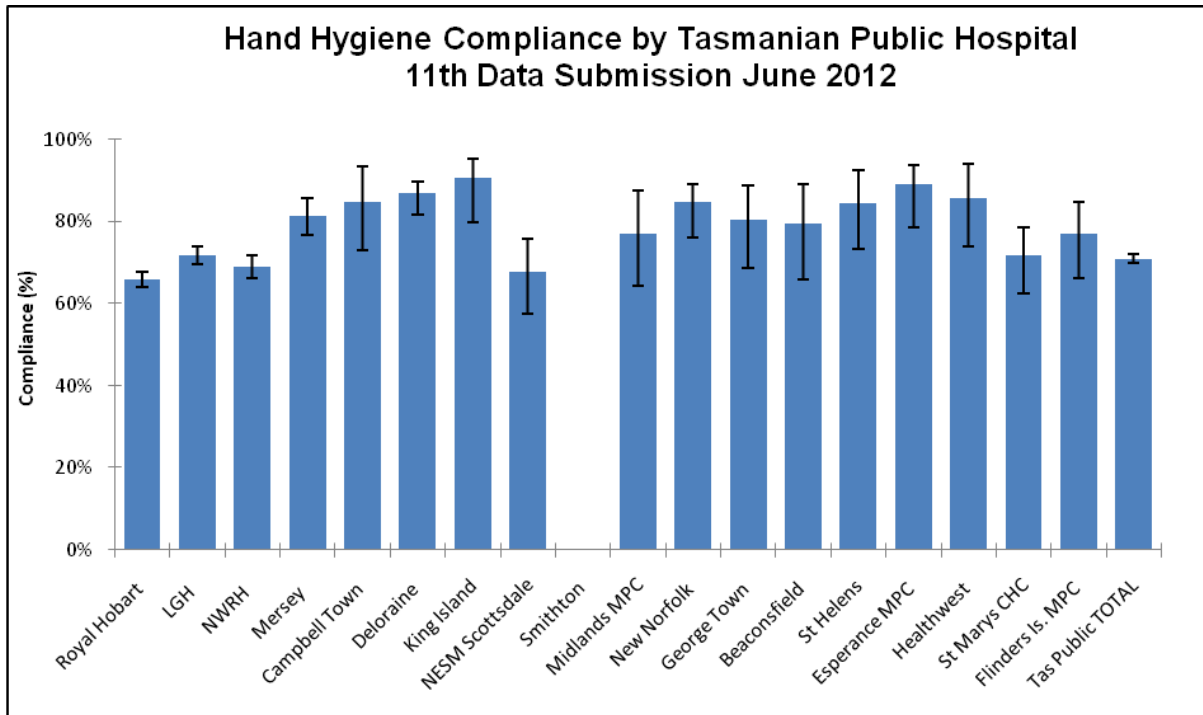
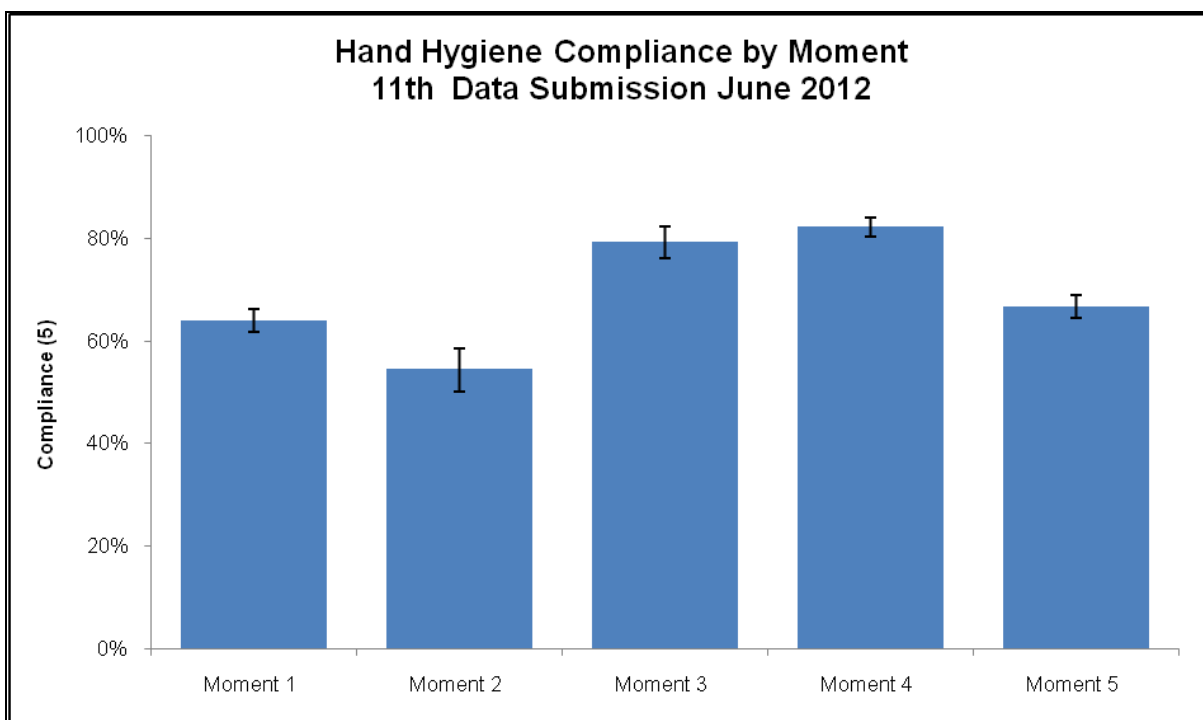
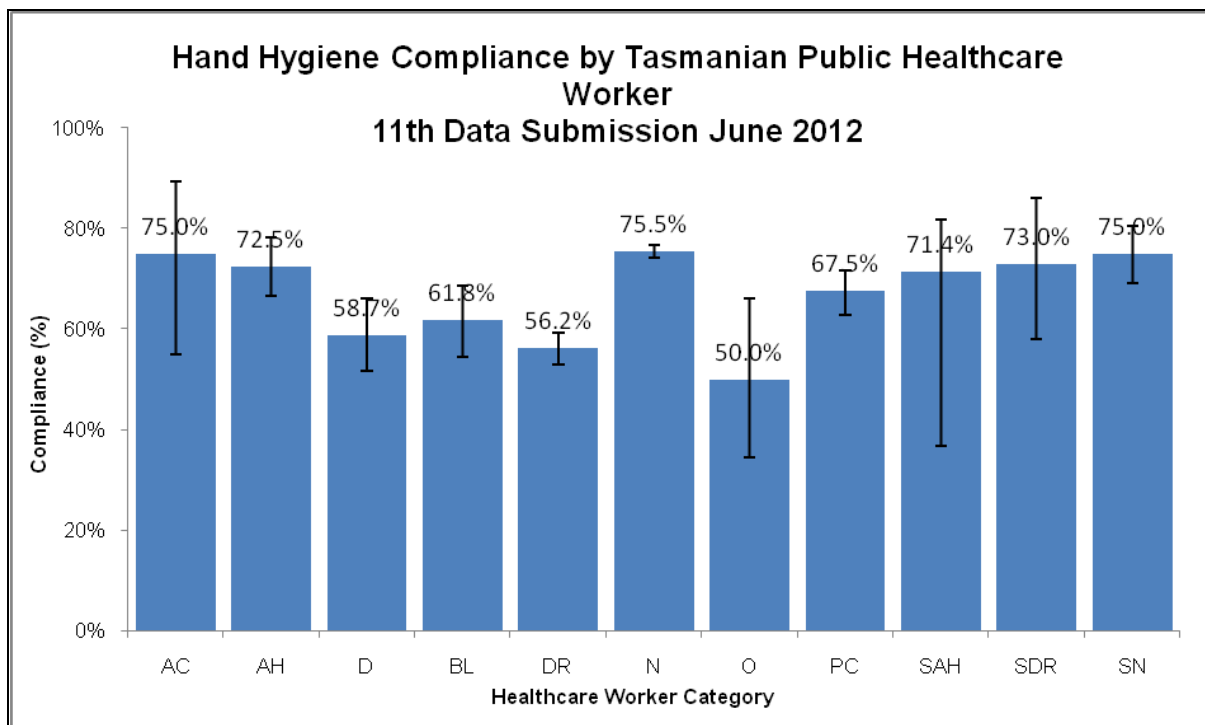


Figure 12 - Hand hygiene compliance by moment



**Figure 13 - Hand hygiene compliance by healthcare worker**



## Key points

- Rural hospitals do not collect as much data as the four acute public hospitals, so comparisons between rural and acute hospitals are not recommended.
- The overall rate of Tasmanian hand hygiene compliance has increased from a baseline of 35.5 per cent in March 2009 to 70.9 per cent in June 2012.
- The rate of hand hygiene compliance in Tasmania is comparable to that of other states. In the first data collection period of 2012 published hand hygiene rates were Victoria (74%), Western Australia (69%) and the National rate (74%).
- The majority of hand hygiene compliance data is collected from nurse patient interactions (62 per cent in the latest report).
- Hand hygiene compliance before touching a patient (Moment 1), undertaking a procedure (Moment 2) and after touching patient surroundings (Moment 5) are lower than those reported after undertaking a procedure (Moment 3) or after touching a patient (Moment 4).

# Staphylococcus aureus sensitivity surveillance

## Introduction

*Staphylococcus aureus* is one of the most common bacterial causes of healthcare associated infections. Infections caused by *Staphylococcus aureus*, particularly those resistant to methicillin (MRSA) result in increased patient morbidity and mortality as well as increased healthcare costs. The *Staphylococcus aureus* sensitivity program, surveys inpatients that have had a *Staphylococcus aureus* infection and determines what percentage of these infections were caused by MRSA. Only clinical isolates are examined. In this surveillance, 100 consecutive *Staphylococcus aureus* isolates were included or 6 months of continuous data, whichever occurred first. Please note that this surveillance was not undertaken in 2010.

## Tasmanian rates

Table 7 and Table 8 outlines the first 100 clinically significant isolates of *Staphylococcus aureus* in patients admitted to hospital for >48 hours (one sample per patient) and the percentage of these isolates that were MRSA.

**Table 7** – Patients in hospital >48 hours, combined total of isolates and percentage MRSA

Year	Total	Total MRSA	% MRSA
2008	295	58	19.7%
2009	268	61	22.8%
2011	254	59	23.2%
2012	235	65	27.6%

## Hospital numbers

**Table 8** – Hospital total SA isolates and proportion that are MRSA in patients in hospital >48 hours

	RHH		LGH		NWRH		MCH	
	Total	MRSA	Total	MRSA	Total	MRSA	Total	MRSA
2008	100	6 (6%)	100	23 (36%)	61	12 (20%)	34	4 (12%)
2009	100	13 (13%)	100	35 (35%)	38	10 (26%)	30	3 (10%)
2011	100	18 (18%)	99	36 (36%)	27	2 (7%)	28	3 (11%)
2012	100	19 (19%)	98	42 (43%)	23*	2 (9%)	15*	2 (13%)

\*Data included until mid May only

## Specimen types

**Table 9** – Specimen sites of SA in patients in hospital >48 hours

Specimen Site	2011			2012		
	SA	MRSA	%MRSA	SA	MRSA	%MRSA
Blood Culture	14	2	14%	13	1	8%
Device	3	1	33%	0	-	-
Fluid/Aspirate	11	1	9%	16	2	13%
Sputum	41	15	37%	57	16	28%
Tissue (includes CSF)	2	0	0%	11	2	18%
Urine	14	2	14%	11	5	45%
Wound Swab	168	38	23%	127	39	31%
Unknown	1	0	0%	-	-	-
<b>TOTAL</b>	<b>254</b>	<b>59</b>	<b>23.2%</b>	<b>235</b>	<b>65</b>	<b>27.5%</b>

## Key points

- There has been an increase in the percentage of *Staphylococcus aureus* isolates obtained from patients in hospital >48 hours that are MRSA.
- This surveillance program identifies isolates in hospitalised patients only but carriage of MRSA prior to hospitalisation is possible.
- These data are a marker for the overall burden of MRSA in the hospital **and** the surrounding community.
- It is not possible to draw inferences about MRSA acquisition based on this data i.e. it is not possible to accurately state whether MRSA was acquired in hospital or in the community prior to hospitalisation.

# Antibiotic utilisation surveillance

## Introduction

Antimicrobial use is inevitably associated with the emergence of antimicrobial -resistant bacteria. Antimicrobial resistance is regarded as a significant and growing threat to public health worldwide. The National Antimicrobial Utilisation Surveillance Program (NAUSP) was commenced in 2004 to conduct surveillance of hospital antimicrobials, principally antibiotic use. The program enables individual institutions to examine their own antimicrobial usage rates and trends over time and provides peer group benchmarks for comparison. This data can be used to identify both trends in antimicrobial use over time and develop local interventions to promote appropriate antimicrobial use.

The Royal Hobart Hospital has been contributing data to the NAUSP since July 2004 while Launceston General Hospital, North West Regional Hospital and Mersey Community Hospital have been contributing since January 2009. This is the first time that TIPCU have published antimicrobial utilisation data and it is the culmination of work by a number of parties.

Antimicrobial utilisation rates are calculated using the number of defined daily doses (DDDs) of specific antimicrobial agents or classes that are consumed each month per 1000 occupied bed days. This is the most widely accepted and used method of measuring antimicrobial use in hospital settings both nationally and internationally.

Rates presented in this report are for only two antimicrobial classes, namely third and fourth generation cephalosporins (ceftriaxone, cefotaxime, ceftazidime, cefepime) and fluoroquinolones (ciprofloxacin, moxifloxacin). These two classes were chosen as they are relevant to other indicators in this report. Cephalosporin use has been linked with the emergence of MRSA while both cephalosporins and fluoroquinolones have been identified as risk factors for the development of *Clostridium difficile* infection.

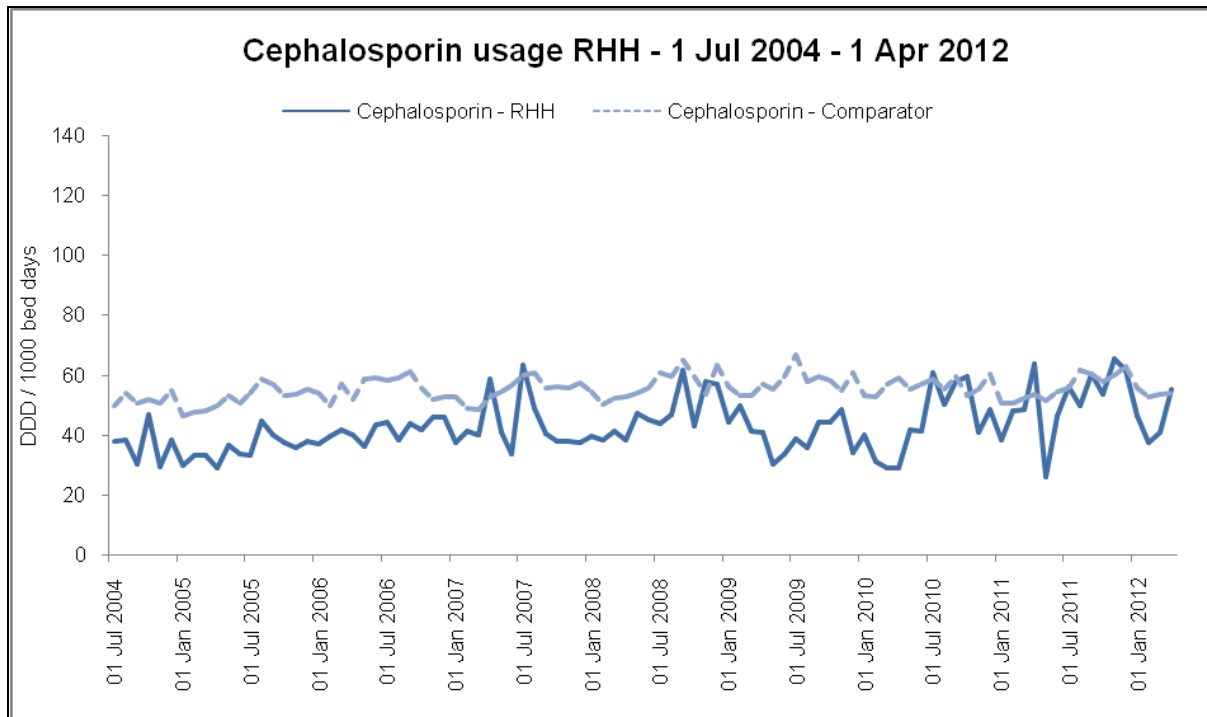
In the graphs to follow, antibiotic use for two classes of antibiotic are presented for each hospital. In the graph is a comparison figure. This figure is the rate of similarly-peer contributing hospitals nationally (NAUSP national rates).

As Tasmanian hospitals vary in services provided, comparisons between Tasmanian hospitals are not recommended. For example, a hospital that has a dedicated cancer service may use more antimicrobials to combat infections in this susceptible patient group.

## Hospital rates

Figure 14 and Figure 15 show antimicrobial use at the Royal Hobart Hospital between July 2004 and April 2012.

**Figure 14 - Cephalosporin use – Royal Hobart Hospital**



**Figure 15 - Fluoroquinolone use – Royal Hobart Hospital**

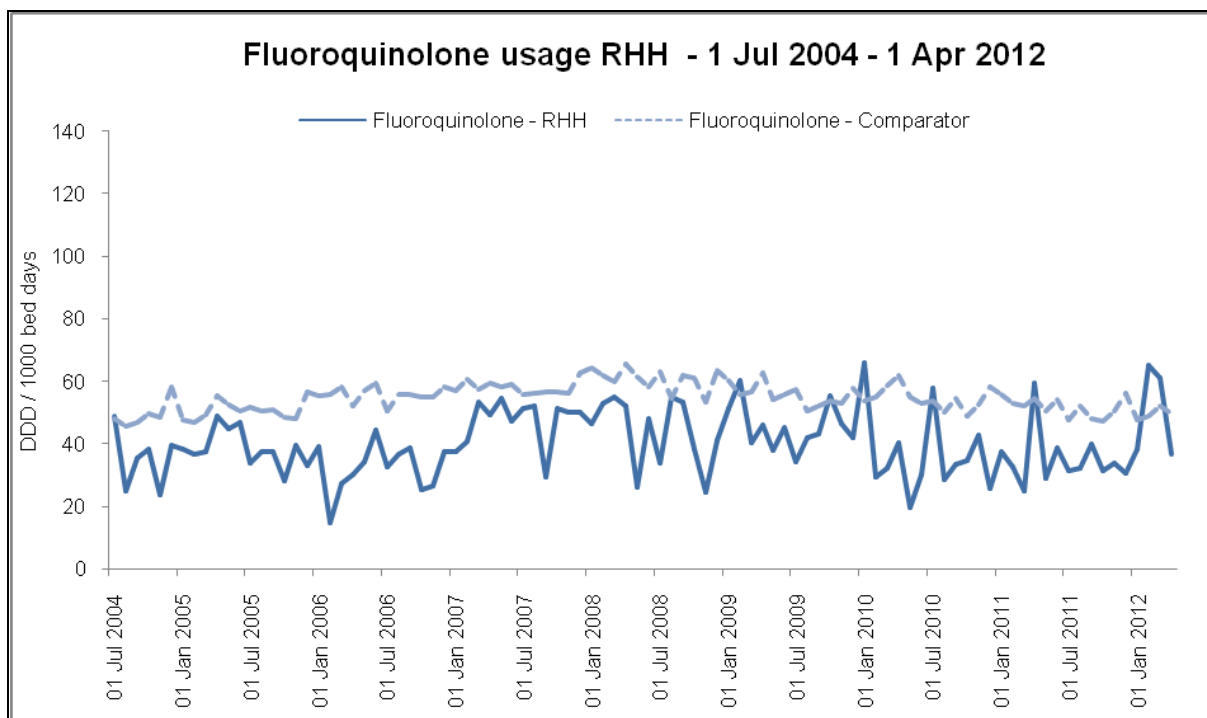
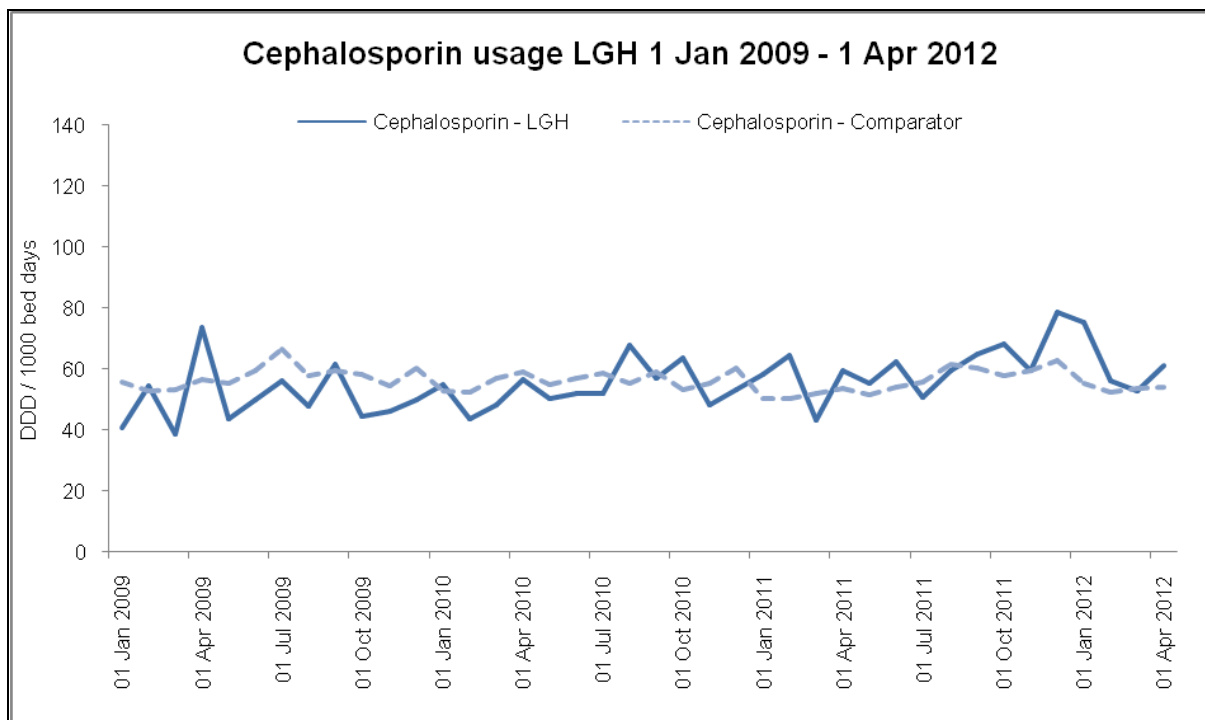


Figure 16 and Figure 17 show antimicrobial use at the Launceston General Hospital between January 2009 and April 2012.

**Figure 16 - Cephalosporin use – Launceston General Hospital**



**Figure 17 - Fluoroquinolone use – Launceston General Hospital**

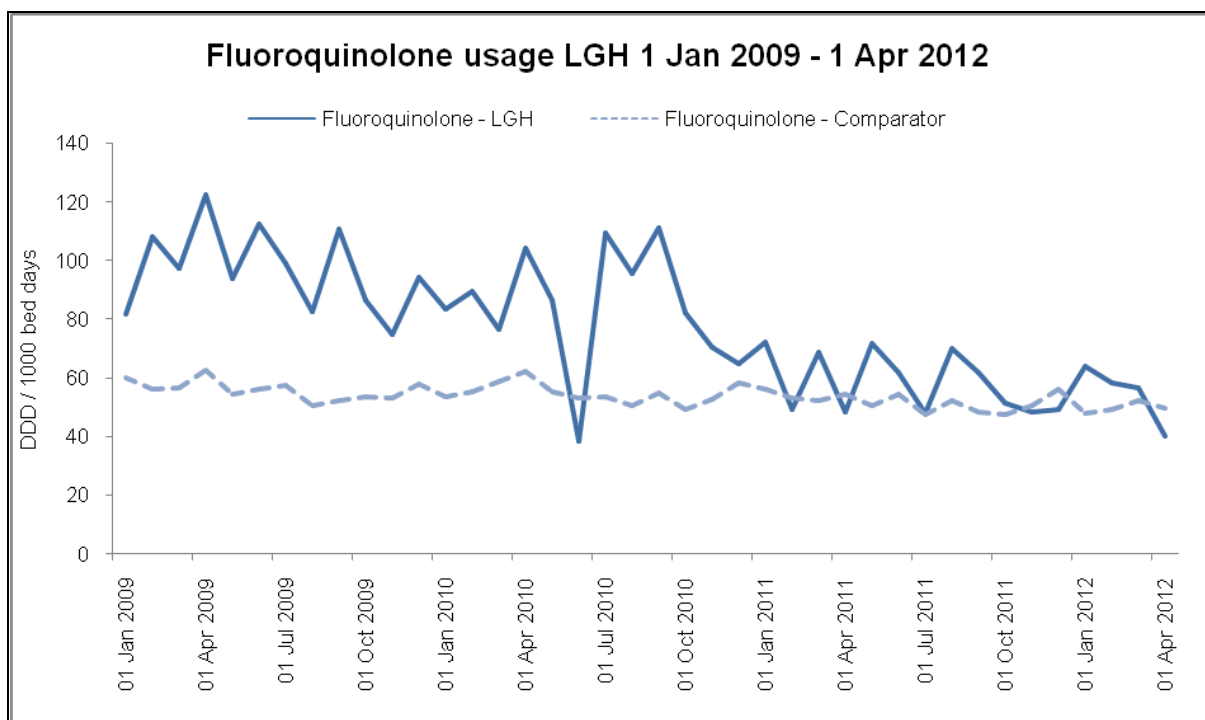
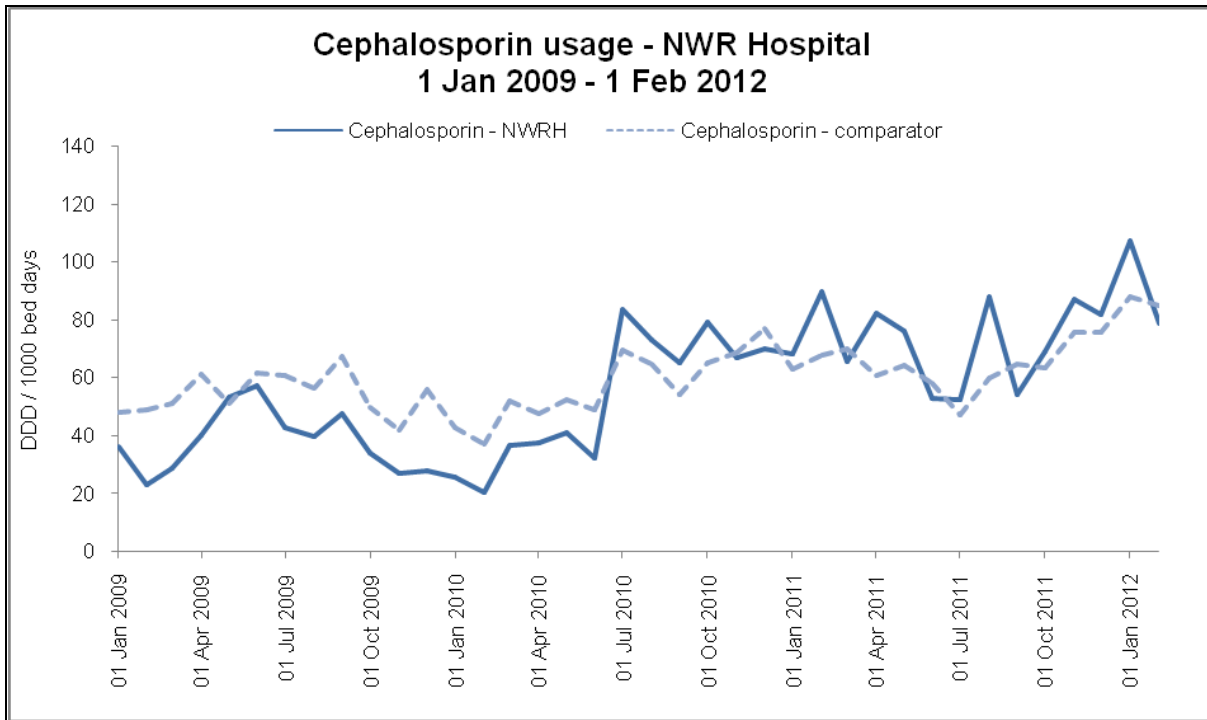




Figure 18 and Figure 19 show antimicrobial use at the North West Regional Hospital between January 2009 and April 2012.

**Figure 18 - Cephalosporin use – North West Regional Hospital**



**Figure 19 - Fluoroquinolone use – North West Regional Hospital**

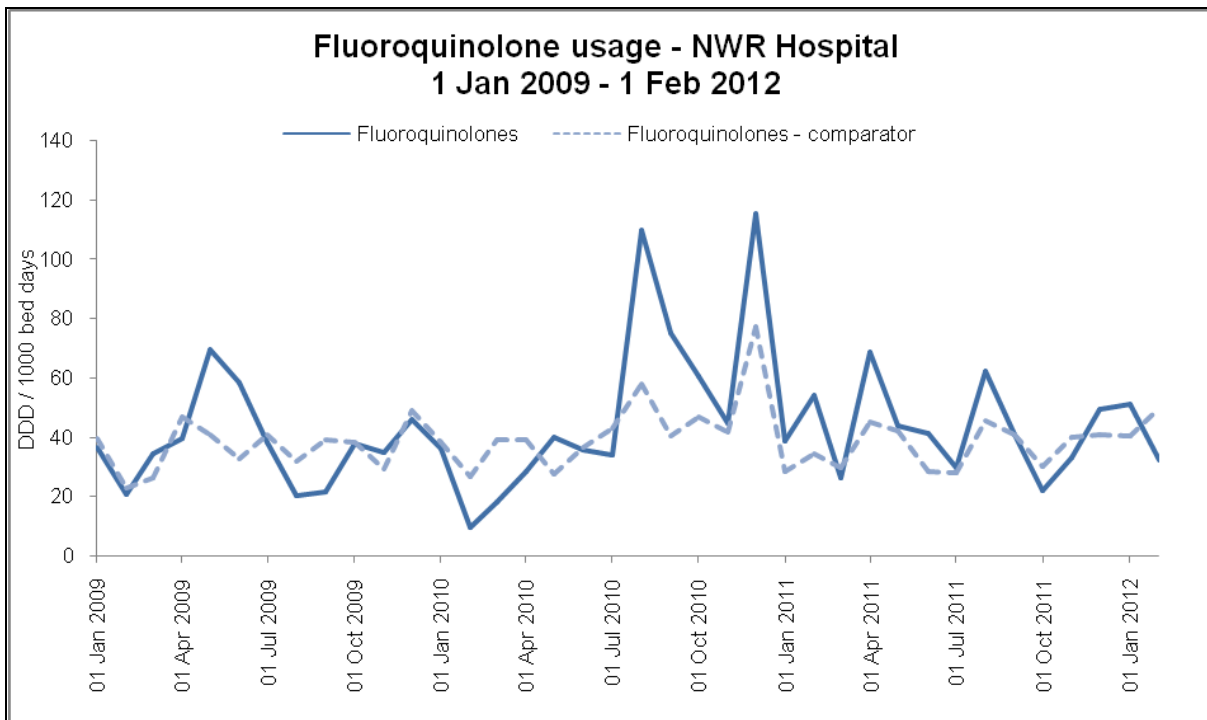
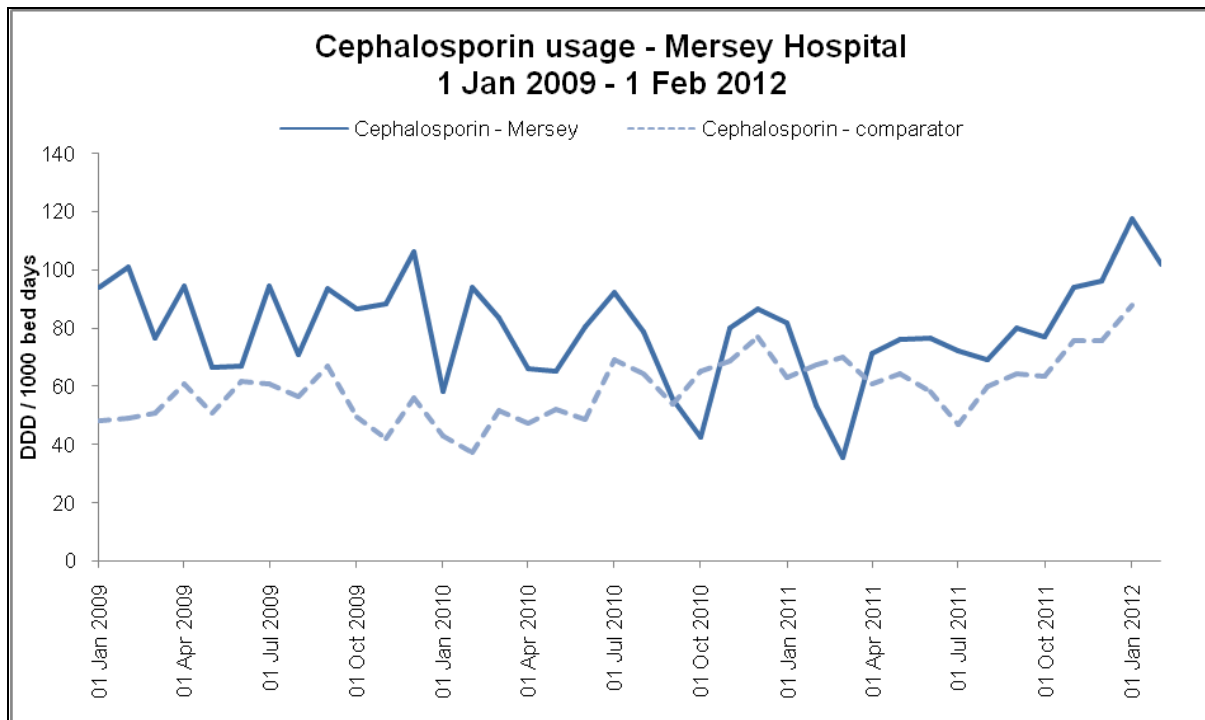
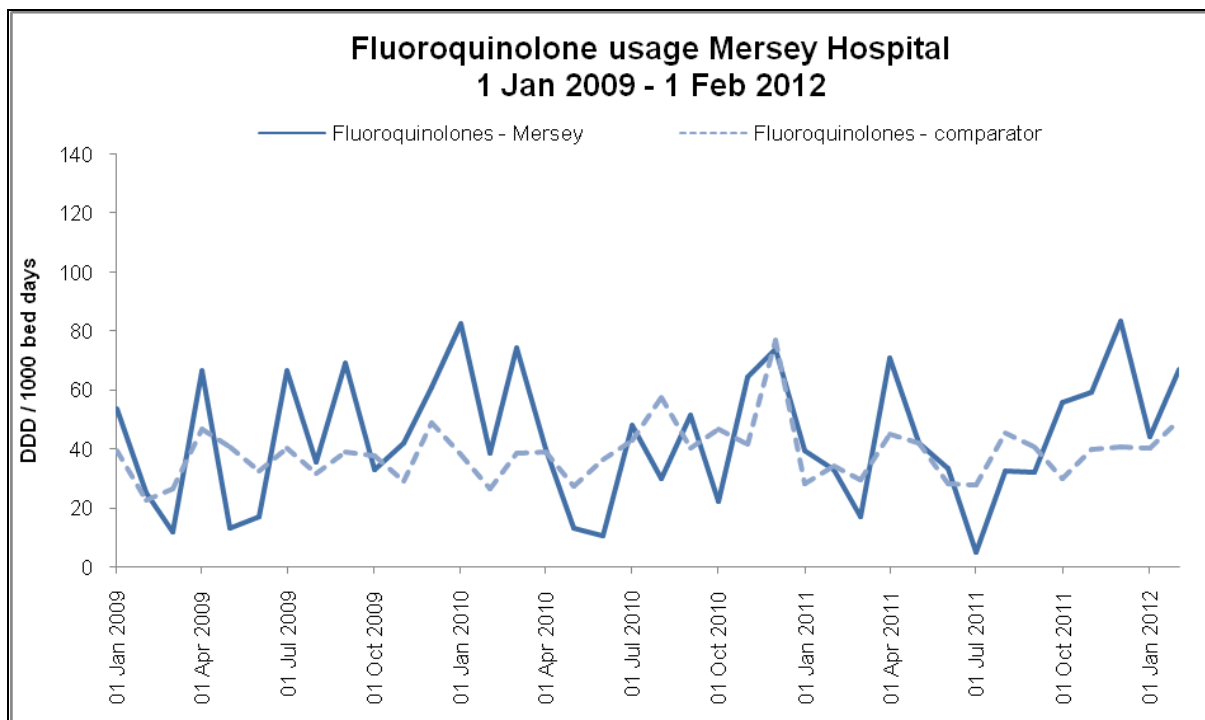


Figure 20 and Figure 21 show antimicrobial use at the Mersey Community Hospital between January 2009 and April 2012.

**Figure 20 - Cephalosporin use – Mersey Community Hospital**



**Figure 21 –Fluoroquinolone use – Mersey Community Hospital**



# 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

**Table 10** - Tasmanian numbers and rate/10 000 bed days of healthcare associated *Staphylococcus aureus* bacteraemia July 2008 to June 2012

Quarter	HCA total*		HCA MRSA	
	Total	Rate	Total	Rate
Q3 2008	16	2.2	3	0.4
Q4 2008	15	2.1	2	0.3
Q1 2009	12	1.7	2	0.3
Q2 2009	8	1.1	1	0.1
Q3 2009	8	1.1	1	0.1
Q4 2009	10	1.4	0	0.0
Q1 2010	13	1.8	0	0.0
Q2 2010	7	1.0	0	0.0
Q3 2010	12	1.6	1	0.1
Q4 2010	9	1.2	3	0.4
Q1 2011	15	2.0	2	0.3
Q2 2011	5	0.6	0	0.0
Q3 2011	8	1.0	1	0.1
Q4 2011	6	0.8	2	0.3
Q1 2012	7	1.0	1	0.2
Q2 2012	7	1.0	1	0.2

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

**Table 11** - Royal Hobart Hospital numbers and rates/10 000 patient care days of healthcare associated *Staphylococcus aureus* bacteraemia July 2008 to June 2012

Quarter	HCA total*		HCA MRSA	
	Total	Rate	Total	Rate
Q3 2008	5	1.4	2	0.6
Q4 2008	7	2.0	1	0.3
Q1 2009	5	1.5	1	0.3
Q2 2009	2	0.6	1	0.3
Q3 2009	1	0.3	0	0
Q4 2009	8	2.2	0	0
Q1 2010	11	3.2	0	0
Q2 2010	5	1.4	0	0
Q3 2010	8	2.3	1	0.3
Q4 2010	5	1.4	1	0.3
Q1 2011	6	1.6	2	0.5
Q2 2011	3	0.8	0	0.00
Q3 2011	2	0.5	0	0.00
Q4 2011	3	0.8	1	0.3
Q1 2012	2	0.6	0	0.00
Q2 2012	3	0.9	0	0.00

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

**Table 12** - Launceston General Hospital numbers and rates/10 000 patient care days of healthcare associated *Staphylococcus aureus* bacteraemia July 2008 to June 2012

Quarter	HCA total*		HCA MRSA	
	Total	Rate	Total	Rate
Q3 2008	3	1.3	1	0.4
Q4 2008	6	2.6	1	0.4
Q1 2009	5	2.2	1	0.4
Q2 2009	3	1.3	0	0.0
Q3 2009	3	1.2	1	0.4
Q4 2009	2	0.8	0	0.0
Q1 2010	1	0.4	0	0.0
Q2 2010	2	0.8	0	0.0
Q3 2010	3	1.2	0	0.0
Q4 2010	2	0.8	2	0.8
Q1 2011	5	2.0	0	0.0
Q2 2011	2	0.7	0	0.0
Q3 2011	5	1.9	1	0.4
Q4 2011	1	0.4	0	0.0
Q1 2012	2	0.9	1	0.5
Q2 2012	2	0.9	0	0.0

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

**Table 13** - North West Regional Hospital numbers and rates/10 000 patient care days of healthcare associated *Staphylococcus aureus* bacteraemia July 2008 to June 2012

Quarter	HCA total*		HCA MRSA	
	Total	Rate	Total	Rate
Q3 2008	5	5.7	0	0.0
Q4 2008	1	1.2	0	0.0
Q1 2009	0	0.0	0	0.0
Q2 2009	2	2.4	0	0.0
Q3 2009	1	1.2	0	0.0
Q4 2009	0	0.0	0	0.0
Q1 2010	1	1.1	0	0.0
Q2 2010	0	0.0	0	0.0
Q3 2010	0	0.0	0	0.0
Q4 2010	1	1.2	0	0.0
Q1 2011	1	1.3	0	0.0
Q2 2011	0	0.0	0	0.0
Q3 2011	0	0.0	0	0.0
Q4 2011	1	1.3	0	0.0
Q1 2012	2	2.7	0	0.0
Q2 2012	1	1.3	1	1.3

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

**Table 14** - Mersey Community Hospital numbers and rates/10 000 patient care days of healthcare associated *Staphylococcus aureus* bacteraemia July 2008 to June 2012

Quarter	HCA total*		HCA MRSA	
	Total	Rate	Total	Rate
Q3 2008	3	5.1	0	0.0
Q4 2008	1	1.9	0	0.0
Q1 2009	2	3.7	0	0.0
Q2 2009	1	1.9	0	0.0
Q3 2009	3	5.1	0	0.0
Q4 2009	0	0.0	0	0.0
Q1 2010	0	0.0	0	0.0
Q2 2010	0	0.0	0	0.0
Q3 2010	1	1.9	0	0.0
Q4 2010	1	1.8	0	0.0
Q1 2011	3	5.5	0	0.0
Q2 2011	0	0.00	0	0.0
Q3 2011	1	2.0	0	0.0
Q4 2011	1	2.1	1	2.1
Q1 2012	1	2.3	0	0.0
Q2 2012	1	2.0	0	0.0

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



## ***Clostridium difficile* infection**

**Table 15** – Tasmanian numbers and rates/10 000 patient care days of *Clostridium difficile* infection July 2006 to June 2012.

<b>Quarter</b>	<b>Total CDI Identified</b>	<b>Rate</b>	<b>Total HCA HCF</b>	<b>Rate</b>
Q3 2006	20	2.9	15	2.1
Q4 2006	19	2.9	14	2.2
Q1 2007	12	1.9	7	1.1
Q2 2007	17	2.6	13	2.0
Q3 2007	21	3.2	13	2.0
Q4 2007	16	2.6	11	1.8
Q1 2008	27	4.3	14	2.2
Q2 2008	29	4.4	20	3.0
Q3 2008	16	2.3	11	1.6
Q4 2008	26	4.0	15	2.3
Q1 2009	25	3.9	19	3.0
Q2 2009	15	2.3	10	1.5
Q3 2009	19	2.7	11	1.6
Q4 2009	37	5.3	18	2.6
Q1 2010	24	3.6	15	2.3
Q2 2010	34	5.0	19	2.8
Q3 2010	34	4.7	30	4.2
Q4 2010	35	5.0	27	3.9
Q1 2011	35	5.0	22	3.6
Q2 2011	35	4.7	18	2.4
Q3 2011	43	5.9	25	3.4
Q4 2011	66	9.8	42	6.3
Q1 2012	50	8.0	24	3.8
Q2 2012	43	6.9	27	4.4

^ Healthcare associated, healthcare facility onset

**Table 16** - Hospital numbers and rates/10 000 patient care days of hospital identified *Clostridium difficile* infection July 2006 to June 2012.

Quarter	Royal Hobart		Launceston General		NW Regional		Mersey Community	
	Total	Rate	Total	Rate	Total	Rate	Total	Rate
Q3 2006	13	4.0	6	2.6	0	0.0	1	1.6
Q4 2006	11	3.6	6	2.8	2	2.6	0	0.0
Q1 2007	5	1.7	5	2.5	2	2.7	0	0.0
Q2 2007	12	3.8	5	2.4	0	0.0	0	0.0
Q3 2007	16	5.1	3	1.4	1	1.3	1	2.3
Q4 2007	6	2.0	9	4.3	1	1.3	0	0.0
Q1 2008	18	5.9	7	3.4	0	0.0	2	4.6
Q2 2008	21	6.5	3	1.4	3	3.7	2	3.9
Q3 2008	9	2.8	7	3.2	0	0.0	0	0.0
Q4 2008	13	4.2	9	4.2	2	2.5	2	4.2
Q1 2009	18	6.1	7	3.3	0	0.0	0	0.0
Q2 2009	9	2.9	6	2.7	0	0.0	0	0.0
Q3 2009	8	2.4	9	3.9	1	1.2	1	1.8
Q4 2009	25	7.6	6	2.6	5	6.1	1	2.0
Q1 2010	10	3.2	9	4.0	3	3.9	2	4.3
Q2 2010	18	5.4	10	4.4	5	7.0	1	2.3
Q3 2010	25	7.1	5	2.1	1	1.2	3	6.0
Q4 2010	25	7.5	4	1.8	3	3.8	3	5.7
Q1 2011	25	7.2	7	3.0	2	2.7	2	4.0
Q2 2011	25	7.2	5	1.9	2	2.3	3	6.2
Q3 2011	24	6.9	10	4.1	3	3.3	6	13.2
Q4 2011	34	10.4	18	8.1	8	10.1	6	13.6
Q1 2012	32	10.2	13	6.5	3	4.1	2	5.1
Q2 2012	23	7.7	12	6.0	4	5.2	4	9.0

**Table 17** - Hospital numbers and rates/10 000 patient care days of healthcare associated, healthcare facility onset *Clostridium difficile* infection July 2006 to June 2012

Quarter	Royal Hobart		Launceston General		NW Regional		Mersey Community	
	Total	Rate	Total	Rate	Total	Rate	Total	Rate
Q3 2006	10	3.0	5	2.2	0	0.0	0	0.0
Q4 2006	10	3.3	3	1.4	1	1.3	0	0.0
Q1 2007	1	0.3	5	2.5	1	1.3	0	0.0
Q2 2007	10	3.2	3	1.5	0	0.0	0	0.0
Q3 2007	9	2.8	3	1.4	1	1.3	0	0.0
Q4 2007	4	1.3	7	3.4	0	0.0	0	0.0
Q1 2008	10	3.3	4	2.0	0	0.0	0	0.0
Q2 2008	14	4.3	3	1.4	2	2.5	1	2.0
Q3 2008	7	2.2	4	1.8	0	0.0	0	0.0
Q4 2008	9	2.9	4	1.9	1	1.2	1	2.1
Q1 2009	13	4.4	6	2.8	0	0.0	0	0.0
Q2 2009	5	1.6	5	2.3	0	0.0	0	0.0
Q3 2009	6	1.8	5	2.1	0	0.0	0	0.0
Q4 2009	12	3.6	3	1.3	2	2.5	1	2.0
Q1 2010	7	2.2	5	2.2	3	3.9	0	0.0
Q2 2010	12	3.6	4	1.7	2	2.8	1	2.3
Q3 2010	21	6.0	5	2.1	1	1.2	3	6.0
Q4 2010	20	5.8	4	1.8	1	1.3	2	3.8
Q1 2011	15	4.3	5	2.2	0	0.0	2	4.0
Q2 2011	14	4.0	2	0.8	1	1.1	1	2.1
Q3 2011	15	4.3	6	2.4	0	0.0	4	8.8
Q4 2011	21	6.5	14	6.3	4	5.1	3	6.8
Q1 2012	18	5.8	5	2.5	1	1.4	0	0.0
Q2 2012	17	5.7	6	3.0	2	2.6	2	4.5

## Hand hygiene compliance data June 2012

**Table 18** – Hand hygiene compliance rates by Tasmanian hospital and state level

<b>Hospital</b>	<b>Hand Hygiene Compliance Rate</b>	<b>Lower 95% Confidence</b>	<b>Upper 95% Confidence</b>
Royal Hobart	65.9%	64.0%	67.7%
Launceston General	71.8%	69.7%	73.7%
NW Regional	69.0%	66.1%	71.8%
Mersey Community	81.3%	77.0%	85.0%
Campbell Town	84.7%	75.6%	90.8%
Deloraine	87.0%	79.6%	91.9%
King Island	90.6%	79.7%	95.9%
Scottsdale	67.7%	57.7%	46.4%
Smithton	No data submitted	N/A	N/A
Midlands (Oatlands)	76.9%	63.9%	86.3%
New Norfolk	84.6%	66.5%	93.8%
George Town	80.5%	72.4%	86.6%
Beaconsfield	79.4%	67.8%	87.5%
St Helens	84.5%	73.1%	91.6%
Esperance (Dover)	89.1%	78.2%	94.9%
Queenstown	85.7%	74.3%	92.6%
St Marys	71.9%	61.8%	80.2%
Flinders Island	76.9%	63.9%	86.3%
<b>Tasmanian Rate</b>	<b>70.9%</b>	<b>69.8%</b>	<b>72.0%</b>

**Table 19 - Tasmanian hand hygiene compliance rates by healthcare worker**

<b>Code</b>	<b>Healthcare worker</b>	<b>Hand hygiene compliance rate</b>	<b>Lower 95% confidence</b>	<b>Upper 95% confidence</b>
<b>AC</b>	Clerical	75.0%	53.1%	88.8%
<b>AH</b>	Allied Health	72.5%	67.2%	77.2%
<b>D</b>	Domestic	58.7%	51.3%	65.8%
<b>BL</b>	Invasive technician	61.8%	54.4%	68.8%
<b>DR</b>	Doctor	56.2%	53.1%	59.2%
<b>N</b>	Nurse/midwife	75.5%	74.1%	76.7%
<b>O</b>	Other	50.0%	32.6%	67.4%
<b>PC</b>	Personal care staff	67.5%	62.9%	71.8%
<b>SAH</b>	Student Allied Health	71.4%	35.9%	91.8%
<b>SDR</b>	Student doctor	73.0%	61.9%	81.8%
<b>SN</b>	Student nurse/midwife	75.0%	69.9%	79.5%

**Table 20 – Tasmanian hand hygiene compliance rates by moment**

<b>Moment</b>	<b>Compliance rate</b>	<b>Lower 95% confidence</b>	<b>Upper 95% confidence</b>
1	63.9%	61.7%	66.0%
2	54.4%	49.7%	59.0%
3	79.3%	75.9%	82.3%
4	82.1%	80.4%	83.7%
5	66.7%	64.5%	68.8%





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