PUBLIC HEALTH SERVICES

Tasmanian Acute Public Hospitals

Healthcare Associated Infection Surveillance Report

Report 24 – Quarter 4 2014

Department of Health and Human Services

Tasmanian Government

Tasmanian Acute Public Hospitals Healthcare Associated Infection Surveillance Report

Tasmanian Infection Prevention and Control Unit (TIPCU)

Department of Health and Human Services, Tasmania

Published 2015

Editors

- Anne Wells, TIPCU
- Fiona Wilson, TIPCU
- Dr Alistair McGregor, TIPCU
- Dr Brett Mitchell, Avondale College, Faculty of Nursing and Health, Wahroonga, NSW

Suggested reference: Wells, A., Wilson, F., McGregor, A., Mitchell, B. (2015). Tasmanian Acute Public Hospitals Healthcare Associated Infection Report No 24 – Quarter 4 2014. Hobart: Department of Health and Human Services.

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

Notes

- Data from previous reports should not be relied upon. Use the most up to date report when quoting/using data.

TASMANIAN INFECTION PREVENTION AND CONTROL UNIT

Public Health Services

Department of Health and Human Services

GPO Box 125 Hobart 7001

Contents

Index of figures and tables

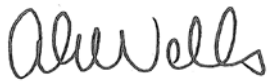
Executive summary

This quarterly surveillance 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 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.

Any form of comparison between hospitals should be done with extreme caution because data are not adjusted for patient characteristics which vary from hospital to hospital. 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 illustrates this. Information about how overall Tasmanian rates compare with those of other Australian states where available, are provided in the Key Points sections of this report.

From this report, the following findings can be made:

- The rate of healthcare associated *Staphylococcus aureus* bacteraemia remains low.
- The number and rate of both hospital identified *Clostridium difficile* infection (CDI) and healthcare associated – healthcare facility onset *Clostridium difficile* infection (HCA – HCF CDI) increased in Q4 2014 compared with the previous two quarters but still remain less than most quarters since mid-2011.
- The occurrence of vancomycin resistant *enterococcus* has increased this quarter over the previous quarter.



Ms Anne Wells
Assistant Director of Nursing, TIPCU

Dr Alistair McGregor
Specialist Medical Advisor, TIPCU

Staphylococcus aureus bacteraemia (SAB)

Tasmanian rates

Staphylococcus aureus is the most common cause of serious healthcare associated bloodstream infection and cause significant patient morbidity as well as having an estimated mortality of around 25-30%. Many of these 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 and associated guidelines and as such, all isolates of SAB are notified to TIPCU. Tasmania is the first and only Australian jurisdiction to introduce this measure.

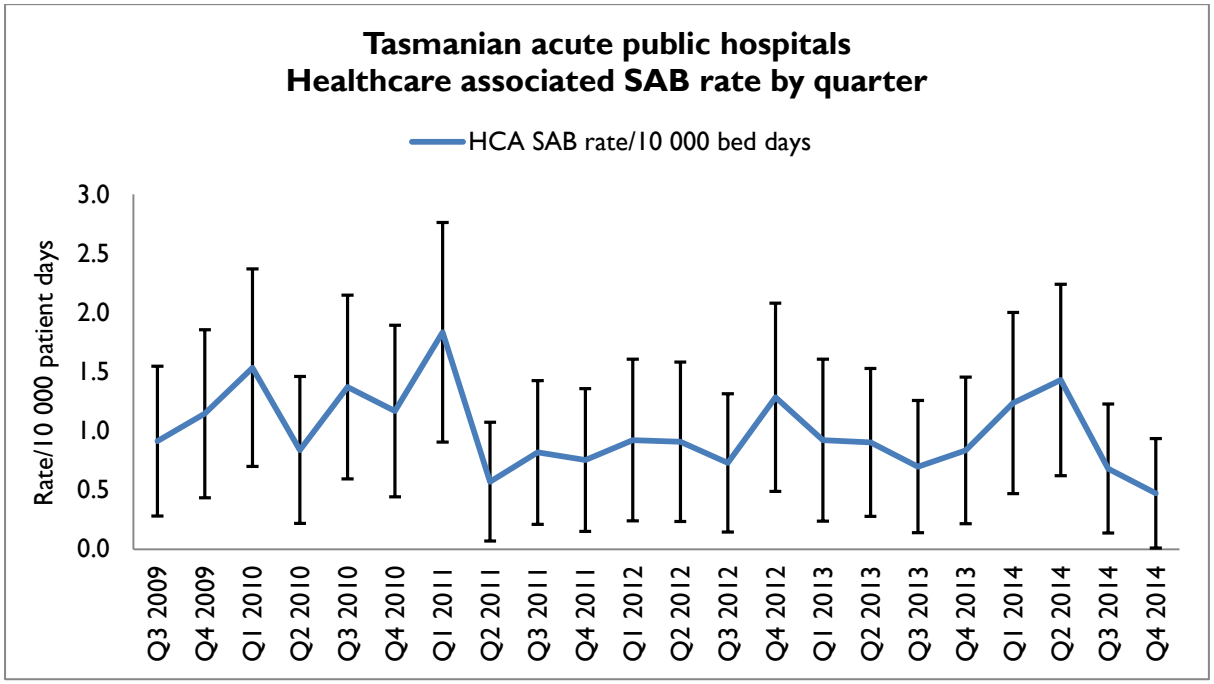
Surveillance of SAB is carried out in Tasmania using the nationally agreed surveillance definitions published by the Australian Commission on Safety and Quality in Health Care (ACSQHC). Under this definition a SAB is defined as healthcare associated if the patients first SAB positive blood culture was collected either >48 hours after hospital admission or <48 hours after discharge (Criterion A) **OR** 2) ≤48 hours after hospital admission and one of 4 key clinical criteria was met (Criterion B).

The National Healthcare Agreement (2011) target is no more than of 2 HCA SAB/10 000 patient days[1].

Figure 1 presents the Tasmanian combined acute public hospital rates of healthcare associated *Staphylococcus aureus* bacteraemia (HCA SAB).

The rate of HCA SAB for Q4 2014 was 0.5 per 10 000 patient days (95% CI 0.01 – 0.9) and the mean (average) rate of healthcare associated *Staphylococcus aureus* bacteraemia over the past 12 months (January 1st 2014 – December 31st 2014) is 0.9 per 10 000 patient days (95% CI 0.6 – 1.3).

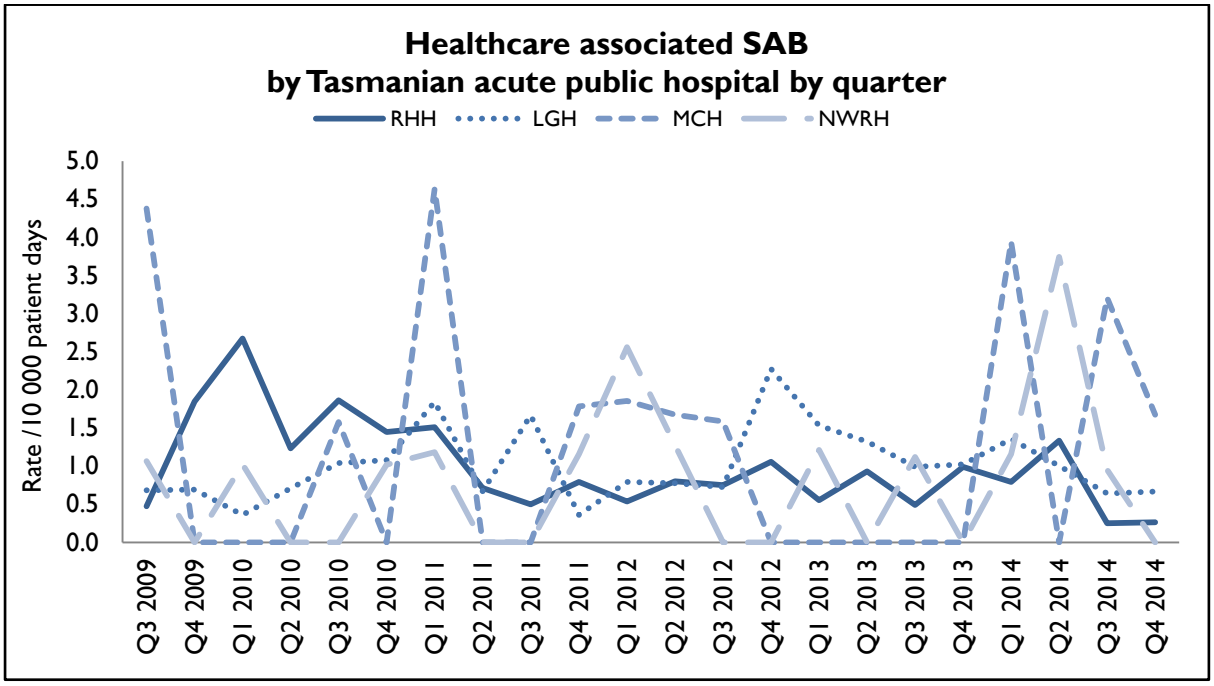
Figure 1 Healthcare associated *Staphylococcus aureus* bacteraemia rate.



Hospital rates

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

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



Key points

- The Tasmanian HCA SAB rate of 0.5 per 10 000 patient days is comparable to the most recently published data reported in other Australian states and territories. For example, the HCA SAB aggregate rate in Q3 2014 in Western Australia was 0.96 per 10 000 bed days (multi-day and same-day bed days)[1] while the rate of HCA SAB at The Canberra Hospital in 2012-2013 is reported as 1.72 cases per 10,000 days of patient care[2].
- Rates for RHH, LGH and NWRH are less than their hospital peer group average rates[2]. MCH is 'unpeered' so rate comparisons with other facilities cannot be made.

1. HISWA Quarterly Aggregate Report Quarter 23 2014 – Number 37
2. MyHospitals http://www.myhospitals.gov.au/hospital/the-canberra-hospital/safety-and-quality/sab

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.

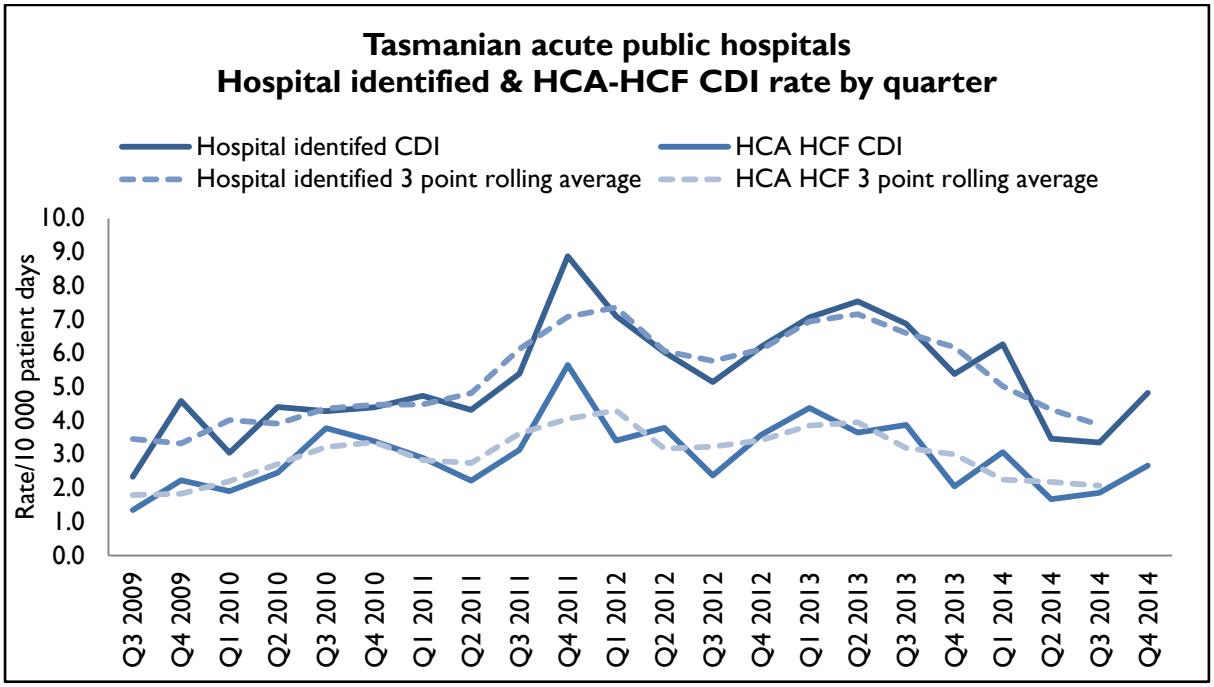
Surveillance of CDI in Tasmania uses the ACSQHC nationally agreed surveillance definitions. Hospital identified CDI includes both healthcare facility and community associated infections in people over the age of 2 years, while healthcare associated – healthcare facility onset (HCA-HCF) CDI includes only those infections that occurred 48 hours or more after a patient was admitted to hospital. The HCA – HCF rate excludes persons who present to hospital with symptoms of CDI and/or develop symptoms within 2 days of admission. The three point rolling average calculates the average rate of the previous, current and next quarter and is used to detect changes in trends over time. This rate will always be reported up to the end of the previous quarter.

Tasmanian rates

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

The rate of hospital identified CDI for Q4 2014 was 4.8/10 000 patient days (95% CI 3.3 – 6.4) and the rate of HCA-HCF over the same time period was 2.7/10 000 patient days (95% CI 1.5 – 3.8). The mean (average) rate of hospital identified CDI for the previous 12 months (January 1st 2014 - December 31st 2014) is 4.5 per 10 000 patient days (95% CI 3.7 – 5.2) while the mean rate of HCA-HCF CDI over the same time period is 2.3 per 10 000 patient days (95% CI 1.8 – 2.8).

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 by quarter of **hospital identified CDI** and **healthcare associated – healthcare facility onset (HCA-HCF) CDI.**

Figure 4 Individual hospital identified CDI - rate by quarter.

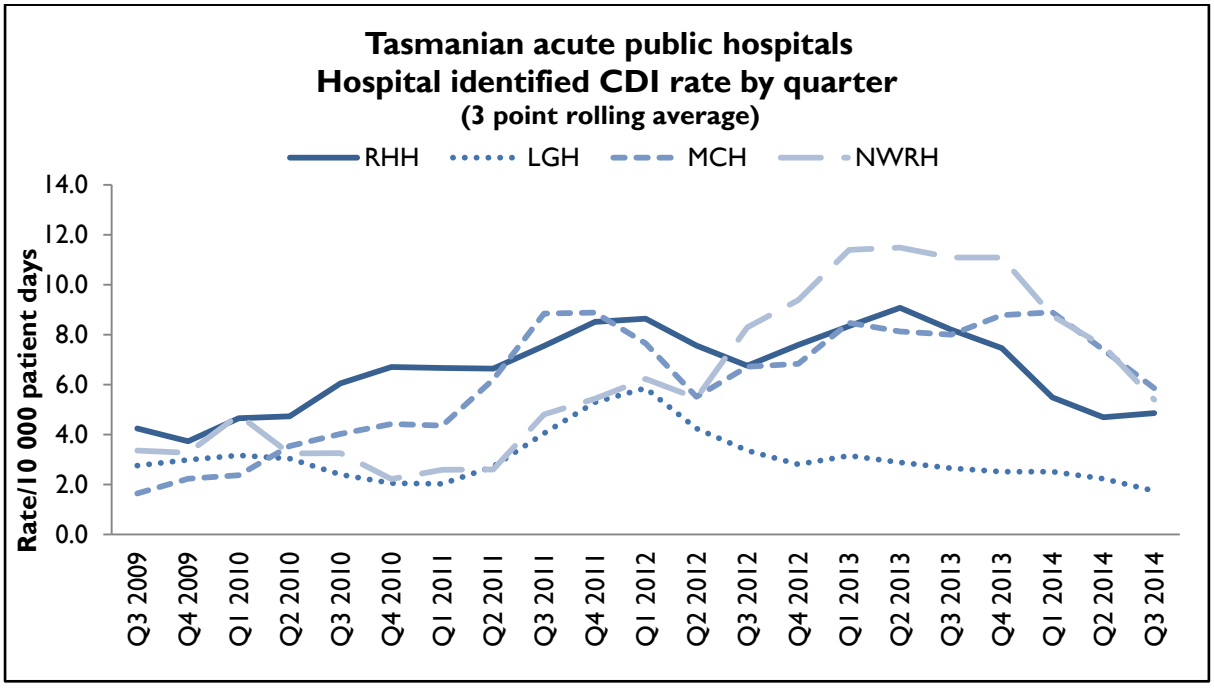
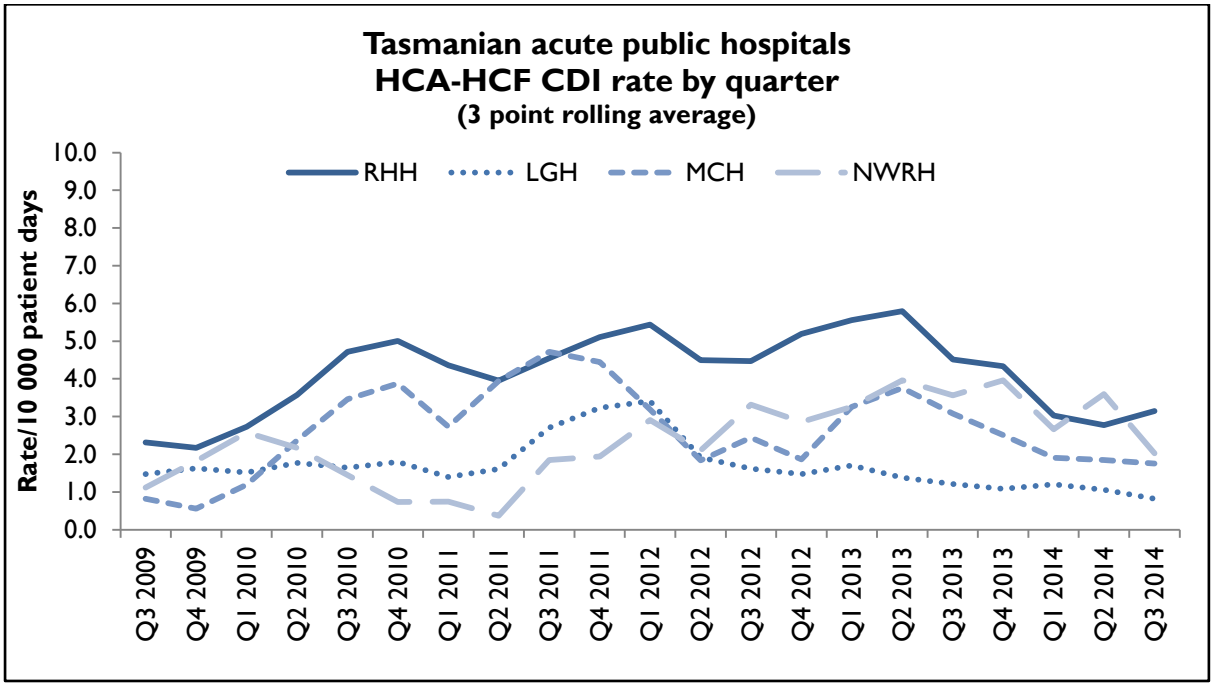


Figure 5 Individual hospital HCA-HCF CDI - rate by quarter



Key points

- The Tasmanian number and rate of both hospital identified and HCA-HCF CDI increased in Q4 2014 compared with the previous 2 quarters.
    - The rate of hospital identified CDI in Q4 2014 of 4.8/10 000 was an increase over the rates in Q2 and Q3 2014. This increase represents 11 more cases of hospital identified CDI in Q4 2014 (n=38) than in Q2 (n=27) and Q3 (n=27) 2014. However, the rate for Q4 remains less than the hospital identified rates from Q3 2011 to Q1 2014 inclusive.
    - The rate of HCA HCF CDI in Q4 2014 was an increase over the rates in Q2 and Q3 2014. This increase represents 6 more cases of HCA HCF in Q4 2014 (n=21) than in Q2 (n=13) and Q3 (n=15) 2014. Despite this increase, the rate for Q4 remains less than all but two quarters since Q3 2011.

Vancomycin resistant *enterococcus* (VRE)

Enterococci are bacteria that are 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 *enterococci* or VRE. VRE infections can be more difficult to treat then 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, a lack of an antimicrobial stewardship program and suboptimal environmental cleanliness.

Identification of VRE is a notifiable condition in Tasmania pursuant to the Public Health Act 1997 and associated guidelines and as such, all isolates of VRE are notified to TIPCU.

The isolates identified within hospitals do not necessarily mean that VRE was acquired at that hospital. Numbers of VRE isolates 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 'total isolates identified' includes all new cases identified in Tasmania and includes isolates from public and private hospitals, rural hospitals, GP clinics and long term and residential care facilities.

Tasmanian numbers

Table 1presents information on 1) new VRE isolates identified in acute public hospitals, 2) new VRE isolates identified in healthcare settings outside of the acute public hospitals and 3) the total number of new VRE isolates identified across Tasmania.

Table 1 VRE isolates identified per quarter.

	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

Key points

- There has been an increase in the total number of VRE isolates identified in Q4 2014 compared with the previous 3 quarters. This represents an increase in positive isolates in the 'other healthcare settings' category and all reflect colonisation rather than infection. This increase could represent either an increase in screening effort with a subsequent increase in detections of VRE and/or an actual increase in VRE colonisation. Anecdotally, there has been an increase in screening in some hospitals recently.

Hand hygiene compliance data

Tasmanian rates

Figure 6 Hand hygiene compliance rate in Tasmanian public hospitals

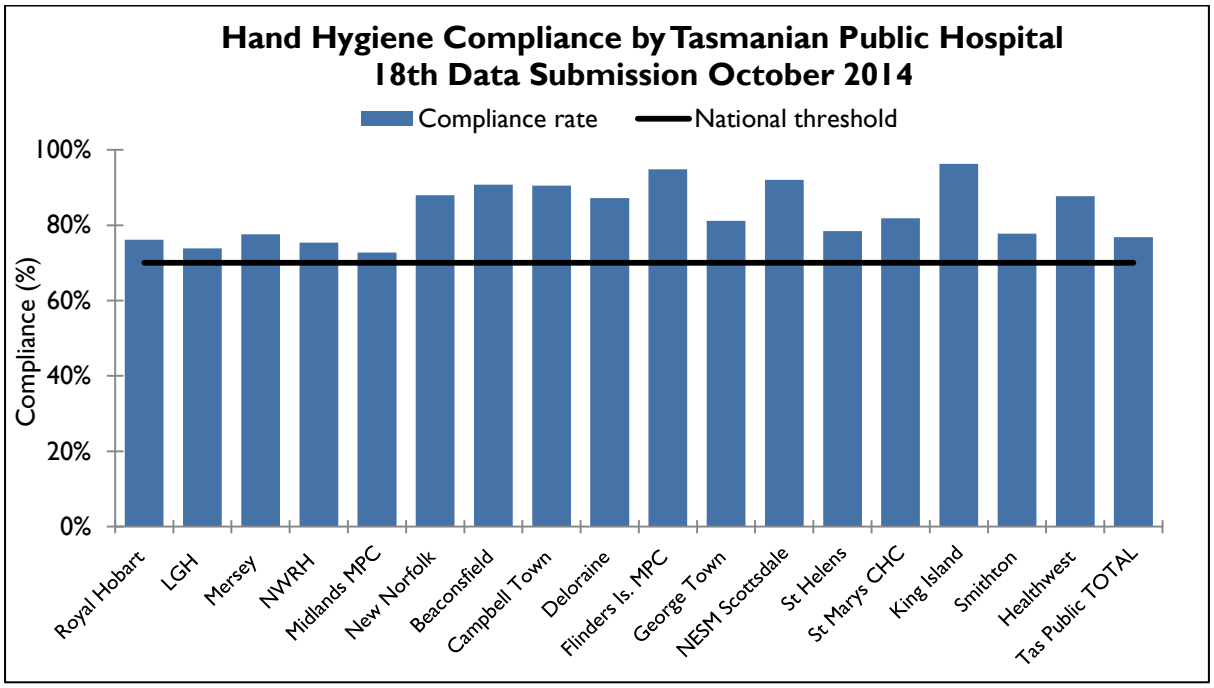


Figure 7 Hand hygiene compliance by moment

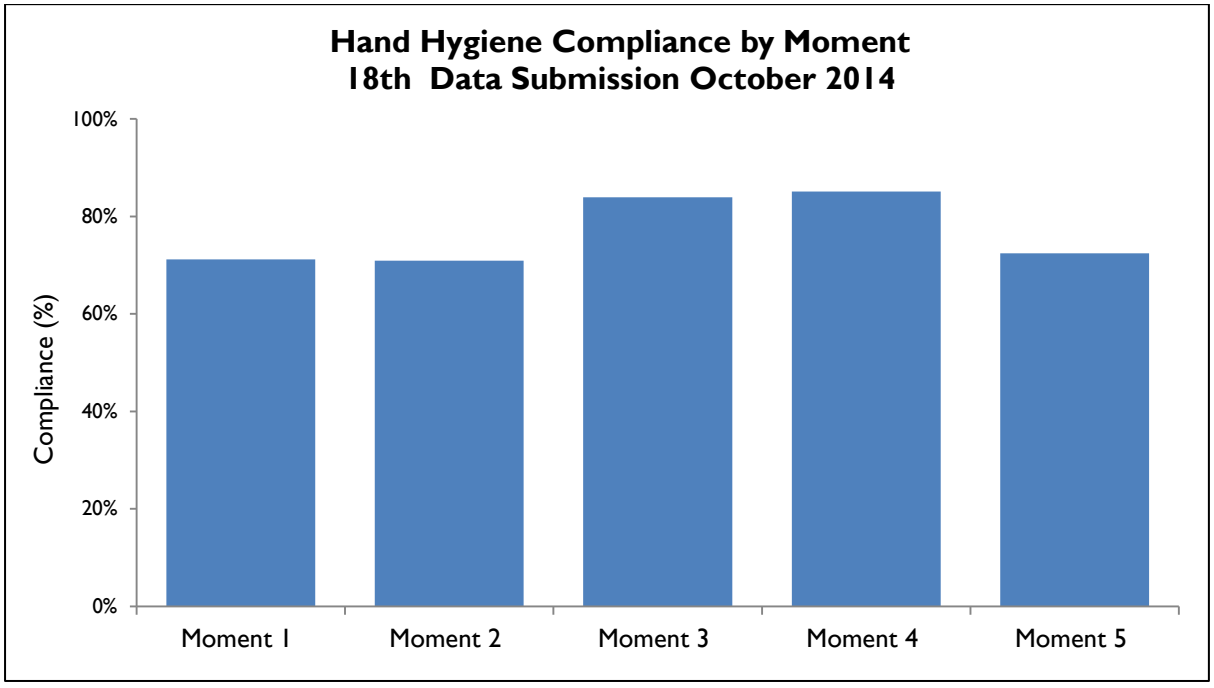
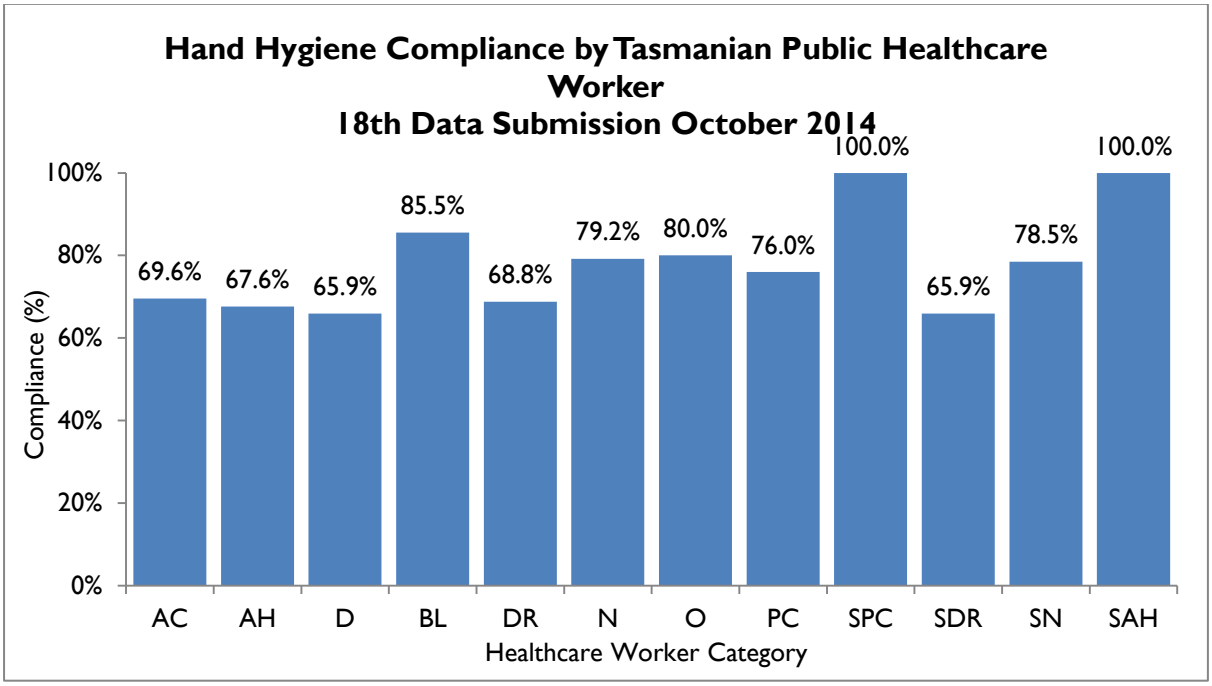


Figure 8 Hand hygiene compliance by healthcare worker



AC	Clerical	DR	Doctor	SPC	Student Personal Carer
AH	Allied Health	N	Nurse/Midwife	SDR	Student Doctor
D	Domestic	O	Other	SN	Student Nurse/Midwife
BL	Invasive Technician	PC	Personal Care Staff	SAH	Student Allied Health

Key points

- The rate of hand hygiene compliance in Tasmania is comparable with other states. In the second data collection period of 2014, published hand hygiene rates were 79.9% in Victoria[1], the National rate was 81%[2] and was 80% in Western Australia[3].

- There are significant differences in the number of hand hygiene moments observed in the acute hospitals versus the rural hospitals as well as in each healthcare worker group. This can be seen by the numbers presented in Table 12 of Appendix 2. The majority of hand hygiene compliance data (70% in the latest report) is collected from nurse patient interactions.

- 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).

1. VICNISS Hand Hygiene report – NHHI Audit 2, 2014 - http://www.vicniss.org.au/Resources/HandHygiene/NHHI_2014_Audit2_VictorianAggregateComplianceData.pdf
2. HHA – National data period 2, 2014 http://www.hha.org.au/LatestNationalData.aspx
3. Government of Western Australia, Department of Health. http://www.health.wa.gov.au/handhygiene/monitoring/allhosp.cfm

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 THO North
- Executive Director of Nursing THO North West
- Executive Director of Nursing THO South
- 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
- The National Antimicrobial Utilisation Surveillance Program (NAUSP)
- 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 (HAI) 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 healthcare associated SAB?

TIPCU use the national surveillance definitions published by the Australian Commission on Safety and Quality in Health Care (ACSQHC) to classify SAB. There are two categories of HCA SAB. A SAB is considered to be healthcare associated if it fits one of the following two criteria:

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 (e.g. 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

Confidence intervals

Confidence intervals are used to calculate the range in which the true rate lies. As an example, when looking at the hand hygiene compliance 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. HHA calculate 95% confidence intervals, indicating the intervals in which 95% of the time the true compliance level lies". (HHA 2011).

Patient Care Days

Patient days is the term given 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 per 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?

It is important to be wary when comparing data between hospitals. 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.

There are other reasons why hospitals should not be directly compared. These include:

- Some hospitals may look for infections 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)

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 2 Tasmanian numbers and rate/10 000 patient days of healthcare associated SAB (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

Table 3 Royal Hobart Hospital numbers and rates/10 000 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

Table 4 Launceston General Hospital numbers and rates/10 000 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

Table 5 Mersey Community Hospital numbers and rates/10 000 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

Table 6 North West Regional Hospital numbers and rates/10 000 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

Clostridium difficile infection (CDI)

Table 7 Tasmanian numbers and rates/10 000 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

Table 8 Hospital numbers and rates/10 000 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

Table 9 Hospital numbers and rates/10 000 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

Hand hygiene compliance data October 2014

Table 10 Hand hygiene compliance rates by Tasmanian hospital and state level

Hospital Name	HH Correctly Performed	HH Moments	Compliance rate	Lower 95% confidence interval	Upper 95% confidence interval
Royal Hobart	2039	2677	76.2%	74.5%	77.7%
LGH	1300	1760	73.9%	71.8%	75.9%
Mersey	280	361	77.6%	73.0%	81.6%
NWRH	735	975	75.4%	72.6%	78.0%
Midlands MPC	40	55	72.7%	59.8%	82.7%
New Norfolk	51	58	87.9%	77.1%	94.0%
Beaconsfield	49	54	90.7%	80.1%	96.0%
Campbell Town	38	42	90.5%	77.9%	96.2%
Deloraine	95	109	87.2%	79.6%	92.2%
Flinders Is. MPC	55	58	94.8%	85.9%	98.2%
George Town	99	122	81.1%	73.3%	87.1%
NESM Scottsdale	69	75	92.0%	83.6%	96.3%
St Helens	51	65	78.5%	67.0%	86.7%
St Marys CHC	90	110	81.8%	73.6%	87.9%
King Island	52	54	96.3%	87.5%	99.0%
Smithton	42	54	77.8%	65.1%	86.8%
Healthwest	50	57	87.7%	76.8%	93.9%
Tas Public TOTAL	**5135**	**6686**	**76.8%**	**75.8%**	**77.8%**

Table 11 Tasmanian hand hygiene compliance rates by moment

Moments	HH Correctly Performed	Total HH Moments	Compliance rate	Lower 95% confidence interval	Upper 95% confidence interval
Moment 1	1214	1705	71.2%	69.0%	73.3%
Moment 2	378	533	70.9%	66.9%	74.6%
Moment 3	649	773	84.0%	81.2%	86.4%
Moment 4	1558	1830	85.1%	83.4%	86.7%
Moment 5	1336	1845	72.4%	70.3%	74.4%
Tas Public TOTAL	**5135**	**6686**	**76.8%**	**75.8%**	**77.8%**

Table 12 Tasmanian hand hygiene compliance rates by healthcare worker

Staff Type - Public	HH Correctly Performed	HH Moments	Compliance rate	Lower 95% confidence interval	Upper 95% confidence interval
Clerical	16	23	69.6%	49.1%	84.4%
Allied Health	140	207	67.6%	61.0%	73.6%
Domestic	141	214	65.9%	59.3%	71.9%
Invasive Technician	59	69	85.5%	75.3%	91.9%
Doctor	613	891	68.8%	65.7%	71.8%
Nurse/Midwife	3704	4678	79.2%	78.0%	80.3%
Other	12	15	80.0%	54.8%	93.0%
Personal care staff	250	329	76.0%	71.1%	80.3%
Student Personal carer	4	4	100.0%	51.0%	100.0%
Student Doctor	29	44	65.9%	51.1%	78.1%
Student Nurse/Midwife	164	209	78.5%	72.4%	83.5%
Student Allied Health	3	3	100.0%	43.9%	100.0%
Tas Public TOTAL	**5135**	**6686**	**76.8%**	**75.8%**	**77.8%**