

Tasmanian Acute Public Hospitals

Healthcare Associated Infection Surveillance Report

Report 25 – Quarter I 2015



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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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

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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 that varies 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 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.

This report demonstrates the following findings:

- The rate of healthcare associated *Staphylococcus aureus* bacteraemia remains low.
- The rate and number of both hospital identified *Clostridium difficile* infection (CDI) and healthcare associated – healthcare facility onset *Clostridium difficile* infection (HCA – HCF) have decreased in Q1 2015 compared with Q4 2014.
- The number of vancomycin resistant *enterococcus* identified has continued to increase.



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Staphylococcus aureus bacteraemia (SAB)

Staphylococcus aureus is a common cause of serious healthcare associated bloodstream infection, causes significant patient morbidity and has an estimated mortality of around 25-30%. 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 and associated guidelines. 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 4 key clinical criteria was met (Criterion B).

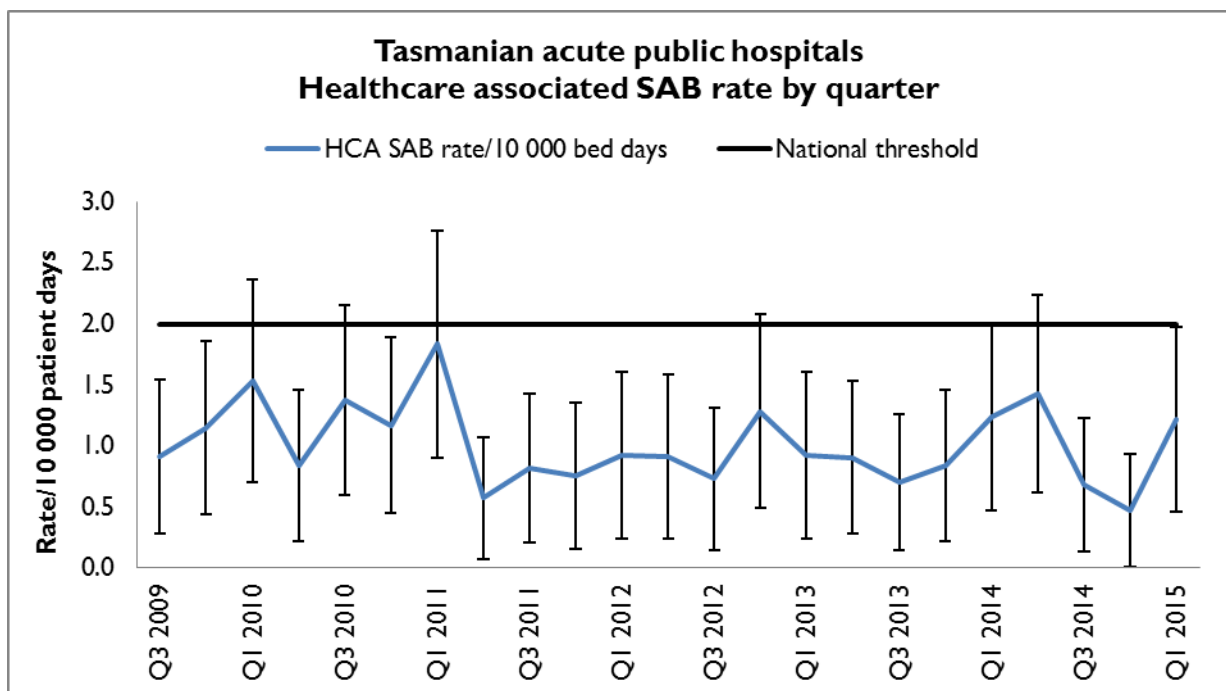
The National Healthcare Agreement (2011) target is no more than 2 HCA SAB/10 000 patient days.

Tasmanian rates

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

The rate of healthcare associated *Staphylococcus aureus* bacteraemia for Q1 2015 was 1.2 per 10 000 patient days (95% CI 0.5 – 2.0) and the mean (average) rate of healthcare associated *Staphylococcus aureus* bacteraemia over the past 12 months (April 1st 2014 –March 31st 2015) was 0.9 per 10 000 patient days (95% CI 0.6 – 1.3).

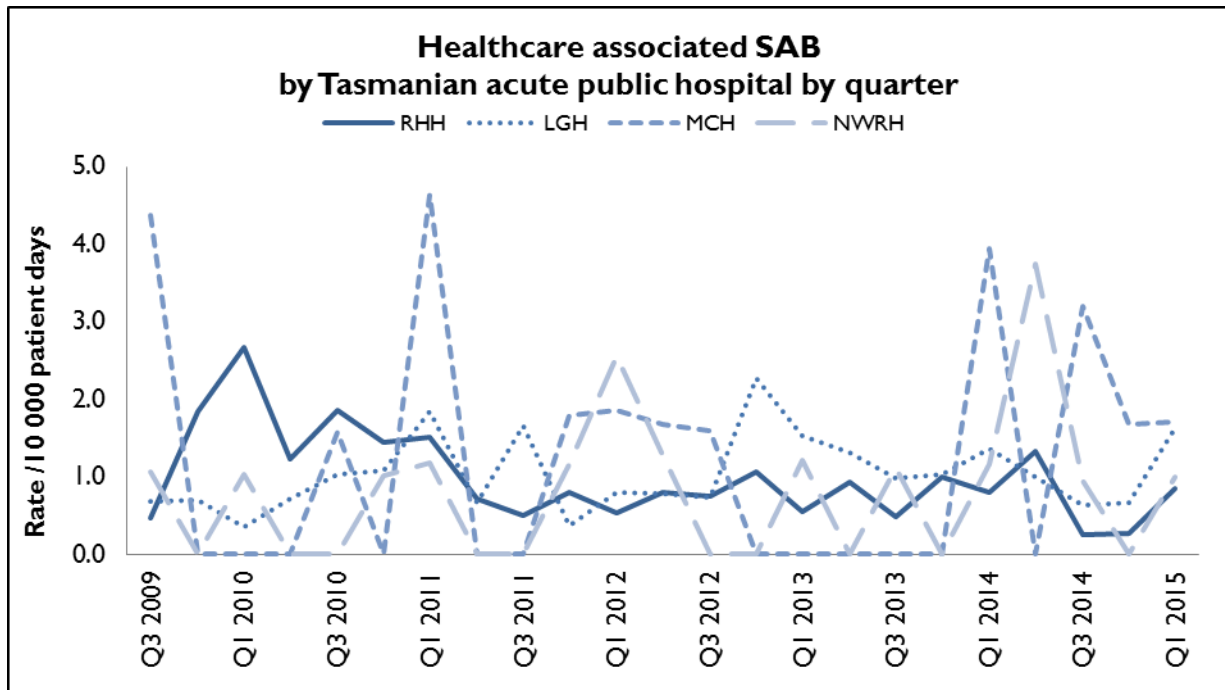
Figure I Healthcare associated *Staphylococcus aureus* bacteraemia rate.



Hospital rates

Figure 2 presents the individual acute public hospitals' rates of healthcare associated *Staphylococcus aureus* bacteraemia (HCA SAB).

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



Key points

- The Q1 2015 Tasmanian combined acute public hospital HCA SAB rate of 1.2 per 10 000 patient days remains less than the National Healthcare Agreement target of no more than 2 HCA SAB/10 000 patient days¹.
- Nationally, rates for RHH, LGH and NWRH are less than their hospital peer group average rates². MCH is 'unpeered' so rate comparisons with other facilities cannot be made.

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

2. MyHospitals <http://www.myhospitals.gov.au/compare-hospitals/healthcare-staphylococcus-aureus-bloodstream/2013-14>

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 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.

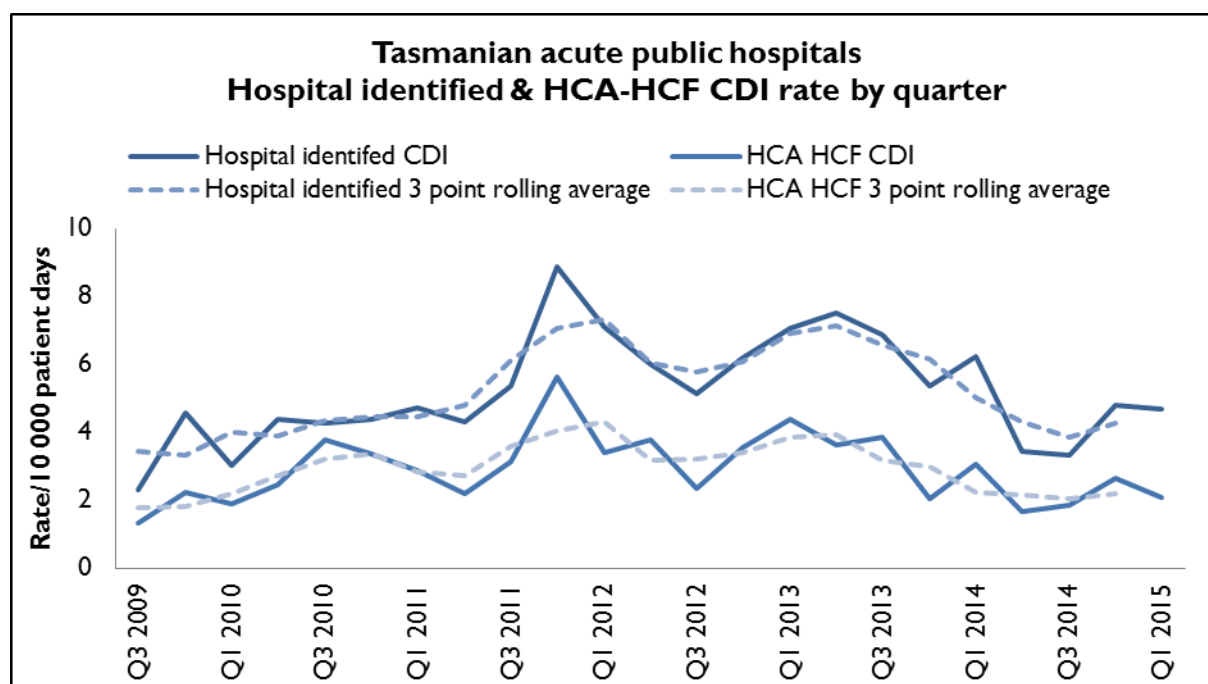
Surveillance of CDI in Tasmania uses the ACSQHC nationally agreed surveillance definitions. Hospital identified CDI includes both healthcare facility and community associated infections that are diagnosed in hospital, while healthcare associated – healthcare facility onset (HCA-HCF) CDI are infections 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. Data for the current quarter are in the accompanying tables in Appendix 2.

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 Q1 2015 was 4.7/10 000 patient days (95% CI 3.2 – 6.3) and the rate of HCA-HCF over the same time period was 2.1/10 000 patient days (95% CI 1.1 – 3.1). The mean (average) rate of hospital identified CDI for the previous 12 months (April 1st 2014 – March 31st 2015) is 4.7 per 10 000 patient days (95% CI 3.4 – 4.8) while the mean rate of HCA-HCF CDI over the same time period is 2.1 per 10 000 patient days (95% CI 1.6 – 2.6).

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



Hospital rates

Figure 4 and **Figure 5** outlines 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.

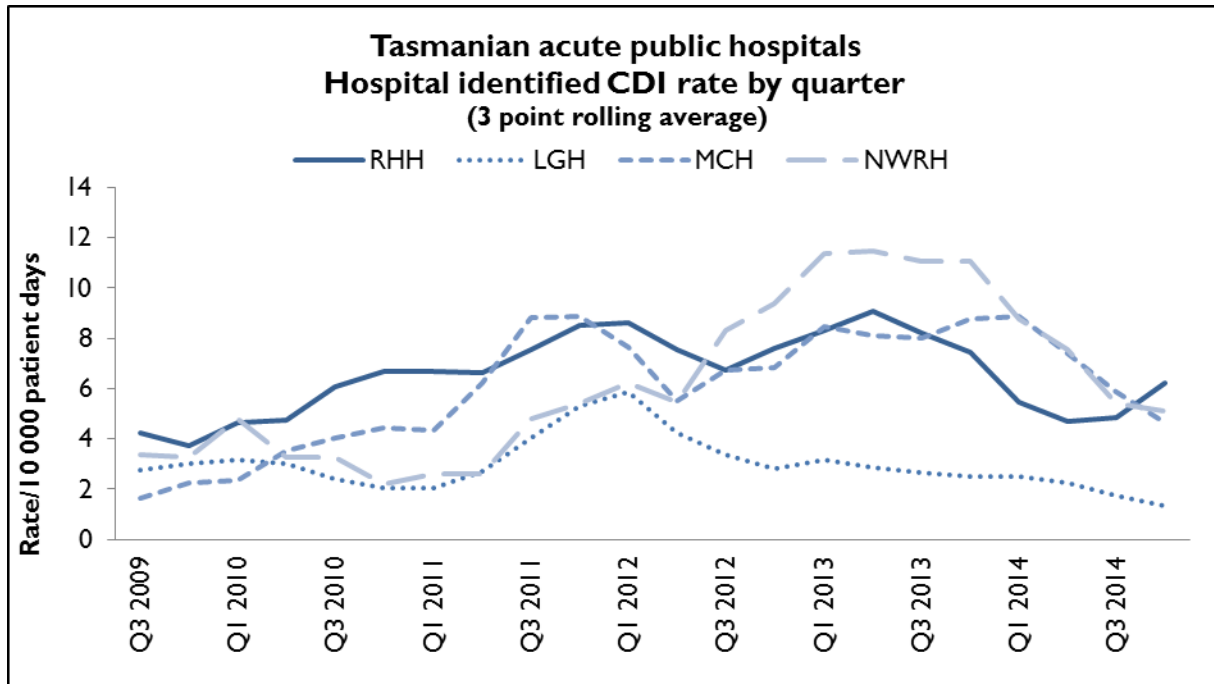
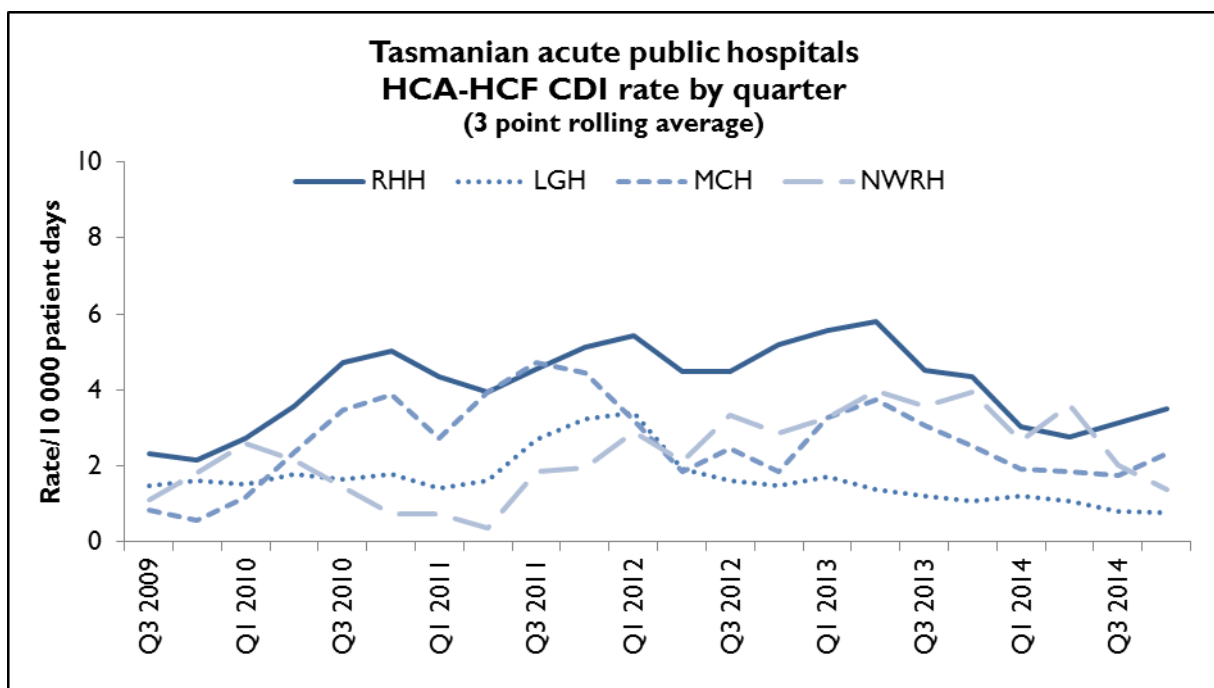


Figure 5 Individual hospital HCA-HCF CDI - rate by quarter



Key points

- The Tasmanian number and rate of both hospital identified and HCA-HCF CDI decreased in Q1 2015 compared with the previous quarter.
 - The rate of hospital identified CDI in Q1 2015 was 4.7/10 000 patient days which was similar to the rate in Q4 2014 (4.8/10 000 patient days).
 - The rate of HCA HCF CDI decreased to 2.1/10 000 patient days from 2.7/10 000 patient days in Q4 2014. This represents 5 fewer than in Q4 2014 with the number decreasing from 21 cases to 16 cases.

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 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, 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 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 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 I VRE isolates identified per quarter within 1) acute public hospitals and 2) total Tasmanian isolates identified.

	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

Key points

- There has been an increase in the total number of VRE isolates identified in Q1 2015 compared with all previous quarters. This increase represents a large number of cases being identified by both RHH and LGH. The reasons for these increases are unclear and are being investigated by these hospitals.
- The number of cases identified at MCH and NWRH remain stable.

Hand hygiene compliance data

Tasmanian rates

Figure 6 Hand hygiene compliance in Tasmanian public hospitals

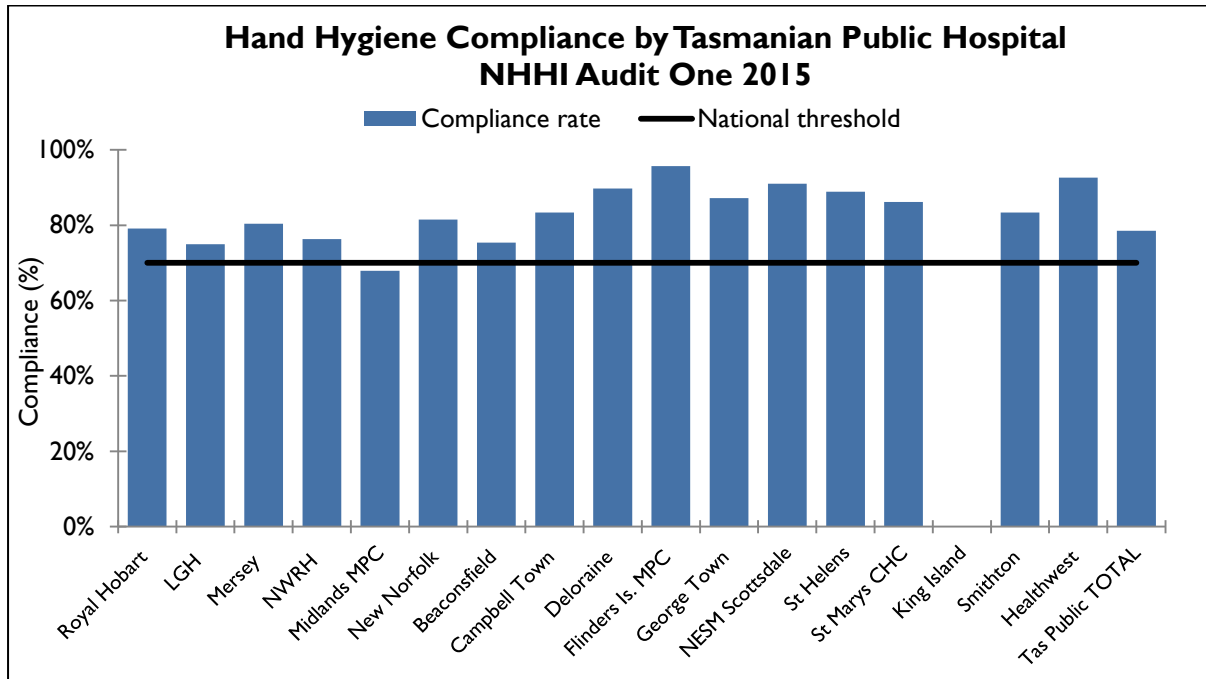


Figure 7 Hand hygiene compliance by moment

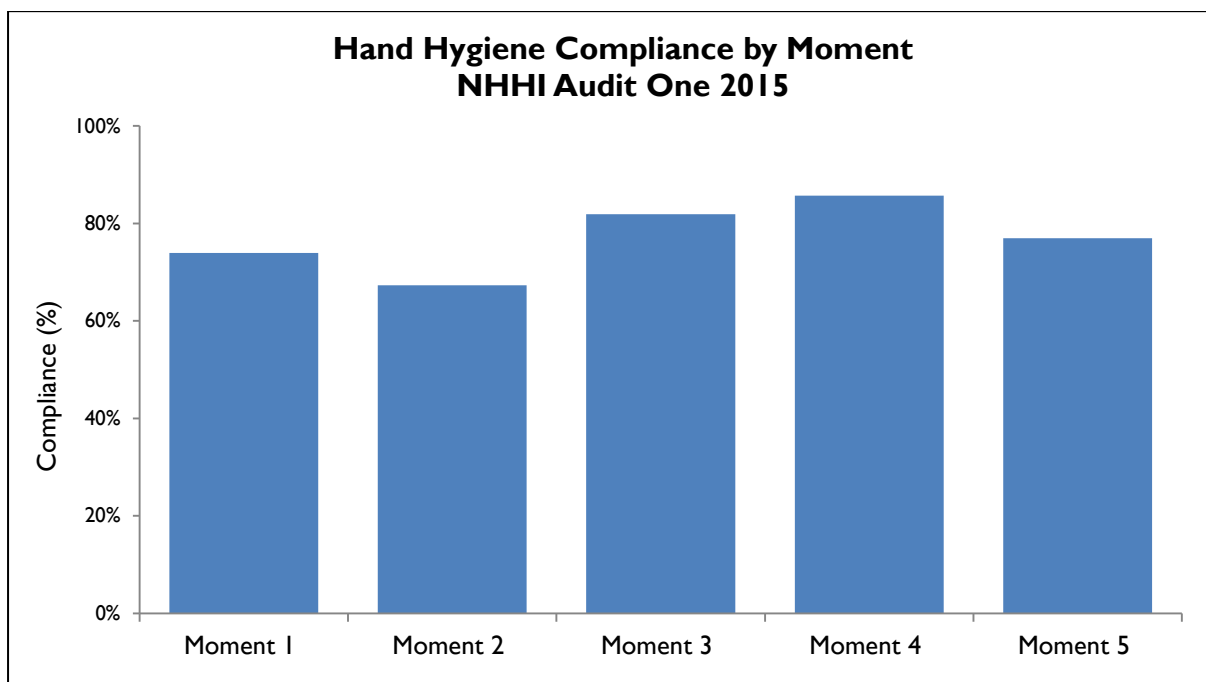
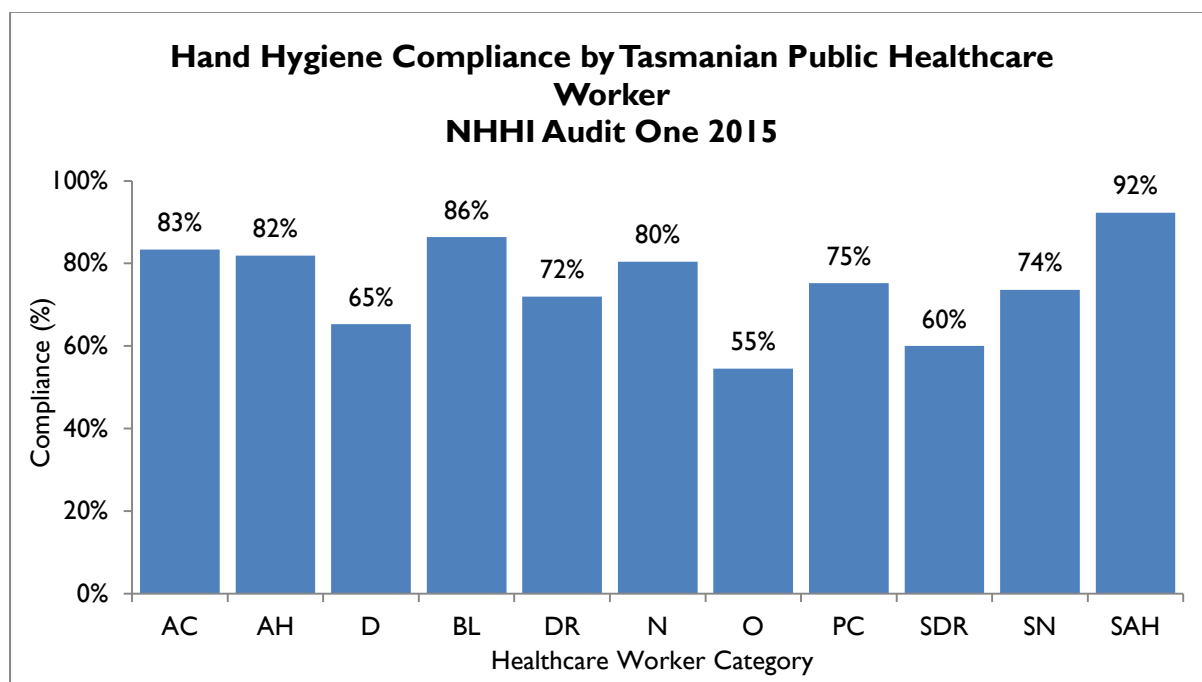


Figure 8 Hand hygiene compliance by healthcare worker



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

- King Island Hospital did not submit hand hygiene compliance data for Q1, 2015 as the hospital does not have a local hand hygiene auditor on site and when another auditor visited, there was very little activity to audit. A local auditor is being trained to collect hand hygiene data which will rectify the current situation.
- The rate of 79% hand hygiene compliance in Tasmania is comparable with other states. In the second data collection period of 2014, the National rate was 82%¹ and the rate was 80% in both Victoria and Western Australia ^{2,3}.
- There are 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 with the next highest being doctor-patient interactions (13%).
- 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. HHA – National data period 3, 2014 <http://www.hha.org.au/LatestNationalData.aspx>

2. VICNISS Hand Hygiene report – NHHI Audit 3, 2014, http://www.vicniss.org.au/Resources/HandHygiene/NHHI_2014_Audit3_VictorianAggregateComplianceData.pdf

3. Government of Western Australia, Department of Health, <http://www.public.health.wa.gov.au/cproot/6124/2/hiswa-agg-report-q4-2014.pdf>.

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 I

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 *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 which 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 2 years of age and cases with a positive test within the previous 8 weeks.

2) Healthcare associated – healthcare facility onset CDI (HCA-HCF CDI) which 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 health care facility. This definition excludes patients less than 2 years of age 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 (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 $1 \times 10^9/L$) contributed to by cytotoxic therapy

What are the definitions for vancomycin resistant *Enterococci* (VRE)?

The definition for VRE is an isolate that has been identified as VRE by an accredited laboratory. TIPCU reports on the total number of new isolates of VRE identified in Tasmania per quarter and this number includes all new 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 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) 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
Q1 2015	10	9	1	1.2

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
Q1 2015	3	2	1	0.8

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
Q1 2015	5	5	0	1.6

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
Q1 2015	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
Q1 2015	1	1	0	1.0

***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
Q1 2015	36	4.7	16	2.1

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
Q1 2015	24	7.4	5	1.7	2	3.6	5	5.3

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
Q1 2015	10	3.1	3	1.0	2	3.6	1	1.1

Hand hygiene compliance data March 2015

Table 10 Hand hygiene compliance by Tasmanian hospital and state level

Hospital Name	HH Correctly Performed	HH Moments	Compliance	Lower 95% confidence interval	Upper 95% confidence interval
Royal Hobart	2204	2785	79%	78%	81%
LGH	1363	1818	75%	73%	77%
Mersey	320	398	80%	76%	84%
NWRH	715	937	76%	73%	79%
Midlands MPC	36	53	68%	55%	79%
New Norfolk	22	27	81%	63%	92%
Beaconsfield	55	73	75%	64%	84%
Campbell Town	45	54	83%	71%	91%
Deloraine	105	117	90%	83%	94%
Flinders Is. MPC	67	70	96%	88%	99%
George Town	68	78	87%	78%	93%
NESM Scottsdale	61	67	91%	82%	96%
St Helens	24	27	89%	72%	96%
St Marys CHC	75	87	86%	77%	92%
King Island	No data submitted for Q1 2015				
Smithton	45	54	83%	71%	91%
Healthwest	75	81	93%	85%	97%
Tas Public TOTAL	5280	6726	79%	78%	79%

Table 11 Tasmanian hand hygiene compliance by moment

Moments	HH Correctly Performed	Total HH Moments	Compliance	Lower 95% confidence interval	Upper 95% confidence interval
Moment 1	1290	1744	74%	72%	76%
Moment 2	344	511	67%	63%	71%
Moment 3	619	756	82%	79%	84%
Moment 4	1652	1928	86%	84%	87%
Moment 5	1375	1787	77%	75%	79%
Tas Public TOTAL	5280	6726	79%	78%	79%

Table 12 Tasmanian hand hygiene compliance by healthcare worker

Staff Type	HH Correctly Performed	HH Moments	Compliance	Lower 95% confidence interval	Upper 95% confidence interval
Clerical	5	6	83%	44%	97%
Allied Health	208	254	82%	77%	86%
Domestic	96	147	65%	57%	73%
Invasive Technician	76	88	86%	78%	92%
Doctor	633	880	72%	69%	75%
Nurse/Midwife	3806	4731	80%	79%	82%
Other	12	22	55%	35%	73%
Personal care staff	222	295	75%	70%	80%
Student Doctor	15	25	60%	41%	77%
Student Nurse/Midwife	195	265	74%	68%	79%
Student Allied Health	12	13	92%	67%	99%
Tas Public TOTAL	5280	6726	79%	78%	79%

