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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Peer reviewed and approved by the Tasmanian Healthcare Associated Advisory Committee and Chief Medical Officer, DHHS Tasmania.

Notes

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

TASMANIAN INFECTION PREVENTION AND CONTROL UNIT

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Executive summary

This surveillance report describes data relating to a number of key Healthcare Associated Infection (HAI) indicators. The Tasmanian Infection Prevention and Control Unit (TIPCU) publish this report quarterly. The TIPCU website (www.dhhs.tas.gov.au/tipcu) contains details of the surveillance program, including the rationale for the indicators surveyed and the methodologies used in data collection, validation and analysis. 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 are provided in the Key Points sections of this report. The Appendices in this report contain more detailed information.

The key findings of this report are:

- The rate of healthcare associated *Staphylococcus aureus* bacteraemia remains low.
- In Quarter 4, 2013, there was a decrease in hospital identified *Clostridium difficile* infection (CDI) and healthcare associated – healthcare facility onset *Clostridium difficile* infection (HCA – HCF CDI).
- The occurrence of vancomycin resistant enterococcus remains low.
- The Tasmanian hand hygiene compliance rate meets the national threshold level and remains relatively stable.

Ms Anne Wells     Dr Alistair McGregor
Assistant Director of Nursing, TIPCU   Specialist Medical Advisor, TIPCU
**Staphylococcus aureus bacteraemia (SAB)**

**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 1st 2009 and December 31st 2013 is 1.01 per 10 000 patient days (95% CI 0.85 – 1.17).

Figure 1 Healthcare associated *Staphylococcus aureus* bacteraemia rate.
Hospital rates

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

Figure 2 Healthcare associated *Staphylococcus aureus* bacteraemia rate by hospital

### Key points

- For Quarter 4, 2013, all four public hospitals had HCA SAB rates below the National Healthcare Agreement (2011) target of no more than of 2 HCA SAB/10 000 patient days

- The Tasmanian rate of healthcare associated *Staphylococcus aureus* bacteraemia (HCA SAB) is comparable to the most recently published data reported in other Australian states and territories.
  - The HCA SAB aggregate rate in Q3 2013 in Western Australia was 0.84 per 10 000 bed days.
  - The rate of HCA SAB in South Australia was reported as 1.0 per 10 000 patient days in 2011.
  - The rate of HCA SAB at The Canberra Hospital in 2011-2012 is reported as 1.40 cases per 10,000 days of patient care.

2. HISWA Quarterly Aggregate Report Quarter 3, 2013 – Number 33
**Clostridium difficile infection**

**Tasmanian rates**

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

The mean (average) rate of hospital identified CDI between July 1st 2009 and December 31st 2013 is 5.38 per 10,000 patient days (95% CI 4.99 – 5.77).

The mean rate of healthcare associated – healthcare facility onset (HCA-HCF) CDI between July 1st 2009 and December 31st 2013 is 3.09 per 10,000 patient days (95% CI 2.80 – 3.38).

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

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

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

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

- The 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 thus this rate will always be reported up to the end of the previous quarter.

- The rates of both hospital identified CDI and HCA – HCF CDI have decreased for this quarter from the previous quarter.
  
  - Hospital identified CDI has decreased from 6.9/10 000 patient days in Q3 2013, to 5.4/10 000 patient days - this represents 13 less cases in Q4 2013 over Q3 2013.
  - HCA – HCF CDI has decreased from 3.9/10 000 patient days in Q3 2013 to 2.1/10 000 patient days - this represents 15 less cases in Q4 2013 over Q3 2013.

- The rate of hospital identified CDI in Western Australian public hospitals in Q3 2013 was 3.9 per 10 000 bed days¹. 

¹. HISWA Quarterly Aggregate Report Quarter 3, 2013 – Number 33
Vancomycin resistant enterococcus (VRE)

Tasmanian numbers

Table 1 – new VRE isolates per quarter within 1) acute public hospitals and 2) total Tasmanian isolates

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</table>
Key points

- This table provides information on both new VRE isolates identified in acute public hospitals and the total number of new VRE isolates identified across Tasmania.

- Isolates that are classified as ‘hospital identified’ does 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, GP clinics and long term and residential care facilities.
Hand hygiene compliance data

Tasmanian rates

Figure 6 - Hand hygiene compliance rate in Tasmanian public hospitals

Figure 7 - Hand hygiene compliance by moment
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.

- Data was not submitted by Campbell Town Multi Purpose Centre for the October 2013 data collection period due to no on-site hand hygiene auditors being readily available during the data collection period.

- The overall rate of Tasmanian hand hygiene compliance has increased from a baseline of 35.5 per cent in March 2009 to 70.6 per cent in October 2013.

- The rate of hand hygiene compliance in Tasmania is lower than reported in other states. In the third data collection period of 2013, published hand hygiene rates were 78.2% in Victoria while the National rate was 79%.

- The majority of hand hygiene compliance data (67% 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).
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, Population Health
- Contributing Primary Health Sites
Appendix

*Staphylococcus aureus bacteraemia*

Data which classifies healthcare associated *Staphylococcus aureus* bacteraemia into Criterion A (>48 after admission or <48 hours after discharge) OR Criterion B (≤ 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 *Staphylococcus aureus* bacteraemia (HCA-SAB).

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<tr>
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Table 3 - Royal Hobart Hospital numbers and rates/10 000 patient days of healthcare associated *Staphylococcus aureus* bacteraemia.

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

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**Clostridium difficile infection (CDI)**

Table 7 – Tasmanian numbers and rates/10 000 patient days of CDI.

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Table 8 - Hospital numbers and rates/10 000 patient days of hospital identified CDI.

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<th>NW Regional</th>
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Table 9 - Hospital numbers and rates/10 000 patient days of healthcare associated, healthcare facility onset CDI.

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**Hand hygiene compliance data October 2013**

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

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<th>Upper 95% Confidence Interval</th>
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<td>LGH</td>
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<td>67.4%</td>
<td>71.6%</td>
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<tr>
<td>Mersey</td>
<td>80.4%</td>
<td>76.0%</td>
<td>84.2%</td>
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<tr>
<td>NWRH</td>
<td>71.0%</td>
<td>68.1%</td>
<td>73.8%</td>
</tr>
<tr>
<td>Midlands MPC</td>
<td>75.0%</td>
<td>61.8%</td>
<td>84.8%</td>
</tr>
<tr>
<td>New Norfolk</td>
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<td>93.4%</td>
<td>100.0%</td>
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<td>Beaconsfield</td>
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<td>69.7%</td>
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<td>90.2%</td>
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<tr>
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<td>95.7%</td>
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<td><strong>69.5%</strong></td>
<td><strong>71.7%</strong></td>
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### Table 11 - Tasmanian hand hygiene compliance rates by healthcare worker

<table>
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<td>36.0%</td>
<td>78.4%</td>
</tr>
<tr>
<td>AH</td>
<td>Allied Health</td>
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<td>72.3%</td>
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<td>Domestic</td>
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<td>76.9%</td>
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<tr>
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<td>Invasive Technician</td>
<td>83.9%</td>
<td>72.8%</td>
<td>91.0%</td>
</tr>
<tr>
<td>DR</td>
<td>Doctor</td>
<td>59.4%</td>
<td>56.3%</td>
<td>62.5%</td>
</tr>
<tr>
<td>N</td>
<td>Nurse/Midwife</td>
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<td>71.7%</td>
<td>74.3%</td>
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<tr>
<td>O</td>
<td>Other</td>
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### Table 12 – Tasmanian hand hygiene compliance rates by moment

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<tr>
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<tr>
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<td>73.3%</td>
<td>79.4%</td>
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<td>81.8%</td>
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