

Approaches to surveillance of *Staphylococcus aureus* bacteraemia and *Clostridium difficile* infection in Australian states and territories

Elizabeth Hanley^{1,2} B Soc Sci

Cate Quoye¹ BN

¹Australian Commission on Safety and Quality in Health Care, Sydney, NSW 2000, Australia.

²Corresponding author. Email: elizabeth.hanley@safetyandquality.gov.au

Abstract. *Introduction:* Surveillance of healthcare-associated infection (HAI) is aimed at improving patient safety, decreasing healthcare-associated infections and reducing morbidity and mortality.

Methods: The Australian Commission on Safety and Quality in Health Care surveyed Australian states and territories during 2012–13 about state-based approaches to surveillance of healthcare-associated *Staphylococcus aureus* bacteraemia (SAB) and hospital-identified *Clostridium difficile* infection (CDI), including collection, validation and reporting of healthcare-associated infection surveillance data against national surveillance definitions.

Results: At the time of the survey, all states and territories classified cases of SAB using the national surveillance definition, while most states and territories classified cases of CDI using the national surveillance definition. Notification of methicillin-resistant *Staphylococcus aureus* bacteraemia was mandatory in two states. Four states had electronic access to microbiology results in jurisdictional surveillance units. The implementation of national surveillance definitions has led to more consistent practices for reporting of SAB and CDI.

Conclusion: Systems and processes for surveillance of SAB and CDI vary across states and territories; however, the development of national surveillance definitions has led to greater consistency nationally. The presence of an active jurisdictional HAI surveillance unit and a statewide surveillance information system enhances data validation, hospital-level reporting, and education and support for surveillance staff in hospitals.

Received 20 June 2014, accepted 14 October 2014, published online 2 December 2014

Introduction

The Australian Commission of Safety and Quality in Health Care (the Commission) is responsible for nationally coordinated action to address healthcare-associated infections (HAI). Key priorities are the development of a coordinated and efficient national approach to reporting and surveillance of HAI across Australia, and the sharing of experience and best practice. This aims to improve patient safety, reduce HAI rates and reduce morbidity and mortality.

Preventing healthcare association infections depends on good decision-making – decision-making that is guided by reliable information of the incidence and costs of infections and on the effectiveness of prevention strategies. Surveillance systems play an essential role in providing this information. (Cruickshank and Ferguson 2008, xi)¹

In 2007, a survey undertaken by the Commission about HAI surveillance practices found that most Australian healthcare facilities had ‘some form of surveillance of bloodstream or surgical site infection and infection with

multi-resistant organisms’; however, standardised and strategic approaches to HAI surveillance were ‘seriously lacking in most states and territories’.¹ In December 2008, the Australian Health Ministers’ Conference endorsed the recommendation that jurisdiction-level surveillance of *Staphylococcus aureus* bacteraemia (SAB) and *Clostridium difficile* infection (CDI) be established.

To enhance understandings of current approaches to surveillance of SAB and CDI across Australia, the Commission surveyed Australian states and territories (jurisdictions) during 2012–13 regarding their processes for collection, validation, and reporting of SAB and CDI surveillance data.

Methods

Data was collected for this survey from members of the Commission’s HAI Technical Working Group (TWG) and from representatives of some jurisdictional units responsible for management of statewide data collections. The HAI TWG provides advice to the Commission on HAI surveillance processes, guidelines and data; members are

Implications

- All Australian hospitals should use the national surveillance definitions and implementation guides for the surveillance of *Staphylococcus aureus* bacteraemia and *Clostridium difficile* infection.
- An active jurisdictional HAI surveillance unit and a state-based surveillance information system can enhance data validation processes and compliance with national surveillance definitions.

from all states in Australia, and have expertise in surveillance. The majority of TWG members are responsible for statewide HAI surveillance programs, while some are Infection Prevention and Control professionals in public hospitals. HAI TWG members were invited to participate in the first survey conducted in mid-2012 because of their knowledge and understanding of HAI surveillance processes in their jurisdiction. Data was also gathered from presentations by HAI TWG members responsible for statewide HAI surveillance programs; these presentations to the HAI TWG's meeting in March 2013 provided an overview of SAB data validation processes in the respective jurisdictions and the opportunity to share experience. Semi-structured interviews with members of the HAI TWG responsible for jurisdictional surveillance of SAB and CDI, and with representatives from some jurisdictional data management units, were conducted by telephone during May to August 2013.

Processes for validation of infection surveillance data at jurisdictional and hospital level were explored in relation to the:

- application of national surveillance definitions
- reliability and validity of numerators (number of cases)
- application of inclusions or exclusions; and

- review of cases against the national surveillance definitions.

The information collated from the survey was reviewed by HAI TWG members who had been participants.

The findings relate to state-based processes conducted by Australian states and territories for surveillance of SAB and CDI during 2012–13. As processes vary within hospitals, it was not within the scope of this study to investigate processes for collection and reporting of HAI surveillance data at hospital level.

Results

Jurisdictional HAI surveillance arrangements

At the time of the survey, jurisdictional HAI surveillance units had been established in Queensland (the Centre for Healthcare Related Infection Surveillance and Prevention (CHRISP)), Western Australia (Healthcare Associated Infection Surveillance Western Australia (HISWA)), South Australia (Infection Control Service, South Australia), Tasmania (Tasmanian Infection Prevention Control Unit (TIPCU)), and Victoria (VICNISS Coordinating Centre). These jurisdictions had state-based surveillance information systems for capture and reporting of HAI data. All jurisdictions had a central data management unit responsible for management of statewide data collections and calculation of denominators.

Systems and processes for surveillance were found to vary widely between states and territories; however, at the time of the survey all jurisdictions were classifying cases of healthcare-associated SAB using the national surveillance definition for SAB, while most jurisdictions were classifying cases of hospital-identified CDI using the national surveillance definition (see Appendix 1). The key findings from the Commission's survey are set out in Table 1.

Table 1. Summary of key findings from 2012–13 survey regarding approaches to HAI surveillance in Australian states and territories
CDI, *Clostridium difficile* infection; HAI, healthcare-associated infection; SAB, *Staphylococcus aureus* bacteraemia

Approaches to HAI surveillance	SAB	CDI
Surveillance case definitions	All jurisdictions classified cases of SAB using the national surveillance definition.	Most jurisdictions classified cases of CDI using the national surveillance definition.
Collection of patient-level data	Western Australia, South Australia, Victoria, Tasmania and Queensland collected patient-level data for healthcare-associated SAB at jurisdictional level.	Western Australia, South Australia, Victoria, Tasmania and Queensland collected patient-level data for hospital-identified CDI at jurisdictional level.
Notification	Notification of all <i>S. aureus</i> positive blood cultures was mandatory in Western Australia and Tasmania.	–
Classification of cases	All jurisdictions enumerated healthcare-associated SAB by methicillin-sensitive <i>S. aureus</i> and methicillin-resistant <i>S. aureus</i> . All jurisdictions, except South Australia, routinely counted community-associated SAB cases according to the national surveillance definition.	Some jurisdictions were working towards implementing part of the five-tier case-exposure classification for CDI; all Victorian hospitals were using it.
Access to electronic microbiology results for HAI surveillance	The following jurisdictions had access: Western Australia, Tasmania, South Australia, Northern Territory, Queensland.	

Download English Version:

<https://daneshyari.com/en/article/2680205>

Download Persian Version:

<https://daneshyari.com/article/2680205>

[Daneshyari.com](https://daneshyari.com)