

DRAFT DATA SET SPECIFICATION

Surveillance of Healthcare Associated Infections: *Staphylococcus aureus* Bacteraemia & *Clostridium* *difficile* Infection

Version 3.0

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Professor Chris Baggoley
Chief Executive

CONTENTS

CONTENTS	3
ABBREVIATIONS	5
1 PURPOSE	6
2 BACKGROUND	7
3 SURVEILLANCE	9
4 KEY CONCEPTS	10
4.1 CORE DATA SETS.....	10
4.2 CASE DEFINITION – HEALTHCARE ASSOCIATED INFECTION <i>STAPHYLOCOCCUS AUREUS</i> BACTERAEMIA (SAB).....	12
4.2.1 CALCULATION OF SAB RATES.....	14
4.2.2 NOTES - SAB CALCULATION.....	14
4.3 CASE DEFINITION – HOSPITAL IDENTIFIED <i>CLOSTRIDIUM DIFFICILE</i> INFECTION (CDI).....	15
4.3.1 CALCULATION OF HOSPITAL IDENTIFIED CDI RATES.....	17
4.3.2 CDI AND CASES OF SEVERE DISEASE.....	17
4.3.3 CALCULATION OF CDI ACCOMPANIED BY SEVERE DISEASE.....	18
4.4 LEVELS OF IDENTIFICATION.....	18
4.5 METADATA STANDARDS AND DATA ELEMENTS.....	19
5 DATA ELEMENTS – PATIENT EPISODE OF HEALTHCARE ASSOCIATED INFECTION	20
5.1 ADMISSION DATE.....	21
5.2 SEPARATION DATE.....	22
5.3 AUSTRALIAN STATE/TERRITORY IDENTIFIER (ESTABLISHMENT).....	23
5.4 CASE IDENTIFIER DESIGNATION.....	25
5.5 DATE TIME SPECIMEN COLLECTED.....	26
5.6 ESTABLISHMENT NUMBER.....	27
5.7 WARD/CLINICAL AREA.....	28
5.8 SPECIMEN IDENTIFIER.....	29
5.9 LABORATORY RESULT IDENTIFIER.....	30
5.10 LABORATORY NUMBER.....	31
5.11 LABORATORY SITE NUMBER.....	32
6 PERSON DATA ELEMENTS	33
6.1 FAMILY NAME.....	34
6.2 GIVEN NAME(S).....	35
6.3 INDIGENOUS STATUS.....	36
6.4 DATE OF BIRTH.....	37
6.5 SEX.....	39

6.6 ADDRESS LINE (PERSON)	41
6.7 SUBURB/TOWN/LOCALITY NAME (PERSON)	43
6.8 POSTCODE—AUSTRALIAN (PERSON)	44
6.9 AUSTRALIAN STATE/TERRITORY IDENTIFIER (PERSON)	45
6.10 PERSON IDENTIFIER	47
7 DATA ELEMENTS – CALCULATION OF HAI RATES	48
7.1 NUMBER OF PATIENT DAYS	49
7.2 PATIENT EPISODES OF HEALTHCARE ASSOCIATED SAB	51
7.3 PATIENT EPISODES OF HOSPITAL IDENTIFIED CDI	52
7.4 PATIENT EPISODES OF HOSPITAL IDENTIFIED CDI – SEVERE DISEASE	53
8 STAPHYLOCOCCUS AUREUS BACTERAEMIA DATA ELEMENTS	54
8.1 HEALTHCARE ASSOCIATED SAB CLINICAL CRITERIA	55
8.2 SAB METHICILLIN SUSCEPTIBILITY	57
8.3 ANTIBIOTIC SUSCEPTIBILITY (MRSA ISOLATE)	58
8.4 ANTIBIOTIC SUSCEPTIBILITY STATUS (MRSA ISOLATE)	59
9 CLOSTRIDIUM DIFFICILE INFECTION DATA ELEMENTS	61
9.1 CDI—SEVERE DISEASE STATUS	62
9.2 CDI —STRAIN	64
APPENDIX I – SUPPORTING DATA ELEMENT CONCEPTS	64
EPISODE OF ADMITTED PATIENT CARE	65
ESTABLISHMENT	65
PERSON	66
JURISDICTION	66
LABORATORY	66
PATIENT EPISODE OF SAB	67
MRSA ISOLATE	68
PATIENT EPISODE OF CDI	70
APPENDIX II – DATA SET SPECIFICATION TERMINOLOGY	70

ABBREVIATIONS

ACSQHC	Australian Commission on Safety and Quality in Health Care
AHMC	Australian Health Ministers' Conference
BSI	Bloodstream infection
CDI	<i>Clostridium difficile</i> infection
HAI	Healthcare associated infection
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
MSSA	Methicillin-sensitive <i>Staphylococcus aureus</i>
PMC	Pseudomembranous colitis
SAB	<i>Staphylococcus aureus</i> bacteraemia

1 PURPOSE

The purpose of this data set specification (DSS) is to support consistent local collection of healthcare associated infection (HAI) data, and embed national definitions for key elements.

This DSS is intended to promote and support consistent collections of reliable, comparable HAI surveillance data.

It is recommended that local forms and systems, and jurisdictional or ownership group data collections adhere to these national health information standards.

This draft DSS will be presented to the National Health Information Statistical Standards Committee (NHISCC) in December, 2010, for national endorsement.

2 BACKGROUND

In December 2008, Australian Health Ministers' Conference (AHMC) endorsed the following recommendations:

- a. All hospitals establish healthcare associated infection (HAI) surveillance
- b. All hospitals monitor and report through their relevant jurisdiction into a national data collection
 - i. *Staphylococcus aureus* (including methicillin-resistant (MRSA)) blood stream infections
 - ii. *Clostridium difficile* infections (CDI)

In addition, *Staphylococcus aureus* bacteraemia (SAB) rates are one of the National Health Care Agreement Performance Indicators, announced in November 2008¹, and Health Ministers endorsed routine monitoring by hospitals of HAI SAB and CDI in November 2008, as two of the core, hospital-based outcome indicators of safety and quality².

National surveillance requires common definitions and consistent data collection processes. However, at the time of these ministerial decisions, there was no systematic Australia-wide approach to the measurement of patient harm caused by or associated with HAI.

HAI and patient safety

Healthcare associated infections (HAIs) are those infections that are not present or incubating at the time of admission to a hospital or healthcare facility; develop within a healthcare facility; or, are produced by micro-organisms acquired during admission.

HAI is responsible for a significant burden of iatrogenic morbidity and mortality. Each year in Australia there are about 200,000 HAIs³.

HAIs cause patients pain and suffering, prolong hospital admissions and cause significant harm to patients. Some patients die as a result of HAIs, many of which are preventable. Prevention of HAI is the responsibility of all who care for patients, and can cost less than treating such infections. Infection has moved from being considered an unpredictable 'complication' to being considered a potentially preventable 'adverse event'.

Staphylococcus aureus bacteraemia (SAB)

Studies in Australia document that 17–29% of patients with hospital-acquired bloodstream infections (BSIs) die while still in hospital. Patients who develop BSIs are also more likely to suffer complications during their hospital stay that result in a longer hospital stay and an increased cost of hospitalisation³

¹ Intergovernmental Agreement (IGA) on Federal Financial Relations, Schedule F - National Healthcare Agreement, http://www.coag.gov.au/intergov_agreements/federal_financial_relations/index.cfm

² See http://www.safetyandquality.gov.au/internet/safety/publishing.nsf/Content/PriorityProgram-08_HospLvl-Indicators#hospital

³ Cruickshank M, Ferguson J, editors. Reducing Harm to Patients from Healthcare associated Infection: The Role of Surveillance: Australian Commission on Safety and Quality in Health Care, 2008.

Surveillance of Healthcare Associated Infections: SAB and CDI

Staphylococcus aureus is the most common cause of healthcare associated BSIs, causing significant illness and death; more than half of these infections are associated with health care procedures⁴, and are thus potentially preventable⁵.

Clostridium difficile infection (CDI)

Clostridium difficile infection (CDI), also known as *Clostridium Difficile* Associated Disease (CDAD), remains the single most frequently occurring HAI in hospitals in developed countries⁶. Almost all cases follow the use of antibiotics, and the major reservoir of infection is infected patients in hospitals or long-term care facilities. *Clostridium difficile* infection is found in the stool of 15–25% of patients with antibiotic-associated diarrhoea and more than 95% of patients with pseudomembranous colitis (PMC).³ CDI has a significant impact on modern health care. International studies show that infected patients spend an extra 1–3 weeks in hospital, costing €5000–15,000 per case⁷.

The main reasons for establishing surveillance of CDI were that higher rates can be attributed to the overuse of antibiotics, ineffective infection control processes such as poor levels of hand hygiene and environmental cleanliness, and to have an early warning system for severe strains of CDI already present in Europe and North America, which have significantly higher morbidity and mortality than the strains being detected at the time of the AHMC determination in 2008.

⁴ Each year in Australia, there are likely to be more than 12,000 BSIs associated with health care, of which 7,000 are *Staphylococcus aureus* bacteraemias. Cruickshank M, Ferguson J, editors. Reducing Harm to Patients from Healthcare associated Infection: The Role of Surveillance: Australian Commission on Safety and Quality in Health Care, 2008

⁵ Collignon P, Nimmo GR, Gottlieb T and Gosbell IB (2005). *Staphylococcus aureus* bacteraemia, Australia. *Emerging Infectious Diseases* 11(4):554-561.

⁶ Sunenshine R and McDonald L (2006). *Clostridium difficile*-associated disease: new challenges from an established pathogen. *Cleveland Clinic Journal of Medicine* 73(2):187–197.

⁷ Kuijper E, Coignard B and Tüll P (2006). Emergence of *Clostridium difficile*-associated disease in North America and Europe. *Clinical Microbiology and Infection* 12 Suppl 6:2–18.

3 SURVEILLANCE

The Healthcare associated infection datasets for surveillance of *Staphylococcus aureus* bacteraemia (SAB) and *Clostridium difficile* infection (CDI) are designed for the purposes of infection surveillance, not diagnosis. The value of surveillance as part of a hospital infection control program is supported by high-grade international and national evidence.

Surveillance data should be used to identify local problem areas and implement appropriate policy and clinical interventions to improve the quality of care, not for external benchmarking. Effective surveillance systems provide the impetus for change and make it possible to evaluate the effectiveness of interventions. An effective surveillance system is one that provides timely information to hospital managers and clinicians to promote action for health.

Surveillance is an important tool to reduce HAI. The purpose of collecting, analysing, and then acting on reliable surveillance data is to improve quality and patient safety within a service or facility or jurisdiction. Effective surveillance systems provide the impetus for change and make it possible to evaluate the effectiveness of interventions.

To significantly reduce *Staphylococcus aureus* (including MRSA) blood stream infection and other HAI, a multifaceted approach is required. This approach can be grouped into specific strategies at hospital / healthcare facility, jurisdictional and national level supported by generic tools including surveillance.

HAI Surveillance in Hospitals

Local data collections must provide timely and reliable feedback for clinicians to effectively manage HAI. They should also inform local prevention strategies and improvement strategies. This data set supports the definitions of SAB and CDI endorsed at the January 2009 Inter-jurisdictional Committee meeting (convened by the Australian Commission on Safety and Quality in Healthcare) and should be collected in Australian hospitals.

HAI Surveillance at State/Territory Level or private hospital ownership group

When surveillance information is collated and analysed at jurisdictional or ownership group level, it:

- informs policy, resource allocation and programs;
- should be returned to hospitals for benchmarking and comparison;
- should be used as the basis for liaison between health services and infectious disease experts to develop state-based priority programs to reduce HAI; and
- enables monitoring of jurisdictional or ownership group trends related to HAI.

A minimum set of surveillance data from states and territories will form the national HAI surveillance data set.

Further development

Further work is planned for a national approach to HAI surveillance. It is likely that data elements will be developed for central line associated bacteraemia (CLAB) and surgical site infection (SSI).

For guidance on infection surveillance, refer to the companion documents to this data set specification, the Implementation Guidelines for surveillance of SAB and CDI, which will be available on the Commission's website.

4 KEY CONCEPTS

4.1 Core data sets

This data set specification is intended to support a minimum standard of *Staphylococcus aureus* (SAB) bloodstream infection and *Clostridium difficile* (CDI) infection surveillance in Australian acute care hospitals by defining the core data sets for healthcare associated infections: SAB and CDI.

The scope of the core data sets are cases of SAB and CDI healthcare associated infections that arise from an episode of patient care in an Australian hospital and meet the case definition. For SAB definition see page 12, and for CDI definition see page 15.

In order for jurisdictions and private hospital ownership groups to accurately report and monitor Healthcare Associated Infections (HAIs), the data elements listed in Table 1 shall be collected at hospital level for each patient-episode of *Staphylococcus aureus* bacteraemia, and *Clostridium difficile* infection.

Table 1 – Healthcare Associated Infections patient episode data elements

Object class	Data element	SAB	CDI	
Patient episode of admitted patient care	Admission date	◆	◆	
	Separation date	◆	◆	
Establishment	Date Time specimen collected	◆	◆	
	Establishment number	◆	◆	
	Ward / clinical area	◆	◆	
	Australian state/territory identifier (Establishment)	◆	◆	
	Jurisdiction	◆	◆	
	Laboratory	Specimen identifier	◆	◆
		Laboratory result identifier	◆	◆
Laboratory number		◆	◆	
Laboratory site number		◆	◆	
Person	Family name	◆	◆	
	Given name	◆	◆	
	Indigenous status	◆	◆	
	Date of birth	◆	◆	
	Sex	◆	◆	
	Address line	◆	◆	
	Suburb/town/locality name	◆	◆	
	Postcode	◆	◆	
	Australian state/territory identifier (person)	◆	◆	
	Person identifier	◆	◆	
Patient episode of SAB	Healthcare associated SAB clinical criteria	◆		
	SAB Methicillin susceptibility	◆		

Surveillance of Healthcare Associated Infections: SAB and CDI

Object class	Data element	SAB	CDI
MRSA isolate	Antibiotic susceptibility (MRSA isolate)	◆	
	Antibiotic susceptibility status (MRSA isolate)	◆	
Patient episode of CDI	Severe disease status		◆
	Strain		◆

Table 2 lists the data elements which should be used to calculate rates of SAB and CDI

Table 2 – Data elements used for calculation of SAB and CDI rates or counts

Object class	Data element	SAB	CDI
Establishment	Number of patient days	◆	◆
	Patient episodes of healthcare associated SAB	◆	
	Patient episodes of hospital identified CDI		◆
	Patient episodes of hospital identified CDI - severe disease		◆

4.2 Case definition - Healthcare Associated *Staphylococcus aureus* bacteraemia (SAB)

A patient-episode of bacteraemia is defined as a positive blood culture for *Staphylococcus aureus*. For surveillance purposes, only the first isolate per patient is counted, unless at least 14 days has passed without a positive blood culture, after which an additional episode is recorded.

A *Staphylococcus aureus* bacteraemia (SAB) will be considered to be healthcare associated if:

EITHER

- the patient's first SAB blood culture was collected more than 48 hours after hospital admission or less than 48 hours after discharge

OR

- the patient's first 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.

Clinical criteria:

- SAB is a complication of the presence of an indwelling medical device (e.g. Intravascular line, haemodialysis vascular access, CSF shunt, urinary catheter)
- SAB occurs within 30 days of a surgical procedure where the SAB is related to the surgical site
- SAB was diagnosed within 48 hours of a related invasive instrumentation or incision
- SAB is associated with neutropenia (Neutrophils: $<1 \times 10^9/L$) contributed to by cytotoxic therapy

See Figure 1 for flowchart.

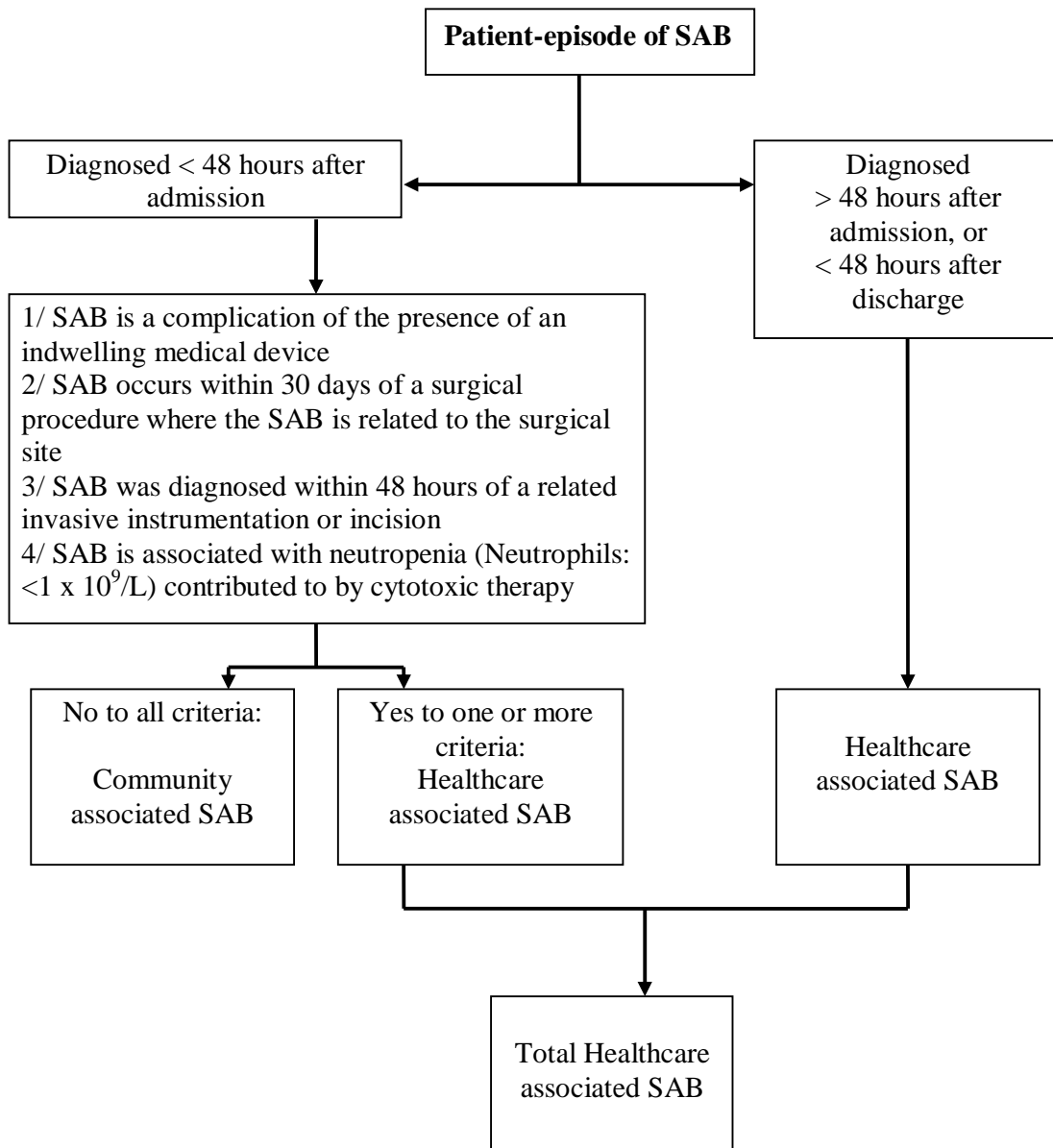
Note: Cases where a known previous positive test has been obtained within the last 14 days are excluded.

For example: If a patient has SAB in which 4 sets of blood cultures are positive over the initial 3 days of the patient's admission only one episode of SAB is recorded. If the same patient had a further set of positive blood cultures on day 6 of the same admission, these would not be counted again, but would be considered part of the initial patient-episode.

Note: If the same patient had a further positive blood culture 20 days after admission (i.e. greater than 14 days after their last positive on day 5), then this would be considered a second patient-episode of SAB.

Surveillance of Healthcare Associated Infections: SAB and CDI

Figure 1 – Flow Chart – Determining whether *Staphylococcus aureus* bacteraemia is Healthcare associated



4.2.1 Calculation of SAB rates

The following primary information will be used to define the monthly rates of *Staphylococcus aureus* bacteraemia (SAB) for each Australian healthcare facility with acute inpatient beds:

Numerator

- Patient-episodes of SAB (noting the following factors related to each episode):
 - Determination of whether the SAB is a healthcare associated infection
 - Designation of which healthcare facility the patient was admitted to at the time of the patient-episode of SAB

Denominator

- Total patient days (noting the following inclusion)
 - Same-day patients

The rate will be calculated for each healthcare facility and State/Territory per month as follows:

Numerator: Patient episodes of Healthcare associated SAB x 10,000
Denominator: Number of patient days

4.2.2 Notes – SAB Calculation

Patient days

The recommended denominator for calculating monthly rates of HAI in Australian healthcare facilities is *patient days*. *Patient days* is a national standard, defined in the national health data dictionary and used for national reporting. *Occupied bed days* is a term commonly used by some states to express a similar concept to *patient days*. However, there is no national standard for calculating *occupied bed days*.

Patient days are calculated by counting the total patient days of those patients *separated* during the specified period, including those admitted before the specified period. Patient days of those patients admitted during the specified period who did not separate until the following reference period are not counted.

For example, Patient A is admitted on January 20 and discharged February 20. Patient A generates 0 patient days in the hospital's January record, and 31 patient days for February (11 from the January period of the separation, and 20 in February).

The yearly variance between calculations of *patient days* and *occupied bed days* is minimal (less than 1%); however the monthly variation can be quite significant for smaller hospitals.

Contract patient days are included in the count of total patient days. If it is a requirement to distinguish contract patient days from other patient days, they can be calculated by using the rules contained in the data element: total contract patient days.

Contamination

A contaminated specimen can produce a false positive in surveillance systems. Contamination of blood cultures is rare in adults (1- 2% of culture positive episodes) and more common in children (5-10%). If, in the evaluation of a potential event, the clinical diagnosis is unresponsive to infection AND, either a repeat blood culture(s) is (are) negative, AND/OR no antimicrobial treatment is given, the positive blood culture should be regarded as a contamination and not reported in the surveillance data.⁸

4.3 Case Definition- Hospital identified *Clostridium difficile* infection (CDI)

A CDI case is defined as a case of diarrhoea (that is, an unformed stool that takes the shape of the container) that meets the following criteria

- the stool sample yields a positive result in a laboratory assay for *C. difficile* toxin A and/or B, or
- a toxin-producing *C. difficile* organism is detected in the stool sample by culture or other means.

A hospital identified CDI case is:

- a case diagnosed in a patient attending an acute care facility (that is, it includes positive specimens obtained from admitted patients and those attending the Emergency Department, and outpatient departments).

See Figure 2.

Exclusions

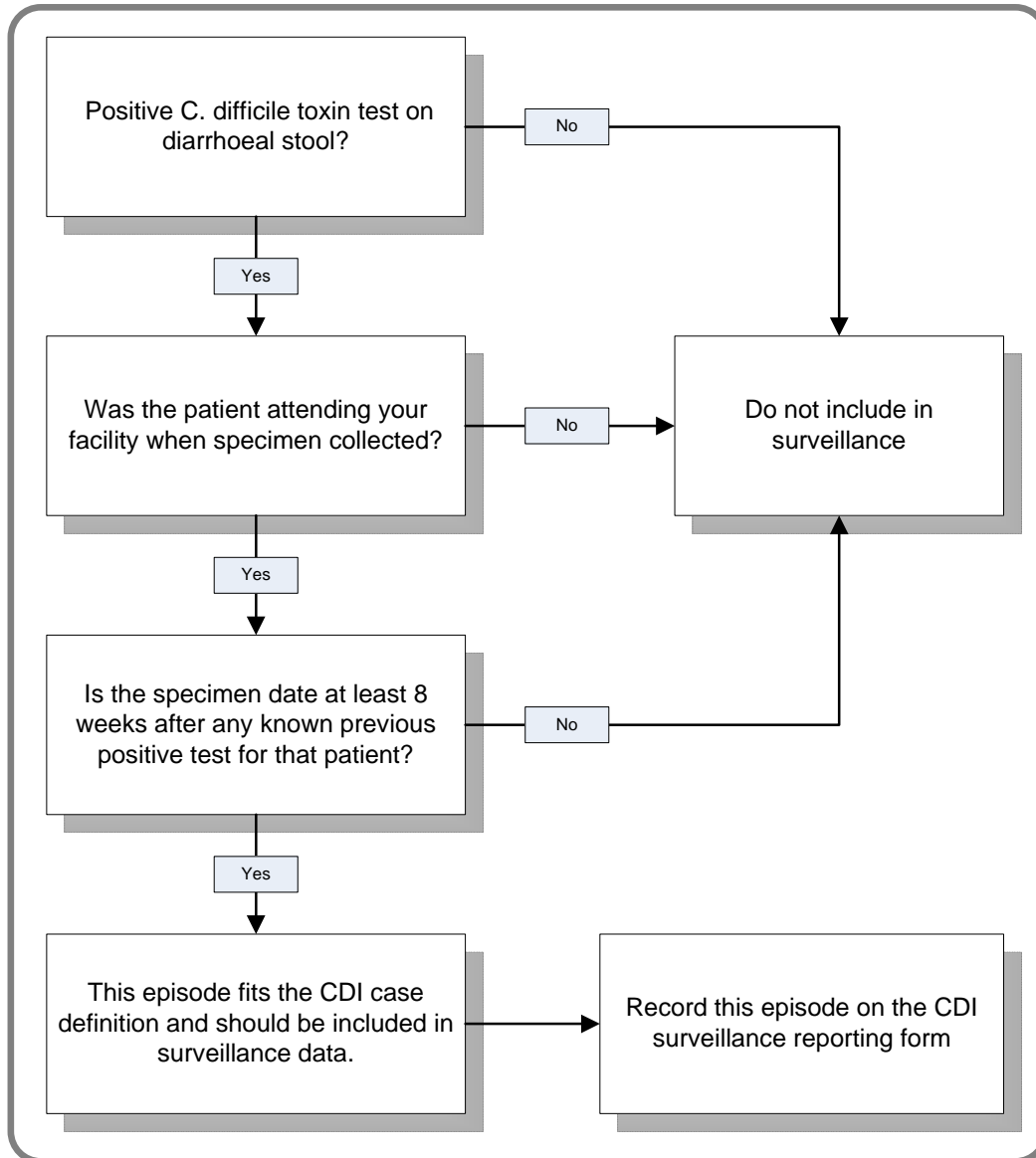
- Cases where a known previous positive test has been obtained within the last 8 weeks (that is, only include cases once in an 8 week period).
- Patients less than two years old.

An additional positive test obtained from a specimen collected from the same patient more than 8 weeks since the last positive test is regarded as a new case.

⁸ Hunter Area Pathology Service: internal data 2005-9. Personal communication Dr J Ferguson
http://www.asid.net.au/hicsigwiki/index.php?title=Rates_of_blood_culture_contamination_with_Staphylococcus_aureus

Surveillance of Healthcare Associated Infections: SAB and CDI

Figure 2 – Flow chart – Determining whether the C.difficile infection meets the case definition for hospital identified CDI



4.3.1 Calculation of hospital identified CDI rates

Principles of *Clostridium difficile* infection prevention include antibiotic stewardship, monitoring of incidence and outbreaks, appropriate use of contact precautions, accurate identification of infected patients, consistent hand hygiene and improved environmental cleaning.

The rate of CDI is an important indicator of safety and quality, and CDI is the object of national surveillance. Recently published international recommendations and a national definition support implementation of an appropriate surveillance program in Australia³.

The following primary information will be used to calculate the rates of *C. difficile* infection (CDI) in each Australian healthcare facility with acute inpatient beds.

Numerator

- Patient episodes of hospital identified CDI (total hospital CDI cases)

Denominator for each healthcare facility

- Total patient days (including day cases)

Exclusions

- Cases where a known previous positive test has been obtained within the last 8 weeks (that is, only include cases once in an 8 week period)
- Patients less than 2 years old at date of admission

This will be calculated for each healthcare facility as follows:

Numerator: Patient episodes of hospital identified CDI (total hospital CDI cases) x 10,000

Denominator: Patient days at the healthcare facility

Note: Rates for healthcare facilities can be aggregated to produce rates for each state / territory.

4.3.2 CDI and cases of severe disease

The *C. difficile* case definition does not require differentiation between severe and non-severe cases.

A severe case is defined as a CDI case patient who meets any of the following surveillance criteria within 30 days of symptom onset:

- history of admission to an intensive care unit for treatment of complications from CDI (for example vasopressor therapy for shock);
- history of surgery for treatment of toxic megacolon, perforation or refractory colitis; or
- death caused by CDI within 30 days of symptom onset.

³ Cruickshank et al, op cit, p. 171

4.3.3 Calculation of incidence of severe disease

For those healthcare facilities or organisations monitoring severe disease, this should be expressed as the proportion of total hospital identified CDI cases in the reporting period that were severe against the total number of CDI cases in the reporting period. The raw numbers as well as the proportion should be reported to aid interpretation.

The proportion should be calculated for each healthcare facility in the reporting period, as follows:

Numerator: Patient episodes of hospital identified CDI - severe disease
Denominator: Patient episodes of hospital identified CDI (total hospital CDI cases)

4.4 Levels of Identification

Whenever data regarding individuals or service provider organisations are collected or disseminated, privacy and confidentiality must be addressed. Hospitals, health services and jurisdictions have a range of policies, regulations and laws in place regarding the use of personal health information for secondary purposes. This data set specification does not address health information privacy in detail.

However, the following principles can be applied to HAI surveillance in general:

- Hospitals can and will hold identified data on healthcare associated infections.
- Jurisdictions and private hospital ownership groups will focus on trends over time and variation between comparable facilities, and do not necessarily need to hold identified patient information¹⁰.
- National reporting will focus on trends over time and regional variation

No individual service provider or individual client will be identified/or identifiable in any published reporting undertaken comprising healthcare associated infections data.

Data collection staff must be made aware of the need for ethical management and privacy of data. Generally, clients should be informed as to what information is collected, by whom, how it will be used, and their rights in relation to it. This should occur, irrespective of whether the information was collected from a third party or directly from the person concerned. The *Privacy Act 1988*, however, recognises there will be situations when it is not reasonable or appropriate to do this.

The datasets for *Staphylococcus aureus* bacteraemia and *Clostridium difficile* infection are structured in the following layers:

- Episode and person level data (SAB/CDI patient episode and demographics)
- Establishment level data (hospital and laboratory)
- Disease specific data (to calculate rates)

¹⁰ However, HAIs are notifiable in some jurisdictions

Figure 4 – Levels of reporting

Hospital		
Episode and person data	Jurisdiction or Ownership group	
Establishment level data	Establishment level data	National reporting
Disease specific data	Disease specific data (by facility)	Disease specific data (by Jurisdiction)

4.5 Metadata standards and data elements

The development of metadata standards improves quality, relevance, consistency and the availability of national information about the health and welfare of Australians. The drivers for standard development arise from the need for better information - whether it is statistical, administrative, clinical or other information.

Metadata standards describe the expected meaning and acceptable representation of data for use within a defined context. The need for consistency of meaning is vital to facilitate information sharing among primary and secondary users of the data. Much of the work involved in establishing a data collection is in the development of metadata standards to ensure comparability and consistency of the data collected and produced from the collection. The data standards in this data dictionary are based on the national health standard used by METeOR, Australia's repository for national metadata standards for the health, community services and housing assistance sectors. The system was developed by the Australian Institute of Health and Welfare and is accessed online via <http://meteor.aihw.gov.au/>.

Note:

The format of the data elements section of this document is based on the METeOR standard. *METeOR is Australia's repository for national metadata standards for the health, community services and housing assistance sectors*¹¹.

In order to support the use of this Data Set Specification (DSS) by those working in the area of HAI surveillance and surveillance system development, the data element presentation is a truncated version of the METeOR standard. Once endorsed, a fully compliant version will be maintained within the national metadata registry, METeOR.

¹¹ See <http://meteor.aihw.gov.au/content/index.phtml/itemId/181414>

5 DATA ELEMENTS – PATIENT EPISODE OF HEALTHCARE ASSOCIATED INFECTION

This section specifies the data elements to be collected at hospital level for all patient episodes of healthcare associated infection

- Admission date
- Separation date
- Case identifier - The data elements that jointly comprise a unique identifier for a case of healthcare associated infection are:
 - 1) Australian state / territory identifier (Establishment)
 - 2) Case identifier designation
- Date Time specimen collected
- Establishment number (hospital)
- Ward/clinical area
- Specimen identifier
- Laboratory result identifier
- Laboratory number
- Laboratory site number

5.1 Admission date

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Episode of admitted patient care—admission date, DDMMYYYY
<i>METeOR identifier:</i>	269967
<i>Registration status:</i>	Health, Standard 01/03/2005
<i>Definition:</i>	Date on which an admitted patient commences an episode of care.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Date
<i>Format:</i>	DDMMYYYY
<i>Maximum character length:</i>	8

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	Assign the admission date for the patient-episode where the positive blood culture for <i>Staphylococcus aureus</i> bacteraemia has been isolated, and is considered to be a healthcare associated infection according to the case definition OR where <i>Clostridium difficile</i> has been detected in the stool sample and is considered to be a healthcare associated infection according to the case definition.
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Source and reference attributes

<i>Origin:</i>	National Health Data Committee
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5.2 Separation date

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Episode of admitted patient care—separation date, DDMMYYYY
<i>METeOR identifier:</i>	270025
<i>Registration status:</i>	Health, Standard 01/03/2005
<i>Definition:</i>	Date on which an admitted patient completes an episode of care.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Date
<i>Format:</i>	DDMMYYYY
<i>Maximum character length:</i>	8

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	Assign the separation date for the patient-episode where the positive blood culture for <i>Staphylococcus aureus</i> bacteraemia has been isolated, and is considered to be a healthcare associated infection according to the case definition OR where <i>Clostridium difficile</i> has been detected in the stool sample and is considered to be a healthcare associated infection according to the case definition.
<i>Comments:</i>	There may be variations amongst jurisdictions with respect to the recording of separation date. This most often occurs for patients who are statistically separated after a period of leave (and who do not return for further hospital care). In this case, some jurisdictions may record the separation date as the date of statistical separation (and record intervening days as leave days) while other jurisdictions may retrospectively separate patients on the first day of leave. Despite the variations in recording of separation date for this group of patients, the current practices provide for the accurate recording of length of stay.

Source and reference attributes

<i>Origin:</i>	National Health Data Committee
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5.3 Australian state/territory identifier (Establishment)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—Australian state/territory identifier, code N
<i>METeOR identifier:</i>	269941
<i>Registration status:</i>	Health, Standard 01/03/2005
<i>Definition:</i>	An identifier of the Australian state or territory in which an establishment is located, as represented by a code.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Code	
<i>Format:</i>	N	
<i>Maximum character length:</i>	1	
<i>Permissible values:</i>	Value	Meaning
	1	New South Wales
	2	Victoria
	3	Queensland
	4	South Australia
	5	Western Australia
	6	Tasmania
	7	Northern Territory
	8	Australian Capital Territory
	9	Other territories (Cocos (Keeling) Islands, Christmas Island and Jervis Bay Territory)

Collection and usage attributes

<i>Guide for use:</i>	The order presented here is the standard for the Australian Bureau of Statistics (ABS). Other organisations (including the Australian Institute of Health and Welfare) publish data in state order based on population (that is, Western Australia before South Australia and Australian Capital Territory before Northern Territory).
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Source and reference attributes

<i>Reference documents:</i>	Australian Bureau of Statistics 2005. Australian Standard Geographical Classification (ASGC). Cat No. 1216.0. Canberra: ABS. Viewed on 30/09/2005
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Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The data elements that jointly comprise a unique identifier for a case of healthcare associated infection are: 1) Australian state / territory identifier (Establishment); and 2) Case identifier designation
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This metadata item applies to the location of the establishment and not to the patient's area of usual residence.

Source and reference attributes

Submitting organisation: Australian Institute of Health and Welfare

Origin: National Health Data Committee

National Community Services Data Committee

5.4 Case identifier designation

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Jurisdiction—case identifier designation, X[X(14)]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	A unique identifier (within each State or Territory) allocated upon notification of a patient episode of Healthcare associated infection to a jurisdictional, or private hospital ownership group database, that is then recorded against the episode locally.
<i>Context:</i>	This item enables unique case identification within an aggregated database, establishment or collection authority level.

Value domain attributes

Representational attributes

<i>Definition:</i>	A logical combination of valid alphanumeric characters that uniquely identify a case recorded as a patient episode of Healthcare associated infection (within a State or Territory)
<i>Representation class:</i>	Identifier
<i>Format:</i>	X[X(14)]
<i>Maximum character length:</i>	15

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The data elements that jointly comprise a unique identifier for a case of healthcare associated infection are: 1) Australian state / territory identifier (Establishment); and 2) Case identifier designation
-----------------------	---

Individual agencies, establishments or collection authorities may use their own alphabetic, numeric or alphanumeric coding systems.

Field should not be blank.

5.5 Date Time specimen collected

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—specimen collection date time, DDMMYYHHMM
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The date and time that the specimen was collected from the patient by the specimen collector in the healthcare facility.
<i>Context:</i>	Date and time at which the positive <i>S. aureus</i> or <i>C. difficile</i> specimen was collected.

Value domain attributes

Representational attributes

<i>Representation class:</i>	DateTime
<i>Format:</i>	DDMMYYYYHHMM
<i>Maximum character length:</i>	12

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The specimen collection date and time will be reported on the pathology request / order. Field should not be blank.
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Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group NEHTA Data Element DE-11013
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5.6 Establishment number

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—organisation identifier (state/territory), NNNNN
<i>METeOR identifier:</i>	269975
<i>Registration status:</i>	Health, Standard 01/03/2005
<i>Definition:</i>	An identifier for an establishment, unique within the state or territory.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Identifier
<i>Data type:</i>	Number
<i>Format:</i>	NNNNN
<i>Maximum character length:</i>	5

Data element attributes

Collection and usage attributes

<i>Comments:</i>	<p>Identifier should be a unique code for the health care establishment used in that state/territory.</p> <p>This data element concept will be replaced by the NEHTA <i>Healthcare Provider Identifiers – Organisation</i> (HPI-O). Information about the HPI-O is shown below. NEHTA has engaged Medicare Australia to design and build Australia’s first national healthcare identification service, to provide the requisite identification service for the people and organisations involved in healthcare across Australia, by way of:</p> <ul style="list-style-type: none"> • <i>Individual Healthcare Identifiers</i> (IHIs) to identify all Australian healthcare consumers • <i>Healthcare Provider Identifiers - Individual</i> (HPI-Is), to identify individual healthcare providers, such as general practitioners, clinicians, nurses and pharmacists • <i>Healthcare Provider Identifiers – Organisation</i> (HPI-Os), to identify healthcare organisations such as hospitals and clinics. <p>Initially, it is assumed that the Individual Healthcare Identifiers (IHIs) and jurisdictional and local system identifiers (including Medical Record Numbers [MRNs] and Unique Patient Identifiers [UPIs]) will coexist. However, in the longer term, IHIs, HPI-Is and HPI-Os are expected to replace these existing, localised identifiers.</p>
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5.7 Ward/clinical area

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—ward/clinical area, text X[X(39)]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The organisational unit or organisational arrangement through which a hospital provides healthcare services in an admitted patient setting, as represented by text.
<i>Context:</i>	Required to identify the area in a healthcare facility in which the patient is located.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Text
<i>Format:</i>	X[X(39)]
<i>Maximum character length:</i>	40

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	In the Healthcare Associated Infections Data Set Specification, this data element refers to the ward or clinical area within the healthcare facility where the patient was located at the time of specimen collection resulting in a positive test for the HAI infection. This information will be facility specific, so local conventions for naming wards should be used, for example Maternity Ward, or Emergency Department.
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Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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Relational attributes

<i>Related metadata references:</i>	See also Establishment—organisation identifier (state/territory), NNNNN
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5.8 Specimen identifier

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Laboratory—Specimen identifier, text [X(30)]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	A unique identifier allocated by the laboratory to the specimen submitted for pathology investigation
<i>Context:</i>	The assignment of an identifier to a specimen allows the tracking of the specimen through receipt, processing, analysis, reporting and storage within the laboratory. This identifier may be placed on several vials of the same specimen type collected at the same time (as in the case of blood vials).

Value domain attributes

Representational attributes

<i>Definition:</i>	A logical combination of valid numeric or alphanumeric characters that identify a specimen within the laboratory.
<i>Representation class:</i>	Identifier
<i>Format:</i>	text [X(30)]
<i>Maximum character length:</i>	30

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The specimen identifier will be derived from the pathology report and will be unique within the laboratory only.
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Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group NEHTA Data Element DE-11012
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Relational attributes

<i>Related metadata references:</i>	See also <i>Laboratory—organisation identifier</i> , NNNNN
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5.9 Laboratory result identifier

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Laboratory—result identifier, text [X(30)]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	A unique identifier allocated by the laboratory to the laboratory result of a pathology investigation
<i>Context:</i>	The assignment of an identifier to a result allows the linking of a result to a request within the laboratory

Value domain attributes

Representational attributes

<i>Definition:</i>	A logical combination of valid numeric or alphanumeric characters that identify a specimen result within the laboratory.
<i>Representation class:</i>	Identifier
<i>Format:</i>	Text [X(30)]
<i>Maximum character length:</i>	30

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The laboratory result identifier will be derived from the pathology report and will be unique within the laboratory only. Field should not be blank.
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Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group NEHTA Data Element DE-11018
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Relational attributes

<i>Related metadata references:</i>	See also <i>Laboratory—organisation identifier</i> , NNNNN
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5.10 Laboratory number

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Laboratory—organisation identifier, NNNNN
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	A unique identifier for a laboratory as represented by the NATA accreditation number.

Value domain attributes

Representational attributes

<i>Classification Scheme:</i>	NATA accreditation number
<i>Representation class:</i>	Identifier
<i>Format:</i>	NNNNN
<i>Maximum character length:</i>	5

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The National Association of Testing Authorities (NATA) is Australia's national laboratory accreditation authority. NATA accreditation recognises and promotes facilities competent in specific types of testing, measurement, inspection and calibration. Each laboratory within Australia is assigned a unique accreditation number up to 5 characters. See http://www.nata.asn.au/ .
<i>Collection methods:</i>	Refer to NATA's website for a full list of accreditation numbers http://www.nata.asn.au/ .
<i>Comments:</i>	<p>This data element concept will be replaced by the NEHTA <i>Healthcare Provider Identifiers – Organisation</i> (HPI-O). Information about the HPI-O is shown below. NEHTA has engaged Medicare Australia to design and build Australia's first national healthcare identification service, to provide the requisite identification service for the people and organisations involved in healthcare across Australia, by way of:</p> <ul style="list-style-type: none"> • <i>Individual Healthcare Identifiers</i> (IHIs) to identify all Australian healthcare consumers • <i>Healthcare Provider Identifiers - Individual</i> (HPI-Is), to identify individual healthcare providers, such as general practitioners, clinicians, nurses and pharmacists • <i>Healthcare Provider Identifiers – Organisation</i> (HPI-Os), to identify healthcare organisations such as hospitals and clinics. <p>Initially, it is assumed that the Unique Healthcare Identifiers (UHIs) and jurisdictional and local system identifiers (including Medical Record Numbers [MRNs] and Unique Patient Identifiers [UPIs]) will coexist. However, in the longer term, IHIs, HPI-Is and HPI-Os are expected to replace these existing, localised identifiers.</p>

5.11 Laboratory site number

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Laboratory—site identifier, NNNNN
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	A unique identifier for a laboratory site that is part of an organisation consisting of multiple laboratories, which holds Corporate NATA Accreditation, as represented by the NATA site number.

Value domain attributes

Representational attributes

<i>Classification Scheme:</i>	NATA site number
<i>Representation class:</i>	Identifier
<i>Format:</i>	NNNNN
<i>Maximum character length:</i>	5

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	<p>The National Association of Testing Authorities (NATA) is Australia's national laboratory accreditation authority. Each laboratory within Australia is assigned a unique accreditation number up to 5 characters. See http://www.nata.asn.au/. The NATA Accreditation number consists of 4 or 5 digits and is unique for each laboratory in the majority of cases.</p> <p>The exception is where an organisation, consisting of multiple laboratories, holds Corporate Accreditation. In this case there is one accreditation number for the organisation but each individual laboratory within the organisation is distinguished by a Site number. The Site number is not displayed on the NATA website however it is available on the laboratory report or by contacting the laboratory.</p>
<i>Collection methods:</i>	Refer to the laboratory report or contact the laboratory for their site number.
<i>Comments:</i>	This data element concept will be replaced by the NEHTA <i>Healthcare Provider Identifiers – Organisation</i> (HPI-O). [See previous data element Laboratory number for information about the HPI-O]

Relational attributes

<i>Related metadata references:</i>	See also <i>Laboratory—organisation identifier, NNNNN</i>
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6 PERSON DATA ELEMENTS

This section specifies the following person-level data elements:

- Family name
- Given name(s)
- Indigenous status
- Date of birth
- Sex
- Address line (person)
- Suburb/town/locality name (person)
- Postcode—Australian (person)
- Australian state/territory identifier (person)
- Person identifier

6.1 Family name

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person (name)—family name, text X[X(39)]
<i>Synonymous names:</i>	Surname; Last name
<i>METeOR identifier:</i>	286953
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005 Housing assistance, Standard 20/06/2005
<i>Definition:</i>	That part of a name a person usually has in common with some other members of his/her family, as distinguished from his/her given names, as represented by text.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Text
<i>Format:</i>	X[X(39)]
<i>Maximum character length:</i>	40

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The agency or establishment should record the person's full family name on their information systems.
<i>Collection methods:</i>	See http://meteor.aihw.gov.au/content/index.phtml/itemId/286953 for collection methods if required.

Source and reference attributes

<i>Submitting organisation:</i>	Australian Institute of Health and Welfare Standards Australia
<i>Origin:</i>	National Health Data Committee National Community Services Data Committee Commonwealth Department of Health and Family Services 1998. Home and Community Care Data Dictionary Version 1.0. Canberra: DHFS Standards Australia 2002. AS5017 Health Care Client Identification, 2002, Sydney: Standards Australia.
<i>Reference documents:</i>	AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia

6.2 Given name(s)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person (name)—given name, text [X(40)]
<i>METeOR identifier:</i>	287035
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005 Housing assistance, Standard 20/06/2005
<i>Definition:</i>	The person's identifying name within the family group or by which the person is socially identified, as represented by text.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Text
<i>Format:</i>	[X(40)]
<i>Maximum character length:</i>	40

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	A person may have more than one Given name. All given names should be recorded. The agency or establishment should record the person's full given name(s) on their information systems. Each individual Given name should have a Given name sequence number associated with it. Health care establishments may record given names (first and other given names) in one field or several fields. This metadata item definition applies regardless of the format of data recording. A full history of names is to be retained.
<i>Collection methods:</i>	See http://meteor.aihw.gov.au/content/index.phtml/itemId/287035 for collection methods if required.

Source and reference attributes

<i>Submitting organisation:</i>	Australian Institute of Health and Welfare Standards Australia
<i>Origin:</i>	National Health Data Committee National Community Services Data Committee Commonwealth Department of Health and Family Services 1998. Home and Community Care Data Dictionary Version 1.0. Canberra: DHFS AS5017 Health Care Client Identification, 2002, Sydney: Standards Australia.
<i>Reference documents:</i>	AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia

6.3 Indigenous status

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person—Indigenous status, code N
<i>METeOR identifier:</i>	291036
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005
<i>Definition:</i>	Whether a person identifies as being of Aboriginal or Torres Strait Islander origin, as represented by a code. This is in accord with the first two of three components of the Commonwealth definition.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Code	
<i>Format:</i>	N	
<i>Maximum character length:</i>	1	
<i>Permissible values:</i>	Value	Meaning
	1	Aboriginal but not Torres Strait Islander origin
	2	Torres Strait Islander but not Aboriginal origin
	3	Both Aboriginal and Torres Strait Islander origin
	4	Neither Aboriginal nor Torres Strait Islander origin
<i>Supplementary values:</i>	9	Not stated/inadequately described

Collection and usage attributes

<i>Guide for use:</i>	This metadata item is based on the Australian Bureau of Statistics (ABS) standard for Indigenous status. For detailed advice on its use and application please refer to http://meteor.aihw.gov.au/content/index.phtml/itemId/291036 .
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Data element attributes

Collection and usage attributes

<i>Collection methods:</i>	See http://meteor.aihw.gov.au/content/index.phtml/itemId/291036 .
<i>Comments:</i>	See http://meteor.aihw.gov.au/content/index.phtml/itemId/291036 for the Commonwealth definition of indigenous status if required.

Source and reference attributes

<i>Origin:</i>	National Health Data Committee National Community Services Data Committee
<i>Reference documents:</i>	Australian Bureau of Statistics 1999. Standards for Social, Labour and Demographic Variables. Cultural Diversity Variables , Canberra. Viewed 3 August 2005.

6.4 Date of birth

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person—date of birth, DDMMYYYY
<i>METeOR identifier:</i>	287007
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005 Housing assistance, Standard 20/06/2005
<i>Definition:</i>	The date of birth of the person.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Date
<i>Format:</i>	DDMMYYYY
<i>Maximum character length:</i>	8

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	<p>If date of birth is not known or cannot be obtained, provision should be made to collect or estimate age. Collected or estimated age would usually be in years for adults, and to the nearest three months (or less) for children aged less than two years. Additionally, an estimated date flag or a date accuracy indicator should be reported in conjunction with all estimated dates of birth.</p> <p>For data collections concerned with children's services, it is suggested that the estimated date of birth of children aged under 2 years should be reported to the nearest 3 month period, i.e. 0101, 0104, 0107, 0110 of the estimated year of birth. For example, a child who is thought to be aged 18 months in October of one year would have his/her estimated date of birth reported as 0104 of the previous year. Again, an estimated date flag or date accuracy indicator should be reported in conjunction with all estimated dates of birth.</p>
<i>Collection methods:</i>	<p>Information on date of birth can be collected using the one question:</p> <p>What is your/(the person's) date of birth?</p> <p>In self-reported data collections, it is recommended that the following response format is used:</p> <p>Date of birth: __ / __ / _____</p> <p>This enables easy conversion to the preferred representational layout (DDMMYYYY).</p> <p>For record identification and/or the derivation of other metadata items that require accurate date of birth information, estimated dates of birth should be identified by a date accuracy indicator to prevent inappropriate use of date of birth data. The linking of client records from diverse sources, the sharing of patient data, and data analysis for research and planning all rely heavily on the accuracy and integrity of the collected data. In order to maintain data integrity and the greatest possible accuracy an indication of the accuracy of</p>

Surveillance of Healthcare Associated Infections: SAB and CDI

the date collected is critical. The collection of an indicator of the accuracy of the date may be essential in confirming or refuting the positive identification of a person. For this reason it is strongly recommended that the data element Date—accuracy indicator, code AAA also be recorded at the time of record creation to flag the accuracy of the data.

Comments:

Privacy issues need to be taken into account in asking persons their date of birth.

Wherever possible and wherever appropriate, date of birth should be used rather than age because the actual date of birth allows a more precise calculation of age.

When date of birth is an estimated or default value, national health and community services collections typically use 0101 or 0107 or 3006 as the estimate or default for DDMM.

It is suggested that different rules for reporting data may apply when estimating the date of birth of children aged under 2 years because of the rapid growth and development of children within this age group which means that a child's development can vary considerably over the course of a year. Thus, more specific reporting of estimated age is suggested.

Source and reference attributes

Origin:

National Health Data Committee

National Community Services Data Committee

Reference documents:

AS5017 Health Care Client Identification, 2006, Sydney: Standards Australia

AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia

6.5 Sex

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person—sex, code N
<i>METeOR identifier:</i>	287316
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005 Housing assistance, Standard 10/02/2006
<i>Definition:</i>	The biological distinction between male and female, as represented by a code.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Code								
<i>Format:</i>	N								
<i>Maximum character length:</i>	1								
<i>Permissible values:</i>	<table> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Male</td> </tr> <tr> <td>2</td> <td>Female</td> </tr> <tr> <td>3</td> <td>Intersex or indeterminate</td> </tr> </tbody> </table>	Value	Meaning	1	Male	2	Female	3	Intersex or indeterminate
Value	Meaning								
1	Male								
2	Female								
3	Intersex or indeterminate								
<i>Supplementary values:</i>	9 Not stated/inadequately described								

Collection and usage attributes

<i>Guide for use:</i>	<p>Diagnosis and procedure codes should be checked against the national ICD-10-AM sex edits, unless the person is undergoing, or has undergone a sex change or has a genetic condition resulting in a conflict between sex and ICD-10-AM code.</p> <p>CODE 3 Intersex or indeterminate</p> <p>Intersex or indeterminate, refers to a person, who because of a genetic condition, was born with reproductive organs or sex chromosomes that are not exclusively male or female or whose sex has not yet been determined for whatever reason.</p> <p>Intersex or indeterminate, should be confirmed if reported for people aged 90 days or greater.</p>
<i>Comments:</i>	The definition for Intersex in Guide for use is sourced from the ACT Legislation (Gay, Lesbian and Transgender) Amendment Act 2003.

Source and reference attributes

<i>Origin:</i>	Australian Capital Territory 2003. Legislation (Gay, Lesbian and Transgender) Amendment Act 2003
<i>Reference documents:</i>	Legislation (Gay, Lesbian and Transgender) Amendment Act 2003. See http://www.legislation.act.gov.au/a/2003-14/20030328-4969/pdf/2003-14.pdf .

Data element attributes

Collection and usage attributes

Surveillance of Healthcare Associated Infections: SAB and CDI

Collection methods: Operationally, sex is the distinction between male and female, as reported by a person or as determined by an interviewer.

When collecting data on sex by personal interview, asking the sex of the respondent is usually unnecessary and may be inappropriate, or even offensive. It is usually a simple matter to infer the sex of the respondent through observation, or from other cues such as the relationship of the person(s) accompanying the respondent, or first name. The interviewer may ask whether persons not present at the interview are male or female.

A person's sex may change during their lifetime as a result of procedures known alternatively as sex change, gender reassignment, transsexual surgery, transgender reassignment or sexual reassignment. Throughout this process, which may be over a considerable period of time, the person's sex could be recorded as either Male or Female.

In data collections that use the ICD-10-AM classification, where sex change is the reason for admission, diagnoses should include the appropriate ICD-10-AM code(s) that clearly identify that the person is undergoing such a process. This code(s) would also be applicable after the person has completed such a process, if they have a procedure involving an organ(s) specific to their previous sex (e.g. where the patient has prostate or ovarian cancer).

CODE 3 Intersex or indeterminate

Is normally used for babies for whom sex has not been determined for whatever reason.

Should not generally be used on data collection forms completed by the respondent.

Should only be used if the person or respondent volunteers that the person is intersex or where it otherwise becomes clear during the collection process that the individual is neither male nor female.

CODE 9 Not stated/inadequately described

Is not to be used on primary collection forms. It is primarily for use in administrative collections when transferring data from data sets where the item has not been collected.

Source and reference attributes

Origin: Australian Institute of Health and Welfare (AIHW) National Mortality Database 1997/98 AIHW 2001 National Diabetes Register, Statistical Profile, December 2000 (Diabetes Series No. 2.)

Reference documents: Australian Bureau of Statistics
AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia
AS5017 Health Care Client Identification, 2006, Sydney: Standards Australia
In AS4846 and AS5017 alternative codes are also presented. Refer to the current standard for more details.

6.6 Address line (person)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person (address)—address line, text [X(180)]
<i>METeOR identifier:</i>	286620
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 30/09/2005
<i>Definition:</i>	A composite of one or more standard address components that describes a low level of geographical/physical description of a location, as represented by text. Used in conjunction with the other high-level address components i.e. Suburb/town/locality, Postcode—Australian, Australian state/territory, and Country, forms a complete geographical/physical address of a person.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Text
<i>Format:</i>	[X(180)]
<i>Maximum character length:</i>	180

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	<p>A high-level address component is defined as a broad geographical area that is capable of containing more than one specific physical location. Some examples of a broad geographical area are:</p> <ul style="list-style-type: none"> - Suburb, town or locality - Postcode—Australian or international - State, Territory, local government area, electorate, statistical local area - Postal delivery point identifier - Countries, provinces, etc other than in Australia <p>These components of a complete address do not form part of the Address line.</p> <p>When addressing an Australian location, following are the standard address data elements that may be concatenated in the Address line:</p> <ul style="list-style-type: none"> - Building/complex sub-unit type - Building/complex sub-unit number - Building/property name - Floor/level number - Floor/level type - House/property number - Lot/section number - Street name - Street type code - Street suffix code <p>One complete identification/description of a location/site of an address can comprise one or more than one instance of address</p>
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Surveillance of Healthcare Associated Infections: SAB and CDI

line.

Instances of address lines are commonly identified in electronic information systems as Address-line 1, Address-line 2, etc.

The format of data collection is less important than consistent use of conventions in the recording of address data. Hence, address may be collected in an unstructured manner but should ideally be stored in a structured format.

Where Address line is collected as a stand-alone item, software may be used to parse the Address line details to separate the sub-components.

Multiple Address lines may be recorded as required.

Collection methods:

The following concatenation rules should be observed when collecting address lines addressing an Australian location.

- Building/complex sub-unit type is to be collected in conjunction with Building/complex sub-unit number and vice versa.
- Floor/level type is to be collected in conjunction with Floor/level number and vice versa.
- Street name is to be used in conjunction with Street type code and Street suffix code.
- Street type code is to be used in conjunction with Street name and Street suffix code.
- Street suffix code is to be used in conjunction with Street name and Street type code.
- House/property number is to be used in conjunction with Street name.

Source and reference attributes

Submitting organisation:

Standards Australia

Origin:

Health Data Standards Committee
AS5017 Health Care Client Identification, 2002, Sydney: Standards Australia.

Reference documents:

AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia

6.7 Suburb/town/locality name (person)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person (address)—suburb/town/locality name, text [A(50)]
<i>METeOR identifier:</i>	287326
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005
<i>Definition:</i>	The full name of the locality contained within the specific address of a person, as represented by text.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Text
<i>Format:</i>	[A(50)]
<i>Maximum character length:</i>	50

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	<p>The suburb/town/locality name may be a town, city, suburb or commonly used location name such as a large agricultural property or Aboriginal community.</p> <p>This metadata item may be used to describe the location of person. It can be a component of a street or postal address.</p> <p>The Australian Bureau of Statistics has suggested that a maximum field length of 50 characters should be sufficient to record the vast majority of locality names.</p>
<i>Collection methods:</i>	Enter 'Unknown' when the locality name or geographic area for a person or event is not known. Enter 'No fixed address' when a person has no fixed address or is homeless .

Source and reference attributes

<i>Origin:</i>	National Health Data Committee National Community Services Data Committee
<i>Reference documents:</i>	AS5017 Health Care Client Identification, 2006, Sydney: Standards Australia AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia Australia Post 2005. Australia Postcode File. Viewed 12 April 2009, www.auspost.com.au/postcodes

6.8 Postcode—Australian (person)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person (address)—Australian postcode, code (Postcode datafile) {NNNN}
<i>METeOR identifier:</i>	287224
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005 Housing assistance, Standard 10/02/2006
<i>Definition:</i>	The numeric descriptor for a postal delivery area, aligned with locality, suburb or place for the address of a person.

Value domain attributes

Representational attributes

<i>Classification scheme:</i>	Postcode datafile
<i>Representation class:</i>	Code
<i>Format:</i>	{NNNN}
<i>Maximum character length:</i>	4

Collection and usage attributes

<i>Comments:</i>	See http://meteor.aihw.gov.au/content/index.phtml/itemId/287224 .
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Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	The postcode book is updated more than once annually; as postcodes are a dynamic entity and are constantly changing.
<i>Collection methods:</i>	Leave Postcode - Australian blank for: <ul style="list-style-type: none">• Any overseas address• Unknown address• No fixed address. May be collected as part of Address line or separately. Postal addresses may be different from where a person actually resides.

Source and reference attributes

<i>Submitting organisation:</i>	Standards Australia
<i>Origin:</i>	National Health Data Committee National Community Services Data Committee
<i>Reference documents:</i>	AS5017 Health Care Client Identification, 2006, Sydney: Standards Australia AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia Australia Post Postcode book. Reference through: http://www1.auspost.com.au/postcodes/

6.9 Australian state/territory identifier (person)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person—Australian state/territory identifier, code N
<i>METeOR identifier:</i>	286919
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005 Housing assistance, Standard 10/02/2006
<i>Definition:</i>	The Australian state or territory where a person can be located, as represented by a code.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Code	
<i>Format:</i>	N	
<i>Maximum character length:</i>	1	
<i>Permissible values:</i>	Value	Meaning
	1	New South Wales
	2	Victoria
	3	Queensland
	4	South Australia
	5	Western Australia
	6	Tasmania
	7	Northern Territory
	8	Australian Capital Territory
	9	Other territories (Cocos (Keeling) Islands, Christmas Island and Jervis Bay Territory)

Collection and usage attributes

<i>Guide for use:</i>	The order presented here is the standard for the Australian Bureau of Statistics (ABS). Other organisations (including the Australian Institute of Health and Welfare) publish data in state order based on population (that is, Western Australia before South Australia and Australian Capital Territory before Northern Territory).
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Source and reference attributes

<i>Reference documents:</i>	Australian Bureau of Statistics 2005. Australian Standard Geographical Classification (ASGC). Cat No. 1216.0. Canberra: ABS. Viewed on 30/09/2005
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Data element attributes

Collection and usage attributes

<i>Collection methods:</i>	Irrespective of how the information is coded, conversion of the codes to the ABS standard must be possible.
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Source and reference attributes

Surveillance of Healthcare Associated Infections: SAB and CDI

- Origin:* Australian Bureau of Statistics 2004. [Australian Standard Geographical Classification](#) (ASGC) (Cat No. 1216.0). Viewed 13 October 2005.
- Reference documents:* AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia
AS5017 Health Care Client Identification, 2006, Sydney: Standards Australia
In AS4846 and AS5017 alternative codes are also presented. Refer to the current standard for more details.

6.10 Person identifier

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Person—person identifier, XXXXXX[X(14)]
<i>METeOR identifier:</i>	290046
<i>Registration status:</i>	Health, Standard 04/05/2005 Community services, Standard 25/08/2005
<i>Definition:</i>	Person identifier unique within an establishment or agency.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Identifier
<i>Format:</i>	XXXXXX[X(14)]
<i>Maximum character length:</i>	20

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	Individual agencies, establishments or collection authorities may use their own alphabetic, numeric or alphanumeric coding systems. Field should not be blank.
<i>Comments:</i>	Identifier should be a unique code for the person used in that establishment or agency. This data element concept will be replaced by the NEHTA <i>Individual Healthcare Identifiers</i> (IHIs). Information about the IHI is shown below. NEHTA has engaged Medicare Australia to design and build Australia's first national healthcare identification service, to provide the requisite identification service for the people and organisations involved in healthcare across Australia, by way of: <ul style="list-style-type: none"> • <i>Individual Healthcare Identifiers</i> (IHIs) to identify all Australian healthcare consumers • <i>Healthcare Provider Identifiers - Individual</i> (HPI-Is), to identify individual healthcare providers, such as general practitioners, clinicians, nurses and pharmacists • <i>Healthcare Provider Identifiers – Organisation</i> (HPI-Os), to identify healthcare organisations such as hospitals and clinics. Initially, it is assumed that the Individual Healthcare Identifiers (IHIs) and jurisdictional and local system identifiers (including Medical Record Numbers [MRNs] and Unique Patient Identifiers [UPIs]) will coexist. However, in the longer term, IHIs, HPI-Is and HPI-Os are expected to replace these existing, localised identifiers.

Source and reference attributes

<i>Reference documents:</i>	AS5017 Health Care Client Identification, 2006, Sydney: Standards Australia AS4846 Health Care Provider Identification, 2006, Sydney: Standards Australia
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7 DATA ELEMENTS – CALCULATION OF HAI RATES

This section specifies the following establishment-level data elements used in the calculation of healthcare associated infection rates (see also sections 4.2 and 4.3):

- Number of patient days
- Patient episodes of healthcare associated SAB
- Patient episodes of hospital identified CDI
- Patient episodes of hospital identified CDI – severe disease

7.1 Number of patient days

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—number of patient days, total N[N(7)]
<i>METeOR identifier:</i>	270045
<i>Registration status:</i>	Health, Standard 01/03/2005
<i>Definition:</i>	The total number of days for all patients who were admitted for an episode of care and who separated during a specified reference period.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Total
<i>Format:</i>	N[N(7)]
<i>Maximum character length:</i>	8
<i>Unit of measure:</i>	Day

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	<p>A day is measured from midnight to 2359 hours.</p> <p>The following basic rules are used to calculate the number of patient days for overnight stay patients:</p> <ul style="list-style-type: none"> • The day the patient is admitted is a patient day • If the patient remains in hospital from midnight to 2359 hours count as a patient day • The day a patient goes on leave is counted as a leave day • If the patient is on leave from midnight to 2359 hours count as a leave day • The day the patient returns from leave is counted as a patient day • The day the patient is separated is not counted as a patient day. <p>The following additional rules cover special circumstances and in such cases, override the basic rules:</p> <ul style="list-style-type: none"> • Patients admitted and separated on the same date (same-day patients) are to be given a count of one patient day • If the patient is admitted and goes on leave on the same day, count as a patient day • If the patient returns from leave and goes on leave on the same date, count as a leave day. • If the patient returns from leave and is separated, it is not counted as either a patient day or a leave day. • If a patient goes on leave the day they are admitted and does not return from leave until the day they are discharged, count as one patient day (the day of admission is counted as a patient day, the day of separation is not counted as a patient day).
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Surveillance of Healthcare Associated Infections: SAB and CDI

When calculating total patient days for a specified period:

- Count the total patient days of those patients separated during the specified period including those admitted before the specified period
- Do not count the patient days of those patients admitted during the specified period who did not separate until the following reference period
- Contract patient days are included in the count of total patient days. If it is a requirement to distinguish contract patient days from other patient days, they can be calculated by using the rules contained in the data element: total contract patient days.

Source and reference attributes

Origin:

National Health Data Committee

7.2 Patient episodes of healthcare associated SAB

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—number of patient episodes of healthcare associated <i>Staphylococcus aureus</i> bacteraemia , total N[NNNNN]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The total number of patient episodes of healthcare associated SAB occurring during the reference period.
<i>Context:</i>	Admitted patient care: Needed as the basic count of the number of patient episodes of healthcare associated SAB.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Total
<i>Format:</i>	N[NNNNN]
<i>Maximum character length:</i>	6
<i>Unit of measure:</i>	Episode

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	May be calculated at: <ul style="list-style-type: none"> • individual establishment level; or • jurisdiction (i.e. state/territory) level i.e. the sum of the number of patient episodes of healthcare associated SAB within establishments within the state/territory.
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Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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7.3 Patient episodes of hospital identified CDI

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—number of patient episodes of hospital identified <i>Clostridium difficile</i> , total N[NNNNN]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The total number of patient episodes of hospital identified <i>Clostridium difficile</i> occurring during the reference period.
<i>Context:</i>	Admitted patient care: Needed as the basic count of the number of patient episodes of hospital identified CDI

Value domain attributes

Representational attributes

<i>Representation class:</i>	Total
<i>Format:</i>	N[NNNNN]
<i>Maximum character length:</i>	6
<i>Unit of measure:</i>	Episode

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	May be calculated at: <ul style="list-style-type: none">• individual establishment level; or• jurisdiction (i.e. state/territory) level i.e. the sum of the number of patient episodes of hospital identified CDI within establishments within the state/territory.
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Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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7.4 Patient episodes of hospital identified CDI – severe disease

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Establishment—number of patient episodes of hospital identified <i>Clostridium difficile</i> - severe disease, total N[NNNNN]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The total number of severe cases of hospital identified <i>Clostridium difficile</i> occurring during the reference period.
<i>Context:</i>	Admitted patient care: Needed as the basic count of the number of patient episodes of hospital identified CDI, which meet the surveillance criteria for a severe case.

Value domain attributes

Representational attributes

<i>Representation class:</i>	Total
<i>Format:</i>	N[NNNNN]
<i>Maximum character length:</i>	6
<i>Unit of measure:</i>	Episode

Data element attributes

Collection and usage attributes

<i>Guide for use:</i>	<p>May be calculated at:</p> <ul style="list-style-type: none"> individual establishment level; or jurisdiction (i.e. state/territory) level i.e. the sum of the number of severe cases of hospital identified CDI within establishments within the state/territory. <p>A severe case is defined as a CDI case patient who meets any of the following surveillance criteria within 30 days of symptom onset:</p> <ul style="list-style-type: none"> history of admission to an intensive care unit for treatment of complications from CDI (for example vasopressor therapy for shock); history of surgery for treatment of toxic megacolon, perforation or refractory colitis; or death caused by CDI within 30 days of symptom onset.
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Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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8 STAPHYLOCOCCUS AUREUS BACTERAEMIA (SAB) DATA ELEMENTS

This section specifies the disease-specific data elements for a patient episode of healthcare associated SAB:

- Healthcare associated SAB clinical criteria
- SAB Methicillin susceptibility
- Antibiotic susceptibility (MRSA isolate)
- Antibiotic susceptibility status (MRSA isolate)

8.1 Healthcare associated SAB clinical criteria

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Patient episode of SAB—healthcare associated clinical criteria, code N
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	Determines whether the patient episode of SAB meets the clinical criteria for a healthcare associated patient episode of SAB
<i>Context:</i>	Required in order to confirm that the patient episode of SAB is healthcare associated when the patient's first SAB blood culture was collected less than or equal to 48 hours after hospital admission

Value domain attributes

Representational attributes

Definition: A code set representing the key clinical criteria that are used to determine whether a patient episode of *Staphylococcus aureus* bacteraemia (SAB) is healthcare associated when the patient's first SAB blood culture was collected less than or equal to 48 hours after hospital admission

Representation class: Code

Format: N

Maximum character length: 1

<i>Permissible values:</i>	Value	Meaning
	1	The patient episode of SAB is a complication of the presence of an indwelling medical device (e.g. Intravascular line, haemodialysis vascular access, CSF shunt, urinary catheter).
	2	The patient episode of SAB occurs within 30 days of a surgical procedure where the SAB is related to the surgical site.
	3	The patient episode of SAB was diagnosed within 48 hours of a related invasive instrumentation or incision.
	4	The patient episode of SAB is associated with neutropenia (Neutrophils: $<1 \times 10^9/L$) contributed to by cytotoxic therapy
	9	Not stated/inadequately described.

Collection and usage attributes

Guide for use: The most probable healthcare associated clinical criteria should be selected.

A SAB will be considered to be healthcare-associated if:

EITHER

- the patient's first SAB blood culture was collected more than 48 hours after hospital admission or less than 48 hours

Surveillance of Healthcare Associated Infections: SAB and CDI

after discharge

OR

- the patient's first 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.

Clinical criteria:

- SAB is a complication of the presence of an indwelling medical device (e.g. Intravascular line, haemodialysis vascular access, CSF shunt, urinary catheter)
- SAB occurs within 30 days of a surgical procedure where the SAB is related to the surgical site
- SAB was diagnosed within 48 hours of a related invasive instrumentation or incision
- SAB is associated with neutropenia (Neutrophils: $<1 \times 10^9/L$) contributed to by cytotoxic therapy

If none of these criteria is met and the patient's first SAB blood culture was collected less than or equal to 48 hours after admission, then the SAB will be considered to be "Community associated SAB".

Note: the criteria for IV Line associated SAB should include the following:

- meets the requirements of a bloodstream infection definition **and**
- an intravascular line was in situ within the 48 hours before the event **and**
- the organism(s) is not related to an infection at another site.

Collection methods

To identify whether SABs are community associated or healthcare associated, SABs should undergo a standard case review by a healthcare worker trained in Infectious Diseases/Infection Control.

Data element attributes

Source and reference attributes

Origin: ACSQHC Healthcare Associated Infection Technical Working Group

8.2 SAB Methicillin susceptibility

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Patient episode of SAB— <i>S.aureus</i> methicillin susceptibility, code N
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	Indicates whether the <i>S.aureus</i> organism is resistant or susceptible to oxacillin or methicillin (cefoxitin), and therefore whether the SAB is Methicillin Susceptible <i>Staphylococcus aureus</i> (MSSA) or Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA) as represented by a code.
<i>Context:</i>	To record whether the <i>S.aureus</i> organism is MRSA or MSSA. B-lactam antibiotics are a commonly used group of antibiotics used to treat <i>S. aureus</i> infections. B-lactam resistance is detected in the laboratory using oxacillin or methicillin (cefoxitin).

Value domain attributes

Representational attributes

<i>Definition:</i>	A code set representing whether the SAB isolate is susceptible to oxacillin or methicillin (cefoxitin).	
<i>Representation class:</i>	Code	
<i>Data type:</i>	Boolean	
<i>Format:</i>	N	
<i>Maximum character length:</i>	1	
<i>Permissible values:</i>	Value	Meaning
	1	Yes
	2	No

Collection and usage attributes

<i>Guide for use:</i>	CODE 1 Yes Record if the <i>S.aureus</i> isolate is susceptible to oxacillin or methicillin (cefoxitin) (MSSA).
	CODE 2 No Record if the <i>S.aureus</i> isolate is resistant (i.e. not susceptible) to oxacillin or cefoxitin (MRSA). Intermediate level resistance is reported as 2 (resistant).

Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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8.3 Antibiotic susceptibility (MRSA isolate)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	MRSA isolate—antibiotic susceptibility, text [X(40)]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The antibiotic for which the Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA) isolate is tested for susceptibility or resistance
<i>Context:</i>	Supports clinical management by identifying a range of antibiotics that can be used to treat a patient infected with Methicillin Resistant <i>Staphylococcus aureus</i> .

Value domain attributes

Representational attributes

<i>Definition:</i>	An antibiotic that was included in testing an MRSA isolate for susceptibility or resistance.
<i>Representation class:</i>	Text
<i>Format:</i>	[X(40)]
<i>Maximum character length:</i>	40

Collection and usage attributes

<i>Guide for use:</i>	<p>Required for MRSA isolates only, where the <i>Staphylococcus aureus</i> is resistant to methicillin.</p> <p>Must be used in conjunction with the data element <i>MRSA isolate—antibiotic susceptibility status, code N</i> to indicate the result of each test.</p> <p>For example, if the MRSA isolate is resistant to trimethoprim, the text recorded for <i>MRSA isolate—antibiotic susceptibility text [X(40)]</i> would be trimethoprim, and <i>MRSA isolate— antibiotic susceptibility status, code N</i> would be 2 (resistant).</p> <p>Intermediate level resistance is reported as 2 (resistant).</p>
<i>Max occurs</i>	8

Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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Relational attributes

<i>Related metadata references:</i>	See also <i>MRSA isolate—antibiotic susceptibility status, code N</i>
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8.4 Antibiotic susceptibility status (MRSA isolate)

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	MRSA isolate— antibiotic susceptibility status, code N
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	Indicates whether the MRSA isolate is susceptible or resistant to each antibiotic tested, as represented by a code.
<i>Context:</i>	Supports clinical management by identifying a range of antibiotics that can be used to treat a patient infected with Methicillin Resistant <i>Staphylococcus aureus</i> .

Value domain attributes

Representational attributes

<i>Definition:</i>	A code set representing whether the MRSA isolate is susceptible or resistant to various antibiotics.	
<i>Representation class:</i>	Code	
<i>Format:</i>	N	
<i>Maximum character length:</i>	1	
<i>Permissible values:</i>	Value	Meaning
	1	Yes
	2	No
	9	Not stated/inadequately described.

Collection and usage attributes

<i>Guide for use:</i>	Code 1 Yes Record if the MRSA isolate is susceptible to the antibiotic. Code 2 No Record if the MRSA isolate is not susceptible (i.e. resistant) to the antibiotic.
	Required for MRSA isolates only, where the <i>Staphylococcus aureus</i> is resistant to methicillin. Must be used in conjunction with the metadata item <i>MRSA isolate—antibiotic susceptibility, text [X(40)]</i> to indicate which antibiotic is tested. For example, if the MRSA isolate is resistant to trimethoprim, the text recorded for <i>MRSA isolate—antibiotic susceptibility text [X(40)]</i> would be trimethoprim, and <i>MRSA isolate—antibiotic susceptibility status, code N</i> would be 2 (resistant).
	Intermediate level resistance is reported as 2 (resistant).

Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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Relational attributes

Related metadata references: See also *MRSA isolate—antibiotic susceptibility, code N*

9 CLOSTRIDIUM DIFFICILE INFECTION (CDI) DATA ELEMENTS

This section specifies the disease-specific data elements for a patient episode of CDI:

- CDI—severe disease status
- CDI—strain

9.1 CDI—severe disease status

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Patient episode of CDI—severe disease status, code N
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	Indicates whether the case of <i>Clostridium difficile</i> meets the surveillance criteria for severe disease, as represented by a code.
<i>Context:</i>	This data element can be used to classify the severity of the patient episode of CDI. Collecting this data is recommended for larger hospitals with high risk patient population or high background rates. Classification of severity level supports the use of information for local prevention and control.

Value domain attributes

Representational attributes

<i>Definition:</i>	A code set representing whether the patient episode of CDI meets the surveillance criteria for severe disease.	
<i>Representation class:</i>	Code	
<i>Format:</i>	N	
<i>Maximum character length:</i>	1	
<i>Permissible values:</i>	Value	Meaning
	1	Yes
	2	No
	9	Not stated/inadequately described.

Collection and usage attributes

<i>Guide for use:</i>	CODE 1 Yes Record if the patient episode of CDI meets the surveillance criteria for severe disease.
	CODE 2 No Record if the patient episode of CDI meets the surveillance criteria for severe disease

The CDI case definition does not require differentiation between severe and non-severe cases. The proportion of severe cases of CDI can be calculated and expressed as a percentage of the total number of cases detected.

A severe case is defined as a CDI case patient who meets any of the following surveillance criteria within 30 days of symptom onset:

- history of admission to an intensive care unit for treatment of complications from CDI (for example vasopressor therapy for shock);
- history of surgery for treatment of toxic megacolon, perforation or refractory colitis; or

- death caused by CDI within 30 days of symptom onset.

Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
<i>Reference documents:</i>	McDonald LC, Coignard B et al. 2007. <i>Recommendations for surveillance of Clostridium difficile-associated disease</i> . Infection Control and Hospital Epidemiology 28:140-145

9.2 CDI—strain

Identifying and definitional attributes

<i>Metadata item type:</i>	Data Element
<i>Technical name:</i>	Patient episode of CDI—strain, text [X(40)]
<i>METeOR identifier:</i>	N/A
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The strain of <i>Clostridium difficile</i> reported by the laboratory after identification and typing of the <i>C. difficile</i> specimen
<i>Context:</i>	This data element can be used to record the strain of CDI. Collecting this data is recommended for larger hospitals with high risk patient population or high background rates. Classification of the strain of CDI supports the use of information for local prevention and control.

Value domain attributes

Representational attributes

<i>Definition:</i>	A strain of <i>Clostridium difficile</i>
<i>Representation class:</i>	Text
<i>Format:</i>	[X(40)]
<i>Maximum character length:</i>	40

Data element attributes

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
<i>Reference documents:</i>	McDonald LC, Coignard B et al. 2007. <i>Recommendations for surveillance of Clostridium difficile-associated disease</i> . Infection Control and Hospital Epidemiology 28:140-145

Appendix I – Supporting data element concepts

Episode of admitted patient care

Identifying and definitional attributes

<i>Metadata item type:</i>	Object Class
<i>METeOR identifier:</i>	268956
<i>Registration status:</i>	Health, Standard 01/03/2005
<i>Definition:</i>	The period of admitted patient care between a formal or statistical admission and a formal or statistical separation , characterised by only one care type.
<i>Context:</i>	Admitted patient care.
<i>Specialisation of:</i>	Episode of care (Episode of admitted patient care status)

Collection and usage attributes

<i>Guide for use:</i>	This treatment and/or care provided to a patient during an episode of care can occur in hospital and/or in the person's home (for hospital-in-the-home patients).
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Source and reference attributes

<i>Origin:</i>	Health Data Standards Committee.
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Establishment

Identifying and definitional attributes

<i>Metadata item type:</i>	Object Class
<i>METeOR identifier:</i>	268953
<i>Registration status:</i>	Health, Standard 01/03/2005
<i>Definition:</i>	Institutions, organisations or the community from which health services are provided. The term establishment covers conventional health establishments and also organisations which may provide services in the community.
<i>Specialisation of:</i>	Health service provider (Establishment status)

Source and reference attributes

<i>Origin:</i>	National Health Data Committee
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Person

Identifying and definitional attributes

<i>Metadata item type:</i>	Object Class
<i>METeOR identifier:</i>	268955
<i>Registration status:</i>	Health, Standard 01/03/2005 Community services, Standard 01/03/2005 Housing assistance, Standard 01/03/2005
<i>Definition:</i>	A human being, whether man, woman or child.
<i>Specialisation of:</i>	Person/group of persons (Group status)

Source and reference attributes

<i>Submitting organisation:</i>	Australia Institute of Health and Welfare
<i>Origin:</i>	Macquarie University 2003. <i>The Macquarie Dictionary 3rd ed.</i> Sydney: The Macquarie Library Pty. Ltd

Jurisdiction

Identifying and definitional attributes

<i>Metadata item type:</i>	Object Class
<i>METeOR identifier:</i>	352330
<i>Registration status:</i>	Health, Standard 05/12/2007
<i>Definition:</i>	The territory or area over which authority is exercised.

Laboratory

Identifying and definitional attributes

<i>Metadata item type:</i>	Object Class
<i>METeOR identifier:</i>	390761
<i>Registration status:</i>	Undefined
<i>Definition:</i>	A facility that performs tests in various fields of human pathology including anatomical pathology (histology and cytology), chemical pathology, microbiology, haematology, immunohaematology, cytogenetics, molecular biology, immunology and assisted reproductive technologies ¹ .
<i>Reference documents:</i>	National Association of Testing Authorities, Australia (NATA) 2009. NATA, New South Wales. Viewed December 2009, < http://www.nata.asn.au/index.php/types-of-accreditation >

¹ <http://www.nata.asn.au/index.php/types-of-accreditation>

Patient episode of SAB

Identifying and definitional attributes

<i>Metadata item type:</i>	Object Class
<i>METeOR identifier:</i>	388775
<i>Registration status:</i>	Undefined
<i>Definition:</i>	A positive blood culture for <i>Staphylococcus aureus</i> bacteraemia (SAB) that arises from an episode of admitted patient care in an Australian hospital and meets the case definition for healthcare associated SAB
<i>Context:</i>	Admitted patient care

Collection and usage attributes

<i>Guide for use:</i>	<p>Only the first isolate per patient is counted, unless at least 14 days has passed without a positive blood culture, after which an additional episode is recorded. That is, one patient can have multiple patient episodes of SAB if at least 14 consecutive days have passed during which no positive test has been recorded.</p> <p>Cases where a known previous positive test has been obtained within the last 14 days are excluded. For example: If a patient has SAB in which 4 sets of blood cultures are positive over the initial 3 days of the patient's admission only one episode of SAB is recorded. If the same patient had a further set of positive blood cultures on day 6 of the same admission, these would not be counted again, but would be considered part of the initial patient-episode. If the same patient had a further positive blood culture 20 days after admission (i.e. greater than 14 days after their last positive on day 5), then this would be considered a second patient-episode of SAB.</p>
<i>Comments:</i>	<p>A contaminated specimen can produce a false positive in surveillance systems. Contamination of blood cultures is rare in adults (1- 2% of culture positive episodes) and more common in children (5-10%).</p> <p>If, in the evaluation of a potential event, the clinical picture is unresponsive of infection AND, either a repeat blood culture(s) is (are) negative, AND/OR no antimicrobial treatment is given, the positive blood culture should be regarded as a contamination and not reported in the surveillance data.</p>

Source and reference attributes

<i>Origin:</i>	ACSQHC Healthcare Associated Infection Technical Working Group
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MRSA isolate

Identifying and definitional attributes

<i>Metadata item type:</i>	Object Class
<i>METeOR identifier:</i>	379076
<i>Registration status:</i>	Undefined
<i>Definition:</i>	The methicillin-resistant <i>Staphylococcus aureus</i> isolate (sample/specimen).

Context: Methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain of *S aureus* that can survive treatment with the antibiotics normally used to treat *Staphylococcus aureus* infections.

Collection and usage attributes

Guide for use: The MRSA isolate object class is to be used to describe whether the SAB infection is resistant to various antibiotics.

Source and reference attributes

Origin: ACSQHC Healthcare Associated Infection Technical Working Group

Patient episode of CDI

Identifying and definitional attributes

Metadata item type: Object Class

METeOR identifier: 388767

Registration status: Undefined

Definition: A patient episode of CDI (*Clostridium difficile* infection) is a case of diarrhoea (that is, an unformed stool that takes the shape of the container) diagnosed in a patient attending an acute care facility that meets the following criteria: the stool sample yields a positive result in a laboratory assay for *C. difficile* toxin A and/or B, or a toxin-producing *C. difficile* organism is detected in the stool sample by culture or other means.

Context: A patient episode of CDI refers to a case diagnosed in a patient attending an acute care facility (that is, it includes positive specimens obtained from admitted patients and those attending the Emergency Department, and outpatient departments).

Collection and usage attributes

Guide for use: Only one case per person is counted, unless at least 8 weeks has passed without a positive sample, after which an additional episode is recorded. That is, one patient can have multiple patient episodes of CDI if at least 8 consecutive weeks have passed during which no positive test has been recorded.

Cases where a known previous positive test has been obtained within the last 8 weeks are excluded (that is, only include cases once in an 8 week period).

An additional positive test obtained from a specimen collected from the same patient more than 8 weeks since the last positive test is regarded as a new case. The extent of look-back to previous positive tests (for example linkage of laboratories and hospitals) should be determined by the jurisdictions and hospitals according to their infrastructure and resources.

Source and reference attributes

Origin: ACSQHC Healthcare Associated Infection Technical Working Group

Appendix II – Data Set Specification Terminology²

Metadata item types

- Classification scheme - An official terminological system, recognised and endorsed by a national or international body, that is used to classify data.
- Data element - The basic unit of identifiable and definable information created by combining a data element concept and a value domain.
- Data element concept - A concept created for the purposes of defining a data element by the union of an object class and a property.
- Data set specification - A collection of data elements which are collected as a set.
- Object class - Represents an entity, place or event that is of interest and needs to be described.
- Property - A characteristic of the object class of interest.
- Value domain - A set of permissible values by which a data element can be implemented. The value domain may be enumerated (e.g. a code) or non-enumerated (e.g. a total).

Short name

A short or common name or designation by which the data element is known and might be identified.

Definition

A concise statement that expresses the essential nature of the metadata item and its differentiation from other metadata items.

Context

A designation and/or description of the application environment or discipline in which the data element concept has meaning.

²Australian Institute of Health and Welfare, About Metadata, <http://meteor.aihw.gov.au/content/index.phtml/itemId/268284>

Representation class

The class of representation of a value domain (e.g. 'Code' or 'Total').

Table 1: Valid representation class values and their associated meanings

Value	Meaning
Average	A numeric value representing an arithmetic mean.
Code	A system of valid symbols that substitute for longer values.
Date	A numeric value representing a calendar date (i.e. day, month and year) or recognised part of a calendar date (i.e. day, month, and/or year).
Identifier	A value which establishes identity.
Percentage	Parts per hundred.
Ratio	An expression of the quantity of one substance or entity in relation to that of another (Dorlands, 2003: 1586).
Text	An unformatted, descriptive value.
Time	A numeric value representing a specific instance in time.
Total	A numeric value representing the sum of a set of values or an entire quantity (including monetary).
Count	A numeric value representing a non-monetary numeric value arrived at by counting.
Currency	A numeric value representing a monetary value.
Quantity	A numeric value representing a continuous number such as the linear dimensions, capacity/amount (non-monetary) of an object.

Format

A template for the presentation of values, including specification and layout of permitted characters, the maximum and minimum size, and precision. It is not a template for electronic data transmission or storage.

Table 2: Format values and their associated meanings

Value	Valid character range
A	Alphabetic character set: contains the letters a-z and A-Z and may contain special characters**, but not numeric characters.
N	Numeric character set: contains whole and decimal numbers and may contain special characters, but not alphabetic characters.
X	Alphanumeric character set: contains alphabetic and numeric characters, and may contain blank characters.

Surveillance of Healthcare Associated Infections: SAB and CDI

D	A numeric character representing a number of days.*
M	A numeric character representing a number of months.*
Y	A numeric character representing a number of years.*
h	Any numeric character representing a number of hours.*
m	Any numeric character representing a number of minutes.*
s	Any numeric character representing number of seconds.*
{ }	The string within the curly brackets (braces) is optional in its entirety (e.g. X{XX} indicates 1 or 3 alphanumeric characters (i.e. X or XXX)).
[]	The string within the square brackets is optional in any ordered combination (e.g. [XXX] indicates 0, 1, 2 or 3 alphanumeric characters (i.e. blank, X, XX or XXX)).
()	The character preceding the round brackets (parentheses) is repeated the number of times specified (e.g. X(9) indicates 9 alphanumeric characters).

** A special character is a character which has a visual representation and is neither a letter, number, ideogram, or blank. For example, punctuation marks and mathematical symbols.

A blank is a character that represents an empty position in an alphanumeric character field e.g. space. A blank is conceptually different from a null value, which is defined as the absence of a stored value.

* Valid in value domains of representation class Date or Time only. These format values indicate the valid unit(s) of measure to be presented. For value domains of all other representation classes, only the characters A, N, X, { }, [], and () may be used to denote the presence of a value.

Maximum character quantity

The maximum number of characters permitted to represent the values.

Origin

Any document(s) (including web-sites), organisations or committees from which any content is drawn.

