Surveillance of healthcare associated infection: Staphylococcus aureus bloodstream infection NBPDS

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Identifying and definitional attributes

Metadata item type:	Data Set Specification
METEOR identifier:	792068
Registration status:	Health, Recorded 26/04/2024
DSS type:	Data Set Specification (DSS)
Scope:	The purpose of this National best practice data set (NBPDS) is to support a comprehensive surveillance program of healthcare associated infections (HAI). HAIs are those infections that are not present or incubating at the time of admission to a healthcare program or facility, develop within a healthcare organisation or are produced by micro-organisms acquired during admission. This NBPDS is intended to support **Staphylococcus aureus bloodstream infection (SABSI)** surveillance in Australian hospitals. It is designed for the purposes of HAI surveillance, not diagnosis. The value of surveillance as part of a hospital infection control program is supported by high-grade international and national evidence. This NBPDS supports development of local forms and systems for surveillance of HAIs and associated data collection. This NBPDS applies to patient episodes of SABSI in Australian hospitals. **Case Definition – Healthcare associated *Staphylococcus aureus* bloodstream infection (SABSI)** A patient-episode of *Staphylococcus aureus* bloodstream infection (SABSI) is a positive blood culture for *Staphylococcus aureus* (S. aureus). For surveillance purposes, only the first isolate per patient is counted, unless at least 14 days has passed without a positive culture, after which a subsequent episode is recorded. **A SABSI is healthcare-associated if Criterion A1 or A2, or Criterion B1, B2, B3 or B4 are met.** **CRITERION A:** The patient's first Staphylococcus aureus positive blood culture was collected: A1. > 48 hours after admission, with no documented evidence that infection was present (including incubating) on admission OR A2. < 48 hours after discharge. **OR** **CRITERION B:** The patient's first positive Staphylococcus aureus blood culture was collected ≤ 48 hours after admission and one or more of the following key clinical criteria is met: B1. SABSI is a complication of the presence of an indwelling medical device

B2. SABSI occurs within 30 days of a surgical procedure where the SABSI is related to the surgical site, or 90 days for deep incisional/organ space infections related to a surgically implanted device

B3. SABSI was diagnosed within 48 hours of a related invasive instrumentation or incision

B4. SABSI is associated with neutropenia* contributed to by cytotoxic therapy and is unrelated to the presence of an indwelling medical device.

If neither Criterion A1 or A2, nor Criterion B1, B2, B3 or B4 are met, then the SABSI is considered to be community-acquired for the purposes of surveillance.

*Neutropenia is defined as at least two separate calendar days with values of absolute neutrophil count (ANC) or total white blood cells count (WBC) <500 cells/mm^3 (<0.5 X 10^9/L) on or within a seven-day time period which includes the date the positive blood specimen was collected (Day 1), the three calendar days before and the three calendar days after.

Collection and usage attributes

Statistical unit: Episodes of infection [*Staphylococcus aureus* bloodstream infection (SABSI)]

Guide for use:

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 and reliable information to hospital managers and clinicians to effectively manage HAI.

This NBPDS collects data at 2 levels:

1. At the individual level, with data elements to be collected for each patient episode;
2. At the aggregate level, with data elements used for calculation of SABSI rates.

The data elements to be collected at each level are specified in the table below:

Data elements to be collected for each patient episode	Data elements used for calculation of SABSI rates
Person identifier	Patient days
Family name	Patient episodes of healthcare associated SABSI
Given name(s)	
Indigenous status	
Date of birth	
Sex	
Gender	
Address line (person)	
Suburb/town/locality name (person)	
Australian state/territory identifier	
Australian postcode (address)	
Admission date	
Separation date	
Ward/clinical area	
Specimen collection date	
Specimen collection time	
Laboratory number	
Specimen identifier	
Laboratory result identifier	
Healthcare associated SABSI clinical criteria	
Staphylococcus aureus bloodstream infection status	
SABSI methicillin susceptibility	
Antibiotic susceptibility (MRSA isolate)	
Antibiotic susceptibility indicator (MRSA isolate)	
Establishment number	

Comments:

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.

Source and reference attributes

Submitting organisation: Australian Commission on Safety and Quality in Health Care

Origin: ACSQHC Healthcare Associated Infection Advisory Committee's Technical Working Group

Reference documents: ACSQHC (Australian Commission on Safety and Quality in Health Care) 2021. Implementation Guide for the Surveillance of Staphylococcus aureus bloodstream infection. Sydney: ACSQHC, viewed 10 February 2022 https://www.safetyandquality.gov.au/publications-and-resources/resource-library/implementation-guide-surveillance-staphylococcus-aureus-bloodstream-infection

Relational attributes

Related metadata references: Supersedes Surveillance of healthcare associated infection: Staphylococcus aureus bloodstream infection NBPDS
Health, Standard 09/12/2022

See also Healthcare-associated infections NBEDS 2025–
Health, Recorded 26/04/2024

Metadata items in this Data Set Specification

Seq No.	Metadata item	Obligation	Max occurs
1	Person—person identifier, XXXXXX[X(14)]	Optional	1
2	Person—family name, text X[X(39)]	Optional	1
3	Person—given name, text X[X(39)]	Optional	1
4	Person—Indigenous status, code N	Optional	1
5	Person—date of birth, DDMMYYYY	Optional	1
6	Person—sex, code X	Optional	1
7	Person—gender, code X	Optional	1
8	Person (address)—address line, text X[X(179)]	Optional	1
9	Address—suburb/town/locality name, text X[X(45)]	Optional	1
10	Person—Australian state/territory identifier, code N	Optional	1
11	Address—Australian postcode, code (Postcode datafile) NNNN	Optional	1
12	Episode of admitted patient care—admission date, DDMMYYYY	Optional	1
13	Episode of admitted patient care—separation date, DDMMYYYY	Optional	1
14	Establishment—ward/clinical area name, text X[X(39)]	Optional	1
15	Person—specimen collection date, DDMMYYYY	Optional	1
16	Person—specimen collection time, hhmm	Optional	1
17	Laboratory—organisation identifier, text X[X(39)]	Optional	1
18	Laboratory—specimen identifier, text X[X(39)]	Optional	1
19	Laboratory—result identifier, text X[X(39)]	Optional	1
20	Patient episode of Staphylococcus aureus bloodstream infection—most probable origin, healthcare associated clinical criteria code N	Conditional	1

Conditional obligation:

Conditional on there being at least one patient episode reported for Establishment—number of patient episodes of healthcare associated Staphylococcus aureus bloodstream infection, total episodes N[NNNN]

Seq No.	Metadata item	Obligation	Max occurs
21	Patient episode of Staphylococcus aureus bloodstream infection—infection setting, origin code N ***Conditional obligation:*** Conditional on there being at least one patient episode reported for Patient episode of Staphylococcus aureus bloodstream infection—most probable origin, clinical criteria code N	Conditional	1
22	Patient episode of Staphylococcus aureus bloodstream infection—Staphylococcus aureus methicillin susceptibility indicator, yes/no code N ***Conditional obligation:*** Conditional on there being at least one patient episode reported for Establishment—number of patient episodes of healthcare associated Staphylococcus aureus bloodstream infection, total episodes N[NNNN]	Conditional	1
23	Methicillin-resistant Staphylococcus aureus isolate—antibiotic susceptibility indicator, yes/no code N ***Conditional obligation:*** Required where Patient episode of Staphylococcus aureus bloodstream infection—Staphylococcus aureus methicillin susceptibility indicator, yes/no code N is reported as CODE 2 No	Conditional	1
24	Methicillin-resistant Staphylococcus aureus isolate—antibiotic susceptibility, text X[X(39)] ***Conditional obligation:*** Required where Methicillin-resistant Staphylococcus aureus isolate—antibiotic susceptibility indicator, yes/no code N is reported as CODE 1 Yes	Conditional	99
25	Establishment—number of patient days, total N[N(7)]	Mandatory	1
26	Establishment—number of patient episodes of healthcare-associated staphylococcus aureus bloodstream infection, total episodes N[NNNN]	Mandatory	1
27	Establishment—organisation identifier (state/territory), NNNNN ***Conditional obligation:*** This data element is reported conditionally with the element Establishment—organisation identifier (state/territory), NNNNN[NNNN][NNNN]. Establishment—organisation identifier (state/territory), NNNNN is to be reported for organisations with identifiers up to 5 characters in length. Establishment—organisation identifier (state/territory), NNNNN[NNNN] is to be reported for organisations with identifiers of between 6 and 9 characters in length. Data must be reported for at least one of the two elements. Data may be reported for both elements (i.e. where the ID to be reported has changed.)	Conditional	1

Seq No.	Metadata item	Obligation	Max occurs
28	Establishment—organisation identifier (state/territory), NNNNN[NNNN]	Conditional	1

Conditional obligation:

This data element is reported conditionally with the element Establishment—organisation identifier (state/territory), NNNNN.

Establishment—organisation identifier (state/territory), NNNNN is to be reported for organisations with identifiers up to 5 characters in length. Establishment—organisation identifier (state/territory), NNNNN[NNNN] is to be reported for organisations with identifiers of between 6 and 9 characters in length.

Data must be reported for at least one of the two elements.

Data may be reported for both elements (i.e. where the ID to be reported has changed.)