

# Surveillance of healthcare associated infection: Staphylococcus aureus bloodstream infection NBPDS

## Identifying and definitional attributes

**Metadata item type:** Data Set Specification

**METEOR identifier:** 752224

**Registration status:**

- [Health](#), Qualified 18/07/2022

**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 2, or Criterion B1, 2, 3 or 4 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  $\leq$  48 hours after admission and one or more of the following key clinical criteria is met:

B1. SABSIs are a complication of the presence of an indwelling medical device

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

B3. SABSIs were diagnosed within 48 hours of a related invasive instrumentation or incision

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

If neither Criterion A1 or 2, nor Criterion B1, 2, 3 or 4 are met, then the SABSIs are 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<sup>3</sup> ( $<0.5 \times 10^9/L$ ) 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 (SABSIs)]

**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 SABS rates.

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

<b>Data elements to be collected for each patient episode</b>	<b>Data elements used for calculation of SABS rates</b>
Person identifier	Patient days
Family name	Patient episodes of healthcare associated SABS
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 SABS clinical criteria	
Staphylococcus aureus bloodstream infection status	
SABS 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

<b>Submitting organisation:</b>	Australian Commission on Safety and Quality in Health Care
<b>Origin:</b>	ACSQHC Healthcare Associated Infection Advisory Committee's Technical Working Group
<b>Reference documents:</b>	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 <a href="https://www.safetyandquality.gov.au/publications-and-resources/resource-library/implementation-guide-surveillance-staphylococcus-aureus-bloodstream-infection">https://www.safetyandquality.gov.au/publications-and-resources/resource-library/implementation-guide-surveillance-staphylococcus-aureus-bloodstream-infection</a>

## Relational attributes

<b>Related metadata references:</b>	Supersedes <a href="#">Surveillance of healthcare associated infection: Staphylococcus aureus bacteraemia NBPDS</a> <ul style="list-style-type: none"><li>• <a href="#">Health</a>, Standard 15/11/2012</li></ul> See also <a href="#">Healthcare-associated infections NBEDS 2021–</a> <ul style="list-style-type: none"><li>• <a href="#">Health</a>, Standard 10/06/2022</li></ul>
-------------------------------------	---

## Metadata items in this Data Set Specification

Seq No.	Metadata item	Obligation	Max occurs
1	<a href="#">Person—person identifier, XXXXXX[X(14)]</a>	Optional	1
2	<a href="#">Person—family name, text X[X(39)]</a>	Optional	1
3	<a href="#">Person—given name, text X[X(39)]</a>	Optional	1
4	<a href="#">Person—Indigenous status, code N</a>	Optional	1
5	<a href="#">Person—date of birth, DDMMYYYY</a>	Optional	1
6	<a href="#">Person—sex, code X</a>	Optional	1
7	<a href="#">Person—gender, code X</a>	Optional	1
8	<a href="#">Person (address)—address line, text X[X(179)]</a>	Optional	1
9	<a href="#">Address—suburb/town/locality name, text X[X(45)]</a>	Optional	1
10	<a href="#">Person—Australian state/territory identifier, code N</a>	Optional	1
11	<a href="#">Address—Australian postcode, code (Postcode datafile) NNNN</a>	Optional	1
12	<a href="#">Episode of admitted patient care—admission date, DDMMYYYY</a>	Optional	1
13	<a href="#">Episode of admitted patient care—separation date, DDMMYYYY</a>	Optional	1
14	<a href="#">Establishment—ward/clinical area name, text X[X(39)]</a>	Optional	1
15	<a href="#">Person—specimen collection date, DDMMYYYY</a>	Optional	1
16	<a href="#">Person—specimen collection time, hhmm</a>	Optional	1
17	<a href="#">Laboratory—organisation identifier, text X[X(39)]</a>	Optional	1
18	<a href="#">Laboratory—specimen identifier, text X[X(39)]</a>	Optional	1
19	<a href="#">Laboratory—result identifier, text X[X(39)]</a>	Optional	1
20	<a href="#">Patient episode of Staphylococcus aureus bloodstream infection—most probable origin, healthcare associated clinical criteria code N</a>	Conditional	1
21	<a href="#">Patient episode of Staphylococcus aureus bloodstream infection—infection setting, status code N</a>	Conditional	1
22	<a href="#">Patient episode of Staphylococcus aureus bloodstream infection—Staphylococcus aureus methicillin susceptibility indicator, yes/no code N</a>	Conditional	1
23	<a href="#">Methicillin-resistant Staphylococcus aureus isolate—antibiotic susceptibility indicator, yes/no code N</a>	Conditional	1
24	<a href="#">Methicillin-resistant Staphylococcus aureus isolate—antibiotic susceptibility, text X[X(39)]</a>	Conditional	99
25	<a href="#">Establishment—number of patient days, total N[N(7)]</a>	Mandatory	1
26	<a href="#">Establishment—number of patient episodes of healthcare-associated staphylococcus aureus bloodstream infection, total episodes N[NNNN]</a>	Mandatory	1
27	<a href="#">Establishment—organisation identifier (state/territory), NNNNN</a>	Mandatory	1

© Australian Institute of Health and Welfare 2015–2022

This product, excluding the AIHW logo, Commonwealth Coat of Arms and any material owned by a third party or protected by a trademark, has been released under a Creative Commons BY 3.0 (CC BY 3.0) licence. Excluded material owned by third parties may include, for example, design and layout, images obtained under licence from third parties and signatures. We have made all reasonable efforts to identify and label material owned by third parties.

You may distribute, remix and build upon this work. However, you must attribute the AIHW as the copyright holder of the work in compliance with our attribution policy available at [www.aihw.gov.au/copyright](http://www.aihw.gov.au/copyright). The full terms and conditions of this licence are available at <http://creativecommons.org/licenses/by3.0/au/>.

Enquiries relating to copyright should be addressed to the Head of the Communications, Media and Marketing Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.