

National Health Performance Authority, Hospital Performance: Rate of healthcare-associated *Staphylococcus aureus* bloodstream infection, 2014

Identifying and definitional attributes

Metadata item type:	Indicator
Indicator type:	Indicator
Short name:	Rate of healthcare-associated <i>Staphylococcus aureus</i> bloodstream infection
METEOR identifier:	558746
Registration status:	<ul style="list-style-type: none">• National Health Performance Authority (retired), Superseded 09/04/2015
Description:	The rate of healthcare-associated <i>Staphylococcus aureus</i> (including MRSA) bloodstream infection attributable to receiving care at this hospital.
Indicator set:	National Health Performance Authority: Hospital performance: 2011-16 National Health Performance Authority (retired) , Retired 01/07/2016
Outcome area:	Hospital and Related Care National Health Performance Authority (retired) , Retired 01/07/2016 Health , Standard 07/07/2010

Collection and usage attributes

Computation description: The rate of *Staphylococcus aureus* (*S. aureus*) bloodstream infections associated with care provided at this hospital. Cases include both methicillin- or multi-resistant *Staphylococcus aureus* (MRSA) and methicillin-sensitive *Staphylococcus aureus* (MSSA).

A patient-episode of *Staphylococcus aureus* bloodstream infection 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: the first positive blood culture is collected more than 48 hours after hospital admission or less than 48 hours after discharge, OR, if the first positive blood culture is collected 48 hours or less after admission and one or more of the following key clinical criteria was met for the patient-episode of SAB:

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

Inclusions:

Numerator and denominator include cases or patient days under surveillance for unqualified newborns.

Exclusions:

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 6), then this would be considered a second patient-episode of SAB.

Numerator and denominator exclude cases or patient days under surveillance for posthumous organ procurement and hospital boarders.

Rate is presented as the number per 10,000 patient days for hospitals with greater or equal to 5,000 patient days under surveillance. Rate is not reported for hospitals with fewer than 5,000 patient days under surveillance, only the number of SAB cases. Rates are rounded to two decimal places.

Computation: $10,000 \text{ patient days} \times (\text{Numerator} \div \text{Denominator})$

Numerator: Number of SAB patient episodes (as defined in the Computation description)

Numerator data elements:

Data Element / Data Set

[Establishment—number of cases of healthcare associated Staphylococcus aureus bloodstream infection, total number N\[NNNNN\]](#)

Data Source

[State/territory infection surveillance data](#)

NMDS / DSS

[National Health Performance Authority, Hospital Performance: National Staphylococcus aureus Bacteraemia Dataset 2012-13](#)

Guide for use

Data source type: Administrative by-product data

Denominator:

Number of patient days under infection surveillance

Denominator data elements:

Data Element / Data Set

[Establishment—number of patient days under infection surveillance monitoring, total days N\[N\(7\)\]](#)

Data Source

[State/territory admitted patient data](#)

NMDS / DSS

[National Health Performance Authority, Hospital Performance: National Staphylococcus aureus Bacteraemia Dataset 2012-13](#)

Guide for use

Data source type: Administrative by-product data

Comments:

This indicator is specific to hospital-level public reporting of healthcare-associated *S. aureus* bloodstream infections in Australian public and private hospitals. In this context, healthcare-associated refers to those cases determined by expert infection control staff to have been acquired while the patient was receiving care at this hospital. While the majority of these care encounters are for admitted patients, patients receiving outpatient care or care in the emergency department can also be included.

At some hospitals, the percentage of hospital beds covered by the infection surveillance program can be less than 100%. This means that some wards or units have been excluded from surveillance and the reported infection rate may not reflect all cases in that hospital. However, the reported surveillance coverage has been increasing since 2009-10, from 97.2% to 99.2% in 2011-12 and 99.4% in 2012-13.

Some smaller hospitals report their results as part of a larger hospital's results. In these instances, all SAB cases and patient days under surveillance are added to and reported in the results of the larger hospital. Special messages are included on the MyHospitals webpages for both parent and child hospital.

Only episodes associated with hospital care in each jurisdiction should be counted. If a case is associated with care provided in another jurisdiction (cross border flows) then it is reported, where known, by the jurisdiction where the care associated with the SAB occurred.

There may be patient episodes of SAB identified by a hospital which did not originate in the identifying hospital (as determined by the definition of a patient episode of SAB), but in another public hospital. If the originating hospital is under surveillance, then the patient episode of SAB should be attributed to the originating hospital and should be included as part of the indicator. If the originating hospital is not under SAB surveillance, then the patient episode is unable to be included in the indicator.

Following a data specification change in early 2011, patient days for unqualified newborns are now included while patient days for hospital boarders and posthumous organ procurement are now excluded. All state and territory public hospitals used the same specification for 2012-13 data. Data were retrospectively supplied by states for 2009-10 and 2010-11 resulting in comparable data being available from 2009-10 onwards with the following exceptions:

1) Western Australia's public hospital data for 2010-11 and 2011-12 were reported using a different specification to 2012-13 data; the 2010-11 and 2011-12 specification did not include unqualified newborn and mental health days in the patient days under surveillance and therefore this data is not comparable

2) Queensland's public hospital data for 2010-11 were reported using a different specification to 2011-12 and 2012-13 data; the 2010-11 specification did not include patient days for those aged 14 and younger in the patient days under surveillance and therefore the 2010-11 data is not comparable to other states or to later Queensland data

3) Private hospitals data may have been collected using different specifications for some years, however, there is no further evidence available on this.

Variation in admission practices across jurisdictions will influence the denominator for this indicator, impacting on the comparability of rates. Jurisdictional manuals should be referred to for full details of definitions used in infection control surveillance.

Representational attributes

Representation class:	Rate
Data type:	Real
Unit of measure:	Episode
Format:	N[NN] e.g. 2.56, 0.89

Indicator conceptual framework

Framework and dimensions: [PAF-Safety](#)

Data source attributes

Data sources:

Data Source
State/territory admitted patient data
Frequency
Annual
Data custodian
State/territory health authorities
Data Source
State/territory infection surveillance data
Frequency
Annual
Data custodian
State/territory health authorities

Accountability attributes

Reporting requirements: National Health Performance Authority - Performance and Accountability Framework

Organisation responsible for providing data: National Health Performance Authority

Release date: 13/03/2014

Source and reference attributes

Submitting organisation: National Health Performance Authority

Origin: Hospital Performance

Relational attributes

Related metadata references: Has been superseded by [National Health Performance Authority. Hospital Performance: Rate of healthcare-associated Staphylococcus aureus bloodstream infection, 2015](#)

- [National Health Performance Authority \(retired\)](#), Retired 01/07/2016