National Healthcare Agreement: PI 22-Healthcare associated infections; Staphylococcus aureus bacteraemia, 2017 QS

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Identifying and definitional attributes

Metadata item type: Data Quality Statement

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Data quality

Data quality statement summary:

- The indicator uses a definition of a patient episode of *Staphylococcus aureus* bacteraemia (SAB) agreed by all states and territories and used by all states and territories.
- There may be imprecise exclusion of private hospital and non-hospital patient episodes due to the inherent difficulties in determining the origins of SAB episodes.
- For some states and territories there is less than 100% coverage of public hospitals. For those jurisdictions with incomplete coverage of public hospitals (in the numerator), only patient days for those hospitals that contribute data are included (in the denominator). Differences in the types of hospitals not included may impact on the accuracy and comparability of rates.
- The accuracy and comparability of the rates of SAB among jurisdictions and over time is also limited because the count of patient days (denominator) reflects the amount of admitted patient activity, but does not reflect the amount of non-admitted patient activity.
- The data for 2015–16, 2014–15, 2013–14, 2012–13 and 2011–12 are comparable.
- The data for 2011–12 are comparable with those from 2010–11 except for Queensland.
- The comparison of New South Wales data and data for other jurisdictions is limited.
- The patient day data for 2015–16 may be preliminary for some hospitals/jurisdictions.

Institutional environment: The Australian Institute of Health and Welfare (AIHW) calculated the indicator from data provided by states and territories.

The AIHW is an independent corporate Commonwealth entity within the Health portfolio, which is accountable to the Parliament of Australia through the Minister. For further information see the AIHW website.

The data supplied by the states and territories were collected from hospitals through the healthcare associated infection surveillance programs run by the states and territories. The arrangements for the collection of data by hospitals and the reporting to state and territory health authorities vary among the jurisdictions.

Timeliness: The reference period for these data is 2015–16, with revised data provided for 2010–11, 2011–12, 2012–13, 2013–14 and 2014–15.

Accessibility:

The AIHW reports information about hospital-associated *Staphylococcus aureus* bacteraemia cases in the *Australian hospital statistics* series of products (see Hospitals publications (AIHW)) and via the myHospitals website.

The following states and territories publish data relating to healthcare-associated SAB in various report formats on their websites:

New South Wales: *Healthcare associated infections reporting* (PDF) for 8 infection indicators by state.

Western Australia: *Healthcare Associated Infection Unit - Annual Report and aggregate reports*.

South Australia: *Healthcare Associated Bloodstream Infection Report*.

Tasmania: *Acute public hospitals healthcare associated infection surveillance report*.

Interpretability:

Jurisdictional manuals should be referred to for full details of the definitions used in healthcare-associated infection surveillance.

Definitions for this indicator are published in the performance indicator specifications.

Relevance:

This indicator is for patient episodes of SAB acquired, diagnosed and treated in public acute care hospitals. The definition of a public acute care hospital is 'all public hospitals including those hospitals defined as public psychiatric hospitals in the Public Hospital Establishments NMDS [(National Minimum Data Set)]'. All types of public hospitals are included, both those focusing on acute care, and those focusing on non-acute or sub-acute care, including psychiatric, rehabilitation and palliative care. The provision of 'acute' services varies among jurisdictions, so it is not possible to exclude 'non-acute' hospitals from the indicator in a way that would be uniform among the states and territories. Therefore all public hospitals have been included in the scope of the indicator so that the same approach is taken for each state and territory.

The SAB patient episodes reported were associated with both admitted patient care and with non-admitted patient care (including emergency departments and outpatient clinics). No denominator is available to describe the total admitted and non-admitted patient activity of public hospitals. However, the number of patient days for admitted patient activity is used as the denominator to take into account the large differences between the sizes of the public hospital sectors among the jurisdictions. The accuracy and comparability of the SAB rates among jurisdictions and over time is limited because the count of patient days reflects the amount of admitted patient activity, but does not reflect the amount of non-admitted patient activity. The amount of hospital activity that patient days reflect varies among jurisdictions and over time because of variation in admission practices.

In 2016, the scope of the indicator was revised to exclude unqualified newborns. Data reported for 2010–11 and subsequent years exclude unqualified newborns. It is not possible to backcast the data for earlier years.

Only patient episodes associated with public acute care hospitals in each jurisdiction are counted. If a case is associated with care provided in another jurisdiction then it may be reported (where known) by the jurisdiction where the care associated with the SAB occurred.

Almost all patient episodes of SAB will be diagnosed when the patient is an admitted patient. However, the intention is that patient episodes are reported whether they were determined to be associated with admitted patient care or non-admitted patient care in public acute care hospitals.

Processes and capacity to validate a patient episode of SAB may vary between states and territories.

The data presented have not been adjusted for any differences in case-mix between the states and territories.

Analysis by state/territory is based on the location of the hospital.

No denominator is available to describe the total admitted and non-admitted patient activity of public hospitals. However, the number of patient days for admitted patient activity is used as the denominator to take into account the large differences between the sizes of the public hospital sectors among the jurisdictions. Patient days are used rather than occupied bed days because occupied bed day data were not available for all states and territories and there is no nationally agreed definition for occupied bed days.

Accuracy:

For some states and territories there is less than 100% coverage of public hospitals. For those jurisdictions with incomplete coverage of public hospitals (in the numerator), only patient days for those hospitals (or parts of hospitals) that contribute data are included (in the denominator). Differences in the types of hospitals not included may impact on the accuracy and comparability of rates.

For 2010–11 and previous years, data for Queensland include only patients aged 14 years and over.

Sometimes it is difficult to determine if a case of SAB is associated with care provided by a particular hospital. Counts therefore may not be precise where cases are incorrectly included or excluded. However, it is likely that the number of cases incorrectly included or excluded would be small.

It is possible that there will be less risk of SAB in hospitals not included in the SAB surveillance arrangements, especially if such hospitals undertake fewer invasive procedures than those hospitals which are included.

There may be imprecise exclusion of private hospital and non-hospital patient episodes due to the inherent difficulties in determining the origins of SAB episodes.

For 2010–11, 2011–12, 2012–13, 2013–14 and 2014–15, all states and territories used the definition of SAB patient episodes associated with acute care public hospitals as defined in the indicator specification with the following neutropenia criterion:

- SAB is associated with neutropenia ($<1 \times 10^9$) contributed to by cytotoxic therapy.

For 2015–16, all states and territories used the definition of SAB patient episodes associated with acute care public hospitals as defined in the indicator specification with the following neutropenia criterion:

- SAB is associated with neutropenia contributed to by cytotoxic therapy. Neutropenia is defined as at least 2 separate calendar days with values of absolute neutrophil count (ANC) <500 cells/mm^3 (0.5×10^9/L) on or within a 7-day time period which includes the date the positive blood specimen was collected (Day 1), the 3 calendar days before and the 3 calendar days after.

For 2015–16, Western Australia reported one case where both MRSA and MSSA were identified. For the indicator, this case has been reported in the MRSA count, not reported in the MSSA count, and reported as one case in the total for Western Australia.

The patient day data for 2015–16 may be preliminary for some hospitals/jurisdictions.

New South Wales does not provide patient day data, but rather occupied bed days. There may be some difference between patient days and occupied bed days.

Due to an agreed change in the denominator revised data are provided for 2010–11, 2011–12, 2012–13, 2013–14 and 2014–15.

Coherence:

National data for this indicator were first presented in the 2010 Council of Australian Governments Reform Council report. Since that report further work has been undertaken on data development for this indicator, including the definition of an episode of SAB and a suitable denominator, as well as the coverage of public hospitals. The most recent work in 2016 was to revise the scope of the indicator to exclude unqualified newborns, and to update the neutropenia criterion, as advised by the Australian Commission on Safety and Quality in Health Care. Data reported for 2010–11 and subsequent years exclude unqualified newborns. It is not possible to backcast the data for earlier years.

Data for 2010–11 and 2011–12 are comparable, except for Queensland, where the 2010–11 data do not include patients aged 13 years and under, whereas the 2011–12 data include patients of all ages.

The change to the neutropenia criterion is not considered to have resulted in counts of SAB cases for 2015–16 that are not comparable with counts for 2010–11, 2011–12, 2012–13, 2013–14 and 2014–15.

Data for 2011–12, 2012–13, 2013–14, 2014–15 and 2015–16 are comparable.

New South Wales uses occupied bed days, rather than patient days, for calculation of the denominator. The comparability of New South Wales data and data from other jurisdictions is therefore limited by the extent that counts of occupied bed days would be expected to differ from counts of days of patient care.

New South Wales data are included in Australian totals for 2010–11, 2011–12, 2012–13, 2013–14, 2014–15 and 2015–16 because it is expected that at the national level the use of occupied bed days, rather than patient days, for New South Wales is unlikely to create a marked difference in the Australian data.

Some jurisdictions have previously published related data (see Accessibility).

Relational attributes

Related metadata references:

Supersedes National Healthcare Agreement: PI 22-Healthcare associated infections; Staphylococcus aureus bacteraemia, 2016 QS
Health!, Superseded 31/01/2017

Has been superseded by National Healthcare Agreement: PI 22-Healthcare associated infections; Staphylococcus aureus bacteraemia, 2018 QS
Health!, Standard 30/01/2018

Indicators linked to this Data Quality statement:

National Healthcare Agreement: PI 22–Healthcare associated infections: Staphylococcus aureus bacteraemia, 2017
Health!, Superseded 30/01/2018