



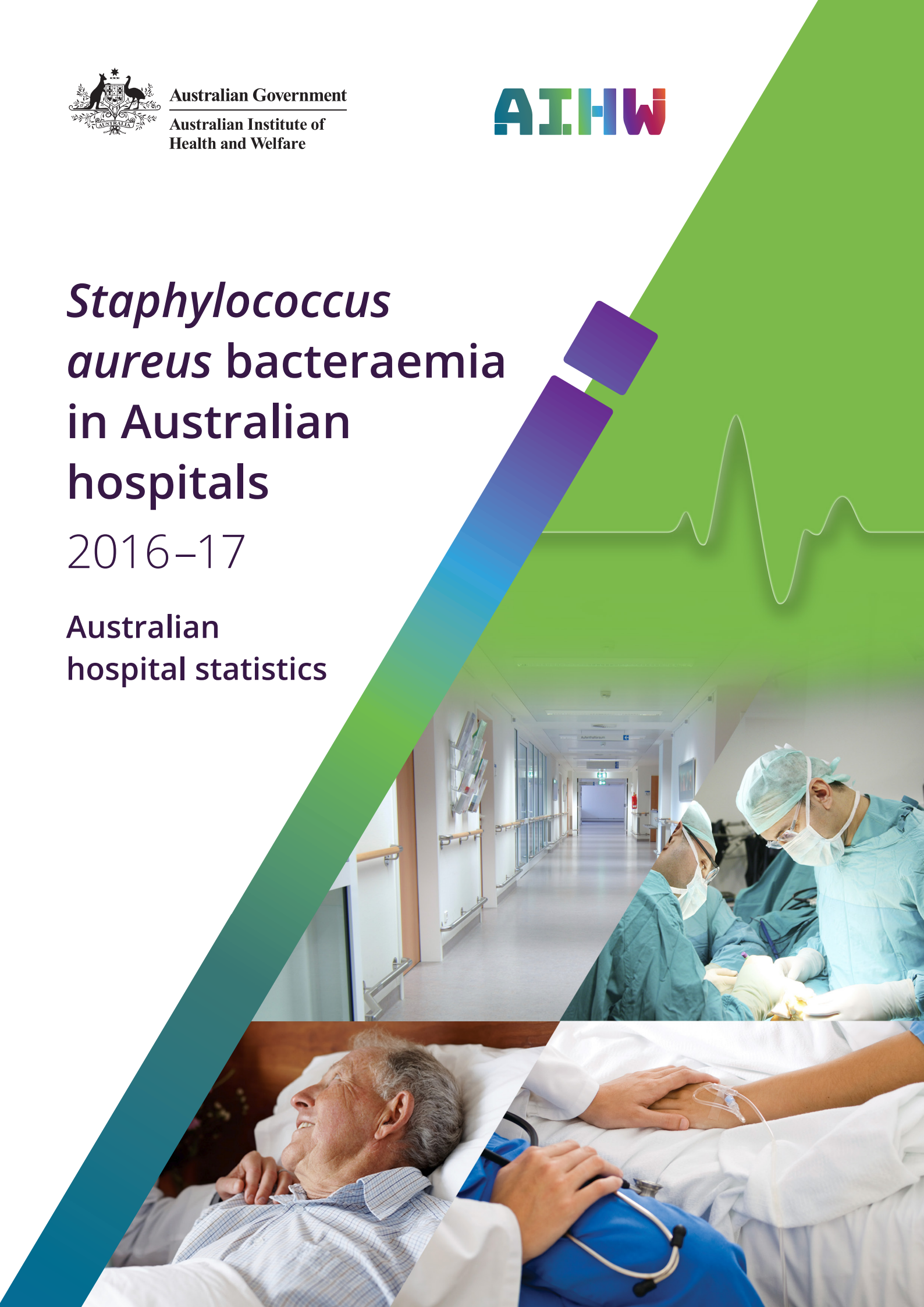
Australian Government  
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Health and Welfare

AIHW

# *Staphylococcus aureus* bacteraemia in Australian hospitals

2016–17

Australian  
hospital statistics



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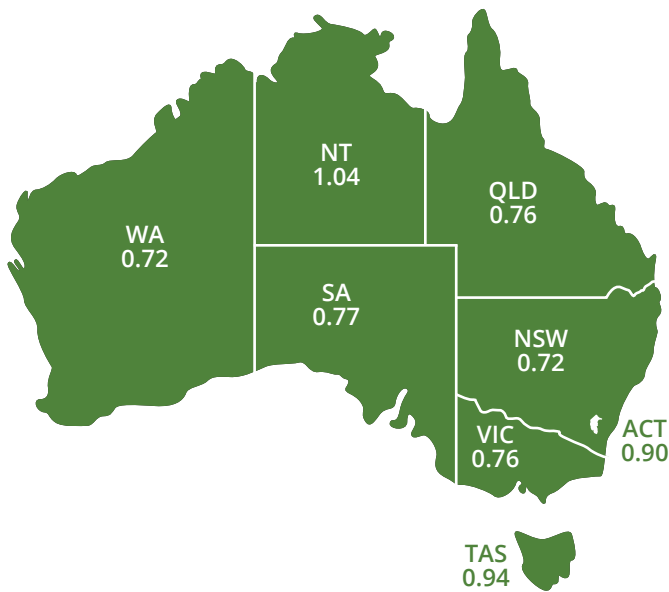
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# Staphylococcus aureus bacteraemia (SAB) in Australian hospitals 2016–17

SAB is a serious bloodstream infection that may be associated with hospital care. Hospitals aim to have as few cases as possible.

The nationally agreed benchmark is no more than 2.0 SAB cases per 10,000 days of patient care for public hospitals in each state and territory.

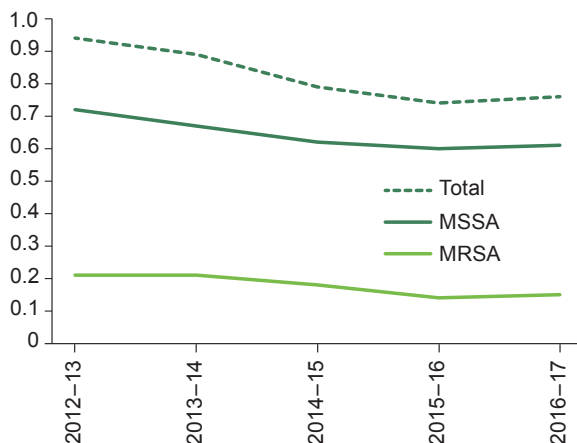


In 2016–17:

- all jurisdictions had rates below the national benchmark
- the national rate of SAB in public hospitals was 0.76 cases per 10,000 days of patient care
- 1,502 cases of SAB were reported
- 81% of cases were treatable with commonly used antibiotics—methicillin-sensitive *Staphylococcus aureus* (MSSA) cases
- 19% of cases were antibiotic resistant—methicillin-resistant *Staphylococcus aureus* (MRSA) cases.

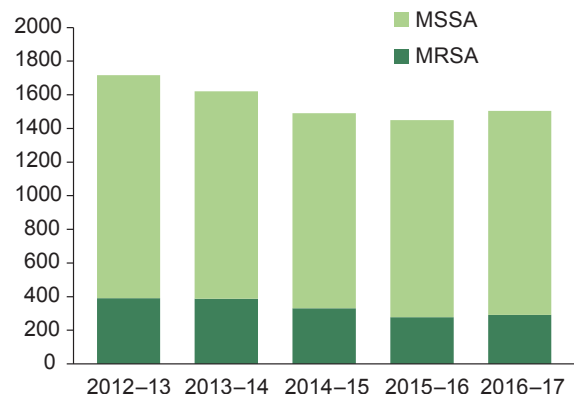
Between 2012–13 and 2015–16, rates of SAB decreased from 0.94 cases to 0.74 cases per 10,000 days of patient care, then increased in 2016–17 to 0.76.

SAB cases per 10,000 days of patient care



The number of SAB cases decreased from 1,717 in 2012–13 to 1,450 in 2015–16 then increased to 1,502 cases in 2016–17. The number of MRSA cases decreased from 391 to 278 cases in 2015–16 then increased to 290 cases in 2016–17.

MRSA and MSSA cases



## Introduction

This report presents nationally consistent information on cases of *Staphylococcus aureus* bacteraemia (SAB) associated with Australian hospitals. It contributes to ongoing robust national and jurisdictional arrangements to monitor and reduce SAB.

The report presents national information on cases of SAB associated with care provided by Australian hospitals for the period 1 July 2016 to 30 June 2017. It also includes summary data for the previous 4 years. The data were provided by states and territories and selected private hospitals to the Australian Institute of Health and Welfare (AIHW).

SAB performance information for individual Australian hospitals is available on the AIHW's *MyHospitals* website: <<http://www.myhospitals.gov.au/>>.

## What is *Staphylococcus aureus* bacteraemia?

SAB is a type of infection often associated with healthcare. It occurs when *Staphylococcus aureus* bacteria ('Golden staph') cause an infection of the bloodstream (bacteraemia). When associated with healthcare procedures, these infections are considered to be potentially preventable. The national definition of a SAB case is outlined in Box 1.

Patients who develop bloodstream infections such as SAB are more likely to suffer complications that result in longer stays in hospital, and the most serious infections can result in death. They also result in potentially unnecessary increases in the cost of hospitalisation.

The bacteria causing SAB are frequently found on the skin or in the nose of many individuals and are commonly spread from person to person in the community. In this form, they are usually harmless and most people are unaware that they are carrying them.

In hospitals, transmission is most commonly via the hands of healthcare workers. Bacteria from the patient's skin or from the hand of a healthcare worker can gain direct entry into the patient's bloodstream if they have open wounds or when intravascular devices, such as central or peripheral venous catheters, are inserted.

## Who is at risk?

Patients who have a greater risk of infection than the general public are those with:

- open wounds
- invasive devices such as catheters
- weakened immune systems (associated with cancer, or with transplant receipt, or with being very young or elderly)
- chronic disease such as diabetes or severe underlying illness
- prolonged or recurrent exposure to antibiotics.

## SAB resistance to antibiotics

Antibiotic resistance can be defined as the ability of bacteria to survive and even replicate during a course of treatment with a specific antibiotic.

A SAB case that is identified by a laboratory as being caused by methicillin-resistant *Staphylococcus aureus* is referred to as MRSA. SAB caused by MRSA may cause more harm to patients and is associated with poorer outcomes as there are fewer antibiotics available to treat the infection.

A SAB case that is identified by a laboratory as being caused by *Staphylococcus aureus* that is sensitive to commonly used antibiotics (methicillin-sensitive) is referred to as MSSA.

### Box 1: Definition of *Staphylococcus aureus* bacteraemia (SAB) cases

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

A case of 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 (for example, intravascular line, haemodialysis vascular access, cerebrospinal fluid 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 contributed to by cytotoxic therapy. Neutropenia is defined as at least two separate calendar days with values of absolute neutrophil count  $<500$  cells/ $\text{mm}^3$  ( $0.5 \times 10^9/\text{L}$ ) 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 3 calendar days after.

The definition of SAB was developed by the Australian Commission on Safety and Quality in Health Care (the Commission). The Commission changed the definition in 2016, with clarification of the neutropenia criterion. The change is not considered to have resulted in counts of SAB cases for 2015–16 that are not comparable with counts for previous years. The definition used for SAB cases occurring prior to 1 July 2015 is available at <http://meteor.aihw.gov.au/content/index.phtml/itemId/598734>.

## SAB is an indicator of the safety and quality of hospital care

In 2008, Australian health ministers endorsed the reporting of data on SAB cases occurring in public hospitals by states and territories as part of performance reporting under the National Healthcare Agreement (NHA) (see Box 2).

The NHA sets out objectives for the Australian, state and territory governments for health-care services and includes the outcome area *Australians receive appropriate high quality and affordable hospital and hospital-related care*. A performance benchmark for public hospital-associated SAB is included for that outcome area:

**The rate of SAB (including MRSA) is no more than 2.0 per 10,000 occupied bed days for acute care public hospitals by 2011–12 in each state and territory.**

### Box 2: National Healthcare Agreement performance indicator: Healthcare associated infections

The National Healthcare Agreement performance indicator is calculated using:

- the number of SAB patient episodes associated with public hospitals (both hospitals focussing on acute care and hospitals focussing on care such as rehabilitation)
- the number of days of patient care for the public hospitals included in the SAB surveillance arrangements.

The performance indicator includes data on:

- counts of cases of SAB, with data presented separately for MRSA and MSSA SAB cases.
- the rate of cases of SAB per 10,000 days of patient care for public hospitals included in the SAB surveillance arrangements.

Data are restricted to cases associated with care provided in public hospitals. Cases that are associated with care provided by private hospitals and with non-hospital care are excluded (even if the patients are subsequently treated for the SAB in a public hospital).

In 2016, the specification of this performance indicator was amended to exclude unqualified days (for example, when acute care was not required) for newborns from the count of days of patient care included in the SAB surveillance arrangements, which had previously been included. More information is included in the current specification for the performance indicator, available on the AIHW website at <<http://meteor.aihw.gov.au/content/index.phtml/itemId/658487>>.

## There were 1,502 SAB cases in public hospitals in 2016–17

In 2016–17:

- the 1,502 SAB cases occurred during 19.9 million days of patient care under surveillance, or 99% of days of patient care in public hospitals (Table 1)
- about 81% of cases were methicillin-sensitive (MSSA), and therefore treatable with commonly used antibiotics.

## SAB rates were lower than the national benchmark in 2016–17

- The national rate was 0.76 cases per 10,000 days of patient care (Table 1).
- Nationally, and for each state and territory, the rate of SAB was lower than the national benchmark of 2.0 per 10,000 days of patient care.
- The rates of SAB ranged from 0.72 per 10,000 days of patient care in Western Australia and New South Wales to 1.04 in the Northern Territory.

**Table 1: Cases of *Staphylococcus aureus* bacteraemia (SAB) in public hospitals, MRSA and MSSA, states and territories, 2016–17<sup>(a)</sup>**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>SAB cases</b>									
Methicillin-resistant <i>Staphylococcus aureus</i>	118	64	45	18	25	5	2	13	290
Methicillin-sensitive <i>Staphylococcus aureus</i>	375	327	250	86	88	33	30	23	1,212
<b>Total</b>	<b>493</b>	<b>391</b>	<b>295</b>	<b>104</b>	<b>113</b>	<b>38</b>	<b>32</b>	<b>36</b>	<b>1,502</b>
<b>SAB cases per 10,000 days of patient care</b>									
Methicillin-resistant <i>Staphylococcus aureus</i>	0.17	0.12	0.12	0.12	0.17	0.12	0.06	0.37	0.15
Methicillin-sensitive <i>Staphylococcus aureus</i>	0.55	0.64	0.65	0.59	0.60	0.81	0.85	0.66	0.61
<b>Total</b>	<b>0.72</b>	<b>0.76</b>	<b>0.76</b>	<b>0.72</b>	<b>0.77</b>	<b>0.94</b>	<b>0.90</b>	<b>1.04</b>	<b>0.76</b>
Days of patient care under surveillance ('000)	6,856	5,123	3,867	1,454	1,467	406	355	347	19,875
Coverage (%)	98	99	100	96	97	100	98	100	99

(a) See 'Data quality summary' in this report and the Data Quality Statement accompanying this report online.

Source: AIHW National *Staphylococcus aureus* Bacteraemia Data Collection.

## SAB rates varied by type of public hospital

In 2016–17, about 54% of all SAB cases occurred in *Principal referral hospitals*, which accounted for 37% of days of patient care under surveillance. About 30% of cases occurred in *Public acute group A hospitals*, which accounted for about 31% of days of patient care under surveillance.

In 2016–17, SAB rates were highest for *Principal referral hospitals*, followed by *Public acute group A hospitals* (Table 2). The range of SAB rates were smallest for *Principal referral hospitals*, followed by *Public acute group A hospitals*; the *Public acute group B hospitals* had the largest range of SAB rates (Figure 1).

*Principal referral hospitals* provide a very broad range of services, have a range of highly specialised service units, and have very large patient volumes. The term ‘referral’ recognises that these hospitals have specialist facilities not typically found in smaller hospitals.

*Public acute group A hospitals* generally provide a wide range of services, but narrower than *Principal referral hospitals*. While complex patients may be treated, they are usually less complex than those seen in *Principal referral hospitals*.

Hence, these 2 hospital groups could be more likely to treat patients at risk of SAB than other hospital peer groups.

*Public acute group B hospitals* provide a narrower range of services and are less likely to treat complex patients than either *Principal referral* or *Public acute group A hospitals*. For more information on public hospital peer groups, see *Australian hospital peer groups* (AIHW 2015a).

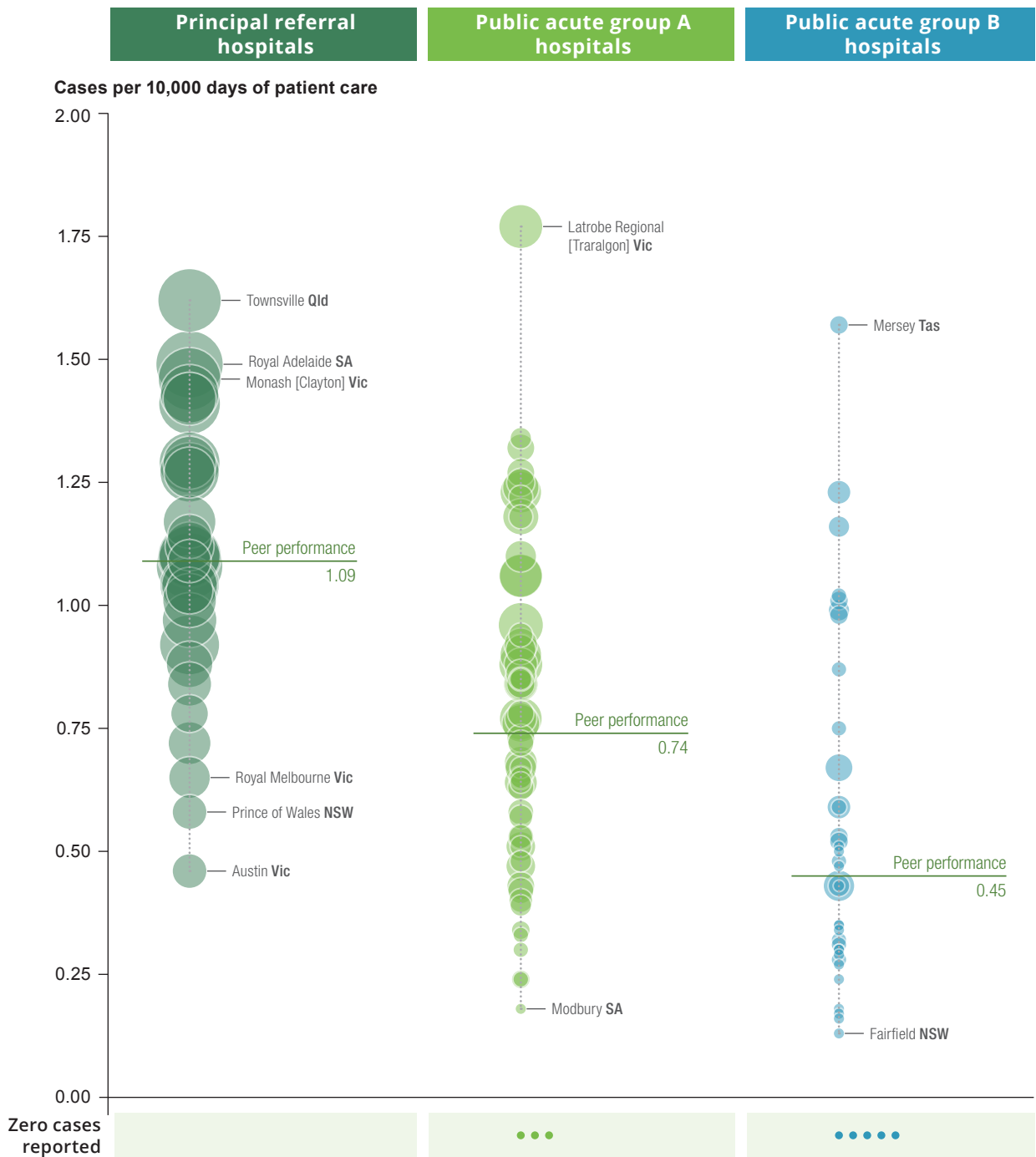
**Table 2: Rates (SAB cases per 10,000 days of patient care) of *Staphylococcus aureus* bacteraemia (SAB) in public hospitals, by peer group, states and territories, 2016–17**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Principal referral hospitals	1.07	1.04	1.09	1.23	1.14	1.14	1.01	1.12	1.09
Public acute group A hospitals	0.63	0.93	0.68	0.41	0.88	0.92	0.57	0.88	0.74
Public acute group B hospitals	0.46	0.42	0.34	0.65	0.39	1.57	..	..	0.45
Other hospitals	0.30	0.46	0.32	0.19	0.27	0.18	..	1.07	0.35
<b>All public hospitals</b>	<b>0.72</b>	<b>0.76</b>	<b>0.76</b>	<b>0.72</b>	<b>0.77</b>	<b>0.94</b>	<b>0.90</b>	<b>1.04</b>	<b>0.76</b>

.. not applicable.

Source: AIHW National *Staphylococcus aureus* Bacteraemia Data Collection.





Performance	Number of cases
Named hospitals were in the highest or lowest 10% of results for <b>major</b> hospitals. In other peer groups, the highest and lowest results are named.	Each dot represents a hospital. The size of the dot represents the number of <i>S. aureus</i> cases at that hospital.

Source: AIHW National *Staphylococcus aureus* Bacteraemia Data Collection 2016–17.

**Figure 1: Cases of *Staphylococcus aureus* bacteraemia (SAB) in public hospitals, by principal referral, public acute A and public acute B hospitals, 2016–17**

**Table 3: Cases and rate (SAB cases per 10,000 days of patient care) of *Staphylococcus aureus* bacteraemia (SAB) in public hospitals, by principal referral, public acute A and public acute B hospitals, 2016–17**

Principal referral hospitals	
Total number of hospitals in peer group	30
All cases reported nationally (%)	54%
All days of patient care under surveillance (%)	37%

Public acute group A hospitals	
Total number of hospitals in peer group	61
All cases reported nationally (%)	30%
All days of patient care under surveillance (%)	31%

State	Hospital	Cases	Rate
NSW	Nepean	32	1.43
	John Hunter	36	1.41
	Wollongong	24	1.27
	St George	26	1.17
	Westmead	35	1.10
	Liverpool	33	1.04
	Royal North Shore	29	1.04
	Royal Prince Alfred	28	0.97
	Concord	20	0.88
	St Vincent's	13	0.78
	Prince of Wales	11	0.58
Vic	Monash (Clayton)	37	1.46
	St Vincent's	26	1.42
	The Alfred	35	1.29
	Geelong	20	1.03
	Royal Melbourne	16	0.65
	Austin	11	0.46
Qld	Townsville	38	1.62
	Princess Alexandra	38	1.10
	Gold Coast	42	1.08
	Royal Brisbane & Women's	34	0.92
	Prince Charles	18	0.84
WA	Sir Charles Gairdner	26	1.29
	Fiona Stanley	33	1.27
	Royal Perth	17	1.09
SA	Royal Adelaide	43	1.49
	Flinders	17	0.72
Tas	Royal Hobart	18	1.14
ACT	Canberra	27	1.01
NT	Royal Darwin	22	1.12

State	Hospital	Cases	Rate	
NSW	Manning	7	1.27	
	Lismore	12	1.24	
	Wagga Wagga	12	1.18	
	Gosford	18	1.06	
	Sutherland	9	0.84	
	Tamworth	7	0.84	
	Wyong	9	0.77	
	The Tweed	7	0.73	
	Dubbo	4	0.67	
	Shoalhaven	4	0.65	
	Calvary Mater (Newcastle)	4	0.64	
	Port Macquarie	5	0.53	
	Blacktown	8	0.51	
	Campbelltown	8	0.47	
	Bankstown	7	0.43	
	Orange	4	0.39	
	Hornsby	3	0.34	
	Mona Vale	2	0.30	
	Coffs Harbour	3	0.24	
	Bathurst	0	0.00	
	Griffith	0	0.00	
	Manly	0	0.00	
	Vic	Latrobe Regional (Traralgon)	18	1.77
		Central Gippsland (Sale)	4	1.34
Mildura		7	1.32	
Monash [Moorabbin]		5	1.22	
Goulburn Valley [Shepparton]		9	1.10	
Box Hill		19	0.96	
Albury†		5	0.94	
Maroondah		10	0.92	
The Northern		16	0.90	
Ballarat		8	0.86	
Northeast Health (Wangaratta)		4	0.85	
South West (Warrnambool)		5	0.85	
Dandenong		17	0.77	
Frankston		13	0.76	
Western		6	0.63	
Bendigo		6	0.53	

† Albury hospital is located in NSW but is managed by Victoria.

### Public acute group A hospitals (continued)

Total number of hospitals in peer group	61
All cases reported nationally (%)	30%
All days of patient care under surveillance (%)	31%

State	Hospital	Cases	Rate
Qld	Hervey Bay	7	1.25
	Mackay	8	0.91
	Cairns	18	0.88
	Queen Elizabeth II	6	0.78
	Mater Adult	6	0.72
	Nambour	10	0.68
	Ipswich	9	0.67
	Logan	10	0.64
	Rockhampton	6	0.58
	Bundaberg	4	0.51
	Toowoomba	6	0.42
	Redcliffe	5	0.40
	WA	Armadale-Kelmscott	5
Rockingham		2	0.33
Fremantle		2	0.24
SA	Queen Elizabeth	16	1.23
	Lyell McEwin	17	1.06
	Repatriation General	4	0.48
Tas	Modbury	1	0.18
	North West Regional (Burnie)	5	1.18
Launceston	11	0.84	
	ACT	Calvary Public	5
NT	Alice Springs	10	0.88

### Public acute group B hospitals

Total number of hospitals in peer group	41
All cases reported nationally (%)	6%
All days of patient care under surveillance (%)	9%

State	Hospital	Cases	Rate	
NSW	Belmont	5	1.23	
	Grafton	4	1.16	
	Broken Hill	3	1.01	
	South East Regional	3	0.98	
	Armidale	2	0.75	
	Maitland	3	0.52	
	Auburn	2	0.48	
	Bowral	1	0.47	
	Shellharbour	2	0.31	
	Kempsey	1	0.30	
	Goulburn	1	0.27	
	Mount Druitt	1	0.24	
	Ryde	1	0.17	
	Canterbury	1	0.16	
Vic	Fairfield	1	0.13	
	Sydney / Sydney Eye	0	0.00	
	Casey	7	0.67	
	Werribee Mercy Public	5	0.59	
	Sunshine	9	0.43	
	Sandringham	1	0.35	
	Rosebud	1	0.34	
	Angliss	2	0.32	
	Williamstown	1	0.30	
	Wodonga	1	0.18	
	West Gippsland (Warragul)	0	0.00	
	Qld	Mount Isa	2	1.02
		Gladstone	1	0.50
		Caboolture	4	0.43
Maryborough		1	0.29	
Redland		2	0.28	
Caloundra		0	0.00	
WA	Gympie	0	0.00	
	Albany	4	0.99	
	Geraldton	2	0.59	
	South West (Bunbury)	3	0.53	
SA	Kalgoorlie	1	0.43	
	Whyalla	2	0.87	
	Port Augusta	1	0.51	
	Mount Gambier	1	0.35	
Tas	Noarlunga Public	0	0.00	
	Mersey	3	1.57	

## SAB cases and rates have changed over time

Between 2012–13 and 2016–17:

- the number of SAB cases reported for Australian public hospitals decreased by 12.5%, from 1,717 to 1,502 cases (Table 4)
- the national rates of SAB decreased from 0.94 cases to 0.76 cases per 10,000 days of patient care under surveillance
- rates decreased in New South Wales, Victoria and Queensland and fluctuated in the other states and territories (Figure 2)
- the number of MRSA cases decreased from 391 to 290 cases, and the proportion of all SAB cases that were MRSA decreased from 23% to 19% of the total
- SAB rates decreased for *Principal referral hospitals*, *Public acute group A hospitals* and *Public acute group B hospitals* and were relatively stable for hospitals in other peer groups (Figure 3)
- coverage of the data collection (days of patient care under surveillance compared with all days of patient care) increased from 97% to 99%.

More recently, between 2015–16 and 2016–17:

- the number of SAB cases reported nationally increased by 3.5%
- the national rate of SAB increased from 0.74 to 0.76 cases per 10,000 days of patient care under surveillance
- the SAB rate increased for most states and territories, but not in New South Wales, Western Australia and the Australian Capital Territory (Figure 2).

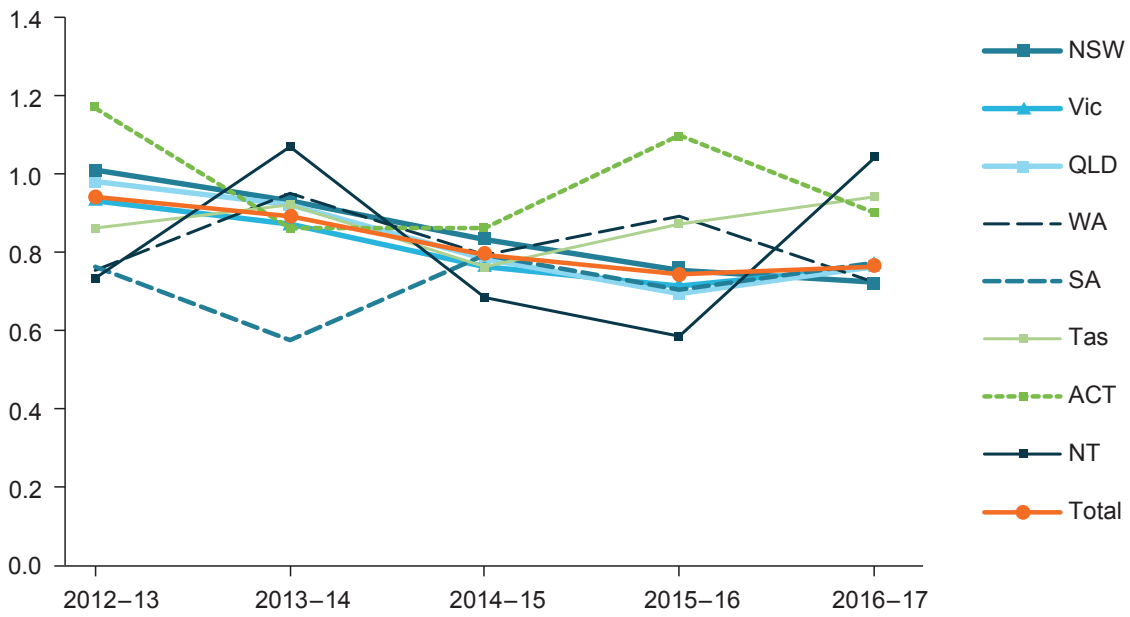
**Table 4: Cases of *Staphylococcus aureus* bacteraemia (SAB) in public hospitals, MRSA and MSSA, 2012–13 to 2016–17<sup>(a)</sup>**

	2012–13	2013–14	2014–15	2015–16	2016–17
<b>SAB cases</b>					
Methicillin-resistant <i>Staphylococcus aureus</i>	391	388	331	278	290
Methicillin-sensitive <i>Staphylococcus aureus</i>	1,326	1,233	1,160	1,172	1,212
<b>Total cases</b>	<b>1,717</b>	<b>1,621</b>	<b>1,491</b>	<b>1,450</b>	<b>1,502</b>
<b>SAB cases per 10,000 days of patient care</b>					
Methicillin-resistant <i>Staphylococcus aureus</i>	0.21	0.21	0.18	0.14	0.15
Methicillin-sensitive <i>Staphylococcus aureus</i>	0.72	0.67	0.62	0.60	0.61
<b>Total</b>	<b>0.94</b>	<b>0.89</b>	<b>0.79</b>	<b>0.74</b>	<b>0.76</b>
Days of patient care under surveillance ('000)	18,319	18,298	18,825	19,608	19,875
Coverage (%)	97	98	98	98	99

(a) See 'Data quality summary' in this report and the Data Quality Statement accompanying this report online for information on data revisions and comparability over time.

Source: AIHW National *Staphylococcus aureus* Bacteraemia Data Collection.

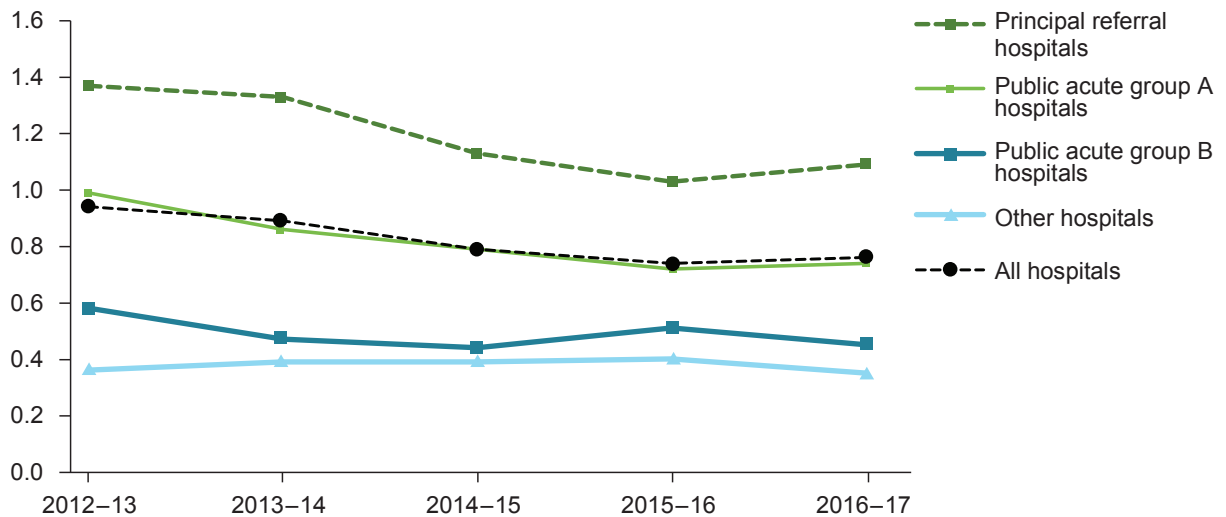
**SAB cases per 10,000 days of patient care**



Source: AIHW National *Staphylococcus aureus* Bacteraemia Data Collection.

**Figure 2: *Staphylococcus aureus* bacteraemia rates in public hospitals, states and territories, 2012-13 to 2016-17**

**SAB cases per 10,000 days of patient care**



Source: AIHW National *Staphylococcus aureus* Bacteraemia Data Collection.

**Figure 3: *Staphylococcus aureus* bacteraemia rates in public hospitals, by peer group, 2012-13 to 2016-17**

## Private hospital SAB reporting

Private hospitals supply data voluntarily to the NSABDC, and not all private hospitals report data. Coverage of the private sector is therefore incomplete and reported data may not be representative of the sector as a whole. The rate of private hospital coverage is calculated using the most up-to-date number of known private hospitals and is based on 2015–16 information. In 2016–17 four private hospitals provided SAB rates only and are excluded from calculations of the national private hospital rate.

In 2016–17:

- a total of 89 private hospitals reported SAB data. This equates to 14.1% coverage of all known private hospitals (Table 5).
- a total of 135 cases of SAB were reported by private hospitals
- all private hospitals that reported SAB data had rates below the national benchmark
- the national rate of SAB in private hospitals who had reported data was 0.38 cases per 10,000 days of patient care. SAB rates ranged from 0 to 1.36.
- 28 private hospitals reported SAB data at the disaggregated (MSSA, MRSA) level. For these hospitals, the rates of MSSA ranged from 0 to 1.33 and the rates of MRSA ranged from 0 to 0.19.

**Table 5: Coverage of SAB reporting, private hospitals, states and territories, 2016–17**

	NSW	Vic	Qld	WA	SA	ACT, Tas & NT <sup>(a)</sup>	Total
Private hospitals with 2016–17 SAB data	25	25	22	14	3	0	89
Private hospitals 2015–16	205	169	109	62	56	29	630
<b>% coverage</b>	<b>12%</b>	<b>15%</b>	<b>20%</b>	<b>23%</b>	<b>5%</b>	<b>0%</b>	<b>14%</b>

(a) ACT, Tasmania and Northern Territory data were combined to protect the confidentiality of the small number of private hospitals in these jurisdictions.

Source: AIHW National *Staphylococcus aureus* Bacteraemia Data Collection and Hospital Resources 2015–16: Australian hospital statistics (AIHW 2017).

## What is Australia doing to reduce SAB?

Healthcare-associated infections (HAIs) have been nominated as a priority area by the Australian Commission for Safety and Quality in Health Care (ACSQHC), under the goal *Safety of care*, in its report *Overview of the Australian safety and quality goals for health care* (ACSQHC 2012).

Consistent with the public health importance of HAIs, a range of national and local initiatives have been established throughout Australia to reduce the occurrence of SAB, with leadership provided by the ACSQHC (see Box 3).

These initiatives have been accompanied by the establishment of surveillance arrangements in public hospitals to monitor HAIs, and the development of an agreed national definition for cases of SAB (see Box 1).

These developments mean that nationally consistent data on public and private hospital associated SAB cases can be reported.

## Hand hygiene

Improvements in the hand hygiene of healthcare workers is the highest priority area to reduce the risk of HAIs (ACSQHC 2017).

Hand hygiene in hospitals generally refers to the washing and/or use of alcohol-based rubs by healthcare workers to clean their hands, and should be performed according to the World Health Organization's 'Five Moments for Hand Hygiene' (WHO 2017).

Hand Hygiene Australia reported that, in June 2017, hand hygiene compliance in all hospitals combined (both public and private) was about 84% (HHA 2017).

Between July 2012 and June 2017, hand hygiene compliance in public hospitals increased from about 75.8% to 83.6% (Figure 4).

Between July 2013 and June 2017, hand hygiene compliance in private hospitals increased from 76.1 to 86.0 (Figure 5). Private hospital reporting of hand hygiene compliance was not available until 2013.

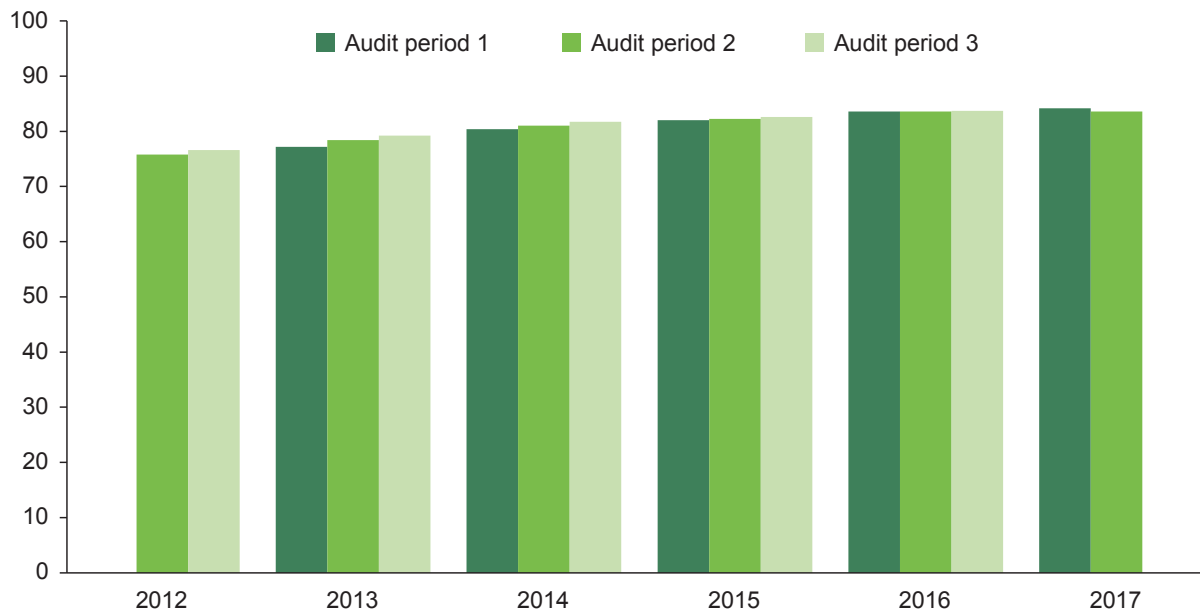
### **Box 3: Australian Commission on Safety and Quality in Health Care initiatives relating to SAB**

The ACSQHC plays a major role in national improvements in safety and quality in health care, which includes reducing HAIs (ACSQHC 2017).

The ACSQHC HAI prevention program key initiatives include (ACSQHC 2017):

- national infection control guidance: the ACSQHC has developed tools and resources to implement the National Health and Medical Research Council's evidence-based guidelines to provide hospitals with guidance on how to prevent and control infections, including SAB. The guidelines include information on managing medical devices, such as cannulas and catheters
- an antimicrobial stewardship initiative, which supports activities that optimise antimicrobial use, improve patient outcomes and reduce the incidence of antimicrobial resistance in Australian hospitals
- building clinical capacity to address skill or knowledge gaps in infection control professions across healthcare settings
- a national surveillance initiative to monitor HAIs and provide timely feedback to jurisdictions and clinicians
- National Safety and Quality Health Service (NSQHS) Standard 3: *Preventing and Controlling Healthcare-Associated Infections*, which aims to prevent patients acquiring preventable HAIs, including SAB infections
- the National Hand Hygiene Initiative, which aims to educate and promote standardised hand hygiene practice in all Australian hospitals. This initiative includes auditing and reporting processes for hospitals to measure how they are performing.

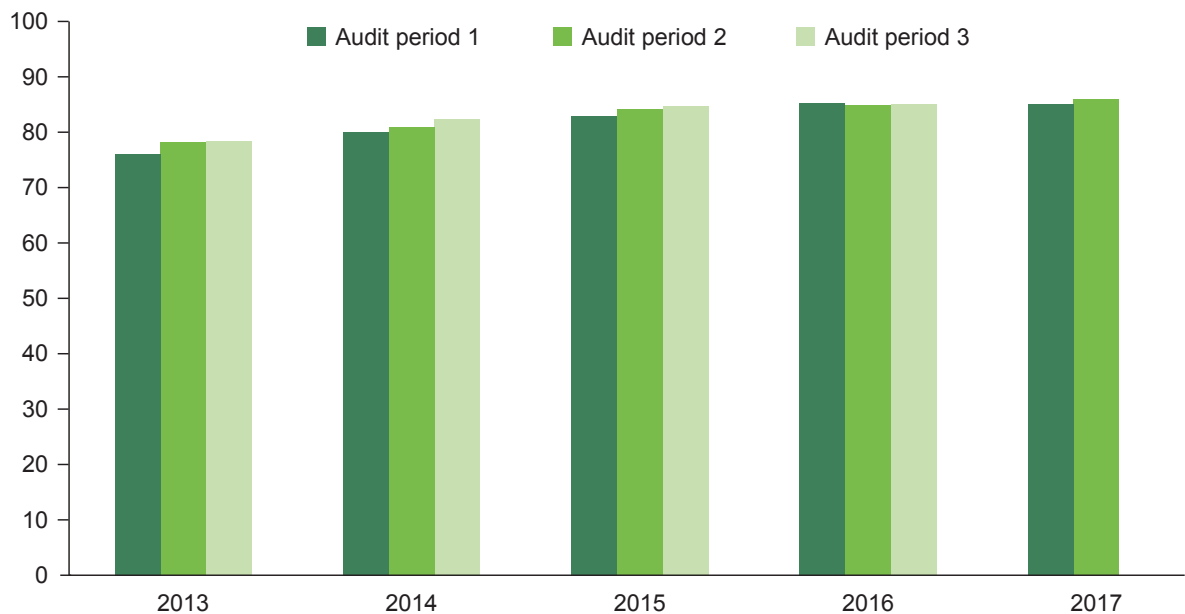
**Average hand hygiene compliance (per cent)**



Source: HHA 2017.

**Figure 4: Hand hygiene compliance rates for public hospitals, July 2012 to June 2017**

**Average hand hygiene compliance (per cent), private hospitals<sup>(a)</sup>**



(a) Data on private hospital hand hygiene compliance are not available prior to the 2013 audit periods.

Source: HHA 2017.

**Figure 5: Hand hygiene compliance rates for private hospitals, July 2013 to June 2017**



# National *Staphylococcus aureus* Bacteraemia Data Collection (NSABDC)

The data on cases of SAB associated with public hospitals were collected by hospital staff for hospital infection surveillance. Without their work, the information in this report would not have been available.

The preparation of this report would also not have been possible without the cooperation of the state and territory health authorities which provided these data to the AIHW for national collation as the National *Staphylococcus aureus* Bacteraemia Data Collection (NSABDC). States and territories also provided data on days of patient care (sourced from data on admitted patient care), for the rate calculations.

## Data quality summary

This section presents a summary of information relevant to interpreting the data sourced from the NSABDC:


- The NSABDC is a data set that includes counts of healthcare associated cases of SAB for each public hospital covered by SAB surveillance arrangements, and for private hospitals that choose to provide data. The data also include the counts of patient days under surveillance.
- Cases of SAB have been reported by all states and territories and private hospitals using the nationally agreed case definition.
- There may be imprecise exclusion of some SAB cases due to the inherent difficulties in determining the origins of SAB episodes, such as those originating in non-hospital settings.
- For some states and territories there is less than 100 per cent coverage of public hospitals as surveillance arrangements may not be in place in all wards or all hospitals.
- The accuracy and comparability of the rates of SAB among jurisdictions and over time are also limited because the count of days of patient care reflects the amount of admitted patient activity, but does not reflect the amount of non-admitted patient activity.
- The data for 2011–12 to 2016–17 are comparable.
- New South Wales provided the number of occupied bed days, rather than the number of patient days under surveillance. The comparability of New South Wales data and data from other jurisdictions is therefore limited (but only by the small extent that counts of occupied bed days would be expected to differ from counts of days of patient care).
- The 2016–17 patient day and coverage data may be preliminary for some hospitals or jurisdictions.
- Due to the changes in the denominator of the performance indicator specification, data published in 2017 and subsequent years for the reporting years 2010–11 to 2014–15 are not comparable with data previously published in COAG Reform Council publications, the AIHW series '*Staphylococcus aureus bacteraemia in Australian public hospitals: Australian hospital statistics*' nor the *Report of Government Services*.
- Private hospitals supply data voluntarily to the NSABDC, and not all private hospitals report data. Coverage of the private sector is therefore incomplete and reported data may not be representative of the sector as a whole.

A comprehensive data quality statement for the 2016–17 NSABDC collection is available at <http://meteor.aihw.gov.au>.

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In 2016–17, Australian public hospitals reported 1,502 cases of hospital-associated *Staphylococcus aureus* bacteraemia (SAB) at a rate of 0.76 cases per 10,000 days of patient care. All states and territories had rates below the national benchmark of 2.0 cases per 10,000 days of patient care.

Between 2012–13 and 2015–16, rates of SAB decreased from 0.94 to 0.74 cases per 10,000 days of patient care; this increased to 0.76 in 2016–17.

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