Harnessing data to improve patient care and prevent hospital-acquired complications

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Harnessing data to improve patient care and prevent hospital-acquired complications

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Finally, I express my gratitude to the stakeholders who took the time to meet with me during the development of this Brief and their contribution.

The contents of this Brief are accurate to the best of our knowledge.

Key messages

- Hospital-acquired complications (HACs) are adverse events occurring during patient admission, which may be prevented with appropriate clinical care using risk mitigation strategies. Despite being preventable, HACs occurred in over 146 000 hospitalisations in Australia in the 2022 financial year.
- HACs are associated with profound consequences for patients and significantly increase hospital costs and length of stay. The use of clinical risk mitigation strategies is therefore important and embedded in processes of hospital care. However, prevention resources are lacking and there are shortcomings in their clinical use.
- The publication of Australian HAC incidence data is delayed and incomplete. This creates barriers to clinicians, hospitals and their networks evaluating the incidence of HACs in local reporting and benchmarking it externally against broader service provision to improve patient care.
- The monitoring of processes of care related to HACs is not standardised, can be highly variable across hospitals, and results are under-reported. This leads to the inability of clinicians and hospitals to evaluate and compare performance and identify specific areas requiring improvement.
- The inclusion of HACs in the publication of quality and safety data is not mandated or advocated for in legislation, frameworks or strategic plans This further obstructs benchmarking, quality improvement efforts and funding.
- The publication of HAC data for consumers provides valuable information to inform patient choice, particularly around the selection of care providers and potential treatment options. To improve patient access to and understanding of HAC information, consumers must be involved in the codesign of how data is presented and accessed.

Recommendations

1

Recommendation 1

To compliment local reporting, national agencies and organisations should be supported to publish comprehensive HAC data in a timelier manner through the streamlining of publication across fewer platforms and efforts to improve the timeliness of data release and transfer from local to national levels.

2

Recommendation 2

Nationally standardised process of care indicators for all HACs should be developed and nationally available for stakeholders.

3

Recommendation 3

Requirements for the publication of comprehensive HAC data should be embedded in legislation and subsequent policies, frameworks and strategies.

4

Recommendation 4

Clear and transparent HAC data should be published for patients, and approaches to publication should be co-designed.

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Executive Summary

Hospital Acquired Complications (HACs) are a type of patient harm associated with increased morbidity and mortality, which also burden the health system and are an ongoing challenge in Australian hospitals. While the risk of HACs occurring during hospital admission is reduced with the use of clinical risk mitigation strategies, unwarranted clinical variation and shortcomings in hospital care can result in their continued development.

At a national level, legislation and policy exists to monitor, price and fund hospital safety and quality across Australia, including HACs.

HAC incidence data is routinely collected at the local hospital and local hospital network levels. It is then reported to state or territory authorities, and subsequently national organisations. However, national approaches to publishing HAC data have restricted its use as a mechanism for quality improvement and patient information.

Timely, comprehensive and cohesive publication of HAC data is crucial for comparison to local reporting to inform quality improvement and funding strategies to prevent HACs at hospital, state and national levels. Clinicians require contemporary information to adapt and change clinical care to improve patient outcomes, but in 2024, the national data is out-of-date and published across multiple websites.

Numerous barriers to publication exist, including complexities in the data and analysis, resourcing requirements and state and territory legislative restrictions, resulting in inadequate improvements to clinical care and HAC prevention. These issues are compounded by the lack of specific HAC data relating to processes of care and supporting policy and strategy.

The publication of HAC data should be co-designed for clinicians or patients. Patients have indicated they want more transparent and objective health care quality and safety information. However, this need is not being met for HACs, meaning patient choice around treatments and service providers is not informed.

Options for harnessing already collected HAC data, expanding on process of care data, and underpinning publication in policy and strategy are proposed to improve clinical care and prevent HACs. For patients, options for improving access to clear and comprehensive HAC data are recommended.

Background

Hospital-Acquired Complications (HACs)

The Australian Commission on Safety and Quality in Healthcare (ACSQHC) defines Hospital-Acquired Complications (HACs) as "a complication for which clinical risk mitigation strategies may reduce (but not necessarily eliminate) the risk of that complication occurring." (ACSQHC, 2024d, para 1.). A national list of high-priority HACs is used to monitor and price health, and safety and quality (ACSQHC, 2024c).

As of March 2021, the list comprises 16 HACs, which may each have multiple different diagnoses (Appendix 1; ACSQHC, 2024d). HACs are considered a newly arising complication during admission, and may be an abnormal reaction to, complication of, or result from a misadventure during, surgical or medical care (AIHW, 2023a). In Australia, across the 2021 to 2022 financial year, HACs arose in over 146 000 hospitalisations (Figure 1; AIHW, 2023a,b).

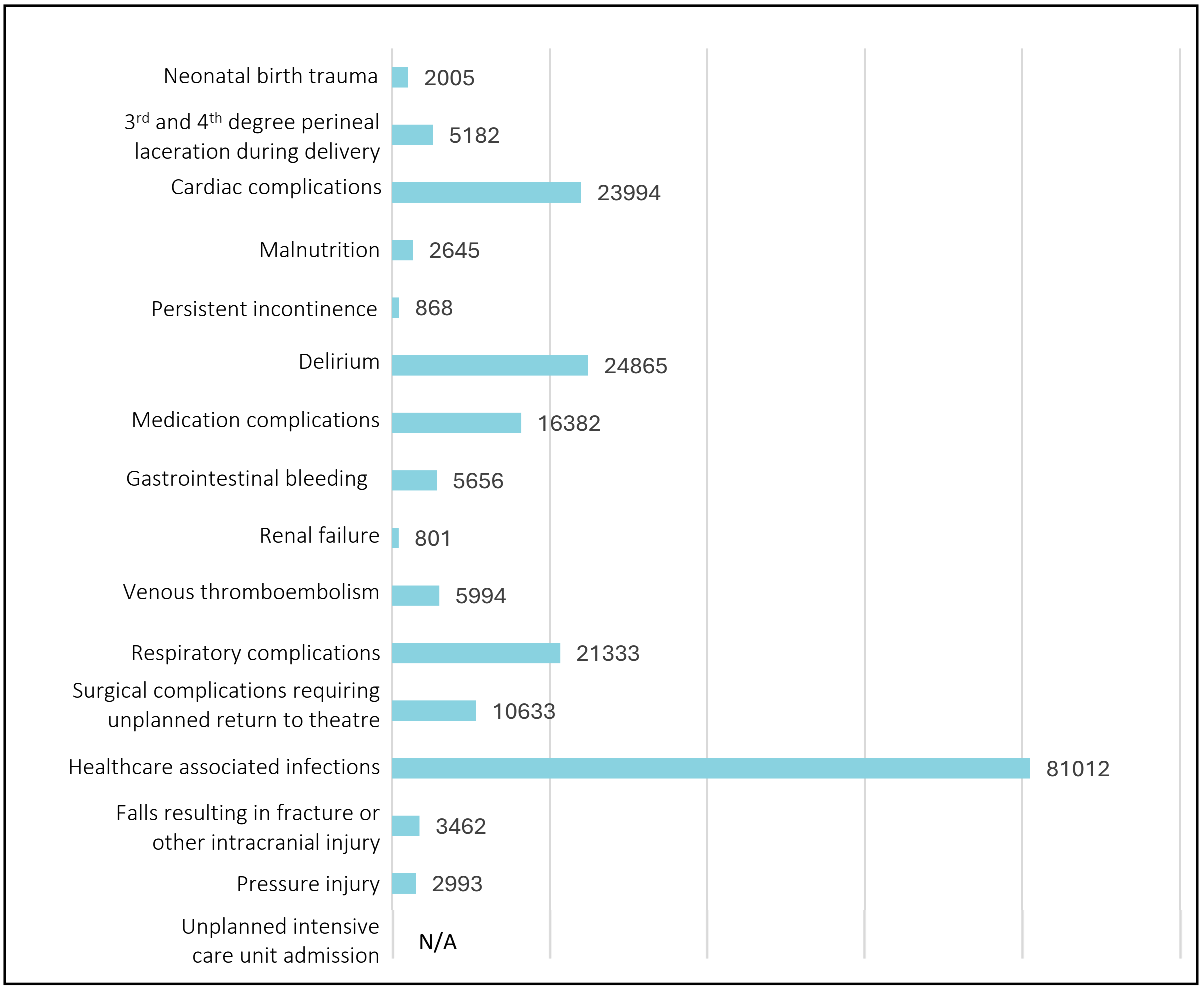

Figure 1: HACs in Australia 2021-2022 (AIHW, 2023a; does not include unplanned admissions to intensive care HAC as this data is not able to be derived from the source dataset for national HAC rates). N/A. Data not available.

The burden of HACs in Australia

HACs are associated with significant consequences for patients including increased morbidity and mortality, distress and profound physical and psychological symptoms (ACSQHC, 2018).

HACs also have significant implications for the health system, including increased patient length of stay and health care costs (Fernando-Canavan et al., 2020; Ngheim et al., 2022). The average length of stay where at least one HAC occurred was 5 days longer in public and 4.7 days longer in private hospitals during 2021 to 2022, compared to hospitalisations where no HAC occurred (AIHW, 2023b).

The national increased costs related to HACs has been estimated to be over $4 billion for acute public hospital admissions (2014-2015, Duckett et al., 2018; 2017-2018; ACSQHC, 2019e), and over $1 billion for acute private hospital admissions (2014-2015; Duckett et al., 2018). For single admissions, HAC-related costs have been found to range from $6964 to $17 173 in one Victorian health service alone (2015-2016; Fernando-Canavan et al., 2020), while a cost percentage increase of over 320% was identified in a cardiovascular patient cohort in Queensland (2015 pricing; Nghiem et al., 2022).

Prevention of HACs using evidence-based strategies within hospital care is important to reduce associated patient harm, costs and length of stay.

Prevention of HACs

The ACSQHC outlines best-practice prevention strategies for individual HACs which are underpinned by relevant evidence and guidelines and can be embedded into the processes of routine hospital care (ACSQHC, 2018, 2019e).

All HACs identified within the national list are preventable, although in some cases, their occurrence may be unavoidable if they develop despite the use of appropriate clinical risk mitigation strategies. Given that their prevention is linked to appropriate care and development may indicate shortcomings, HACs are used as a measure of hospital care quality (AIHW, 2023b).

However, many barriers to the prevention of individual HACs and their associated diagnoses have been identified (Ayton et al., 2017; Cody et al., 2021; Fasugba et al., 2021; Henderson et al., 2020; Lin et al., 2019; Wan et al., 2023), including:

- Lack of feedback and use of HAC incident data to influence practice
- Poor staffing and workload demands
- Inadequate knowledge and training
- Lack of funding, managerial support and time
- Lack of equipment and guideline access

When feedback and use of HAC incident data are instead used as a facilitator to HAC prevention, strategies can be prioritised and targeted to address other barriers in problematic areas (Ayton et al., 2017; Fasugba et al., 2021; Wan et al., 2023).

When a HAC develops during a patient's admission to hospital, it is reported and documented, and the data flows through a complex process (Figure 2).

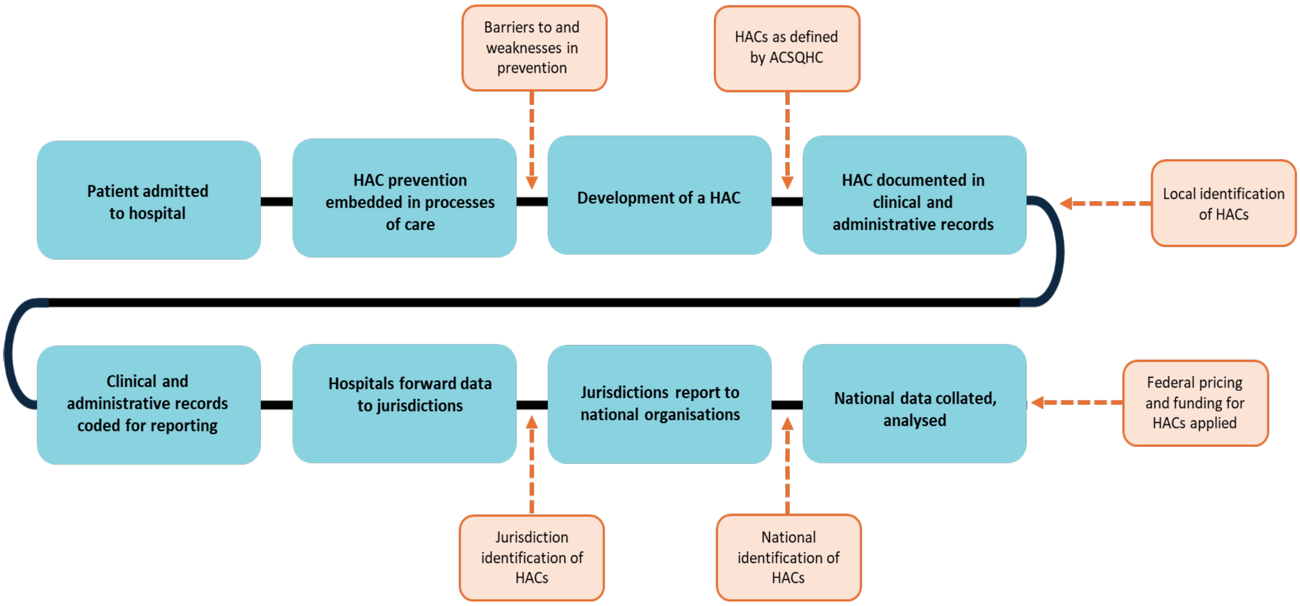

Figure 2: HAC development and data from the patient journey with potential identification points (ACSQHC, 2018, 2019e, 2022c, 2024d; AIHW METEOR, 2024; IHACPA 2022a, 2023a-c; Webster et al., 2023)

From this process, data can be extracted at local, state and territory and national levels for use as feedback, which can be used by clinicians to identify areas of care needing improvement (Hamilton, Jennings, Forster, 2020; Kampstra et al., 2018; Parker, Hickman, Ferguson 2023). Nationally, the benefit of timely and relevant data feedback to clinicians to drive quality and safety improvements has been acknowledged (ACSQHC, 2018, 2019e), and the purpose of HAC monitoring is to identify areas of care requiring improvement (ACSQHC, 2024e). Nevertheless, publication of contemporary HAC incidence data is limited.

Local, state and territory HAC publication

In 2019, the ACSQHC published a review of the public reporting of safety and quality in Australian public and private hospitals (ACSQHC, 2019b). This review found that most states and territories published safety and quality data, except for the Northern Territory, while public hospitals were obligated to participate in the national reporting mechanism, the MyHospitals website. Most private hospitals also chose to participate in this mechanism, while 13 private organisations also published specific quality and safety data on their websites (ACSQHC, 2019b). However, the MyHospitals website only reported on seven safety and quality data events, including only one HAC diagnoses (*Staphylococcus aureus* bloodstream infection).

The ACSQHC (2019d) review summary indicated that, where states, territories or hospitals did publish safety and quality data outside of the MyHospitals website, only select HACs or their diagnoses were included (ACSQHC, 2019b). The reported HACs and the publication platform such as websites and reports varied by jurisdiction and hospital, which is likely a result of a lack of standardisation for the public reporting of HACs and subsequent discretional selection.

Five years after the ACSQHC review of public reporting in Australia (ACSQHC, 2019b), differences in the publication of HAC data across states and territories, and public and private hospitals, have still not been addressed; and HAC data is published to websites or in reports, with variability in content and accessibility. For example, local hospital networks and private health services including Cabrini Health (2023) in Melbourne (Victoria), East Metropolitan Health Service (2023) in Perth (Western Australia) and North West Private Hospital (2024) in Burnie (Tasmania) publish HAC data, however, there are variations what is published between them, including:

- publication of overall HAC rates up to year 2022 for the service and individual facilities (Cabrini Health, 2023),
- of percentages of hospital admissions with one or more HACs up to year 2021 (East Metropolitan Health Service, 2023),
- or of rates of select individual HACs or related diagnoses up to year 2022 (North West Private Hospital, 2024).

Internally in Victoria, HAC reports are provided to local hospital networks and facilities (Safer Care Victoria, 2020). In other states and territories, it is unclear whether similar internal reporting of HACs are distributed.

Most states and territories release safety and quality information to the public, however, this is not standardised and dissemination occurs via differing information platforms, with most only reporting some individual HACs and/or their diagnoses (Table 1). Internally, local hospital networks and facilities are provided with HAC reports in Victoria (Safer Care Victoria, 2020), but its contents and whether similar internal reporting of HACs are provided in other states and territories are unclear.

Consequently, clinicians and hospitals are unable to benchmark care more broadly within their local network and jurisdiction, and the potential insights able to be provided to policy makers for identifying key areas of improvement needs and funding is limited. Patient focus groups, as part of ACSQHC consumer consultation, have suggested that rather than uncoordinated individual reporting that occurs across states and territories, national quality and safety reporting is preferable (ACSQHC, 2019d). Capitalising on pre-existing national HAC data collation and publication would inform clinical stakeholders and policy makers.

Table 1: State and Territory jurisdiction and HAC reporting

HAC	Australian Capital Territory	New South Wales	Northern Territory	Queensland	South Australia	Tasmania	Victoria	Western Australia
Pressure injury	×	— Proportion of skin integrity incidents only	×	✓	×	×	×	✓
Falls resulting in fracture or intracranial injury	×	— Falls percentage that resulted in harm or not	×	✓	— Falls and harm from falls	×	×	— Falls
Healthcare-associated infection	— *Staphylococcus aureus bacteraemia* infection only	×	×	✓	— Infection complications and select diagnoses only	— Select diagnoses only	— Select diagnoses only	— Infection incidents, select diagnoses and care processes only
Surgical complications requiring unplanned return to theatre	×	×	×	×	— Surgical complications	×	×	×
Unplanned intensive care unit admission	×	×	×	×	×	×	×	×
Respiratory complications	×	×	×	✓	✓	×	×	×
Venous thromboembolism	×	×	×	✓	×	×	×	×
Renal failure	×	×	×	✓	×	×	×	×
Gastrointestinal bleeding	×	×	×	✓	×	×	×	×
Medication complications	×	— Medication incidents	×	✓	✓	×	×	— Medication safety incidents
Delirium	×	×	×	✓	✓	×	×	×
Incontinence	×	×	×	✓	×	×	×	×
Endocrine complications	×	×	×	✓	×	×	×	— Poor nutrition and malnutrition
Cardiac complications	×	×	×	✓	✓	×	×	×
Third and fourth degree perineal laceration during delivery	×	×	×	✓	×	×	×	×
Neonatal birth trauma	×	×	×	✓	×	×	×	×

Recency (at February 2024)	September 2022, more recent emergency only or without safety data	December 2021	None found	June 2023, view rates by hospital/s and state	June 2023	Year 2021 online	September 2023	September 2023
Platform	Quarterly reports (ACT Government, 2023, 2024a, 2024b)	Website (Clinical Excellence Commission, 2024)	None found	Dashboard (Queensland Government, 2023)	Annual reports (Government of South Australia, 2023, 2024)	Annual reports (Tasmanian Government, 2021; Wilson et al., 2020)	Dashboard (Victorian Agency for Health Information, 2023a, 2023b, 2023c)	Quarterly and annual reports (Government of Western Australia, 2023a, 2023b, 2023c, 2024)

National HAC data publication

HAC incidence data which is collated and published at the national level has the potential to provide benchmarking and HAC prevention insights to policy makers, state health departments, hospital networks and hospitals, and yet the routine publication of national HAC data is delayed by two to three years (ACSQHC, 2024e; AIHW, 2023a-c, 2023e-f,h, 2024a, c; IHACPA, 2023b, 2024b). The delay creates a number of barriers to targeting funding and prevention efforts to address areas of contemporary need.

Time to publication

In some states and territories, the delay between collecting HAC and its publication is around 12 months, with 2023 data being published in 2024 for HACs and related diagnoses in Queensland (Queensland Government, 2023), South Australia (Government of South Australia, 2023, 2024), Victoria (Victorian Agency for Health Information, 2023a-c) and Western Australia (Government of Western Australia, 2023a, 2024).

This delay in even greater in other states and territories where safety and quality data collected in 2021-2022 is reported in 2024 (ACT Government, 2023, 2024a-b; Clinical Excellence Commission, 2024; Tasmanian Government, 2021; Wilson et al., 2020).

Nationally, HAC data is published annually, with the time-lag between data collection and national publication also two to three years, (ACSQHC, 2024e; AIHW, 2023a-c, 2023e-f,h, 2024a, c; IHACPA, 2023b, 2024b).

Clinicians have recommended that the publication of quality and safety data occur quarterly (ACSQHC, 2019d). To match that of the best-performing states and territories in terms of the recency of data publication (September 2023 as of March 2024; Government of Western Australia, 2023a, 2024; Victorian Agency for Health Information, 2023a-c), a target to publish national comprehensive HAC data quarterly and within six-months of collection should be set.

Publication beyond 6 months should be considered delayed

Funding and policy infrastructure supporting HAC data and publication

Three federal organisations have functions related to HACs and quality and safety data:

- the Independent Hospital and Aged Care Pricing Authority (IHACPA),
- the Australian Institute of Health and Welfare (AIHW),
- and the Australian Commission for Safety and Quality in Healthcare (ACSQHC).

Funding and policy for HACs is underpinned by the *National Health Reform Act 2011* (Cwlth) and the *Addendum to National Health Reform Agreement (2020-2025)* (Cwlth), with the former also establishing IHACPA, ACSQHC and their functions (Figure 3). AIHW is underpinned by the *Australian Institute of Health and Welfare Act 1987* (Cwlth).

Independent Hospital and Aged Care Pricing Authority (IHACPA)	Australian Institute of Health and Welfare (AIHW)	Australian Commission of Safety and Quality in Health Care (ACSQHC)
• Determine data requirements and standard for data to be provided by States and Territories • Publish (internet or otherwise) reports and papers relating to its functions • National Health Reform Act 2011, Part 4.2 (131)	• Collect and produce information and statistics relating to health and welfare • Coordinate and provide assistance for the above • Publish reports on work carried out by or with AIHW • Australian Institute of Health and Welfare Act 1987, Part 1 (2A)	• Promote, support and encourage implementation of arrangements, programs and initiatives for health care safety and quality • Collect, analyse, interpret and disseminate health care safety and quality information • Publish (internet or otherwise) reports and papers relating to health care safety and quality • Formulate indicators relating to health care safety and quality • National Health Reform Act 2011, Part 2.2 (9)

Figure 3: Key functions related to data

The AIHW is also responsible for setting national data standards for consistent reporting under the *National Health Information Agreement 2013* (Cwlth) (AIHW, 2023g), including the Metadata Online Registry (METEOR) and the Admitted patient care National Minimum Data Set (AIHW METEOR, 2024).

IHACPA mandates the quarterly reporting of activity data, including this data set, by states and territories (IHACPA, 2024a; Webster et al., 2023). These data are used in-part by IHACPA to implement funding and pricing adjustments for HAC occurrence (IHACPA, 2022a; Webster et al., 2023) and for publication in the National Benchmarking Portal (IHACPA, 2023c). The AIHW receives these data annually for collation (AIHW METEOR, 2024), while the frequency in which the ACSQHC receives HAC data is not publicly reported.

The functions of these organisations were expanded in relation to improving transparency and performance monitoring and reporting in the *Addendum to National Health Reform Agreement (2020)*.

However, the dispersion of functions across organisations has resulted in the fragmenting of HAC data publication across IHACPA, AIHW and ACSQHC websites, reports and portals (Table 2), with routine publication delayed by at least 2 years from collection (ACSQHC, 2024e; AIHW, 2023a-c, 2023e-f,h, 2024a, c; IHACPA, 2023b, 2024b).

As a consequence, the two broad benefits related to publishing quality and safety information, changes in care for improvement in patient safety and informing patient choice (ACSQHC, 2019b), are not being recognised within Australia. These issues are yet to be acknowledged, with the Mid-term Review of the Addendum to National Health Reform Agreement 2020-2025 (Section 3.9; Huxtable, 2023) failing to identify the delay of HAC data publication as a key issue.

Table 2: HAC data publication by organisation

Organisation		IHACPA	AIHW		ACSQHC
Platform		National Benchmarking Portal (IHACPA, 2023b, 2024b)	Multiple websites, reports, data tables (AIHW, 2023a, 2023b, 2023c, 2023e, 2023f, 2023h)	Australia's Health Performance Framework (AIHW, 2024a, 2024c)	Periodic report, national benchmarking goals (ACSQHC, 2019e, 2024e)
Recency (at February 2024)		2020-2021	2021-2022	2020-2021	*Report:* 2017-2018 *National goals:* 2021-2022
Data	Overall HAC rates	✓ Number of HACs, HACs per 10000 episodes, episodes with ≥ 1 HAC	✓ *Websites:* Number of hospitalisations with at least one HAC (overall, public, private) *Data table:* Separations (total and per 100) with ≥ 1 HAC by complication (public, private)	×	✓ *Report:* HACs per 10000 separations *National goals:* not reported
	Individual HAC rates	✓ As above by HAC and diagnoses, proportion of HAC activity by group	✓ *Websites:* *Staphylococcus aureus* bloodstream infections (to individual hospital level only *Data table:* Separations (total and per 100) with ≥ 1 HAC	— National and state *Staphylococcus aureus* bloodstream infections only	✓ *Report:* Number of episodes with a HAC, proportions of HACs *National goals:* Individual HAC rates per 10000 in-scope separations (by peer group)
	Other	Charlson Comorbidity Index score for HACs versus non-HACs Episodes over time Granulation to hospital level but hidden where records < 20	*Website:* Length of stay with and without a HAC Changes in rate over 4-years *Data tables:* Separations with ≥ 1 complications for the 20 most common HAC diagnoses		*Report:* Improvements over time
	Rates do not include 'Unplanned intensive care unit admission' HAC as these data are not captured in source hospital admission dataset (ACSQHC, 2019e; AIHW, 2023a)				

Publication of HAC incidence data is delayed

National government HAC incidence publication

The publication of national HAC data is lagging by two to three years (Table 2), creating a barrier to external benchmarking and quality improvement for clinicians and hospitals. Data is reported to AIHW annually (AIHW METEOR, 2024) and to IHACPA quarterly to annually (IHACPA, 2024a; Webster et al., 2023), while ACSQHC does not publicly report on its routine receival of HAC data.

Barriers to timely HAC data publication

The ACSQHC acknowledges the need for timely publication of safety and quality data (ACSQHC, 2019c, 2022a-b), but the options available to institutions for addressing the challenges associated with delays in publication have not been addressed.

Consequently, public reporting of hospital performance data in Australia is limited, with few measures or indicators of patient safety performance, such as the incidence of individual HACs or their diagnoses, included in public reporting platforms and frameworks (Canaway et al., 2017a).

Hospital patients, providers and purchasers have identified several barriers to the effective implementation of public reporting of hospital performance data across four broad areas, conceptual (objectives and purpose of public reporting), systems level (governmental, legislation and stakeholder involvement and awareness factors), technical and resource (data collection, management and resource capacity factors) and socio-cultural (provider culture and consumer literacy and empowerment factors) (Table 3; Canaway et al., 2017a).

Table 3: Barriers to publication of hospital performance data (Canaway et al., 2017a)

Conceptual	Systems-level	Technical & resource	Socio-cultural
Lack of clear objective or purpose	Jurisdictional differences across three-layered health system	Time-delay between data collection and publication	Provider resistance to public reporting
Lack of clear audience	Lack of adequate feedback loop to providers	Lack of agreement on benchmarks and indicators	Poor reporting and data sharing cultures
	Lack of patient choice of providers due to system design and geography	Lack of appropriate infrastructure and capabilities	
	Lack of legal mandate for private providers to report data	Lack of best statistical techniques	
	Lack of patient awareness of and access to published data	Lack of data granularity	
	Lack of patient and clinician involvement in public reporting system design	Lack of ability to report on small jurisdictions	

Prior to publication, admitted patient data follows a complex flow from documentation by bedside clinicians to hospital coding and reporting to state and territory and national authorities and national organisations (Figure 4). The flow of data can be impacted by jurisdictional legislation, and differences in the data and data management and transfer capabilities across states and territories (ACSQHC, 2019b-c; Canaway et al., 2017a), contributing to the delays in publication. Data are collated quarterly to annually (AIHW METEOR, 2024), and are only published annually (ACSQHC, 2024e; AIHW, 2023a-c, 2023e-f,h, 2024a, c; IHACPA, 2023b, 2024b). The time-delay between data collection and publication is further compounded by complexities in, and resources for data analysis and publication, including the requirement for IHACPA to price and fund hospital safety and quality which incorporates HAC data and HAC risk (IHACPA 2022a, 2023a; Webster et al., 2023).

As a result, data are published by financial year with a delay of two to three years (Table 2), meaning that comparisons to contemporary practice and change are based on outdated data.

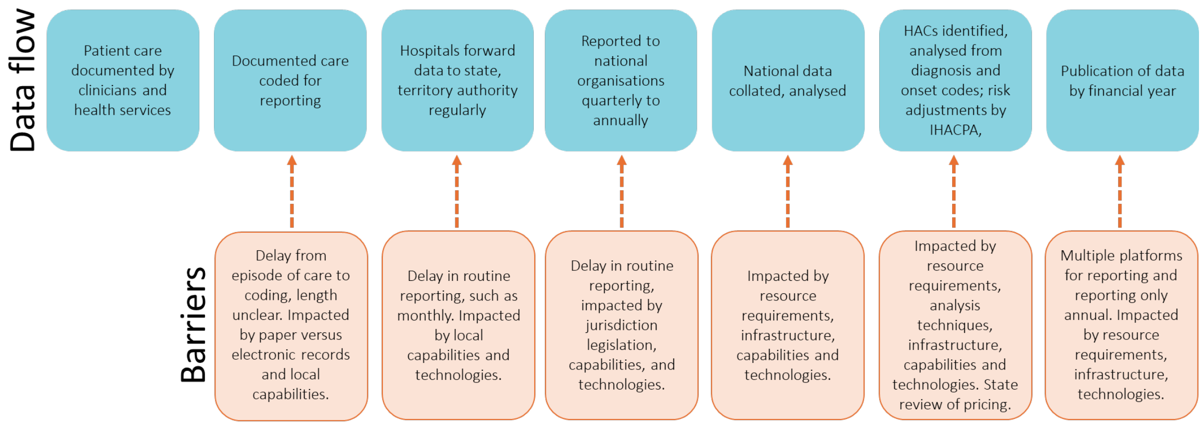

Figure 4: Potential barriers to timely patient data flow (ACSQHC, 2022c; AIHW METEOR, 2024; IHACPA 2022a, 2023a-c; Webster et al., 2023)

Implications of delayed HAC data publication

The lack of visible and timely publication of HAC occurrence data (Table 2) prevents clinicians, hospitals and local hospital networks from comparing their local monitoring and reporting data against that available nationally. This is further complicated by data which is available being out of date and no longer reflecting recent practice. As a consequence, it can be inferred that hospital teams are not engaged in active improvements to contemporary practice based on up-to-date wide-ranging HAC data and benchmarks, which are important to facilitating and evaluating quality improvement (Kampstra et al., 2018).

Quality improvement is informed by the identification and analysis of issues occurring in clinical practice (Hamilton, Jennings, Forster, 2020; Kampstra et al., 2018), and clinical quality registries incorporate the use of feedback 'loops' to monitor health care processes, identify and address issues, and evalaute improvement efforts (Parker, Hickman, Ferguson 2023).

In Australia, the timely analysis and feedback of health care quality data is supported by the Australian clinical quality registries framework (ACSQHC, 2022b), but the delay in the publication of HAC data breaks this feeback loop (Figure 5) and the care quality and patient outcome benefits of clinical quality registries and quality improvement (Kampstra et al., 2018; Parker, Hickman, Ferguson 2023) are not recognised for HACs.

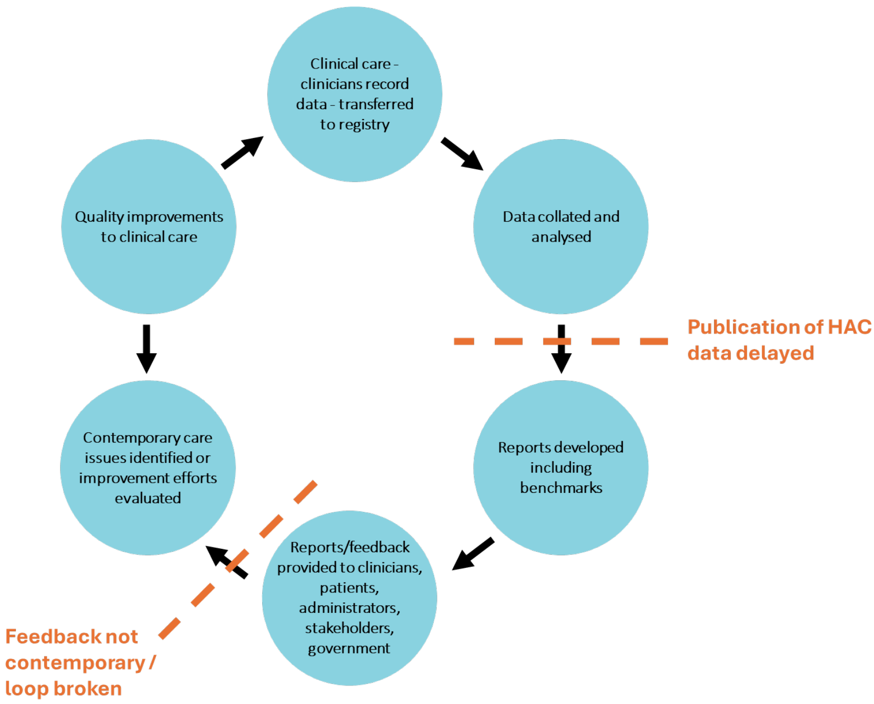

Figure 5: Feedback and benchmarking loop (adapted from Parker, Hickman, Ferguson 2023). The delayed provision of HAC benchmarking data results in a breakdown of the feedback loop or process, resulting in the inability of clinicians and hospitals to underpin practice change with contemporary need, which is crucial to the success of health care quality monitoring and reporting mechanisms such as clinical quality registries (Kampstra et al., 2018; Parker, Hickman, Ferguson 2023).

National 'HAC goal rates' are published by the ACSQHC (2024e), with the intention that hospitals with higher rates of HACs can learn from better performing hospitals to reduce overall HAC incidence (ACSQHC, 2019e). The national goal rates, based on the quartile of hospitals with the lowest rates for each HAC in a peer group (ACHCQS, 2019e, 2024e), range from 2.1 per 10 000 hospital separations for persistent incontinence and renal failure to 113.7 and 355.3 per 10 000 hospital separations for healthcare-associated infection and third- and fourth-degree perineal lacerations during delivery, respectively for principal referral hospitals (ACHCQS, 2024e). However, these goal rates, published in 2024 are based on data collected in 2021 to 2022 (ACHCQS, 2024e), and therefore HAC information cannot reflect contemporary practice.

In addition, hospitals with the lowest HAC rates, in the top performing quartile, are also not identified. In turn, this limits the ability of underperforming hospitals to identify better performing peers for learning opportunities linked toHAC reductions (Ngheim et al., 2022).

Timely and relevant feedback to clinicians' is a key strategy for safety and quality improvement (ACSQHC, 2018, 2019e). Expanding on public reporting of quality and safety, and timely and relevant feedback to clinicians', will drive improvements (*Addendum to National Health Reform Agreement*).

Data for reporting can be extracted at local, state and territory and national levels (Figure 2), but whether local reporting versus national reporting is more or less beneficial to quality improvement and care changes in Australia is uncertain. Local reporting and monitoring of HACs is important to stimulate care changes and quality improvement (ACSQHC, 2019e), but the extent to which it is performed is unclear and subsequently is difficult to assess, while national reporting across multiple websites is pre-existing (ACSQHC, 2024e; AIHW, 2023a-c, 2023e-f,h, 2024a, c; IHACPA, 2023b, 2024b).

This means that established national HAC data publication can be capitalised upon to compliment local reporting and monitoring, enabling contextualisation of local outcomes for clinicians, hospitals, hospital networks, policy makers and consumers (Ngheim er al., 2022; ACSQHC, 2024e). Meaningful comparisons across broader national reporting are enhanced through the grouping of 'peer' hospitals and networks in national HAC goal rates (ACHCQS, 2019e, 2024e) and granulation of HAC data from national to state, hospital network and hospital levels as demonstrated by the National Benchmarking Portal (IHACPA, 2023b, 2024b).

Yet the usability of peer and granulated national HAC data publication are not realised, given that the data realeased is delayed. Without contemporary and continuous feedback via a loop for the identification of issues, benchmarking, improvemement and evaluation, which aids local monitoring and is able to be complimented by further measures such as financial incentives and hospital-level benchmarking discussions, the incentive and sustainability of quality improvement targeted at areas of need is compromised (Willmington et al., 2022).

Monitoring processes of care is not standardised for hospitals

What are processes of care?

Best practice guidelines, used to inform mitigation of clinical risk, outline the processes embedded into care to prevent HACs. For example, the international guideline for pressure injury prevention (EPUAP, NPIAP, PPPIA, 2019) and the Australian guideline for the prevention and control of infection in healthcare (NHMRC, 2019) detail processes of care which comprise multiple independent and interlinked components. Process monitoring is important to identity which of these components may be insufficient and contributing to HAC occurrence.

However, individual HAC guidelines do not specify indicators for monitoring processes of care.

While limited to four, the Australian guideline for the prevention and control of infection in healthcare (NHMRC, 2019) offers examples of process of care indicators measuring:

- Aspetic insertion and management of peripheral or central intravascular devices
- Healthcare workers' compliance with hand hygiene and the techniques they use
- Perioperative and intraoperative practice such as antibiotic prophylaxis, normothermia, normoglygaemia and appropriate hair removal
- Healthcare workers' uptake of immunisation.

Monitoring of HACs: outcomes or processes

HAC occurrence as an outcome is used as a standardised measure of safety and quality in Australian health care (ACSQHC, 2024g; AIHW, 2023b), yet outcome measurement is not sensitive to specific differences in care quality like process of care measures (Mant, 2001).

While there is an expectation that hospitals and jurisdictions meet national care standards (ACSQHC, 2024b, i), and local monitoring of care processes is recommended (ACSQHC, 2018, 2019e; NHMRC, 2019), it is not nationally supported with standardised process indicators for all HACs. Therefore, the local monitoring of HAC processes of care both individually and overall may be inadequate and not include all relevant process measures. This means that specific processes of care which do not meet best practice standards or in which unwarranted clinical variation has emerged cannot be readily identified for improvement prior to, or on development of a HAC.

HACs which occur despite the use of appropriate clinical risk mitigation strategies, such as variations in patient factors, also cannot be identified, meaning hospitals resources are unnecessarily targeted at appropriate care, and funding reductions are applied (IHACPA, 2022a; Webster et al., 2023). It also results in variations in process monitoring institutionally, restricting broader hospital comparison and benchmarking.

Unwarranted clinical variation in practice

Clinical variation has long been acknowledged in every day clinical practice internationally (Atsma, Elwyn, Westert, 2020; Sutherland, Levesque, 2020). Clinical variation is not inherently 'bad', it is to be expected and appropriate that there is some variation in practice due to individual patient factors, choice and need (ACSQHC, 2019e, 2024f; Atsma, Elwyn, Westert, 2020). However, unwarranted clinical variation indicates an area of care needing improvement (ACSQHC, 2019e, 2024f; Atsma, Elwyn, Westert, 2020; Sutherland, Levesque, 2020).

Shortcomings in care related to individual HACs within Australia have been well documented. For example, hospital-associated infection such as surgical site infection (Hooper et al., 2015; Lin et al., 2019; Martin et al., 2021) and vascular access device care (Alexandrou et al., 2018; Lin et al., 2020), and pressure injury (Chaboyer et al., 2017; Lovegrove, Fulbrook, Miles 2020) and falls prevention (Ferguson, Mason, Ho, 2020). The ACSQHC has also developed the Australian Atlas of Healthcare Variation Series which examines health topics, variation and reasons for it, and actions to reduce unwarranted variation (ACSQHC, 2024a). Yet, there is no standardised mechanism for monitoring and reporting variations in care related to HACs. As such, rates and areas of shortcomings in contemporary practice are unclear.

Measuring processes of care

Without implementing process measures, improvements in specific care components and subsequently patient outcomes are not realised (Willmington et al., 2022).

Process of care monitoring, or process surveillance, is easier to measure, less ambiguous and more applicable than outcome indicators (NHMRC, 2019). This is because they are linked to the outcome through evidence, do not require risk adjustment, can be quickly captured and acted upon (NHMRC, 2019). They also capture unwarranted variations in care where no harm or HAC developed (NHMRC, 2019), which provides important insight for clinicians to implement quality improvement strategies before HACs develop.

The ACSQHC continue to develop indicators for measuring quality in hospitals (ACSQHC, 2022a, 2023a, 2024g), but standardised process indicators for HACs are not available, and there is no indication that their development is planned, meaning that HAC process of care monitoring remains unsupported.

Clinical Care Standards, which include process indicators for local monitoring (ACSQHC, 2024b), have been developed in areas of care where unwarranted clinical variation has been identified across Australia (ACSQHC, 2019e, 2024f). However, only three HACs have a Clinical Care Standard, while five have Clinical Care Standards for aspects of related care or diagnoses and seven HACs do not have a Clinical Care Standard (Table 4). As a result, the quality of monitoring all relevant components of care related to HACs varies institutionally and the processes of care where there is unwarranted variation will be missed (Willmington et al., 2022), resulting in continued HAC development.

Table 4: Clinical Care Standards relevant to HACs

HAC	Standardised process indicators (ACSQHC, 2024b)
Pressure injury	✗
Falls resulting in fracture or intracranial injury	— Related Clinical Care Standard (Hip Fracture, ACSQHC, 2023b)
Healthcare-associated infection	— Related Clinical Care Standards (Antimicrobial Stewardship, ACSQHC, 2020a; Management of Peripheral Intravenous Catheters, ACSQHC, 2021b; Sepsis, ACSQHC, 2022e)
Surgical complications requiring unplanned return to theatre	— Related Clinical Care Standard (Colonoscopy, ACSQHC, 2020b)
Unplanned intensive care unit admission	✗
Respiratory complications	✗
Venous thromboembolism	✓ Venous Thromboembolism Prevention Clinical Care Standard (ACSQHC, 2020c)
Renal failure	✗
Gastrointestinal bleeding	✗
Medication complications	— Related Clinical Care Standard (Opioid Analgesic Stewardship in Acute Pain, ACSQHC, 2022d)
Delirium	✓ Delirium Clinical Care Standard (ACSQHC, 2021a)
Incontinence	✗
Endocrine complications	✗
Cardiac complications	— Related Clinical Care Standard for one diagnoses (Acute Coronary Syndrome, ACSQHC, 2019a)
Third and fourth degree perineal laceration during delivery	✓ Third and Fourth Degree Perineal Tears Clinical Care Standard (ACSQHC, 2021c)
Neonatal birth trauma	✗

Process of care indicators for the health system

It is possible to attribute HACs to patient factors as opposed to inappropriate care (Duke et al., 2022).

Nevertheless, as the standardisation of monitoring and availability of process indicators for HACS is limited, the determinants outside of care quality which lead to outcomes such as HACs are not well recognised. This is a key limitation to using outcomes as a measure of safety and quality (Mant, 2001; Willmington et al., 2022). Consequently, resources are not efficiently targeted to real unwarranted clinical variations - as indicated by monitoring of care quality mechanisms (ACSQHC, 2022b; Hamilton, Jennings, Forster, 2020; Kampstra et al., 2018; Parker, Hickman, Ferguson, 2023); and hospital funding is adjusted for HAC development regardless of care quality (IHACPA, 2022a; Webster et al., 2023).

Without process of care data to link to HACs as an outcome, the scope of HACs which aren't related to care quality is unclear and cannot inform policy, improvement and funding strategies.

There are two initiatives for monitoring care for another disease (National Stroke Audit, Stroke Foundation, 2024) and for care related to one HAC (healthcare-associated infection; National Hand Hygiene Initiative, ACSQHC, 2024h) which provide important insights for stakeholders, but no such mechanism is in place for HACs overall. Such limited feedback mechanisms result in the accumulation and exacerbation of unwarranted clinical variation (Atsma, Elwyn, Westert, 2020), contributing to the ongoing occurrence of HACs.

The Mid-term Review of the Addendum to National Health Reform Agreement (2020-2025) has called for the national health performance indicators, which link to clinical behaviour and decision-making, to be reformed (Huxtable, 2023), and the development of nationally standardised indicators for HAC processes of care could support this call for policy makers and clinicians.

Publication of HAC data is not embedded within governance and policy

Policy for safety and quality data publication

To improve transparency and performance monitoring and reporting, the functions of IHACPA, AIHW and ACSQHC were expanded through the *Addendum to National Health Reform Agreement*, released in 2020 (Australian Government, 2023). This includes requirements for performance reporting to be timely, accessible and understandable, and for timeframes for regular reporting to ensure reporting is 'current and relevant'.

However, Schedule B (National Bodies) and Schedule D (Transparency and Performance) of the *Addendum to National Health Reform Agreement* do not specify which data should be published. For example, HACs, and their appropriate timeframes to publication.

Consequently, the choice of data and publication timeframe for HACs is discretionary, and potentially result in prolonged delays between data collection and publication.

Addendum to *National Health Reform Agreement* inclusions (*Federal Financial Relations 2020*)

SCHEDULE B- National Bodies (p42-55)

- Improve transparency, reporting of performance data
- Recommend and develop data sets and performance indicators
- Undertake comparative analyses
- Report at hospital and local hospital network levels
- Conduct tasks in line with the Australian Health Performance Framework
- Establish a 'national front door' as a performance reporting platform for Australians to make informed decisions

SCHEDULE D, Transparency and performance commitments (p65-68)

- The Australian Health Performance Framework will provide a single framework for system-wide reporting on health and performance
- Review existing frameworks and reporting platforms
- Review, develop and consolidate performance indicators
- Revise performance benchmarks
- Ensure fit for purpose public reporting is accessible, understandable and timely for all stakeholders.
- Include timeframes for regular public reporting and updating indicators to ensure information is current and relevant
- Report to the lowest meaningful level of granularity including individual facilities and networks.

The lack of established legislation around the need to publish HAC data in a timely manner has implications for organisational policies, frameworks and strategic plans which support safety and quality data access, reporting and publication from across ACSQHC, AIHW, IHACPA and the Australian Health Performance Framework.

Australian Health Performance Framework

The Australian Health Performance Framework is a single framework to support system-wide reporting on health care performance (ACSQHC, 2019b; *Addendum to National Health Reform Agreement*). The AIHW was tasked with establishing the 'national front door' performance reporting platform to support Australians to make informed decisions about health system performance (*Addendum to National Health Reform Agreement*).

The ACSQHC identified options to align national public reporting standards for health care safety and quality across public and private hospitals, for potential incorporation in the Framework (ACSQHC, 2019b-c). HACs were recommended as a potential indicator for healthcare quality reporting (ACSQHC, 2019c).

The Australian Health Performance Framework builds on previous frameworks, namely the National Health Performance Framework and the Performance and Accountability Framework (The National Health Information & Performance Principal Committee, 2017). The previous frameworks included few HACs or their diagnoses, including falls resulting in patient harm, healthcare-associated clostridium difficile infections and healthcare-associated Staphylococcus aureus bacteraemia (The National Health Information & Performance Principal Committee, 2017). Only the latter was included in their successor (AIHW, 2024a-c).

As a result, in 2024, the Framework only includes only one HAC-related diagnoses: healthcare-associated Staphylococcus aureus bloodstream infection (AIHW, 2024a-c), limiting patient access and use of HAC data.

There are multiple policies, frameworks and strategic plans supporting safety and quality data access, reporting and publication (Table 4). However, while the need for timely publication of safety and quality data is indicated by several (ACSQHC, 2022a-b; *Addendum to National Health Reform Agreement*; Australian Government, 2020; *National Health Information Agreement*), inclusion of the publication of HAC data specifically are limited (Table 4).

Table 4: Policy for safety and quality data

Document	Specifies publication of HAC data	Comments
Australian Institute of Health and Welfare Act 1987 (Cwlth)	×	• AIHW functions • No specification of HACs
National Health Reform Act 2011	×	• ACSQHC (Chapter 2) & IHACPA (Chapter 4) functions • No specification of HACs
National Health Information Agreement 2013	×	• Governing principles support provision of timely and quality health information in the national interest; improved and more timely data through enabling data collection, use and access; access to timely, high quality, nationally consistent health information for research, analysis, informing development and implementation of policies for improving health outcomes (Part C, Clauses 26a-c) • Not specific to HACs
Addendum to National Health Reform Agreement (2020-2025)	×	• IHACPA, AIHW, ACQHC functions, expands on transparency and reporting (Schedule B, D). • Supports timely reporting (Clause D8, c) and timeframes for regular reporting (Clause D5, iii). • Does not specify publication of HACs or define timeframe.
ACSQHC Data Governance Framework (2023a)	×	• Supports development and recommendation of safety and quality data sets and indicators (pp. 11, 15) • No specification of HACs
ACSQHC Data Plan 2022-25 (2022a)	×	• Supports process to develop and review safety and quality indicators (p. 7), but not specifically HACs • Timely, fit for purpose, high quality data requirements for reporting and publishing (p. 8), but timeframe and HACs not specified in this.

		• Supports curation, monitoring, evaluation of HAC list (p. 20), but not specifically reporting
ACSQHC Framework for Australian clinical quality registries (2022b)	×	• Supports registries, including timely reporting and analytics (pp. 28, 31) • Not specific to HAC publication
ACSQHC Options to align public reporting standards report (2019c)	✓	• Specifies HACs as a potential indicator for public reporting (page 10)
AIHW (2022a) Data Governance Framework	×	• Data governance only, includes METeOR (Section 13)
AIHW (2022b) Strategic directions	×	• Objectives include innovative approach to data and analysis to meet needs (p. 11)
Australian Health Performance Framework (AIHW, 2024b; The National Health Information & Performance Principal Committee, 2017)	—	• Only includes healthcare-associated staphylococcus aureus blood infections HAC diagnoses in initial set of indicators (AIHW, 2024b) • Previous frameworks included additional HACs (The National Health Information & Performance Principal Committee, 2017, p. 15-16) but no longer included (AIHW, 2024b)
IHPA (IHACPA) Three year data plan (2022b)	×	• HACs for pricing (Section 6.6), does not detail reporting for any data or benchmarking portal
IHACPA Work and program corporate plan (2023d)	✓	• Addition of HACs to National Benchmarking Portal but for 2020-21 data, work to enhance functionality (pp. 25-26)
Strategy for quality outcomes data (Australian Government, 2020)	×	• Strategy for registries, includes improving data monitoring, reporting and actioning • Supports timely feedback mechanisms and access (pp. 1, 3, 6, 8, 12, 13, 14, 17) • Not specific to HACs

The Mid-term Review of the Addendum to National Health Reform Agreement 2020-2025 (Section 3.9; Huxtable, 2023) recognises that there is insufficient understanding and ownership over the mechanisms in the Agreement to track health system performance; and no regular assessment of the progress of the mechanisms against the objectives of the Agreement. The underpinning dataset of the Australian Health Performance Framework was highlighted as a key gap, with no evaluation of why data should be collected and reported and whether indicators remain contemporary, resulting in limited usefulness for performance monitoring (Huxtable, 2023).

Compounding these issues are insufficient incentives to prioritise improvements in digital health infrastructure as a support for data collection and reporting. Previous HAC reforms within the *Addendum to the National Health Reform Agreement (2017-2020)* (Cwlth) work towards national consistency and transparency of reporting and benchmarking, but the impact on quality and safety outcomes has been identified as not significant (Huxtable, 2023). This is because HAC reforms have not connected with clinical behaviour-and decision making (Huxtable, 2023).

The Mid-term Review (Huxtable, 2023) also called for indicators linking to clinical behaviour and decision-making to be revamped, urging the AIHW to collaborate with other national bodies in setting recommendations for data collection and reporting.

Additionally, it was suggested that a new reform agency be established to address issues within the Australian Health Performance Framework (Huxtable, 2023, Section 5). However, the potential impact of these recommendations remains unclear, with no specified timeframes for data collection and publication.

Consequently, organisations are not mandated to publish comprehensive data on HACs at various levels, hindering alignment in reporting from local hospitals to national aggregates (ACSQHC, 2019c-d). This discrepancy poses a barrier to realising the benefits of public reporting, which are key to enhancing clinical care and informing patients (ACSQHC, 2019d).

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HAC data for patient choice

Patients support the online reporting of quality and safety information from a hospital-level (ACSQHC, 2019d), but there is a need for more accessible, and comprehensive but understandable, HAC data publication, which is nuanced towards specific stakeholder groups such as clinicians and patients (Canaway et al., 2018).

In 2018, both patients and clinicians called for hospital performance information to be set against the Australian health care standards and linked to performance indicators, including HACs - and for this information to be published (ACSQHC, 2019d). Key specific areas for reporting were identified, including (ACSQHC, 2019d):

- healthcare-associated infection rates,
- surgical mishaps,
- post-intervention and procedure outcomes,
- medication errors,
- readmission rates,
- length of stay and waiting times

In 2024, the need for the publication of HAC data for patients has not been addressed. Globally, the research evidence supporting the publication of hospital safety and quality data to influence long term health care utilisation is of low certainty (Metcalfe et al., 2018) and limited scope (ACSQHC, 2019b).

It has been found that the availability of hospital quality and safety data is more important for shaping the behaviour of healthcare providers when reported via a trusted, rather than public, forum (Hibbert et al., 2020). However, in Australia, the extent to which patients may access and use published national HAC incidence data is unclear, and out of date or irrelevant hospital safety and quality data contributes to negative patient experiences at a hospital admission level (Harrison, Walton, Manias, 2015; Rapport et al., 2019).

Australian patients have indicated that the public reporting of hospital quality and safety data is important, but that objective and transparent publication is lacking (ACSQHC, 2019d). Clear and understandable publication of quality and safety information is needed to contribute to patient trust in hospitals and healthcare providers (ACSQHC, 2019d). Trust is eroded when the availability of data is limited. In this information vacuum, where clinicians have identified that media coverage (often negative) becomes the primary source of quality and safety information for patients (ACSQHC, 2019d), the benefits of information sharing to provide a balanced view of hospital performance, strengthen trust between patients and healthcare providers, and inform the choices of patients and their primary health care providers is not recognised (ACSQHC, 2019d).

A lack of co-design with patients and clinicians has been identified as a barrier to effective public reporting systems (Canaway et al., 2017a), and the extent to which patient groups may have contributed to the approaches by ACSQHC, AIHW and IHACPA towards HAC publication is unclear. Further transparency around patient involvement into hospital performance reporting design is needed to better understand the impact of these challenges..

Conclusions and recommendations

There is a pressing need to capitalise on and enhance the routine collection, analysis, and publication of HAC data. Given the significant burden of HACs on patients and the healthcare system, allocating resources to maximize the utilisation and publication of HAC data is justified. The recommendations outlined aim to facilitate benchmarking, drive improvements in clinical care, enhance patient safety and outcomes, and empower patients to make informed decisions regarding treatments and service providers.

Recommendation 1: Timely, comprehensive publication of HAC data

ACSQHC, AIHW and IHACPA should be supported to publish data, including all HACs in a timelier manner.

This will require changes to state legislation to facilitate the timelier release of data to these organisations and should be complimented by increased funding and resources for data collation, analysis and presentation.

Efforts to streamline the timely and comprehensive publication of HAC data could benefit from consolidation across national organisations and reducing the number of platforms used, thereby maximising resources for analysis and publication. Establishing a target for quarterly publication of data collected within the last six months, with detailed granularity down to the individual hospital and hospital network level, could serve as a crucial step forward.

Support for increased and transparent local reporting and HAC data publication could also compliment national efforts, and examination of the benefits of both local and national reporting approaches would be beneficial to inform future publication strategies for quality improvement stimulus.

Recommendation 2: Standardised process of care indicators for HACs

Nationally standardised processes of care indicators for all HACs should be developed. The developed indicators should be freely and nationally available for hospitals and hospital networks to integrate into process surveillance. A future requirement for hospitals to use the indicators and report their performance should be considered.

Recommendation 3: Embed publication of HAC data into governance and policy

Legislation, policies, frameworks, and strategic documents concerning the publication of safety and quality data should clearly outline the specific categories of data to be disclosed. Mandating the inclusion of all HACs as a designated category is essential. Moreover, these documents should provide support for the timely and comprehensive reporting of HAC incidence and processes of care data.

Recommendation 4: Publication of HAC data for patients

The dissemination of HAC data should be tailored to suit the intended audience, ensuring that patients have access to clear and comprehensible information. Collaborating with patients to co-design publication approaches and platforms, will be essential to guaranteeing understanding and accessibility. Efforts should also be made to promote access to this data within the community, utilising avenues such as social media and distributing flyers to hospital inpatients.

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Appendices

Appendix 1: National list of 16 HACs (ACSQHC, 2024)

COMPLICATION	DIAGNOSIS	COMPLICATION	DIAGNOSIS
Pressure injury	• Stage III ulcer • Stage IV ulcer • Unspecified decubitus ulcer and pressure area • Unstageable pressure injury • Suspected deep tissue injury	**Gastrointestinal bleeding**	• Gastrointestinal bleeding
Falls resulting in fracture or intracranial injury	• Intracranial injury • Fractured neck of femur • Other fractures	**Medication complications**	• Drug related respiratory complications/depression • Haemorrhagic disorder due to circulating anticoagulants • Movement disorders due to psychotropic medication • Serious alteration to conscious state due to psychotropic medication
Healthcare-associated infection	• Urinary tract infection • Surgical site infection • Pneumonia • Blood stream infection • Infections or inflammatory complications associated with peripheral/central venous catheters • Multi-resistant organism • Infection associated with prosthetics/implantable devices • Gastrointestinal infections • Other high impact infections	**Delirium**	• Delirium
Surgical complications requiring unplanned return to theatre	• Post-operative haemorrhage/haematoma requiring transfusion and/or return to theatre • Surgical wound dehiscence • Anastomotic leak • Vascular graft failure • Other surgical complications requiring unplanned return to the theatre	**Incontinence**	• Urinary incontinence • Faecal incontinence
Unplanned intensive care unit admission	• Unplanned admission to intensive care unit	**Endocrine complications**	• Malnutrition • Hypoglycaemia
Respiratory complications	• Respiratory failure including acute respiratory distress syndrome requiring ventilation • Aspiration pneumonia • Pulmonary oedema	**Cardiac complications**	• Heart failure and pulmonary oedema • Arrhythmias • Cardiac arrest • Acute coronary syndrome including unstable angina, STEMI and NSTEMI • Infective endocarditis
Venous thromboembolism	• Pulmonary embolism • Deep vein thrombosis	**Third and fourth degree perineal laceration during delivery**	• Third and fourth degree perineal laceration during delivery
Renal failure	• Renal failure requiring haemodialysis or continuous veno-venous haemodialysis	**Neonatal birth trauma**	• Neonatal birth trauma • Hypoxic ischaemic encephalopathy

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AHHA acknowledge the Aboriginal and Torres Strait Islander peoples as Australia's First Nation Peoples and the Traditional Custodians of this land. We respect their continued connection to land and sea, country, kin, and community. AHHA also pays our respect to their Elders past, present, and emerging as the custodians of knowledge and lore.