Admitted patient care 2021–22

Appendix information

Appendix A: Data Quality Statements – National Hospital Morbidity Database

This section includes a data quality summary and additional detailed information relevant to interpretation of the National Hospital Morbidity Database (NHMD).

It also contains information on other changes that may affect interpretation of the data presented.

Information relevant to interpretation of the National Elective Surgery Waiting Times Data Collection is available here

Information relevant to interpretation of the ABS' *Patient experiences in Australia: summary of findings, 2021–22* (ABS 2019b) is available here

National Hospital Morbidity Database

The National Hospital Morbidity Database (NHMD) is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals.

The data supplied are based on the National minimum data set (NMDS) for Admitted patient care and include demographic, administrative and length of stay data, as well as data on the diagnoses of the patients, the procedures they underwent in hospital and external causes of injury and poisoning.

The purpose of the NMDS for Admitted patient care is to collect information about care provided to admitted patients in Australian hospitals. The scope of the NMDS is episodes of care for admitted patients in all public and private acute and psychiatric hospitals, free standing day hospital facilities, and alcohol and drug treatment centres in Australia. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's offshore territories are not in scope but some are included.

The reference period for this data set is 2021–22. The data set includes records for admitted patient separations between 1 July 2021 and 30 June 2022.

Data for 2021–22 based on the Admitted subacute and non-acute hospital care National Best Endeavours Data Set (ASNHC NBEDS) were provided by the states and territories for inclusion in the AIHW's NHMD. A summary of the data provided for the ASNHC NBEDS is included later in this appendix.

Summary of key issues

- The NHMD is a comprehensive data set that has records for all separations of admitted patients from essentially all public and private hospitals in Australia.

- A record is included for each separation, not for each patient, so patients who separated more than once in the year have more than 1 record in the NHMD.

- There is some variation between jurisdictions as to whether hospitals that predominantly provide public hospital services, but are privately owned and/or operated, are reported as public or private hospitals. In addition, hospitals may be re-categorised as public or private between or within years.

- The care type *Mental health* was introduced on 1 July 2015. The implementation of the mental health care type was incomplete in 2015–16, that is, not all episodes for patients

who received mental health care and were admitted before 1 July 2015 and who subsequently separated during 2015–16 were recorded with a mental health care type.

- Following the mental health care type implementation on 1 July 2015, the statistical discharge and readmission of mental health-related patients, resulted in large increases in patient days overall for Queensland (2015–16) and for New South Wales (2016–17). Therefore, information presented by care type from 2015–16 will not be comparable with data presented for earlier periods.

- For 2016–17, New South Wales advised that, for one private hospital, *Maintenance* care was over-reported and therefore *Acute* care is likely to be underestimated.

- The reporting of separations for *Newborns (without qualified days)* varied among states and territories. For Victoria and the Northern Territory, private hospitals did not report all *Newborn* episodes without qualified days, so the count of newborn episodes is underestimated. Information on reporting practices for *Newborn* episodes before 2017–18 is available in previous *Australian hospital statistics* reports.

- Data on state or territory of hospitalisation should be interpreted with caution because of cross-border flows of patients. This is particularly the case for the Australian Capital Territory. In 2021–22, 19% of separations for Australian Capital Territory hospitals were for patients who lived in New South Wales (Table S2.2).

- Although there are national standards for data on hospital services, there are some variations in how hospital services are defined and counted, between public and private hospitals, among the states and territories and over time. For example, there is variation in admission practices for some services, such as chemotherapy and endoscopy. As a result, people receiving the same type of service may be counted as same-day admitted patients in some hospitals and as non-admitted patients in other hospitals. In addition, some services are provided by hospitals in some jurisdictions and by non-hospital health services in other jurisdictions. The national data on hospital care does not include care provide by non-hospital providers, such as community health centres. For more information, see the AIHW report *Variation in hospital admission policies and practices: Australian hospital statistics* (AIHW 2017).

- Between 2017–18 and 2021–22, changes in coverage or data supply for New South Wales, Queensland, South Australia and the Australian Capital Territory may affect the interpretation of the data.
  - For New South Wales:
    - between 2016–17 and 2017–18, changes in admission practices resulted in an apparent decrease in separations for public hospitals. The New South Wales Ministry of Health estimated that about 83,000 separations in 2016–17 would not have been included if the admission practice changes had been implemented in that year.
    - between 2016–17 and 2017–18, changes in the classification of qualified days for *Newborn* episodes resulted in an apparent decrease in separations for both public and private hospitals. However, the overall number of *Newborn* separations in 2017–18 was consistent with the overall number in 2016–17. See Section 5.4.
  - For Queensland, between 2014–15 and 2018–19, relatively large increases in same-day separations in public hospitals partly reflects changes in admission practices for chemotherapy at a small number of large establishments.
  - For South Australia, between 2015–16 and 2016–17, the numbers of separations decreased due to changes in admission practices for some rehabilitation care at the

Repatriation General Hospital. During 2017–18, the Repatriation General Hospital closed, and the Royal Adelaide Hospital was relocated (which affected the numbers of patients admitted).

– For the Australian Capital Territory, prior to 2019–20 data were not available for some private hospitals, in 2019–20 this data was provided for the first time.

- Caution should be used in comparing diagnosis, intervention, and external cause data over time, as the classifications and coding standards for those data can change over time.

- The Indigenous status data in the NHMD for all states and territories are considered to be of sufficient quality for statistical reporting. In 2011–12, an estimated 88% of Indigenous patients were correctly identified in public hospitals (AIHW 2013). The overall quality of the data provided for Indigenous status needs some improvement and varied between states and territories. It is unknown to what extent Indigenous Australians might be under-identified in private hospital admissions data.

- In 2018–19, data for the Northern Territory elective surgery waiting times cluster was not available at the time of publication.

Other factors affecting interpretation of the NHMD data

This section presents other information about the quality of the data provided for the NHMD and factors that may affect interpretation of the information presented in this report.

Changes to the domain values for care type

The care type *Mental health* was introduced from 1 July 2015 (METeOR identifier: 584408). Before 1 July 2015, records for which the current *Mental health* care type definition would have applied were assigned to another care type (for example, *Acute*, *Rehabilitation*, *Psychogeriatric care* or *Geriatric evaluation and management*).

It should be noted that implementation of the *Mental health* care type was not consistently managed across jurisdictions for the 2015–16 and 2016–17 reference periods. Examination of the data provided for *Mental health* care in 2018–19 indicates that all jurisdictions have completed implementation. However, time series data for separations and patient days for *Mental health* care should be treated with caution.

Quality of Indigenous status data

Indigenous identification in hospital separations data: 2013 quality report

The 2013 AIHW report *Indigenous identification in hospital separations data—quality report*, (AIHW 2013) presented findings on the quality of Indigenous identification in hospital separations data in Australia, based on studies conducted in public hospitals during 2011–12. Private hospitals were not included in the assessment.

The report estimated that, in the 2011–12 study period, about 88% of Indigenous Australians were identified correctly in public hospital admissions data. It is unknown to what extent Indigenous Australians might be under-identified in private hospital admissions data.

The report also produced correction factors to estimate the 'true' number of separations for Indigenous Australians. The national correction factor of 1.09 suggested that the 'true' number of separations should be about 9% higher than reported for Indigenous Australians.

The 2021–22 NHMD data now reports the number of separations where Indigenous status is not stated, for selected tables.

Quality of the coded clinical data

The comparability of the coded diagnosis, intervention and external cause data can be affected by variations in the quality of the coding, and the numbers of diagnoses and/or interventions reported. Comparability can also be influenced by state-specific coding standards.

The quality of these data can be assessed using coding audits in which, in general terms, selected records are independently re-coded, and the resulting codes compared with the codes originally assigned for the separation. There are no national standards for this auditing, so it is not possible to use information on coding audits to make quantitative assessments of data quality on a national basis.

The quality and comparability of the coded data can, however, be gauged by information provided by the states and territories on the quality of the data, and by assessing apparent variation in the reporting of additional diagnoses (see 'Apparent variation in reporting of additional diagnoses').

State-specific coding standards

The Australian Coding Standards (ACS) were developed for use in both public and private hospitals with the aim of satisfying sound coding convention according to the ICD-10-AM/ACHI. Although all states and territories instruct their coders to follow the ACS, some jurisdictions also apply state-specific coding standards to deal with state-specific reporting requirements. These standards may be in addition to, or instead of, the relevant ACS and may affect the comparability of ICD-10-AM/ACHI coded data.

Apparent variation in reporting of additional diagnoses

The proportion of separations in the lowest resource split for adjacent AR-DRGs can be used as a measure of apparent variation among Australian states and territories in the reporting and coding of additional diagnoses. The proportion is standardised to the national distribution of adjacent AR-DRGs to consider differing casemixes (Coory & Cornes 2005).

Method

An adjacent AR-DRG is a set of AR-DRGs that is split on a basis supplementary to the principal diagnoses and interventions that are used to define the adjacent AR-DRG grouping.

Adjacent AR-DRGs are signified in the AR-DRG classification by having the first 3 characters in common. The allocation of a 4th character code is hierarchical, with the highest resource use level being assigned an A and the lowest resource use level being assigned the last letter in the sequence.

For AR-DRG version 10.0, most adjacent AR-DRGs are split by 'complexity' which is determined by the inclusion of significant additional diagnoses, also known as complications or comorbidities (CCs).

This analysis concentrates on differences in the reporting of additional diagnoses that are significant in AR-DRG assignment within the adjacent AR-DRG groupings. The analysis covers 2 categories of adjacent AR-DRGs (category 2 is a subset of category 1):

1. all applicable adjacent AR-DRGs (that is, excluding adjacent AR-DRGs with other factors affecting partitioning)
2. vaginal and caesarean deliveries.

The category *Vaginal and caesarean deliveries* is included as it represents a sub-group of patients for which there is limited scope for differences in the admission threshold. Therefore, it is expected that differences in the proportions in the lowest resource AR-DRGs for this group are likely to reflect variation in reporting additional diagnoses.

Standardised proportion

The underlying assumption of this analysis is that variation in the proportions of separations assigned to individual AR-DRGs within an adjacent AR-DRG is caused by variation in the reporting and coding of additional diagnoses that are relevant to the split of the adjacent AR-DRG. This assumption is less likely to be valid when comparing hospital sectors which have differing casemixes, or the smaller jurisdictions, because of differing population profiles and the limitations of the standardisation method.

The data were directly standardised by scaling the distribution of adjacent AR-DRGs in each jurisdiction/sector to the same distribution as the national total. The resulting proportions of separations in the lowest resource AR-DRG within the adjacent AR-DRG are considered comparable.

See tables accompanying this report online for additional detail on this analysis and the list of AR-DRGs included.

Results 2021–22

Table A1 shows that the proportion of separations grouped to the lowest resource split for adjacent AR-DRGs varies among jurisdictions, and by sector.

Overall for public hospitals, proportion of separations allocated to the lowest resource split for adjacent AR-DRGs for all states and territories ranged between 66% (New South Wales) and 72% (Victoria).

For private hospitals, proportion of separations allocated to the lowest resource split for adjacent AR-DRGs for all states and territories ranged between 73% (Western Australia) and 77% (Victoria).

For *Vaginal and caesarean deliveries*, the proportion allocated to the lowest resource split was 38% for public hospitals, and 49% for private hospitals. There was some variation among jurisdictions, with public hospital proportions ranging from 30% in the Northern Territory to 44% in Tasmania.

Changes to ICD-10-AM/ACHI classifications

Information presented over time may be affected by changes to ICD-10-AM/ACHI codes and coding standards. The major changes affecting the interpretation of information presented in this report are the reporting of:

- principal diagnoses for rehabilitation care separations
- 'supplementary codes' for chronic conditions
- complications arising during pregnancy, childbirth and the puerperium
- procedures on the eye and adnexa
- post-procedural complications

- Electroconvulsive therapy.

Rehabilitation care principal diagnosis

Changes to the Australian Coding Standard for Rehabilitation (ACS 2104), introduced from 1 July 2015 in the 9th edition of ICD-10-AM mean that *Z50 Care involving the use of rehabilitation interventions* (which was previously required to be coded as the principal diagnosis) is now an 'Unacceptable principal diagnosis'. The change to the ACS means that the 'reason' for rehabilitation will now be identified using the principal diagnosis (rather than as the first additional diagnosis).

Therefore, between 2014–15 and 2015–16, the numbers of separations with a principal diagnosis in the ICD-10-AM chapter *Z00–Z99 Factors influencing health status and contact with health services* decreased markedly. Over the same period, there were corresponding increases in principal diagnoses reported for other ICD-10-AM chapters—most notably for *S00–T98 Injury, poisoning and certain other consequences of external causes*, and *M00–M99 Diseases of the musculoskeletal system and connective tissue*.

Obstetrics

Diagnoses

From 1 July 2017, significant revisions to the classification and standardisation of obstetrics were undertaken. Forty-two codes were deleted from chapter 15 *Pregnancy, childbirth and the puerperium (O00–O99)*. The deleted codes were complications of interventions that were not complications of pregnancy, childbirth and the puerperium (such as complications of anaesthesia). In addition, some conditions previously reported as obstetric conditions only will now require the coding of additional diagnosis information. For example, gestational diabetes will be accompanied by a diabetes code, and sepsis of pregnancy will be accompanied by the type of infectious agent.

Interventions

Obstetric interventions

Changes were made to coding standards, making assignment of an ACHI delivery code from block 1336 to 1340 a requirement when coding an ICD-10-AM delivery code (O80–O84). Prior to July 2017, assignment of these ACHI codes was optional. This change has resulted in significant increases in some obstetrics intervention codes, notably procedure code 90467-00 *Spontaneous vertex delivery*.

Procedures on the eye and adnexa

From 1 July 2017, significant revisions to the classification of *Procedures on the eye and adnexa* (blocks 160–220) were undertaken and 77 codes (including 8 blocks) were deleted. The deleted codes were deemed to be too specific for administrative purposes, and where appropriate have been combined with other codes. This resulted in large increases in reported interventions for the remaining blocks between 2016–17 and 2017–18.

Changes were also made to the coding standards for cataract surgery requiring a code from ACHI Block 193 *Insertion of intraocular lens prosthesis* to be reported where any ACHI code within Block 200 *Extraction of crystalline lens* was reported. This resulted in a very large increase in procedures reported in Block 193 between 2016–17 and 2017–18.

Post-procedural complications

From 1 July 2017, 50 additional codes for complications relating to prosthetic devices, implants and grafts (T82–T85) and 97 additional codes for intraoperative and post-procedural

disorders across various ICD-10-AM chapters were introduced. Previously, these complications and disorders were included under the 'other/not specified' codes at the end of respective chapters. The expansion of codes reflects the diversity of complications and disorders related to surgical and medical care and trauma. This change did not impact any of the analyses presented in this report.

Electroconvulsive therapy

From 1 July 2017 changes were made to coding standards for *Electroconvulsive therapy* requiring each intervention be coded separately—up to 21 treatments in a single admission. This resulted in a large increase in interventions reported in Block 1907 between 2016–17 and 2017–18.

Supplementary codes for chronic conditions

From 1 July 2015, 29 supplementary codes for chronic conditions were introduced. These codes represent a selection of clinically important chronic conditions—which are part of the patient's current health status on admission that do not meet criteria for inclusion as additional diagnoses, but may impact on clinical care.

The supplementary codes were not considered in the allocation of diagnosis related groups.

The AIHW examined the coded data provided for 2015–16 and found that there were some decreases in additional diagnoses reported for some of the conditions compared with past years (for example, obesity, hypertension and chronic kidney disease, stages 3–5). This may reflect that some chronic disorders that did not strictly meet the definition for additional diagnoses were already being reported as additional diagnoses in some jurisdictions in 2014–15 and earlier.

For 2021–22, 6.3 million supplementary codes were reported, with at least 1 reported for 32.8% of separations in public hospitals and 31.7% in private hospitals (Table A2). In comparison, for 2020–21, 6.6 million supplementary codes were reported, with at least 1 supplementary code reported for 33.9% of separations in public hospitals and 31.4% in private hospitals.

Where to go for more information:

More information on supplementary codes for chronic conditions by state/territory and sector is available in tables SA.1 and SA.2 online.

Table A1: Standardised proportion of separations[a] in lowest resource level AR-DRG for selected adjacent AR-DRGs version 10.0, public and private hospitals, states and territories, 2021–22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
All adjacent AR-DRGs split by complexity only									
Public hospitals									
Separations	1,083,308	1,075,821	1,111,599	391,250	285,183	93,643	75,324	68,282	4,184,410
Standardised proportion in lowest resource level	0.66	0.72	0.69	0.69	0.66	0.70	0.70	0.66	0.70
Private hospitals									
Separations	688,877	633,692	651,287	264,532	194,189	n.p.	n.p.	n.p.	2,539,197
Standardised proportion in lowest resource level	0.75	0.77	0.76	0.73	0.76	n.p.	n.p.	n.p.	0.76
Adjacent AR-DRGs for vaginal and caesarean deliveries									
Public hospitals									
Separations	72,448	59,649	46,930	24,397	15,574	4,567	5,216	3,184	231,965
Standardised proportion in lowest resource level	0.40	0.35	0.36	0.38	0.41	0.44	0.36	0.30	0.38
Private hospitals									
Separations	21,829	18,105	13,896	8,157	3,843	n.p.	n.p.	n.p.	69,392
Standardised proportion in lowest resource level	0.51	0.50	0.51	0.42	0.43	n.p.	n.p.	n.p.	0.49

(a) Separations for which the care type was reported as Acute or Newborn (with qualified days), or was not reported.

Source: National Hospital Morbidity Database.

Table A2: Separations with supplementary codes reported, public and private hospitals, states and territories, 2021–22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Public hospitals									
Separations	1,768,912	1,814,006	1,720,372	616,935	466,236	157,344	121,079	172,211	6,837,095
Separations with supplementary codes	611,390	587,295	527,718	232,564	165,224	52,359	43,752	24,746	2,245,048
Proportion with supplementary codes	34.6	32.4	30.7	37.7	35.4	33.3	36.1	14.4	32.8
Supplementary codes	1,104,413	1,034,942	962,920	412,496	304,567	93,641	77,890	38,330	4,029,199
Average number of codes	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.5	1.8
Private hospitals									
Separations	1,359,031	1,083,287	1,225,399	549,530	350,699	n.p.	n.p.	n.p.	4,756,356
Separations with supplementary codes	487,919	306,402	387,818	139,722	119,953	n.p.	n.p.	n.p.	1,506,001
Proportion with supplementary codes	35.9	28.3	31.6	25.4	34.2	n.p.	n.p.	n.p.	31.7
Supplementary codes	750,921	464,831	616,837	204,719	182,184	n.p.	n.p.	n.p.	2,311,283
Average number of codes	1.5	1.5	1.6	1.5	1.5	n.p.	n.p.	n.p.	1.5

Source: National Hospital Morbidity Database.

Condition onset flag data

Condition onset flag (COF) information is included in 'Chapter 8 Information related to safety and quality of the health system'.

Quality of the condition onset flag data for 2021–22

In 2021–22, the coverage of COF data was 100.0% for public and 99% for private hospitals.

Table A3: Proportion of separations with condition onset flag reported[a] (%), public and private hospitals, states and territories, 2021–22

	Public hospitals	Private hospitals	All hospitals
New South Wales	100	98	99
Victoria	100	100	100
Queensland	100	100	100
Western Australia	100	100	100
South Australia	100	100	100
Tasmania	100	100	100
Australian Capital Territory	100	100	100
Northern Territory	100	100	100
Australia	**100**	**99**	**100**

(a) The proportion of separations for which the condition onset flag was reported may include records where the flag was provided for some diagnoses and not for others.

AR-DRG versions used in this report

In this report, AR-DRG version 9.0 was used for time series presentations of average cost weights, relative stay indexes, and presentations by MDCs or AR-DRGS. AR-DRG version 11.0 was used for 2021–22 presentations of average cost weights, relative stay indexes, and presentations by MDCs or AR-DRGS.

Summary of quality of data provided for the Admitted subacute and non-acute hospital care National Best Endeavours Data Set

From the 2014–15 collection period, additional information based on the Admitted subacute and non-acute hospital care (ASNHC) data set specification (DSS) (2014–15 and 2015–16) and the ASNHC NBEDS (2016–17 to 2021–22) has been provided to the AIHW as part of the annual submission of admitted patient care data for the NHMD.

The ASNHC NBEDS aims to collect information about care provided to subacute and non-acute admitted public and private patients in activity-based funded public hospitals.

The scope of the NBEDS (METeOR identifier: 727327) is:

- same-day and overnight admitted subacute and non-acute care episodes
- admitted public patients provided on a contracted basis by private hospitals
- admitted patients in rehabilitation care, palliative care, geriatric evaluation and management, psychogeriatric and maintenance care treated in the hospital-in-the-home.

For the purpose of analysing the subset of separations in the NHMD that are considered in scope for reporting to the ASNHC NBEDS, the AIHW has defined the subset as all subacute and non-acute care episodes in activity based-funded public hospitals (that is, not listed as block-funded hospitals for 2021–22), and subacute and non-acute care episodes for public patients with a funding source of *Other hospital or public authority* provided by private hospitals.

For 2021–22, 205,569 episodes (accounting for 38% of all subacute and non-acute separations in public and private hospitals) were in scope for the ASNHC NBEDS (Table A4). Table A4 also presents the numbers of subacute and non-acute activity-based funded episodes by care type.

Primary impairment type

Primary impairment type should be reported for all *Rehabilitation care* separations in scope for the ASNHC NBEDS.

For 2021–22, 91% of the 73,900 separations in scope for reporting, provided a valid primary impairment type (Table A5).

The 3 most common primary impairments reported were *Re conditioning/restorative* (18,800 separations), *Orthopaedic conditions—fractures (includes dislocation)* (12,100) and *Stroke—ischaemic* (9,000). (Table A6).

Functional independence measure scores

Functional independence measure scores should be reported for all *Rehabilitation care* and *Geriatric evaluation and management* separations in scope for the ASNHC NBEDS for patients aged 18 years and older.

For 2021–22, 85% of the 106,800 separations in scope for reporting, provided valid functional independence measure scores (Table A5).

Resource Utilisation Groups—activities of daily living scores

Resource Utilisation Groups—activities of daily living scores should be reported for all *Palliative care* and *Maintenance care* separations in scope for the ASNHC DSS for patients aged 18 years and older.

For 2021–22, 79% of the 92,000 separations in scope for reporting, provided valid Resource Utilisation Groups—activities of daily living scores (Table A5).

Health of the Nation Outcome Scale 65+ scores

Health of the Nation Outcome Scale 65+ scores (HoNOS65+) should be reported for all *Psychogeriatric care* separations in scope for the ASNHC NBEDS.

For 2021–22, 83% of the 1,500 separations in scope for reporting, provided valid HoNOS65+ scores (Table A5).

Standardised mini-mental state examination scores

Standardised mini-mental state examination scores (SMMSEs) should be reported for all *Geriatric evaluation and management* separations in scope for the ASNHC NBEDS.

For 2021–22, 96% of the 34,000 separations in scope for reporting, provided valid SMMSEs scores (Table A5).

Palliative care phase

Over 82,500 records were provided for palliative care phase data. Nationally, for 35% of palliative care phases, the patient's palliative care phase type was reported as *Deteriorating* (Table A7).

Table A4: Subacute and non-acute separations, public and private hospitals, and activity-based funded episodes[a], states and territories, 2021–22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Public hospitals	58,293	39,154	74,943	13,705	15,409	3,606	4,733	1,345	211,188
Private hospitals	199,884	30,336	68,055	6,060	15,416	n.p.	n.p.	n.p.	331,565
Total subacute and non-acute separations	**258,177**	**69,490**	**142,998**	**19,765**	**30,825**	**n.p.**	**n.p.**	**n.p.**	**542,753**
Subacute and non-acute hospital care—in-scope separations									
Rehabilitation care	20,725	15,565	22,136	7,564	5,635	855	1,041	377	73,898
Palliative care	14,974	8,328	11,380	3,482	1,962	821	805	441	42,193
Geriatric evaluation and management	5,221	16,811	7,064	1,079	3,181	10	488	187	34,041
Psychogeriatric care	396	71	437	458	47	2	30	0	1,441
Maintenance care	12,094	426	32,843	2,112	4,179	1,065	972	305	53,996
Total in-scope subacute and non-acute care	**53,410**	**41,201**	**73,860**	**14,695**	**15,004**	**2,753**	**3,336**	**1,310**	**205,569**

Table A5: Subacute and non-acute activity based funded episodes[a]—provision of data elements, states and territories, 2021–22

Data element	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Primary impairment type									
Number of in-scope episodes[b]	20,725	15,565	22,136	7,564	5,635	855	1,041	377	73,898
In-scope episodes with valid values	17,201	13,379	22,123	7,059	5,539	612	1,012	326	67,251
Invalid/not reported/unknown values (%)	17.0	14.0	0.1	6.7	1.7	28.4	2.8	13.5	9.0
Functional independence measure scores									
Number of in-scope episodes[c]	25,669	32,183	28,638	8,608	8,770	852	1,521	561	106,802
In-scope episodes with valid values	21,585	29,996	20,754	7,853	8,008	603	1,138	509	90,446
Invalid/not reported/unknown values (%)	15.9	6.8	27.5	8.8	8.7	29.2	25.2	9.3	15.3
Resource Utilisation Groups - activities of daily living scores									
Number of in-scope episodes[d]	26,849	8,752	40,295	5,570	6,140	1,884	1,774	745	92,009
In-scope episodes with valid values	11,967	8,742	39,466	4,446	5,504	339	1,425	623	72,512
Invalid/not reported/unknown values (%)	55.4	0.1	2.1	20.2	10.4	82.0	19.7	16.4	21.2
Health of the Nation Outcome Scale 65+ scores									
Number of in-scope episodes[e]	398	71	438	458	47	32	30	0	1,474
In-scope episodes with valid values	394	0	433	341	18	0	30	0	1,216
Invalid/not reported/unknown values (%)	1.0	100.0	1.1	25.5	61.7	100.0	0.0	..	17.5
Standardised Mini-Mental State Examination									
Number of in-scope episodes[f]	5,221	16,811	7,064	1,079	3,181	10	488	187	34,041
In-scope episodes with valid values	5,221	16,811	7,064	1,073	1,793	10	475	187	32,634
Invalid/not reported/unknown values (%)	0.0	0.0	0.0	0.6	43.6	0.0	2.7	0.0	4.1

(a)   Subacute and non-acute care episodes in activity-based funded public hospitals, and for Public patients with a funding source of Other hospital or public authority provided by private hospitals.

(b)   Rehabilitation care episodes.

(c)   Rehabilitation care and Geriatric evaluation and management episodes for patients aged 18 or over.

(d)   Palliative care and Maintenance care episodes for patients aged 18 or over.

(e)   Psychogeriatric care episodes.

(f)   Geriatric evaluation and management episodes for which the Clinical assessment only indicator was reported as 'No'.

Table A6: Rehabilitation care separations by type of impairment, activity-based funded episodes[a], states and territories, 2021–22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Stroke—haemorrhagic	930	869	869	297	218	27	22	19	3,251
Stroke—ischaemic	1,934	1,615	3,538	693	947	94	128	71	9,020
Brain dysfunction—non-traumatic	270	509	878	214	159	35	17	11	2,093
Brain dysfunction—traumatic	276	264	932	158	92	13	9	17	1,761
Neurological conditions	662	1,017	1,719	260	319	23	24	8	4,032
Non traumatic spinal cord dysfunction	253	252	282	92	78	15	4	13	989
Traumatic spinal cord dysfunction	178	116	201	64	62	4	1	2	628
Amputation of limb—not resulting from trauma	326	444	434	181	200	27	11	37	1,660
Amputation of limb—resulting from trauma	27	37	31	18	3	8	1	3	128
Arthritis	72	76	60	23	7	1	5	0	244
Pain syndromes	395	384	172	92	37	6	21	1	1,108
Orthopaedic conditions—fractures (includes dislocation)	3,515	2,388	2,990	1,870	909	66	329	44	12,111
Post-orthopaedic surgery	1,386	1,385	966	371	310	42	59	10	4,529
Soft tissue injury	125	94	311	95	22	5	9	0	661
Cardiac	425	209	186	112	91	19	10	2	1,054
Pulmonary	362	244	149	95	84	6	30	3	973
Burns	15	21	36	9	9	2	0	0	92
Congenital deformities	0	54	2	1	2	0	0	0	59
Other disabling impairments	33	156	3,104	26	43	3	0	0	3,365
Major multiple trauma	107	131	248	100	72	17	18	15	708
Developmental disabilities	4	12	4	2	0	0	0	0	22
Re-conditioning/restorative	5,906	3,102	5,011	2,286	1,875	189	314	70	18,753
Not stated/inadequately described	3,524	2,186	13	505	96	243	29	51	6,647
Total	0	0	0	0	0	10	0	0	10

(a)   Rehabilitation care episodes in activity-based funded public hospitals, and for Public patients with a funding source of Other hospital or public authority provided by private hospitals.

Table A7: Palliative care phase type, activity-based funded episodes[a], states and territories, 2021–22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Stable	7,714	3,230	2,328	2,314	534	95	230	367	16,812
Unstable	5,971	2,426	1,810	1069	306	70	73	248	11,973
Deteriorating	11,479	5,901	5,192	3,146	1,428	285	720	315	28,466
Terminal	8,496	4,915	7,107	2,544	955	286	428	219	24,950
Not reported	271	0	0	11	0	0	0	0	282
Total	33,931	16,472	16,437	9,084	3,223	736	1,451	1,149	82,483

(a) Palliative care phase data were also provided for records not in scope for the ASNHC NBEDS.

Appendix B: Technical appendix

This appendix covers:

- definitions and classifications used
- the presentation of data in this report
- analysis methods.

Definitions and classifications

If not otherwise indicated, data elements were defined according to the definitions in the National health data dictionary, versions 16, 16.1 and 16.2 (AIHW 2012, 2015a, 2015b), summarised in the Glossary.

Data element definitions for the following NMDS are also available online for:

- Admitted patient care NMDS 2021–22 – link here
- Admitted subacute and non-acute hospital care NBEDS 2021–22 – link here
- Elective surgery waiting times (removals data) NMDS 2021–22 – link here

Geographical classifications

Remoteness areas

Data on geographical location of the patient's usual residence and of the hospital location are defined using the ABS' Australian Statistical Geography Standard (ASGS).

For 2021–22, data on remoteness area of usual residence are defined using the ABS' ASGS Remoteness Structure 2016 (ABS 2016). The ASGS Remoteness Structure 2016 categorises geographical areas in Australia into remoteness areas, described in detail at www.abs.gov.au, which includes detail of the nature of the changes between the ASGS 2011 and ASGS 2016.

The classification is as follows:

- Major cities—for example; Sydney, Melbourne, Brisbane, Adelaide, Perth, Canberra and Newcastle
- Inner regional—for example; Hobart, Launceston, Wagga Wagga, Bendigo and Murray Bridge
- Outer regional—for example; Darwin, Moree, Mildura, Cairns, Charters Towers, Whyalla and Albany
- Remote—for example; Port Lincoln, Esperance, Queenstown and Alice Springs
- Very remote—for example; Mount Isa, Cobar, Coober Pedy, Port Hedland, Tennant Creek and Norfolk Island.

Reporting data on geographical location of usual residence of the patient

Data on geographical location are collected on the area of usual residence of patients in the NHMD. These data are specified in the NMDS as state or territory of residence and Statistical Area level 2 (SA2), a small area unit within the ABS's ASGS. For 2021–22, the

area of usual residence was voluntarily provided by some jurisdictions in the form of a Statistical Area level 1 (SA1).

Where SA1 data were available, remoteness areas were allocated by the AIHW based on the SA1 information. If SA1 data were not available, the SA2 data were used to allocate remoteness areas.

The AIHW mapped the SA2 of area of usual residence for each separation to remoteness area categories based on the ASGS Remoteness Structure 2016. These mappings were undertaken on a probabilistic basis as necessary, using ABS correspondence information describing the distribution of the population by remoteness areas and SA2s. Because of the probabilistic nature of this mapping, the SA2 and remoteness area data for individual records may not be accurate; however, the overall distribution of records by geographical areas is considered useful.

Socioeconomic status

Data on SES groups are defined using the ABS's Socio-Economic Indexes for Areas 2016 (SEIFA) 2016 (ABS 2018).

The ABS generate the SEIFA 2016 data using a combination of 2016 Census data such as income, education, health problems/disability, access to internet, occupation/unemployment, wealth and living conditions, dwellings without motor vehicles, rent paid, mortgage repayments, and dwelling size. Composite scores are averaged across all people living in areas and defined for areas based on the Census collection districts and are also compiled for higher levels of aggregation. The SEIFAs are described in detail at www.abs.gov.au.

The SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) is one of the ABS' SEIFA indexes. The relative disadvantage scores indicate the collective SES of the people living in an area, with reference to the situation and standards applying in the wider community at a given point in time. A relatively disadvantaged area is likely to have a high proportion of relatively disadvantaged people. However, such an area is also likely to contain people who are not disadvantaged, as well as people who are relatively advantaged.

The AIHW generated separation rates by SES using the IRSD scores for the SA2 of usual residence of the patient reported for each separation. The '1—Lowest' group represents the areas containing the 20% of the national population with the most disadvantage, and the '5—Highest' group represents the areas containing the 20% of the national population with the least disadvantage. These SES groups do not necessarily represent 20% of the population in each state or territory. Disaggregation by SES group is based on the area of usual residence of the patient, not the location of the hospital.

Public hospital peer groups

This report uses a public hospital peer group classification, developed by the AIHW and available in *Australian hospital peer groups* (AIHW 2015c).

Classifications of clinical data

ICD-10-AM/ACHI

Diagnosis, intervention and external cause data for 2021–22 were reported to the NHMD by all states and territories using the 11th edition of the *International statistical classification of diseases and related health problems, 10th revision, Australian modification* (ICD-10-AM) (ACCD 2016), incorporating the *Australian classification of health interventions* (ACHI).

In tables and figures presenting information on diagnoses, external causes and interventions, the codes and abbreviated descriptions of the ICD-10-AM/ACHI classification are used. Full descriptions of the categories are available in ICD-10-AM/ACHI publications on the Independent Health and Aged Care Pricing Authority website - IHACPA.

Diagnoses

One or more diagnoses can be reported for each separation. The principal diagnosis is the diagnosis established after study to be chiefly responsible for occasioning the patient's episode of admitted patient care. An additional diagnosis is a condition or complaint that either co-exists with the principal diagnosis or arises during the episode of care. An additional diagnosis is reported if the condition affects patient management.

The ICD-10-AM comprises classifications of diseases and external causes of injuries and poisoning, based on the World Health Organization's version of ICD-10.

The disease classification is hierarchical, with 20 summary disease chapters that are divided into many more specific disease groupings (represented by 3-character codes). Most of the 3-character disease groupings can be divided into an even larger number of very specific disease categories represented by 4-character and 5-character codes.

Most of the information about principal diagnoses in this report is presented using 2 methods of grouping records based on the ICD-10-AM disease classification:

- ICD-10-AM disease chapters—these 20 groups provide information combined at the ICD-10-AM chapter level
- 3-character ICD-10-AM groupings—describe the diseases at a specific level; detailed information is presented for the 20 groupings with the highest number of separations.

External causes

The external cause classification (Chapter 20 of ICD-10-AM) is hierarchical, consisting of 397 3-character categories (including place of occurrence and activity when injured). Some of the information is presented by categorising the ICD-10-AM external cause codes into 16 groups to provide an overview of the reported external causes.

Interventions

One or more interventions can be reported for each separation, but interventions are not undertaken for all hospital admissions, so only some of the separation records include intervention data.

The ACHI classification is divided into 20 chapters by anatomical site, and within each chapter by a 'superior' to 'inferior' (head to toe) approach. These subchapters are further divided into more specific 'procedure' blocks, ordered from the least invasive to the most invasive. The blocks, which are numbered sequentially, group the very specific intervention information.

The intervention information is presented using 3 methods of grouping interventions based on the ACHI intervention classification:

- ACHI chapters—these 20 groups provide information aggregated at the ACHI chapter level
- ACHI procedure blocks—these 2,016 categories describe interventions at a specific level. Detailed information is presented for the 20 procedure blocks with the highest number of separations and summary information is provided for all the groups (for which separations were reported) here.

- ACHI interventions—individual interventions for selected care types.

Australian Refined Diagnosis Related Groups

Australian Refined Diagnosis Related Groups (AR-DRG) is an Australian admitted patient classification system that provides a clinically meaningful way of relating the number and type of patients treated in a hospital (that is, its casemix) to the resources expected to be used by the hospital. This system categorises acute admitted patient episodes of care into groups with similar conditions and similar expected use of hospital resources, based on information in the hospital morbidity record.

The AR-DRG classification is partly hierarchical, with 23 MDCs, divided into *General Intervention* (previously *Surgical*), *Medical* and *Specific Interventions* (previously *Other*) partitions, and then into 807 individual AR-DRGs (version 10.0).

The MDCs are mostly defined by body system or disease type and correspond with medical specialties. In general, episodes are allocated to MDCs based on the principal diagnosis. Some episodes involving interventions that are particularly resource intensive may be assigned to the *Pre-MDC* category (AR-DRGs A01Z–A41B), irrespective of the principal diagnosis (including most organ and bone marrow transplants).

Episodes are allocated to AR-DRGs within MDCs, mainly based on the intervention codes (in the *Surgical DRG* partition), or the diagnosis codes (in the *Medical DRG* partition). Additional variables are also used for AR-DRG assignment, including the patient's age, complicating diagnoses/interventions and/or patient clinical complexity level, the length of stay, and the mode of separation.

Episodes that contain clinically atypical or invalid information are assigned *Error DRGs* (AR-DRGs 801A–801C and 960Z–963Z) even if they were assigned to an MDC (*Error DRGs* are included within the *Other DRGs* in the General Intervention/Medical/Specific Intervention DRG partition).

AR-DRG versions

Following receipt of the data from states and territories, the AIHW regrouped the data (using the mapping facility in the DRGroup™ software) to ensure that the same grouping method was used for all data. The AR-DRGs that resulted from this regrouping are presented in this report and may differ slightly from those derived by the states and territories.

For 2021–22, each separation in the NHMD was classified to AR-DRG version 6.0x, 7.0, 8.0, 9.0 and 10.0 and AR-DRG version 9.0 and 10.0 on the basis of demographic and clinical characteristics of the patient.

Each AR-DRG version is based on a specific edition of the ICD-10-AM/ACHI (Table B1). However, AR-DRGs can be mapped from other ICD-10-AM/ACHI editions.

Table B1: ICD-10-AM and AR-DRG versions, 2013–14 to 2021–22

Year	ICD-10-AM edition	Relevant AR-DRG version	AR-DRG version reported in *Australian hospital statistics*
2013–14[a]	8th edition	Version 7.0	Version 7.0
2014–15[b]	8th edition	Version 7.0	Version 7.0
2015–16[c]	9th edition	Version 8.0	Version 7.0
2016–17[d]	9th edition	Version 8.0	Version 8.0
2017–18[e]	10th edition	Version 8.0	Version 8.0
2018–19[f]	10th edition	Version 9.0	Version 8.0

2019–20[g]	10th edition	Version 9.0	Version 9.0
2020–21[h]	11th edition	Version 10.0	Version 10.0
2021–22[i]	11th edition	Version 10.0	Version 10.0

(a) For *Admitted patient care 2013–14: Australian hospital statistics* in analyses where cost weights were required, AR-DRG version 6.0x Round 16 cost weights (2011–12) were applied to AR-DRG version 6.0x.

(b) For *Admitted patient care 2014–15: Australian hospital statistics* in analyses where cost weights were required, AR-DRG version 6.0x Round 17 cost weights (2012–13) were applied to AR-DRG version 6.0x.

(c) For *Admitted patient care 2015–16: Australian hospital statistics*, AR-DRG version 7.0 Round 18 cost weights (2013–14) were applied to AR-DRG version 7.0 for 2015–16 cost weight analyses and AR-DRG version 6.0x Round 17 cost weights (2012–13) were applied to AR-DRG version 6.0x for time series cost weight analyses.

(d) For Admitted patient care 2016–17: Australian hospital statistics, AR-DRG version 8.0 Round 19 cost weights (2014–15) were applied to AR- DRG version 8.0 for 2016–17 cost weights analyses, and AR-DRG version 6.0x Round 17 cost weights (2012–13) were applied to AR-DRG version 6.0x for time series cost weight analyses.

(e) For *Admitted patient care 2017–18: Australian hospital statistics*, AR-DRG version 8.0 Round 20 cost weights (2015–16) were applied to AR-DRG version 8.0 for 2017–18 cost weights analyses, and AR-DRG version 7.0 Round 18 cost weights (2013–14) were applied to AR-DRG version 7.0 for time series cost weight analyses.

(f) For Admitted patient care 2018–19: Australian hospital statistics, AR-DRG version 9.0 Round 21 cost weights (2016–17) were applied to AR-DRG version 9.0 for 2018–19 cost weights analyses, and AR-DRG version 8.0 Round 19 cost weights (2014–15) were applied to AR-DRG version 7.0 for time series cost weight analyses.

(g) For Admitted patient care 2019–20: Australian hospital statistics, AR-DRG version 9.0 Round 21 cost weights (2016–17) were applied to AR-DRG version 9.0 for 2019–20 cost weights analyses, and AR-DRG version 8.0 Round 20 cost weights (2015–16) were applied to AR-DRG version 8.0 for time series cost weight analyses.

(h) For Admitted patient care 2020–21: Australian hospital statistics, AR-DRG version 9.0 Round 21 cost weights (2016–17) were applied to AR-DRG version 9.0 for 2020–21 cost weights analyses, and AR-DRG version 8.0 Round 20 cost weights (2016–17) were applied to AR-DRG version 8.0 for time series cost weight analyses.

(i) For Admitted patient care 2021–22: Australian hospital statistics, AR-DRG version 10.0 Round 24 cost weights (2019–20) were applied to AR-DRG version 10.0 for 2021–22 cost weights analyses, and AR-DRG version 10.0 Round 24 cost weights (2019–20) were applied to AR-DRG version 9.0 for time series cost weight analyses.

Presentation of data

For most tables in this report, data are presented by the state or territory of the hospital, not by the state or territory of usual residence of the patient. The exceptions are for tables presenting information on potentially preventable hospitalisations, which are based on data on the state or territory of usual residence. In addition, the state or territory of usual residence of the patient is reported against the state or territory of hospitalisation.

For tables presented by the state or territory of usual residence of the patient, the totals include unknown residence area (within a known state), overseas residents and unknown state of residence.

Except as noted in the 'Suppression of data' section, the totals in tables include data only for those states and territories for which data were available, as indicated.

Throughout the publication, percentages may not add up to 100.0 because of rounding. Percentages and rates printed as 0.0 or 0 generally indicate a zero. The symbol '<0.1' has been used to denote less than 0.05 but greater than 0.

Suppression of data

The AIHW operates under a strict privacy regime which has its basis in *Section 29* of the *Australian Institute of Health and Welfare Act 1987* (AIHW Act). *Section 29* requires that confidentiality of data relating to persons (living and deceased) and organisations be maintained. The *Privacy Act* governs confidentiality of information about living individuals.

The AIHW is committed to reporting that maximises the value of information released for users while being statistically reliable and meeting legislative requirements described in the *AIHW Act* and the *Privacy Act*.

Data (cells) in tables may be suppressed to maintain the privacy or confidentiality of a person or organisation, or because a proportion or other measure related to a small number of events (and may therefore not be reliable).

Data may also be suppressed to avoid attribute disclosure. Some measures were suppressed if there if there were fewer than 100 separations in the category being presented (for example, for length of stay, separations rates and elective surgery waiting times). The abbreviation 'n.p.' has been used in tables to denote these suppressions. In these tables, the suppressed information is included in the totals.

The data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory were not published for confidentiality reasons. It should be noted that there are no confidentiality concerns about the Tasmanian private hospital data, and that Tasmania would support the release of their private hospital information.

In addition, private hospital data may be suppressed for a particular diagnosis, intervention, or AR DRG where:

- there are fewer than 3 reporting units
- there are 3 or more reporting units and 1 of them contributed more than 85% of the total separations, or
- there are 3 or more reporting units and 2 of them contributed more than 90% of the total separations.

Analysis methods

Admitted patient care data analyses

Records for 2021–22 are for hospital separations (discharges, transfers, deaths, or changes in care type) in the period 1 July 2021 to 30 June 2022. Data on patients who were admitted on any date before 1 July 2021 are included if they also separated between 1 July 2021 and 30 June 2022. A record is included for each separation, not for each patient, so patients who separated more than once in the year will have more than 1 record in the NHMD.

Patient day statistics can be used to provide information on hospital activity that, unlike separation statistics, account for differences in length of stay. As the database contains records for patients separating from hospital during the reporting period (1 July 2021 to 30 June 2022) including patients admitted before 1 July 2021, this means that not all patient days reported will have occurred in that year.

It is expected, however, that patient days for patients who separated in 2021–22, but who were admitted before 1 July 2021, will be counterbalanced overall by the patient days for patients in hospital on 30 June 2022, who will separate in future reporting periods.

The numbers of separations and patient days can be a less accurate measure of the activity for establishments such as public psychiatric hospitals, and for patients receiving subacute or non-acute care, for which more variable lengths of stay are reported.

Unless otherwise noted in footnotes, records for *Hospital boarders* and *Posthumous organ procurement* have been excluded from statistics on separations.

Newborn episodes of care

Newborn care episodes can include 'qualified days' which are the equivalent of acute care days. A newborn patient day is 'qualified' if the infant meets at least one of the following criteria:

- is the second or subsequent live born infant of a multiple birth, whose mother is currently an admitted patient
- is admitted to an intensive care facility in a hospital, being a facility approved by the Commonwealth Minister for the purpose of the provision of special care
- is admitted to or remains in hospital without its mother.

(METeOR identifier: 327254).

In this report, newborn episodes with at least 1 qualified day (qualified newborns) have been included in all tables reporting separations, except as specified in tables reporting newborn care (without qualified days).

Previously, records for newborn episodes without at least one qualified day (unqualified) were excluded from reporting, except as specified in Chapters 4 and 5, as unqualified newborns did not meet admission criteria for all purposes.

The number of patient days reported in this publication for newborn episodes is equal to the number of qualified days, so for newborns with a mixture of qualified and unqualified days, the number of patient days reported is less than the actual length of stay for the episode.

Age and sex of patient

The patient's age is calculated at the date of admission. In tables by age group and sex, separations for which age and/or sex were not reported are included in the totals.

Estimated resident populations

All populations are based on the estimated resident population as at 30 June (that is, for the reporting period 2021–22, the estimated resident population as at 30 June 2022 was used), from the 2016 ABS Census data.

Age-standardised rates

Unless noted otherwise, population rates (separation rates and patient day rates) presented in this report are age-standardised, calculated using the direct standardisation method and 5 year age groups.

The ABS' population estimates for 30 June at the beginning of the reporting period were used for the observed rates (see tables B.S1 to B.S3, accompanying this report online).

All populations are based on the 2016 ABS Census data. For time series tables in this report, the age-standardised separation (and patient day) rates (per 1,000 population) have been calculated using estimated resident populations relevant to the reporting period.

The total Australian population for 30 June 2001 was used as the standard population against which expected rates were calculated.

There was some variation in the age group used for age-standardising. For example:

- separation rates (by hospital state, residence state, remoteness areas and by quintiles of socioeconomic advantage/disadvantage) were directly age-standardised, using the

estimated resident populations as at 30 June 2022. The estimated resident populations had the highest age group of 85 and over.

- separation rates by Indigenous status were directly age-standardised, using the projected Indigenous population (low series) as at 30 June 2022. The population for other Australians was based on the estimated resident populations as at 30 June 2022. As the projected Indigenous population estimates had a highest age group of 65 and over, standardised rates calculated for analyses by Indigenous status are not directly comparable with other standardised rates presented which used the highest age group of 85 and over.

Standardised separation rate ratios

For some tables reporting comparative separation rates, standardised separation rate ratios (SRRs) are presented. The SRRs are calculated by dividing the age-standardised separation rate for a population of interest (an observed rate) by the age-standardised separation rate for a comparison population (the expected rate). The calculation is as follows:

Standardised separation rate ratio (SRR) = observed rate/expected rate

An SSR of 1.0 indicates that the population of interest (for example, Indigenous Australians) had a separation rate similar to that of the comparison group (for example, other Australians). An SRR of 1.2 indicates that the population of interest had a rate that was 20% greater than that of the comparison population and an SRR of 0.8 indicates a rate 20% smaller.

The populations used for the observed and expected rates vary in this report, for example:

- Indigenous status, the SRR is equal to the separation rate for Indigenous Australians divided by the separation rate for other Australians (other Australians includes Indigenous status not reported)
- analyses by state or territory of residence, remoteness areas and SES of area of residence, the SRR is equal to the separation rate for the state or territory of residence, remoteness area, or SES group, divided by the separation rate for Australia.

Counts of separations by groups of diagnoses, interventions, and external causes

For tables with counts of separations by groups of diagnoses, interventions or external causes, a separation is counted once for the group if it has at least one diagnosis, intervention or external cause reported within the group. As more than one diagnosis, intervention or external cause can be reported for each separation, the totals in the tables may not equal the sum of counts in the rows (or columns).

Limitations of counts of interventions

Tables with numbers of interventions are counts of ACHI intervention codes. It is possible for a single intervention code to represent multiple interventions or for a specific intervention to require the reporting of more than 1 code (for example, for some laparoscopic interventions and for cataract extraction/insertion of lens). Therefore, the count of intervention codes reported does not precisely reflect the number of separate interventions performed.

ICD-10-AM codes used for selected analyses

Some tables in this report use ICD-10-AM/ACHI codes to define diagnoses and interventions. The codes are presented in tables accompanying this report online and relate to:

- selected AR-DRGs (see "supplementary tables 'How much activity was there?')

- potentially preventable hospitalisations (see supplementary tables 'Why did people receive care?')
- selected interventions (see supplementary tables — What interventions were performed?')
- unplanned/unexpected readmissions and adverse events (see supplementary tables 'Information related to safety and quality of the health system').

Broad categories of service

From AR-DRG version 9, the Surgical and Other partitions have been combined in a newly created Intervention partition (includes ADRGs with the numeric characters 01 to 59), with the Medical partition being retained as for V8.0 (ADRGs with the numeric characters 60 to 99).

OR procedures (Surgical) have been renamed as General Interventions (GIs) and Non OR procedures (Other) as Specific Interventions (SIs).

Separations have been categorised as *Childbirth*, *Intervention*, *Medical*, *Mental health*, and *Subacute and non-acute care* based on the care type reported and/or the AR-DRG version 9.0 recorded for the separation:

- Childbirth: separations for which the AR-DRG was associated with childbirth:
  – O01A Caesarean delivery, major complexity
  – O01B Caesarean delivery, intermediate complexity
  – O01C Caesarean delivery, minor complexity
  – O02A Vaginal delivery with operating room procedure, major complexity
  – O02B Vaginal delivery with operating room procedure, minor complexity
  – O60A Vaginal delivery, major complexity
  – O60B Vaginal delivery, intermediate complexity
  – O60C Vaginal delivery, minor complexity.

  Does not include newborn care.

- Intervention: separations for which the care type was reported as *Acute care*, *Newborn care* (with at least one qualified day) or was not reported, excluding separations for *Childbirth* Intervention partition is split into
    o General Interventions (OR procedures) for which the AR-DRG belonged to the *Surgical* partition (involving an operating room intervention)
    o Specific Interventions (Non OR procedures) . for which the AR-DRG did not belong to the *Surgical* or *Medical* partitions (involving a non-operating room intervention, such as endoscopy), excluding separations for *Childbirth*

- Medical: separations for which the care type was reported as *Acute care*, *Newborn care* (with at least one qualified day) or was not reported, for which the AR-DRG belonged to the *Medical* partition (not involving an operating room intervention), excluding separations for *Childbirth*.

- Mental health: separations for which the care type was reported as *Mental health care*. Excludes separations for *Childbirth*.

- Subacute and non-acute care: separations for which the care type was reported as *Rehabilitation*, *Palliative care*, *Psychogeriatric care*, *Geriatric evaluation and management* or *Maintenance c*are. Excludes separations for *Childbirth*.

National elective surgery waiting times data analyses

Elective surgery waiting times

The waiting times data presented in this report are for patients who complete their wait and are admitted for their surgery as either an elective or emergency admission.

The elective (and emergency) admissions involving surgery defined for admitted patient care data from the NHMD are not necessarily the same as elective surgery as defined for the National Elective Surgery Waiting Times Data Collection (NESWTDC). This is due to several factors including:

- the data in the NESWTDC relate to patients who were admitted from public hospital waiting lists, whereas the elective admissions involving surgery sourced from the NHMD include patients who were not placed on a waiting list, including in private hospitals

- surgical AR-DRGs and the NESWTDC are defined using a different list of procedures. For example, most admissions from public hospital elective surgery waiting lists for *Cystoscopy* (defined as a surgical procedure for the NESWTDC) were assigned to various non-surgical AR-DRGs including L41Z–*Cystourethroscopy* for urinary disorder, same-day and Z40Z–*Other contacts with health services with endoscopy, same day*

- the data in the NESWTDC can include separations for which the urgency of admission was reported as *Emergency*. See Section 6.4 for emergency admissions involving surgery.

Appendix C: Hospital performance indicators

Performance indicators are defined as:

'statistics or other units of information that, directly or indirectly, reflect either the extent to which an anticipated outcome is achieved or the quality of the processes leading to that outcome' (NHPC 2001).

National reporting of performance indicators

In Australia, national public reporting of hospital performance is undertaken by several organisations under nationally agreed arrangements, including the:

- Australian Health Performance Framework (AHPF)—a conceptual framework that can be flexibly used to assess the Australian health care system for a variety of audiences, for different populations and for different sectors and tiers of the health system. It encompasses performance indicators previously included in the National Health Performance Framework (NHPF) for national reporting and the Performance and Accountability Framework (PAF) for reporting at the hospital/Local Hospital Network- level or by Primary Health Network. The AHPF has been agreed by Australian and state/territory health ministers. Indicators within the AHPF are currently under development, and endorsement of individual indicators will be sought from the Australian Health Ministers' Advisory Council.

- National Healthcare Agreement (NHA)—agreed performance indicators and benchmarks are reported annually. The performance indicators presented here are based on data for 2021–22 and on specifications used for reporting on the 2022 NHA performance indicators.

- The Australian Commission on Safety and Quality in Health Care (ACSQHC) also has performance reporting-related roles under the National Health Reform Agreement, reporting publicly on the state of safety and quality, including performance against national standards (ACSQHC 2013).

- Review of Government Service Provision—information on the equity, efficiency, and effectiveness of government services (including hospitals) is also reported by the Steering Committee for the Review of Government Service Provision in the annual Report on Government Services (SCRGSP 2019).

The AIHW provides data from its national hospitals databases to support this range of reporting, and reports on many of the hospitals-related performance indicators each year in the Australian hospital statistics series, under the Australian Health Performance Framework and via *MyHospitals, now on the AIHW website*.

This appendix presents information about the hospital performance and other indicators that are based on hospital data and reported in the Australian hospital statistics reports, within the context of the AHPF.

The Australian Health Performance Framework

The AHPF was agreed by Australian and state/territory health ministers. It provides a single, enduring framework that can be used in different ways to assess the Australian health care system and its inputs, processes, and outcomes (NHIPPC 2017). It replaces the NHPF and the PAF, which had separate but interrelated purposes.

The AHPF comprises a Health System Conceptual Framework, and a Health System Performance Logic Model:

- The conceptual framework depicts the 3 indicator domains relevant to assessing the health system as a whole: 'Health status', 'Determinants of health', and 'the health system'. The conceptual framework also identifies information that is relevant in the planning, delivery, and evaluation of health services as 'health system context'. The dimensions of the health system that would ideally be assessed in a comprehensive performance framework are outlined in Table C1.

    The principle of 'Equity' applies across all domains and should be reflected in appropriate reporting.

- The performance logic model presents similar domains to the conceptual model and could be used to evaluate the outcome of specific health programs, initiatives and interventions—that is, in a performance measurement context.

Table C1: The Australian Health Performance Framework—Health System dimensions

Effectiveness	**Safety**
Care, intervention, or action achieves desired outcome from both the clinical and patient perspective, including as patient reported outcomes.	The avoidance or reduction to acceptable limits of actual or potential harm from health-care management or the environment in which health care is delivered.
Care provided is based on evidence-based standards.	Includes aspects of the safety of care delivered to health care providers and patients. Including patient reported incidents.
Appropriateness	**Continuity of care**
Service is person centred and culturally appropriate. Consumers are treated with dignity, confidentiality and encouraged to participate in choices related to their care.	Ability to provide uninterrupted, care or service across programs, practitioners, and levels over time.
Consumers report positive outcomes and experiences.	Coordination mechanisms work for health care providers and the patient.
Accessibility	**Efficiency and sustainability**
People can obtain health care at the right place and right time, taking account of different population needs and the affordability of care.	The right care is delivered at minimum cost.
	and
	Human and physical capital and technology are maintained and renewed.
	while
	Innovation occurs to improve efficiency and respond to emerging needs.

What data are reported?

This report presents 15 hospital performance indicators and 5 other indicators based on data for 2021–22 that have been included in other AIHW hospitals reports (see Table C2). These include NHPF and NHA indicators, mapped to the relevant AHPF dimensions and OECD indicators.

Indicators related to hospital performance are listed in Table C.2 against the 6 AHPF dimensions. Some indicators can be related to more than one dimension of the AHPF, even though they are presented here against only one. Table C.2 also relates each indicator to a set of nationally agreed performance indicators.

Information is also included for another three indicators that are calculated using hospitals data but do not relate to hospital performance; they are listed in Table C.3.

Table C2: National hospital performance indicators, by Australian Health Performance Framework component

Where?	Dimension/Indicator	NHA	AHPF (proposed)
	Effectiveness		
	No indicators available for hospital performance		
	Safety		
Supplementary tables S8.10–S8.14	Adverse events treated in hospitals		✓
AHS: SAB	Health-care associated infections	✓	✓
Table 8.9	Falls resulting in patient harm in hospitals		
	Appropriateness		
Table 8.8	Patient satisfaction/experience	✓	
	Continuity of care		
Table 8.7	Unplanned/unexpected readmissions following selected surgical episodes of care (same public hospital)	✓	✓
	Accessibility		
Figure 2.1	OECD indicator: Hospital discharge rates		
Table 6.5	OECD indicator: Number of caesarean sections per 100 live births		
Table 6.5	OECD indicator: Number of coronary revascularisation procedures per 100,000 population		
Table 6.5	OECD indicator: Number of hip and knee replacement surgeries per 100,000 population		
Tables 6.7, S6.1, S6.2 and S6.3	Differential access to hospital procedures		✓
AHS: ED	Waiting time for emergency hospital care: proportion seen on time	✓	✓
AHS: ED	Waiting time for emergency hospital care: proportion of emergency department presentations completed in 4 hours or less	✓	✓
AHS: ESWT	Waiting times for elective surgery: waiting times in days	✓	✓
AHS: ESWT	Waiting times for elective surgery: proportion seen on time[a]	✓	✓
	Efficiency & sustainability		
Method under review	Cost per casemix-adjusted separation for acute and non-acute care episodes		✓
Method under review	Relative stay index		
Figure 2.3	Average length of stay for selected AR-DRGs		
Figure 2.2	OECD indicator: Length of stay		
Table 6.6	OECD indicator: Proportion of cataract surgeries that were performed on a same-day basis		
Table 6.6	OECD indicator: Proportion of appendectomies that were performed laparoscopically		
Table 6.6	OECD indicator: Proportion of cholecystectomies that were performed laparoscopically		
Table 6.6	OECD indicator: Proportion of tonsillectomies that were performed on a same-day basis		

AHS: ED—Emergency department care 2021–22: Australian hospital statistics.

AHS: ESWT—Elective surgery waiting times 2021–22: Australian hospital statistics.

AHS: SAB—Staphylococcus aureus bacteraemia in Australian hospitals 2021–22: Australian hospitals statistics.

AR-DRG—Australian Refined Diagnosis Related Group.

NHA—National Healthcare Agreement.

AHPF—Australian Health Performance Framework.

OECD—Organisation for Economic Cooperation and Development.

(a)   The data presented for this indicator are not comparable among states and territories.

Table C.3: Other performance indicators that use hospitals data in this report

Where	Indicator	Related national indicator set	
		NHA	**AHPF (proposed)**
Tables 8.1–8.4	Selected potentially preventable hospitalisations (a measure of the Effectiveness of primary care)	✓	✓
Tables 4.12 and 4.13	Hospitalisations for injury and poisoning (a measure in the 'Health status' domain)		✓
Table 4.16	Hospital patient days used by those eligible and waiting for residential aged care	✓ Proxy	

NHA—National Healthcare Agreement.

AHPF—National Health Performance Framework.

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