

# Data quality statement: Admitted Patient Care 2017-18

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# Data quality statement: Admitted Patient Care 2017-18

## Identifying and definitional attributes

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## Data quality

### Data quality statement summary:

### Summary of Key Issues

The purpose of the Admitted Patient Care National Minimum Dataset (NMDS) is to collect information about care provided to admitted patients in Australian hospitals. The scope of the Admitted Patient Care 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.

Although the Admitted Patient Care NMDS is a valuable source of information on admitted patient care, the data have limitations:

- Variations in admission practices and policies lead to variation among providers in the number of admissions for some conditions and procedures (such as chemotherapy and endoscopies).
- There is also some variation between states and territories as to whether hospitals that predominantly provide public hospital services, but are privately owned and/or operated, are reported as public or private hospitals.
- From 2011–12, there are changes in coverage or data supply from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Australian Capital Territory which may affect the interpretation of the data over time.
- Changes to care type definitions affect the comparability of data over time. The overall quality of the data provided for Indigenous status is considered to be in need of some improvement and varies between states and territories.
- Data on state or territory of hospitalisation should be interpreted with caution because of cross-border flows of patients.
- Changes in the ICD-10-AM/ACHI classifications and the associated Australian Coding Standards may affect the comparability of the data over time.

### Description

The Admitted Patient Care National Minimum Dataset (NMDS) collects information about care provided to admitted patients in Australian hospitals from hospital administrative systems. Data is supplied to the AIHW on an annual basis.

In conjunction with Statistical Area level 1 the Admitted Patient Care NMDS also forms the Admitted Patient Care National Best Endeavours Dataset. It is also part of the Admitted Subacute and Non-Acute Hospital Care National Best Endeavours Dataset which collects additional information for subacute and non-acute types of admitted patient care.

**Institutional environment:** The Australian Institute of Health and Welfare (AIHW) is a major national agency set up by the Australian Government under the [Australian Institute of Health and Welfare Act 1987](#) (AIHW Act) to provide reliable, regular and relevant information and statistics on Australia's health and welfare. It is an independent statutory authority established in 1987, governed by a [management board](#), and accountable to the Australian Parliament through the Health portfolio.

The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure, hospitals, disease and injury, and mental health, to ageing, homelessness, disability and child protection.

The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with governments and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.

One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national datasets based on data from each jurisdiction, to analyse these datasets and disseminate information and statistics.

The [AIHW Act](#), in conjunction with compliance to the [Privacy Act 1988](#), (Cth) ensures that the data collections managed by the AIHW are kept securely and under the strictest conditions with respect to privacy and confidentiality.

For further information see the [AIHW website](#).

Data for the Admitted Patient Care NMDS were supplied to the AIHW by state and territory health authorities under the terms of the [National Health Information Agreement](#).

The state and territory health authorities received these data from public and private hospitals. States and territories use these data for service planning, monitoring and internal and public reporting. Hospitals may be required to provide data to states and territories through a variety of administrative arrangements, contractual requirements or legislation.

**Timeliness:** The Admitted Patient Care NMDS includes records for admitted patient separations for each financial year between 1 July and 30 June the following year. Data are submitted annually on 31 October. Finalisation of the data generally occurs in March of the following year and are used in the AIHW's annual publication of Australian Hospital Statistics: Admitted Patient Care, released around May of each year.

**Accessibility:** The AIHW provides a variety of products that draw upon the Admitted Patient Care NMDS.

The [Australian hospital statistics Admitted Patient Care reports](#), with associated Excel tables, may be accessed on the AIHW website. More detailed data is available through the [Principal Diagnosis, Procedures and Australian Refined Diagnosis-Related Groups data cubes](#) which may also be accessed on the AIHW website.

[Customised data analyses](#) can also be provided, subject to data quality and confidentiality requirements.

**Interpretability:**

Metadata information for the Admitted Patient Care NMDS (and the Admitted Patient Care National Best Endeavours Dataset and Admitted Subacute and Non-Acute Hospital Care National Best Endeavours Dataset) are published in the AIHW's online metadata repository—[METeOR](#), and the [National Health Data Dictionary](#).

The Explanatory Notes and Glossary provide information on the data sources, terminology, classifications and other technical aspects associated with these statistics.

Interpretation of separation statistics from the Admitted Patient Care National Minimum Data Set are affected by the different admission practices across states and territories and are outlined in the AIHW Report: [Variation in hospital admission policies and practices: Australian hospital statistics](#).

**Relevance:**

The purpose of the Admitted Patient Care NMDS is to collect information about care provided to admitted patients in Australian hospitals. The scope of the Admitted Patient Care 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 off-shore territories are not in scope, but some are included.

The admitted patient care data do not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments. Patients in these settings may be admitted subsequently, with the care provided to them as admitted patients being included in the Admitted Patient Care NMDS.

The reference period for this data set is 2017-18. The data set includes records for admitted patient separations between 1 July 2017 and 30 June 2018.

In 2017-18, almost all public hospitals provide data for the Admitted Patient Care NMDS. The exception is an early parenting centre in the Australian Capital Territory. The great majority of private hospitals also provide data to the Admitted Patient Care NMDS, known exceptions being the private free-standing day hospital facilities and some (year dependent) overnight private hospitals in the Australian Capital Territory.

Although the Admitted Patient Care NMDS is a valuable source of information on admitted patient care, the data have limitations. For example, variations in admission practices and policies lead to variation among providers in the number of admissions for some conditions and procedures (such as chemotherapy and endoscopies). For more detail on coverage issues, please refer to "Accuracy" below.

The overall quality of the data provided for Indigenous status is considered to be in need of some improvement and varies between states and territories. In 2011-12, an estimated 88% of Indigenous patients were correctly identified in public hospitals. It is unknown to what extent Indigenous Australians might be under-identified in private hospital admissions data.

Data is provided to the AIHW by states and territories by patient's postcode and Statistical Area Level 2 (SA2) of usual residence. Since 2016-17 data has also been provided by Statistical Area Level 1 (SA1) of usual residence on a best endeavours basis under the Admitted Patient Care Best Endeavours Dataset. Provision of SA1 has to date been limited to only a small number of states and territories and its utility is therefore also limited. Neither postcode nor SA2 is considered a sufficiently broad level of disaggregation, however these variables can be used to map to larger areas for disaggregation purposes. For example, SA2 data (and SA1 data where provided) is used to derive remoteness areas for usual residence of the patient on a probabilistic basis using Australian Bureau of Statistics (ABS) Australian Statistical Geography Standard (ASGS) correspondences. SA2s are also used to derive SEIFA quintiles of Socioeconomic Disadvantage of the patient using ABS correspondences.

**Accuracy:**

States and territories are primarily responsible for the quality of the data they provide. However, the AIHW undertakes extensive validations on receipt of data. Data are checked for valid values, logical consistency and historical consistency. Where possible, data in individual data sets are checked with data from other data

sets. Potential errors are queried with states and territories, and corrections and resubmissions may be made in response to these queries. The AIHW does not adjust data to account for possible data errors or missing or incorrect values, except as stated.

## Coverage

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 between states and territories and over time 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 states and territories and by non-hospital health services in other states and territories. The national data on hospital care does not include care provided 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](#).

From 2011–12, changes in coverage or data supply may affect the interpretation of the data:

For New South Wales:

- From 2015–16, increases in the numbers of separations for private hospitals are, in part, accounted for by improvements in the coverage of reporting.
- 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.

For Victoria, between 2011–12 and 2012–13, a relatively large decrease in public hospital separations reflected a change in Victoria's emergency department admission policy.

For Queensland, from 2014–15, 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 Western Australia, between 2012–13 and 2013–14, there is a relatively large decrease in public hospital separations in part reflecting a change in the state's emergency department admission policy, which resulted in fewer admissions.

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, data were not available for some private hospitals.

There is also some variation between states and territories 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.

Information related to potential coverage issues for private hospitals can be found in the upcoming AIHW report Private hospital admitted patient activity data in Australia: A comparison between the AIHW's National Hospital Morbidity Database and the ABS's Private Health Establishments Collection 2009–10 to 2016–17.

## Care Type

The care type Mental health was introduced on 1 July 2015. Mental health admitted patient activity was previously assigned to one of the other care types (for example, as Acute care, Rehabilitation care, Psychogeriatric care or Geriatric evaluation and management). 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 in Public hospitals, resulted in a large increase in patient days overall for Queensland (2015–16) and for New South Wales (2016–17). Therefore, information presented by care type for 2015–16 and 2016–17 will not be comparable with data presented for earlier periods.

Other revised definitions for care types were introduced from 1 July 2013 with the aim to improve comparability in care type assignment among states and territories. Therefore, information presented by care type from 2013–14 may not be comparable with data presented for earlier periods.

The reporting of separations for Newborns (without qualified days) varies among states and territories. For Victoria and the Northern Territory, private hospitals do not report all Newborn episodes without qualified days, so the count of Newborn episodes is underestimated. New South Wales also made changes in the classification of qualified days for Newborn episodes, resulting in higher proportions of qualified newborns than other states and territories between 2011–12 and 2016–17.

### **Demographic and geographic classifications**

While the Indigenous status data in the Admitted Patient Care NMDs for all states and territories are considered of sufficient quality for statistical reporting, separations for Aboriginal and Torres Strait Islander people are generally under-enumerated. In 2011–12, about 88% of Indigenous Australians were identified correctly in hospital admissions data, and the ‘true’ number of separations for Indigenous Australians was about 9% higher than reported. Caution should be used in the interpretation of Indigenous status data because of the under-enumeration overall and differences in under-enumeration among the states and territories. The quality of the data for private hospitals is not known, but likely to be poor.

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 for which a significant number of separations were for patients who lived in New South Wales.

SA2, and where provided, SA1, of usual residence is used to map each separation to a remoteness area category based on Australian Bureau of Statistics (ABS) Australian Statistical Geography Standard (ASGS) correspondences and Remoteness Structures. For those states and territories who supplied only SA2 and not SA1 of usual residence, this mapping was done on a probabilistic basis. Because of the probabilistic nature of the mapping, the remoteness areas data for individual records may not be accurate and reliable; however, the overall distribution of records by geographical area is considered useful.

### **Other Data Quality Issues**

There is some variation between states and territories in the overall proportion of records for which a condition was reported as arising during the episode of care. Differences in casemix between states and territories may account for some of this variation. However, this variation may indicate that there are differences in the allocation of condition onset flag values. There are also differences in the quality of the provided condition onset flag over time. Overall, the provision of condition onset flag data has improved since 2013–14, particularly for private hospitals.

For 2015–16 and 2016–17, external causes were not reported for around 80% of separations with a principal diagnosis of an injury or poisoning in private hospitals in New South Wales. As New South Wales is the largest of the states and territories, this had a significant impact on the external cause reporting for all private hospital separations in Australia with a principal diagnosis of an injury or poisoning for these years, and also a noticeable impact on external cause reporting

for all separations in Australia with a principal diagnosis of an injury or poisoning for these years in public and private hospitals combined. Time series relating to external causes should therefore be interpreted with caution.

For 2015–16, there were data quality issues related to the recording of data on elective surgery in the Australian Capital Territory which resulted in this data being excluded from elective surgery analysis in Australian Hospital Statistics: Admitted Patient Care reports.

For 2016–17, there were data quality issues related to the recording of funding source for separations from private hospitals in the Australian Capital Territory which resulted in this data being excluded from elective surgery analysis in Australian Hospital Statistics: Admitted Patient Care reports.

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.

#### **Coherence:**

The Admitted Patient Care NMDS includes data which commenced in 1993–94.

The data reported for the current year are broadly consistent with data reported for the Admitted Patient Care NMDS for previous years.

Time series presentations and comparisons across states and territories may be affected by issues already discussed (see in particular “Accuracy”).

The comparability of the coded diagnosis, intervention and external cause data can be affected by variations in the quality of the coding, the numbers of diagnoses and/or interventions reported and by state-specific coding standards. Changes in the ICD-10-AM/ACHI classifications and the associated Australian Coding Standards may also affect the comparability of the data over time.

The major changes in the ICD-10-AM/ACHI classifications affecting the interpretation of for the Admitted Patient Care NMDS over time are the reporting of:

- principal diagnoses for rehabilitation care separations
- ‘supplementary codes’ for chronic conditions
- ‘past history’ of hepatitis
- the deletion of the category I84 Haemorrhoids and the creation of the category K64 Haemorrhoids and perianal venous thrombosis.
- complications arising during pregnancy, childbirth and the puerperium
- the reporting of Diabetes mellitus and intermediate hyperglycaemia
- procedures on the eye and adnexa
- 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.

#### **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 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.

### **Hepatitis**

Changes to the Australian Coding Standard for Viral hepatitis (ACS 0104), introduced from 1 July 2013 in the 8th edition of ICD-10-AM clarified that, while it was acceptable to assign a code for a past history of hepatitis, the ‘personal history’ codes of Z22.51 Carrier of viral hepatitis B, Z22.52 Carrier of viral hepatitis C and Z22.59 Carrier of other specified viral hepatitis should not be assigned. Instead, the past history should be assigned to the codes B18.0 Chronic viral hepatitis B with delta agent, B18.1 Chronic viral hepatitis B without delta agent or B18.2 Chronic viral hepatitis C.

This change in coding standard had little effect on the reporting of principal diagnoses for Hepatitis B, as personal history codes should not be assigned as a principal diagnosis. However, the number of additional diagnoses reported for the ICD-10-AM codes B18.0 and B18.1 increased markedly from 2012–13.

This change in the coding standard affects the comparability over time in the reporting of the vaccine-preventable category of potentially preventable hospitalisations, which includes counts for additional diagnoses of Hepatitis B.

### **Haemorrhoids**

For the 8th edition of the International Classification of Diseases (ICD), the World Health Organization deleted the category I84 Haemorrhoids from the ICD chapter Diseases of the circulatory system, and created a new category K64 Haemorrhoids and perianal venous thrombosis in the chapter Diseases of the digestive system under the sub-chapter of Other disease of the intestines. This resulted in a decrease in diagnoses reported for the chapter Diseases of the circulatory system and an increase in reporting for the chapter Diseases of the digestive system between 2012–13 and 2013–14.

### **Diabetes mellitus and intermediate hyperglycaemia**

Changes to the Australian Coding Standard for Diabetes mellitus and intermediate hyperglycaemia (ACS 0401) (formerly Diabetes mellitus and impaired glucose regulation) between 2011–12 and 2012–13 affected the comparability over time of data for diabetes. The coding change resulted in a noticeable increase in the reporting of diabetes as a principal diagnosis and a substantial increase in the reporting of diabetes as an additional diagnosis from 2011–12.

### **Complications arising during pregnancy, childbirth and the puerperium**

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.

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.

### Electroconvulsive therapy

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

## Data products

**Implementation start date:** 01/07/2017

## Source and reference attributes

**Submitting organisation:** Australian Institute of Health and Welfare

## Relational attributes

### Related metadata references:

Supersedes [Data quality statement: Admitted Patient Care 2016-17](#)  
[AIHW Data Quality Statements](#), Standard 27/11/2019

See also [Number of lumbar spinal decompression \(excluding lumbar spinal fusion\) hospitalisations per 100,000 people aged 18 years and over, 2012-13 to 2014-15 and 2015-16 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021

See also [Number of lumbar spinal fusion \(excluding lumbar spinal decompression\) hospitalisations per 100,000 people, aged 18 years and over, 2012-13 to 2014-15 and 2015-16 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021

See also [Number of lumbar spinal fusion \(with or without lumbar spinal decompression\) hospitalisations per 100,000 people, aged 18 years and over, 2012-13 to 2014-15 and 2015-16 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021

See also [Number of potentially preventable hospitalisations - cellulitis per 100,000 people of all ages, 2014-15 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021

See also [Number of potentially preventable hospitalisations - chronic obstructive pulmonary disease \(COPD\) per 100,000 people of all ages, 2014-15 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021

See also [Number of potentially preventable hospitalisations - diabetes complications per 100,000 people of all ages, 2014-15 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021

See also [Number of potentially preventable hospitalisations - heart failure per 100,000 people, of all ages, 2014-15 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021

See also [Number of potentially preventable hospitalisations - kidney and urinary tract infections per 100,000 people of all ages, 2014-15 to 2017-18](#)

[Australian Commission on Safety and Quality in Health Care](#), Standard 27/04/2021