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A comparison between the AIHW's National Hospital Morbidity Database and the ABS's Private Health Establishments Collection—2009–10 to 2016–17

AIHW

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Health Services Series
Number 91

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Australian Institute of Health and Welfare
Canberra
Cat. no. HSE 241

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ISBN 978-1-76054-667-0 (Online)
ISBN 978-1-76054-668-7 (Print)

Suggested citation

Australian Institute of Health and Welfare 2020. A comparison between the AIHW's National Hospital Morbidity Database and the ABS's Private Health Establishments Collection. Health Services Series no.91. Cat. no. HSE 241. Canberra: AIHW.

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Published by the Australian Institute of Health and Welfare

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Please note that there is the potential for minor revisions of data in this report. Please check the online version at www.aihw.gov.au for any amendments.

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Summary

Between 2009–10 and 2016–17, national estimates of the number of private hospital admitted patient care separations reported through the Private Health Establishments Collection (PHEC)—collated by the Australian Bureau of Statistics (ABS) and published through its *Private hospitals Australia* reports—were consistently higher than the number of private hospital admitted patient care separations reported through the National Hospital Morbidity Database (NHMD), compiled by the AIHW and released in its *Admitted patient care: Australian hospital statistics* reports.

This report examines the differences between these 2 data sources in an attempt to understand the reasons for those differences. As the PHEC has now ceased, the report also aims to understand and identify any data gaps in the scope and coverage of the NHMD. This will assist analysts and policymakers in understanding how to interpret these data as they pertain to admitted patient activity for the private hospital sector in Australia. It will also identify potential areas in which the AIHW can work with data providers to reduce these data gaps.

Comparisons of private hospital estimates of the number of admitted patient care separations recorded in the PHEC from 2009–10 to 2016–17, compared with the number of admitted patient care separations recorded for that period in the NHMD, show that:

- the PHEC rose from 3.7% higher than the NHMD in 2009–10 to 10.5% higher in 2016–17, with a sharp increase from 2012–13 onwards. The increase from 2012–13 onwards was due to an increase in the difference between PHEC and NHMD data for New South Wales and Victoria
- the most significant discrepancies occurred with respect to separations from private free-standing day facilities. The discrepancy between NHMD and PHEC data for private free-standing day facilities increased from 9.8% in 2009–10 to 29.8% in 2016–17 and rose sharply from 10.7% in 2011–12 to 27.1% in 2012–13
- for private hospitals other than private free-standing day facilities, the differences between NHMD and PHEC data rose from 1.9% in 2009–10 to 5.2% in 2016–17.

Comparisons between the PHEC for 2016–17, and the NHMD for that year, show that:

- the ABS reported 46 more private hospitals than captured in the NHMD. The largest discrepancies were for Victoria and for the smaller states and territories (Tasmania, the Australian Capital Territory and the Northern Territory)
- Victoria accounted for over 40% of the difference between NHMD and PHEC separations data for private hospitals
- Victoria and New South Wales accounted for more than two-thirds of the difference between NHMD and PHEC separations data for private free-standing day facilities
- For hospitals other than private free-standing day facilities, the greatest difference between NHMD and PHEC separations data for private hospitals was for Western Australia. This was largely attributable to differences in treatment between the two collections of privately owned and/or operated hospitals which undertake predominantly public activity
- Differences in casemix between the PHEC and the NHMD for private free-standing day facilities seem to be related to the principal diagnosis and procedure chapters which include dialysis, chemotherapy and endoscopies—all types of episodes that can be treated either as ‘non-admitted’ or ‘admitted’ activity, depending on admission practices. This suggests that some activity that was included in the PHEC as admitted activity

might not have been reported to the NHMD, as it was considered non-admitted activity by some jurisdictions (consistent with the way such care is delivered in their public hospital settings)

- For private hospitals other than free-standing day facilities, differences in casemix between PHEC and NHMD data seem to be related to principal diagnoses for *Mental and behavioural disorders* and to procedure chapters which include counselling and generalised allied health interventions. These may also be treated as either admitted or non-admitted patient episodes, depending on admission practices.

Given the differences identified between the NHMD and the PHEC in the number of separations reported over this period and the fact that the ABS has ceased collection of data through the PHEC, the following steps have been identified as ways to improve national reporting of private hospitals information:

- continue working with state and territory health authorities to improve coverage of reporting of admitted patient care activity
- investigate the options for the AIHW to collect additional private hospital information to augment that currently collected for public hospitals. This could include information on hospital resources to address gaps left by the cessation of the PHEC, as well as information on non-admitted patient activity
- Investigate whether linkage between the NHMD and other data sources, such as Medicare Benefits Schedule (MBS) data and Private Hospital Data Bureau (PHDB) data, can be used to identify and investigate private hospital activity which is not included in the NHMD
- review the metadata for collecting hospital-sector data to develop well-defined and more consistent classifications for hospitals that are privately owned and/or operated but which undertake predominantly public activity.

1. Introduction

Historically, there have been several sources of data available to those interested in understanding admitted patient activity in the private hospital sector in Australia. These data sources, particularly the AIHW's National Hospital Morbidity Database (NHMD) and the ABS's Private Health Establishments Collection (PHEC), have produced different counts of private hospital admitted patient separations in Australia. While some data gaps are well known—such as the fact that ACT private free-standing day facilities do not report to the NHMD—this report examines the other differences in the data sources in an attempt to understand the reasons for these differences. As the PHEC has now ceased, the report also aims to help us to understand and identify any data gaps in the scope and coverage of the NHMD. This will assist analysts and policymakers in understanding how to interpret these data as they pertain to admitted patient activity for the private hospital sector in Australia. It will also identify potential areas in which the AIHW can work with state and territory health authorities to reduce any data gaps.

1.1 What's in this report?

This report reproduces ABS statistics reported from the Private Heath Establishments Collection (PHEC) and AIHW statistics reported from the National Hospital Morbidity Database (NHMD) for admitted patient care activity in private hospitals, for the period 2009–10 to 2016–17. Some comparisons are also made with Private Hospital Data Bureau (PHDB) and Hospital Casemix Protocol (HCP1) data.

Section 2 looks at comparisons of separations, bed days and average length of stay—and same-day/overnight status, where relevant (refer to Box 1.1 for definitions of terms)—for private free-standing day facilities and other private hospitals, over time and by state and territory.

Section 3 compares private hospital separations from the PHEC and the NHMD by age and sex of patient.

Section 4 compares private hospital separations from the PHEC and the NHMD by the reason for care, as captured by principal diagnosis.

Section 5 compares private hospital separations from the PHEC and the NHMD by the type of care that was carried out in the form of procedures.

Section 6 compares private hospital separations from the PHEC and the NHMD by the overall casemix of care, as captured by the Australian Refined Diagnosis Related Group Major Diagnostic Categories (AR-DRG MDCs).

Section 7 compares how care was completed (in relation to the mode of separation from hospital) for private hospital separations, from the PHEC and the NHMD.

Section 8 provides recommendations arising from the analysis in this report.

1.2 What data are reported?

Although this report focuses primarily on differences between the AIHW's NHMD and the ABS's PHEC, private hospital data from four different sources are considered in this report.

The AIHW's National Hospital Morbidity Database (NHMD)

The NHMD is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals. The AIHW collates the NHMD annually, and publishes this information in many of its reports, particularly in its *Australian hospital statistics* suite of publications. The NHMD includes data from 1993–94 onwards.

The scope of the NHMD includes 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. Data are provided by states and territories under the National Health Information Agreement.

The ABS's Private Health Establishments Collection (PHEC)

The ABS collated the PHEC annually up to 2016–17, and published information from the PHEC in its annual *Private Hospitals Australia* reports. These reports date from 1992–93 to 2016–17, at which point the PHEC collection ceased.

The scope of the PHEC included all acute and psychiatric hospitals licensed by state and territory health authorities and all private free-standing day hospital facilities approved by the Department of Health for the purposes of health insurance benefits, including those registered with their respective state health authorities. Data were collected under the *Census and Statistics Act 1905*.

Through the PHEC, the ABS collected information on private hospital resources (including hospital expenditure, revenue, bed numbers and staff numbers) from the individual hospitals. The ABS also obtained aggregated admitted patient care data from the relevant state/territory health authority for each private hospital establishment, with the permission of the private hospitals participating in the collection. Where that permission was not provided for a hospital, the ABS also obtained aggregated admitted patient care data from the individual hospital directly.

The Department of Health Private Hospital Data Bureau (PHDB)

Established in 1997–98, the PHDB data collection contains de-identified episode-level information on private hospital separations, including patient demographics, clinical information and hospital charges for all patients in private hospitals. Data is provided directly from each hospital to the Department of Health.

The Department of Health Hospital Casemix Protocol collection (HCP1)

The HCP1 includes clinical, demographic and financial information for privately insured admitted patient services from public and private hospitals, from 1996–97 onwards. Data is provided to the Department of Heath by private health funds.

1.3 What methods are used?

Box 1.1: Summary of terms and classifications relating to admitted patient care

An **admitted patient** is a patient who undergoes a hospital's formal admission process to receive treatment and/or care. Statistics on admitted patients are compiled when an admitted patient completes an episode of admitted patient care and 'separates' from the hospital. This is because most of the data on the use of hospitals by admitted patients are based on information provided at the end of the patients' episodes of care, rather than at the beginning. The length of stay and the procedures carried out are then known and the diagnostic information is more accurate.

A **separation** is an episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation care). 'Separation' also means the process by which an admitted patient completes an episode of care either by being discharged, dying, transferring to another hospital or changing type of care.

A **same-day** separation occurs when a patient is admitted to and separated from the hospital on the same date. An **overnight separation** occurs when a patient, following a clinical decision, receives hospital treatment for a minimum of 1 night (that is, who is admitted to and separated from the hospital on different dates).

Patient day (or day of patient care) means the use of a hospital bed (or chair in the case of some same-day patients) by an admitted patient for all or part of a day. The length of stay (number of patient days) for an overnight patient is calculated by subtracting the date the patient is admitted from the date of separation and deducting any days the patient was on leave (for example, went home for part of a day with the intention of return). A same-day patient is allocated a length of stay of 1 day.

Patient days within *Newborn* episodes of care are either **qualified** or **unqualified.** A newborn day is 'qualified' when a newborn meets at least 1 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.

The **average length of stay** is the average number of patient days for admitted patient episodes. Patients admitted and separated on the same date are allocated an average length of stay of 1 day.

The **principal diagnosis** is the diagnosis established, after study, to be chiefly responsible for occasioning the patient's episode of admitted patient care.

A **procedure** is a clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training and/or requires special facilities or equipment only available in an acute care setting. As such, 'procedures' encompass surgical procedures and non-surgical investigative and therapeutic procedures, such as X-rays. Patient support interventions that are neither investigative nor therapeutic (such as anaesthesia) are also included.

Australian Refined Diagnosis Related Groups (**AR-DRGs**) is a classification system developed to provide a clinically meaningful way of relating the number and type of patients treated in a hospital (that is, its casemix) to the resources required by the hospital. Each AR-DRG represents a class of patients with similar clinical conditions requiring similar hospital resources.

Differences in total activity

The differences between the numbers of private hospital admitted patient care separations reported from the PHEC and the NHMD may be due to:

- differences in scope between the NHMD and the PHEC
- differences in coverage between the NHMD and the PHEC such as:
  - lower coverage of private hospitals for the NHMD
  - the inclusion of private hospitals in the PHEC that are counted as public hospitals in the NHMD
- differences in the quality of the data provided for different purposes, which may include:
  - inaccuracies in the data collected, such as reporting errors or missing data
  - the implementation of a non-response estimation methodology for the PHEC
- variations in definitions of what activity constitutes 'admitted patient care', such as:
  - variations in counting 'same-day' episodes as 'separations' or as non-admitted patient care episodes, for the purposes of each collection
  - different counting and reporting rules for *Newborn* episodes of care, particularly those that are unqualified, that is episodes of care for newborns with only unqualified days (refer to Box 1.1).

Differences in scope between the NHMD and the PHEC

One of the main issues that may result in differences in scope between the two collections is potential differences in the definition of what types of health care facilities constitute 'hospitals', for the purposes of each collection.

The NHMD collects information from all private hospitals through the state/territory health authorities. Ultimately, these authorities decide which organisations should be considered as 'hospitals' for reporting purposes.

The PHEC collected information from all private acute and psychiatric hospitals licensed by state and territory health authorities and all free-standing day hospital facilities approved by the Department of Health for the purposes of health insurance benefits, including those registered with their respective state health authority. The Department of Health therefore had a role in defining what constituted a 'hospital' for reporting purposes, based on private health insurance considerations.

Differences in coverage between the NHMD and the PHEC

The ABS received data directly from both the hospitals and from the state/territory health authorities (when permission was given by the individual hospitals). Some private hospitals may therefore have chosen to provide data directly to the ABS which they didn't supply to the state/territory health authority; state and territory health authorities therefore could not on-supply this data to the AIHW in the NHMD. It is also not known (for all jurisdictions) whether the data supplied by the state and territory health authorities to the ABS were the same as the data supplied by the state and territory health authorities to the AIHW. Hence, both the source and content may differ between the data reported to the PHEC and to the NHMD.

There is also some variation between jurisdictions in the NHMD as to whether hospitals that predominantly report public hospital services, but are privately owned and/or operated, are reported as 'public' or 'private' hospitals. This may result in a hospital's activity being considered 'private' for the purposes of the PHEC but considered either mostly or wholly 'public' for the purposes of the NHMD. These hospitals are listed in Table 1.1.

Table 1.1: Hospitals in the NHMD which predominantly provided public hospital services that were privately owned and/or operated, 2016–17

State/Territory	Hospital
New South Wales	Hawkesbury District Health Service
Victoria	Mildura Base Hospital
Queensland	Mater Adult Hospital
	Mater Mother's Hospital
Western Australia	Joondalup Health Campus
	Peel Health Campus
	St John of God Midland Public Hospital
South Australia	McLaren Vale and Districts War Memorial Private Hospital
Tasmania	May Shaw District Nursing Centre
	Toosey Hospital

Source: AIHW 2018b.

The ability of the AIHW and the ABS to investigate variations between the private hospitals data supplied to the NHMD and the PHEC is somewhat limited—in part because the AIHW does not receive individual private hospital identifiers from all states and territories and to that extent must rely on documentation indicating which private hospitals are included in state and territory data submissions. Also, the ABS collects its data under the *Census and Statistics Act 1905* and is bound to maintain the confidentiality of information collected under that legislation.

Differences in the quality of the data provided for different purposes

The NHMD contains episode-level records from admitted patient morbidity data provided to the AIHW by state and territory health authorities. The state and territory health authorities are primarily responsible for the quality of the data they provide and undertake a range of quality assurance processes. While the AIHW also undertakes extensive validation of the data to ensure the most accurate data are provided, the data are not adjusted to account for possible errors, including missing data, prior to reporting. Consequently, any under-reporting of private hospitals or private hospital activity is not adjusted for.

The ABS collected hospital-level separation counts data on private hospitals by conducting a census of all private hospitals in Australia through an online questionnaire. Most hospitals provided consent for the relevant state and territory health authority to also provide the data on admitted patients on their behalf—however, some provided admitted patient data directly to the ABS. This data may have undergone different quality assurance processes compared with data provided by the state and territory health authorities.

Data in the PHEC was subject to errors from a number of sources including: errors in reporting; errors in processing data; missing or misreported data; and definition or classification errors. The ABS reported that it undertook the following procedures to minimise these errors:

- 'external coverage checks to ensure all private hospitals are included
- clerical and computer editing of input data
- error resolution including referral back to the source
- clerical scrutiny of preliminary aggregates and confronting them with external data sources.' (ABS 2018)

If estimates could not be provided by the hospital, the data was imputed by the ABS. According to the ABS (2018):

> *The imputation strategy employed utilised historical and donor imputation; based on data received in previous years (historical) and/or on the results of the data provided by all responding hospitals of the same type, state/territory and size (donor). Data from state or territory health authorities were also used to supplement the imputation of the collection data, provided the hospitals consented.*

Because the data supply requests were specified separately by the AIHW and the ABS, and were for data subject to separate submission and validation processes, there is not a shared data quality standard for the admitted patient care data supplied to the two agencies.

Variations in definitions of what activity constitutes admitted patient care

States and territories may not accept some episodes of care as admitted patient episodes for collection of data supplied to the AIHW, whereas the ABS includes them. For example, some same-day care is counted as 'admitted patent activity' for private health insurance reasons and can therefore be included in the PHEC—but may be excluded from the NHMD as non-admitted patient activity.

Newborns with only unqualified patient days, while in scope of the NHMD, are excluded from the majority of NHMD reporting. However, these may not be excluded from the estimates reported from the PHEC or may not be excluded using the same definition of newborns who are unqualified. Although this may contribute to differences between the number of NHMD and PHEC private hospital admitted patient separations, in this report all NHMD separation counts will exclude newborns with unqualified days only (and *Hospital boarder* and *Posthumous organ procurement* separations), consistent with national reporting from this database, unless otherwise stated.

Differences in casemix

The 'casemix' for a hospital refers to the range and types of patients (the mix of cases) treated by a hospital or other health service. Evaluation of casemix can take into account a range of factors, including the type and complexity of the conditions the patients have (their diagnoses) and the clinical procedures that are undertaken. Casemix classifications (such as AR-DRGs) also provide a way of describing and comparing hospitals and other services for management purposes. Comparisons of casemix for the hospitals reporting to the PHEC with the casemix for private hospitals reporting to the NHMD may provide some insight into differences in the total number of private hospital admitted patient care separations between the two collections. However it will only be possible to compare the casemix of the activity between the two collections if both collections are reporting predominantly in the same classifications.

Evaluating the impacts of coding changes

In 2016–17, diagnoses and procedures for admitted patients for the NHMD were collected under the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification* (ICD-10-AM), 9th edition and the *Australian Classification of Health Interventions* (ACHI), 9th edition respectively—however, the ABS reported that the PHEC collected admitted patient clinical data under the 6th edition of the ICD-10-AM and ACHI. If this was the case, then comparisons of private hospital admitted patient care clinical data between the NHMD and the PHEC would be very difficult to interpret, due to the numerous coding changes that occurred between the 6th and 9th editions of the ICD-10-AM and ACHI.

However, most of the private hospital admitted patient care information was provided to the PHEC and the NHMD via state and territory health authorities and can be expected to have been provided under the same edition of the ICD-10-AM and ACHI. (That is, given that the NHMD data was provided under the 9th edition of the ICD-10-AM and ACHI, it therefore seems likely that some or all of the PHEC data was also provided to the PHEC under the 9th edition of the ICD-10-AM and ACHI classifications.)

To investigate whether this was the case, it is useful to consider whether the coding change to rehabilitation principal diagnoses (Z50.x), implemented in the 9th edition of the ICD-10-AM, appears to have been implemented in the PHEC. This coding change resulted in a significant reduction in the number of separations with a principal diagnoses in the chapter *Z00–Z99: Factors influencing health status and contact with health services*. As Major Diagnostic Categories (MDCs) are based primarily on principal diagnoses, this also resulted in a significant reduction in the number of separations with the associated MDC *23: Factors influencing health status and other contacts with health services*.

Approximate estimates of PHEC activity can be derived for these two categories over time using the proportions published by the ABS for private day hospital facilities and private acute and psychiatric hospitals and the total separation counts for each of these two types of hospitals. These can be compared with NHMD counts of separations as below in Table 1.2.

Table 1.2: Separation counts for a principal diagnosis of *Factors influencing health status and contact with health services* or a Major Diagnostic Category of *Factors influencing health status and other contacts with health services*, private hospitals, reported from the NHMD and the PHEC, 2012–13 to 2016–17

	2012–13	2013–14	2014–15	2015–16	2016–17
	Z00–Z99 Factors influencing health status and contact with health services				
NHMD[(a)]	1,052,930	1,095,437	1,174,076	906,012	929,523
PHEC(b)	1,170,779	1,215,997	1,284,150	1,020,316	1,095,153
	23 Factors influencing health status and other contacts with health services(c)				
NHMD[(a)]	455,164	479,525	533,868	234,474	241,038
PHEC[(b)]	489,774	512,281	569,233	264,694	265,198

(a) *Unqualified newborn*, *Hospital boarder* and P*osthumous organ procurement* care types excluded.

(b) Approximate counts derived from published proportions and using total separation counts (including separations with missing principal diagnosis/missing AR-DRG) as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

(c) Counts for all years are provided under AR-DRG version 6.0x for the NHMD and version 5.2 for the PHEC.

Sources: ABS 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2012–13 to 2016–17.

As can be seen from Table 1.2, when the ICD-10-AM changed from the 8th to the 9th edition (from 2014–15 to 2015–16), the separation counts for *Z00–Z99: Factors influencing health status and contact with health services* dropped by about 268,000 separations for the NHMD. The approximate estimates of separation activity for the PHEC also dropped by a very similar amount (264,000) between 2014–15 and 2015–16. Similarly, between 2014–15 and 2015–16, separation counts for MDC 23, *Factors influencing health status and other contacts with health services* dropped by about 300,000 separations for the NHMD. Again, the approximate PHEC estimates dropped by a similar amount (305,000 separations) between 2014–15 and 2015–16.

Although related only to rehabilitation type of care, these comparisons indicate that at least some private hospital activity was being reported to the PHEC using the 9th edition of the ICD-10-AM, consistent with reporting to the NHMD. It therefore seems reasonable to assume that much of the data supplied to both collections in 2016–17 was supplied consistently in the same ICD-10-AM/ACHI edition: that is, the 9th edition ICD-10-AM/ACHI. Under this

assumption, differences between the PHEC and the NHMD with respect to clinical data are therefore more likely to reflect actual differences in the casemix reported to the two collections than to reflect classification differences and coding changes between different ICD-10-AM and ACHI editions.

2 Overall levels of activity

2.1 Hospitals

Table 2.1 presents the number of private hospitals that reported to the NHMD and the PHEC in 2016–17.

The ABS reported 46 more private hospitals than did the NHMD. The largest discrepancies occurred for Victoria and the smaller states and territories (Tasmania, the Australian Capital Territory and the Northern Territory). While the reasons for some of these discrepancies are known—for example the private free-standing day hospital facilities and 1 overnight private hospital in the Australian Capital Territory did not report to the NHMD in 2016–17; and 2 Western Australian hospitals without any admitted patient activity reported resource and expenditure information to the PHEC—this only explains a small proportion of the overall discrepancy in counts.

Although the extent and magnitude of each of the following factors on reported counts of private hospitals is unknown, some of the factors known to play a role in the discrepancies in hospital counts include:

- same-day treatment facilities which report to the PHEC but do not meet state and territory health authority criteria as 'hospitals'
- hospitals for which the state and territory health authorities do not have permission to provide data to the NHMD
- hospitals reporting to the PHEC which report partly or wholly in the public sector for the NHMD
- hospitals reporting to the PHEC which do not undertake admitted patient activity.

Table 2.1: Number of private hospitals reported to the NHMD and the PHEC, states and territories, 2016–17

	NHMD	PHEC	Difference
New South Wales	204	210	6
Victoria	163	174	11
Queensland	118	118	0
Western Australia	62	64	2
South Australia	52	56	4
Tasmania the ACT & the NT	12	35	23
Australia	**611**	**657**	**46**

Sources: AIHW NHMD 2016–17 and state and territory heath authorities; ABS 2018.

2.2 Separations

Changes over time

Table 2.2 presents separation counts for private hospitals from the NHMD, the PHEC, the PHDB and the HCP1 from 2009–10 to 2016–17. Table 2.3 presents greater detail about the differences in separation counts between the PHEC and the NHMD, by type of hospital, over this period.

From these tables, it can be seen that:

- the HCP1 counts are consistently lower than the counts reported from the other sources. This is expected, because the HCP1 captures information only on privately insured patients in private hospitals, rather than on all patients in private hospitals
- significantly higher counts of admitted patient care private hospital separations have been consistently reported through the PHEC than through the NHMD, while the differences between the counts from the NHMD and the PHDB are more modest
- the higher levels of private hospital separation counts for the PHEC, compared with the NHMD, occur particularly for private free-standing day hospital facilities, notably from 2012–13 onwards
- there is also a steady increase in the difference in private hospital activity for *Other private hospital* separations over time.

Table 2.2: Separations reported from the NHMD, PHEC, PHDB and HCP1 for admitted patient care in private hospitals, Australia, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
NHMD[(a)(b)]	3,461,715	3,569,134	3,740,672	3,839,061	3,981,905	4,170,029	4,327,287	4,426,467
PHEC	3,590,804	3,706,904	3,899,411	4,178,173	4,344,300	4,564,936	4,706,091	4,889,076
NHMD[(c)(d)]	3,520,076	3,626,085	3,799,563	3,900,127	4,041,747	4,170,029	4,327,287	4,426,467
PHDB[(c)]	3,286,906	3,549,863	3,624,670	3,735,084	3,979,334	4,078,425	4,310,835	4,588,717
HCP1[(c)]	2,399,525	2,619,028	2,856,995	2,942,768	3,108,995	3,228,756	3,368,249	3,454,678

(a) Some values may not match numbers published in *Australian hospital statistics* reports at the time, due to revisions in the data.

(b) *Unqualified newborn*, *Hospital boarder* and *Posthumous organ procurement* care types excluded.

(c) All care types included until 2013–14, and values from 2014–15, exclude *Unqualified newborn*, *Hospital boarder* and *Posthumous organ procurement* care types.

(d) For Victoria and the Northern Territory, private hospitals did not report all *Newborn* episodes without qualified days.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17; DoH 2011a, 2011b, 2012a, 2012b, 2013a, 2013b, 2014a, 2014b, 2016a, 2016b, 2017a, 2017b, 2017c, 2017d, 2017e, 2017f.

Table 2.3: Separations, by type of hospital, Australian private hospitals, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
National Hospital Morbidity Database (NHMD)[(a)]								
Private free-standing day hospital facilities	783,259	809,158	843,930	854,843	875,529	940,703	959,743	939,950
Other private hospitals	2,678,456	2,759,976	2,896,742	2,984,218	3,106,376	3,229,326	3,367,544	3,486,517
All private hospitals	**3,461,715**	**3,569,134**	**3,740,672**	**3,839,061**	**3,981,905**	**4,170,029**	**4,327,287**	**4,426,467**
Private Health Establishments Collection (PHEC)								
Private day hospital facilities	860,252	885,152	934,061	1,086,403	1,124,236	1,159,450	1,171,707	1,219,645
Private acute and psychiatric hospitals	2,730,552	2,821,752	2,965,350	3,091,770	3,220,064	3,405,486	3,534,384	3,669,431
All private hospitals	**3,590,804**	**3,706,904**	**3,899,411**	**4,178,173**	**4,344,300**	**4,564,936**	**4,706,091**	**4,889,076**
Difference: PHEC estimated separations – NHMD separations								
Private free-standing day hospital facilities	76,993	75,994	90,131	231,560	248,707	218,747	211,964	279,695
Other private hospitals	52,096	61,776	68,608	107,552	113,688	176,160	166,840	182,914
All private hospitals	**129,089**	**137,770**	**158,739**	**339,112**	**362,395**	**394,907**	**378,804**	**462,609**
Difference(%): PHEC estimated separations – NHMD separations, as a percentage of total NHMD separations								
Private free-standing day hospital facilities	9.8	9.4	10.7	27.1	28.4	23.3	22.1	29.8
Other private hospitals	1.9	2.2	2.4	3.6	3.7	5.5	5.0	5.2
All private hospitals	**3.7**	**3.9**	**4.2**	**8.8**	**9.1**	**9.5**	**8.8**	**10.5**

(a) Some values may not match numbers published in *Australian hospital statistics* reports at the time due to revisions in the data.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17.

States and territories

Table 2.4 presents private hospital separations for states and territories from 2009–10 to 2016–17 from the NHMD, the PHEC, the PHDB and the HCP1. With the exception of Queensland, the PHEC separation counts are generally higher than those for the NHMD, particularly from 2012–13. In contrast, any differences between the PHDB and NHMD separation counts are consistently minor or modest. HCP1 counts are consistently lower due to its capture of admitted patient separations for privately insured patients only.

The PHEC and the NHMD are compared in greater detail, by state and territory, in tables 2.5–2.9. The data suggest:

- Victoria was the most significant contributor to the higher separation counts in private free-standing day facilities for the PHEC, compared with the NHMD, and also

contributed significantly to the higher separation counts in *Other private hospitals* for the PHEC

- New South Wales and Victoria were major contributors to the sharp increase in the difference in separation counts in private free-standing day facilities from 2012–13, compared with the preceding reference years
- the combination of Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory contributed moderately to the higher separation counts in both private free-standing day facilities and *Other private hospitals* for the PHEC, compared with the NHMD
- in 2016–17, Victoria accounted for over 40% of the difference between the PHEC and the NHMD for private hospitals. This may be related to differences in the number of private hospitals reporting to the two collections (Table 2.1), and it results in significant differences in separation counts for both private free-standing day facilities and *Other private hospitals*
- in 2016–17, Victoria and New South Wales accounted for more than two-thirds of the difference between the two collections for separations in private free-standing day facilities
- in 2016–17 the greatest difference between the PHEC and the NHMD for private hospitals, other than private free-standing day facilities, was for Western Australia. This is known to be largely attributable to the treatment of separations for privately owned and/or operated hospitals which undertake predominantly public activity. Such separations were treated predominantly as public activity for the NHMD, whereas, from 2014–15, they were treated as private activity for the PHEC
- in 2016–17 there was a moderate difference between the PHEC and the NHMD in separation counts for private free-standing day facilities for South Australia and the combination of Tasmania, the Australian Capital Territory and the Northern Territory. This may be due to the higher count of hospitals reporting to the PHEC, compared with the NHMD, for these states and territories (Table 2.1).

Table 2.4: Separations reported from the NHMD, PHEC, PHDB and HCP1 for admitted patient care in private hospitals, by state/territory, 2009–10 to 2016–17[a]

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
				New South Wales				
NHMD[b][c]	960,706	1,011,887	1,070,140	1,082,499	1,099,811	1,184,539	1,261,170	1,292,716
PHEC	967,554	1,001,000	1,074,065	1,146,321	1,198,491	1,255,572	1,321,546	1,374,709
NHMD[d][e]	977,665	1,027,792	1,086,309	1,099,238	1,115,971	1,184,539	1,261,170	1,292,716
PHDB[d]	929,961	981,311	995,023	1,023,247	1,075,334	1,104,233	1,190,805	1,253,320
HCP1[d]	635,665	722,770	n.a.	821,238	876,066	914,583	962,384	990,777
				Victoria				
NHMD[b][c]	885,776	875,470	917,810	943,381	978,912	1,009,337	1,021,913	1,044,650
PHEC	921,725	950,000	984,480	1,117,774	1,145,235	1,172,193	1,201,480	1,236,178
NHMD[d][e]	885,779	876,099	920,156	945,821	981,253	1,009,337	1,021,913	1,044,650
PHDB[d]	821,254	888,587	912,240	947,267	990,663	1,031,843	1,067,449	1,128,799
HCP1[d]	646,027	690,429	n.a.	757,454	811,178	841,629	863,435	880,236

(continued)

Table 2.4 (continued): Separations reported from the NHMD, PHEC, PHDB and HCP1 for admitted patient care in private hospitals, by state/territory, 2009–10 to 2016–17[a]

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
				Queensland				
NHMD[b][c]	844,953	859,202	901,188	933,661	984,057	1,032,957	1,072,557	1,102,673
PHEC	847,410	852,000	890,863	916,814	959,330	1,022,441	1,034,266	1,102,421
NHMD[d][e]	862,161	875,468	916,986	949,581	999,659	1,032,957	1,072,557	1,102,673
PHDB[d]	783,304	875,247	896,238	923,599	1,000,551	988,824	1,052,618	1,140,606
HCP1[d]	541,875	596,902	n.a.	675,929	723,808	742,389	778,924	796,737
				Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory combined				
NHMD[b][c]	770,280	822,575	851,534	879,520	919,125	943,196	971,647	986,428
PHEC	854,115	904,000	950,003	997,264	1,041,244	1,114,730	1,148,799	1,175,768
NHMD[d][e]	794,471	846,726	876,112	905,487	944,864	943,196	971,647	986,428
PHDB[d]	752,387	804,718	821,169	840,971	912,786	953,525	999,963	1,065,992
HCP1[d]	575,958	608,927	n.a.	688,147	697,943	730,155	763,506	786,928

n.a = not available

(a) Components may not add up to the totals in Table 2.2 due to rounding.

(b) Some values may not match numbers published in *Australian hospital statistics* reports at the time due to revisions in the data.

(c) *Unqualified newborn*, *Hospital boarder* and *Posthumous organ procurement* care types excluded.

(d) All care types included until 2013–14, values from 2014–15 exclude *Unqualified newborn*, *Hospital boarder* and *Posthumous organ procurement* care types.

(e) For Victoria and the Northern Territory, private hospitals did not report all *Newborn* episodes without qualified days.

Sources: ABS 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17; DoH 2011a, 2011b, 2012a, 2012b, 2013a, 2013b, 2014a, 2014b, 2016a, 2016b, 2017a, 2017b, 2017c, 2017d, 2017e, 2017f.

Table 2.5: Separations, by type of hospital, New South Wales private hospitals, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
National Hospital Morbidity Database (NHMD)								
Private free-standing day hospital facilities	213,168	217,490	225,556	218,878	212,528	254,859	265,393	252,834
Other private hospitals	747,538	794,397	844,584	863,621	887,283	929,680	995,777	1,039,882
All private hospitals	**960,706**	**1,011,887**	**1,070,140**	**1,082,499**	**1,099,811**	**1,184,539**	**1,261,170**	**1,292,716**
Private Health Establishments Collection (PHEC)[(a)]								
Private day hospital facilities	225,296	227,000	242,038	276,743	292,978	307,300	313,256	333,108
Private acute and psychiatric hospitals	742,258	774,077	832,027	869,578	905,513	948,272	1,008,290	1,041,601
All private hospitals[(b)]	**967,554**	**1,001,000**	**1,074,065**	**1,146,321**	**1,198,491**	**1,255,572**	**1,321,546**	**1,374,709**
Difference: PHEC estimated separations – NHMD separations								
Private free-standing day hospital facilities	12,128	9,510	16,482	57,865	80,450	52,441	47,863	80,274
Other private hospitals	–5,280	–20,320	–12,557	5,956	18,230	18,592	12,513	1,719
All private hospitals[(b)]	**6,848**	**-10,887**	**3,925**	**63,821**	**98,680**	**71,033**	**60,376**	**81,993**
Difference(%): PHEC estimated separations – NHMD separations, as a percentage of total NHMD separations								
Private free-standing day hospital facilities	5.7	4.4	7.3	26.4	37.9	20.6	18.0	31.7
Other private hospitals	–0.7	–2.6	–1.5	0.7	2.1	2.0	1.3	0.2
All private hospitals	**0.7**	**–1.1**	**0.4**	**5.9**	**9.0**	**6.0**	**4.8**	**6.3**

(a) Some values rounded to the nearest 1,000.

(b) Components may not add up to totals, due to rounding.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17.

Table 2.6: Separations, by type of hospital, Victorian private hospitals, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
National Hospital Morbidity Database (NHMD)								
Private free-standing day hospital facilities	188,405	197,625	209,489	211,752	217,195	223,434	224,902	217,820
Other private hospitals	697,371	677,845	708,321	731,629	761,717	785,903	797,011	826,830
All private hospitals	**885,776**	**875,470**	**917,810**	**943,381**	**978,912**	**1,009,337**	**1,021,913**	**1,044,650**
Private Health Establishments Collection (PHEC)[(a)]								
Private day hospital facilities	212,471	225,000	232,996	324,717	319,996	319,124	322,956	337,909
Private acute and psychiatric hospitals	709,254	724,889	751,484	793,057	825,239	853,069	878,524	898,269
All private hospitals[(b)]	**921,725**	**950,000**	**984,480**	**1,117,774**	**1,145,235**	**1,172,193**	**1,201,480**	**1,236,178**
Difference: PHEC estimated separations – NHMD separations								
Private free-standing day hospital facilities	24,066	27,375	23,507	112,965	102,801	95,690	98,054	120,089
Other private hospitals	11,883	47,044	43,163	61,428	63,522	67,166	81,513	71,439
All private hospitals[(b)]	**35,949**	**74,530**	**66,670**	**174,393**	**166,323**	**162,856**	**179,567**	**191,528**
Difference(%): PHEC estimated separations – NHMD separations, as a percentage of total NHMD separations								
Private free-standing day hospital facilities	12.8	13.9	11.2	53.3	47.3	42.8	43.6	55.1
Other private hospitals	1.7	6.9	6.1	8.4	8.3	8.5	10.2	8.6
All private hospitals	**4.1**	**8.5**	**7.3**	**18.5**	**17.0**	**16.1**	**17.6**	**18.3**

(a) Some values rounded to the nearest 1,000.

(b) Components may not add up to the totals, due to rounding.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17.

Table 2.7: Separations, by type of hospital, Queensland private hospitals, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
National Hospital Morbidity Database (NHMD)								
Private free-standing day hospital facilities	212,680	209,869	211,763	216,561	224,489	228,431	229,714	226,675
Other private hospitals	632,273	649,333	689,425	717,100	759,568	804,526	842,843	875,998
All private hospitals	**844,953**	**859,202**	**901,188**	**933,661**	**984,057**	**1,032,957**	**1,072,557**	**1,102,673**
Private Health Establishments Collection (PHEC)[(a)]								
Private day hospital facilities	220,553	213,000	219,772	219,156	227,235	229,009	230,570	231,905
Private acute and psychiatric hospitals	626,857	638,738	671,091	697,658	732,095	793,432	803,696	870,516
All private hospitals[(b)]	**847,410**	**852,000**	**890,863**	**916,814**	**959,330**	**1,022,441**	**1,034,266**	**1,102,421**
Difference: PHEC estimated separations – NHMD separations								
Private free-standing day hospital facilities	7,873	3,131	8,009	2,595	2,746	578	856	5,230
Other private hospitals	–5,416	–10,595	–18,334	–19,442	–27,473	–11,094	–39,147	–5,482
All private hospitals[(b)]	**2,457**	**–7,202**	**–10,325**	**–16,847**	**–24,727**	**–10,516**	**–38,291**	**–252**
Difference(%): PHEC estimated separations – NHMD separations, as a percentage of total NHMD separations								
Private free-standing day hospital facilities	3.7	1.5	3.8	1.2	1.2	0.3	0.4	2.3
Other private hospitals	–0.9	–1.6	–2.7	–2.7	–3.6	–1.4	–4.6	–0.6
All private hospitals	**0.3**	**–0.8**	**–1.1**	**–1.8**	**–2.5**	**–1.0**	**–3.6**	**0.0**

(a) Some values rounded to the nearest 1,000.

(b) Components may not add up to the totals, due to rounding.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD, 2009–10 to 2016–17.

Table 2.8: Separations, by type of hospital, Western Australia, South Australia, Tasmania, Australian Capital Territory and Northern Territory private hospitals combined, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
National Hospital Morbidity Database (NHMD)								
Private free-standing day hospital facilities	169,006	184,174	197,122	207,652	221,317	233,979	239,734	242,621
Other private hospitals	601,274	638,401	654,412	671,868	697,808	709,217	731,913	743,807
All private hospitals	**770,280**	**822,575**	**851,534**	**879,520**	**919,125**	**943,196**	**971,647**	**986,428**
Private Health Establishments Collection (PHEC)[(a)]								
Private day hospital facilities	201,932	220,000	239,255	265,787	284,027	304,017	304,925	316,723
Private acute and psychiatric hospitals	652,183	684,048	710,748	731,477	757,217	810,713	843,874	859,045
All private hospitals[(b)]	**854,115**	**904,000**	**950,003**	**997,264**	**1,041,244**	**1,114,730**	**1,148,799**	**1,175,768**
Difference: PHEC estimated separations – NHMD separations								
Private free-standing day hospital facilities	32,926	35,826	42,133	58,135	62,710	70,038	65,191	74,102
Other private hospitals	50,909	45,647	56,336	59,609	59,409	101,496	111,961	115,238
All private hospitals[(b)]	**83,835**	**81,425**	**98,469**	**117,744**	**122,119**	**171,534**	**177,152**	**189,340**
Difference(%): PHEC estimated separations – NHMD separations, as a percentage of total NHMD separations								
Private free-standing day hospital facilities	19.5	19.5	21.4	28.0	28.3	29.9	27.2	30.5
Other private hospitals	8.5	7.2	8.6	8.9	8.5	14.3	15.3	15.5
All private hospitals	**10.9**	**9.9**	**11.6**	**13.4**	**13.3**	**18.2**	**18.2**	**19.2**

(a) Some values rounded to the nearest 1,000.

(b) Components may not add up to the totals, due to rounding.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17.

Table 2.9: Separations, by type of hospital, private hospitals, reported from the NHMD and the PHEC, states and territories, 2016–17

	NSW	Vic	Qld	WA	SA	Balance[a]	Total
National Hospital Morbidity Database (NHMD)							
Private free-standing day hospital facilities	252,834	217,820	226,675	152,905	73,336	16,380	939,950
Other private hospitals	1,039,882	826,830	875,998	354,233	245,992	143,582	3,486,517
All private hospitals	**1,292,716**	**1,044,650**	**1,102,673**	**507,138**	**319,328**	**159,962**	**4,426,467**
Private Health Establishments Collection (PHEC)[b]							
Private day hospital facilities	333,108	337,909	231,905	157,000	104,000	56,000	1,219,645
Private acute and psychiatric hospitals	1,041,601	898,269	870,516	471,999	240,250	146,796	3,669,431
All private hospitals[c]	**1,374,709**	**1,236,178**	**1,102,421**	**629,000**	**344.000**	**203,000**	**4,889,076**
Difference: PHEC estimated separations – NHMD separations							
Private free-standing day hospital facilities	80,274	120,089	5,230	4,095	30,664	39,620	279,695
Other private hospitals	1,719	71,439	–5,482	117,766	–5,742	3,214	182,914
All private hospitals[c]	**81,993**	**191,528**	**–252**	**121,862**	**24,672**	**43,038**	**462,609**
Difference(%): PHEC estimated separations – NHMD separations, as a percentage of total NHMD separations							
Private free-standing day hospital facilities	31.7	55.1	2.3	2.7	41.8	241.9	29.8
Other private hospitals	0.2	8.6	–0.6	33.2	–2.3	2.2	5.2
All private hospitals	**6.3**	**18.3**	**0.0**	**24.0**	**7.7**	**26.9**	**10.5**

(a) Tasmania, the Australian Capital Territory and the Northern Territory combined.

(b) Some values rounded to the nearest 1,000.

(c) Components may not add up to the totals, due to rounding.

Sources: ABS 2018; AIHW 2018a.

Same-day and overnight separations

Table 2.10 presents a comparison of same-day and overnight separations reported through the PHEC and the NHMD for private hospitals, other than free-standing day facilities. This table indicates that the difference in separations reported through the PHEC and the NHMD has been consistently higher for overnight separations in these types of hospitals.

Table 2.10: Same-day and overnight separations, private hospitals other than free-standing day facilities, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
National Hospital Morbidity Database (NHMD)[a]								
Same-day	1,561,565	1,623,190	1,725,357	1,789,245	1,884,102	1,988,489	2,097,603	2,197,572
Overnight	1,116,891	1,136,786	1,171,385	1,194,973	1,222,274	1,240,837	1,269,941	1,288,945
All separations	**2,678,456**	**2,759,976**	**2,896,742**	**2,984,218**	**3,106,376**	**3,229,326**	**3,367,544**	**3,486,517**
Private Health Establishments Collection (PHEC)[b]								
Same-day	1,561,000	1,630,000	1,749,000	1,841,102	1,939,000	2,080,730	2,168,978	2,273,000
Overnight	1,170,000	1,192,000	1,216,000	1,250,668	1,281,000	1,324,756	1,365,406	1,396,000
All separations[c]	**2,730,552**	**2,821,752**	**2,965,350**	**3,091,770**	**3,220,064**	**3,405,486**	**3,534,384**	**3,669,431**
Difference: PHEC estimated separations – NHMD separations								
Same-day	-565	6,810	23,643	51,857	54,898	92,241	71,375	75,428
Overnight	53,109	55,214	44,615	55,695	58,726	83,919	95,465	107,055
All separations[c]	**52,096**	**61,776**	**68,608**	**107,552**	**113,688**	**176,160**	**166,840**	**182,914**
Difference(%): PHEC estimated separations – NHMD separations, as a percentage of total NHMD separations								
Same-day	0.0	0.4	1.4	2.9	2.9	4.6	3.4	3.4
Overnight	4.8	4.9	3.8	4.7	4.8	6.8	7.5	8.3
All separations	**1.9**	**2.2**	**2.4**	**3.6**	**3.7**	**5.5**	**5.0**	**5.2**

(a) Some values may not match numbers published in *Australian hospital statistics* reports at the time due to revisions in the data.

(b) Some values rounded to the nearest 1,000.

(c) Components may not add up to the totals, due to rounding.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17.

2.3 Patient days

Table 2.11 compares patient days in private hospitals for the NHMD and the PHEC for 2009–10 to 2016–17. Table 2.12 compares patient days in private hospitals for the NHMD and the PHEC by state for 2016–17.

The tables show that:

- the difference between patient days for the NHMD and the PHEC has increased significantly since 2013–14, largely as a result of differences in the data for O*ther private hospitals*
- between 2012–13 and 2013–14 the difference in bed days for *Other private hospital* separations between the two collections increased from 285,034 bed days to 652,361 bed days, despite the fact that the difference between separations stayed relatively constant for both collections (Table 2.3). This difference in bed days between the two collections is likely to have been due to differences in the methodology used for dealing with data quality issues, as discussed in Section 1.3
- between 2015–16 and 2016–17, the difference between the two collections in bed days for *Other private hospital* separations decreased from 821,105 bed days to 635,153 bed days, despite the fact that the difference between separations for the two collections stayed relatively constant (Table 2.3). This difference is also likely to have been due to methodological differences between the two collections
- the difference between the NHMD and the PHEC in reported patient days for *Other private hospitals* in 2016–17 is larger than the difference for separations in that year (7% compared with 5%).
- the main difference in bed days between the two collections in 2016–17 occurred in Victoria (for both private free-standing hospitals and *Other private hospitals*), New South Wales (for private free-standing hospitals) and in Western Australia (for *Other private hospitals*). This is similar to the pattern observed for separation counts (Table 2.9).

Table 2.11: Patient days, by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
National Hospital Morbidity Database (NHMD)[a]								
Private free-standing day hospital facilities	783,259	809,368	843,930	854,933	875,545	940,870	960,603	940,096
Other private hospitals	7,478,918	7,594,161	7,897,279	8,013,743	8,180,639	8,448,971	8,701,444	8,932,867
All private hospitals	**8,262,177**	**8,403,529**	**8,741,209**	**8,868,676**	**9,056,184**	**9,389,841**	**9,662,047**	**9,872,963**
Private Health Establishments Collection (PHEC)[b]								
Private day hospital facilities	860,252	885,152	934,061	1,086,403	1,124,236	1,159,450	1,171,707	1,219,645
Private acute and psychiatric hospitals	7,580,000	7,966,000	8,065,895	8,298,777	8,833,000	9,263,184	9,522,549	9,568,000
All private hospitals[c]	**8,440,000**	**8,851,000**	**8,999,956**	**9,385,180**	**9,957,000**	**10,422,634**	**10,694,256**	**10,788,000**
Difference: PHEC estimated patient days – NHMD patient days								
Private free-standing day hospital facilities	76,993	75,784	90,131	231,470	248,691	218,580	211,104	279,549
Other private hospitals	101,082	371,839	168,721	285,034	652,361	814,213	821,105	635,133
All private hospitals[c]	**177,823**	**447,471**	**258,747**	**516,504**	**900,816**	**1,032,793**	**1,032,209**	**915,037**
Difference(%): PHEC estimated patient days – NHMD patient days, as a percentage of total NHMD patient days								
Private free-standing day hospital facilities	9.8	9.4	10.7	27.1	28.4	23.2	22.0	29.7
Other private hospitals	1.4	4.9	2.1	3.6	8.0	9.6	9.4	7.1
All private hospitals	**2.2**	**5.3**	**3.0**	**5.8**	**9.9**	**11.0**	**10.7**	**9.3**

(a) Some values may not match numbers published in *Australian hospital statistics* reports at the time due to revisions in the data.

(b) Some values rounded to the nearest 1,000.

(c) Components may not add up to the totals, due to rounding.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17.

Table 2.12: Patient days, by type of hospital, private hospitals, reported from the NHMD and the PHEC, by state and territory, 2016–17

	NSW	Vic	Qld	WA	SA	Balance[a]	Total
National Hospital Morbidity Database (NHMD)							
Private free-standing day hospital facilities	252,838	217,962	226,675	152,905	73,336	16,380	940,096
Other private hospitals	2,576,385	2,323,861	2,273,860	860,305	564,363	334,093	8,932,867
All private hospitals	**2,829,223**	**2,541,823**	**2,500,535**	**1,013,210**	**637,699**	**350,473**	**9,872,963**
Private Health Establishments Collection (PHEC)[b]							
Private day hospital facilities	333,108	337,909	231,905	157,000	104,000	56,000	1,219,645
Private acute and psychiatric hospitals	2,675,000	2,552,000	2,284,000	1,106,000	591,000	360,000	9,568,000
All private hospitals[c]	**3,008,000**	**2,890,000**	**2,516,000**	**1,263,000**	**694,000**	**416,000**	**10,787,000**
Difference: PHEC estimated patient days – NHMD patient days							
Private free-standing day hospital facilities	80,270	119,947	5,230	4,095	30,664	39,620	279,549
Other private hospitals	98,615	228,139	10,140	245,695	26,637	25,907	635,133
All private hospitals[c]	**178,777**	**348,177**	**15,465**	**249,790**	**56,301**	**65,527**	**914,037**
Difference(%): PHEC estimated patient days – NHMD patient days, as a percentage of total NHMD patient days							
Private free-standing day hospital facilities	31.7	55.0	2.3	2.7	41.8	241.9	29.7
Other private hospitals	3.8	9.8	0.4	28.6	4.7	7.8	7.1
All private hospitals	**6.3**	**13.7**	**0.6**	**24.7**	**8.8**	**18.7**	**9.3**

(a) Tasmania, the Australian Capital Territory and the Northern Territory combined.

(b) Some values rounded to the nearest 1,000.

(c) Components may not add up to totals due to rounding.

Sources: ABS 2018; AIHW 2018a.

2.4 Length of stay

Tables 2.13 and 2.14 present the average length of stay, for the NHMD and the PHEC from 2009–10 to 2016–17, and by state and territory for 2016–17, respectively.

The average length of stay has been fairly consistent between the collections over time with the only variation occurring in the 3 years with particularly high bed days reported from the PHEC (Table 2.11). The average length of stay was similarly consistent between the two collections by state and territory in 2016–17.

Table 2.13: Average length of stay, private hospitals other than free-standing day facilities, reported from the NHMD and the PHEC, 2009–10 to 2016–17

	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
Average length of stay								
NHMD[(a)]	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.6
PHEC	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.6
Average length of stay excluding same-day separations								
NHMD[(a)]	5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.2
PHEC	5.1	5.3	5.2	5.2	5.4	5.4	5.4	5.2

(a) Some values may not match numbers published in *Australian hospital statistics* reports at the time, due to revisions in the data.

Sources: ABS 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018; AIHW NHMD 2009–10 to 2016–17.

Table 2.14: Average length of stay, by type of hospital, private hospitals, reported from the NHMD and the PHEC, by state and territory, 2016–17

	NSW	Vic	Qld	WA	SA	Balance[(a)]	Total
National Hospital Morbidity Database (NHMD)							
Private free-standing day hospital facilities	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other private hospitals	2.5	2.8	2.6	2.4	2.3	2.3	2.6
All private hospitals	**2.2**	**2.4**	**2.3**	**2.0**	**2.0**	**2.2**	**2.2**
Private Health Establishments Collection (PHEC)							
Private day hospital facilities	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Private acute and psychiatric hospitals	2.6	2.8	2.6	2.3	2.5	2.5	2.6
All private hospitals	**2.2**	**2.3**	**2.3**	**2.0**	**2.0**	**2.1**	**2.2**

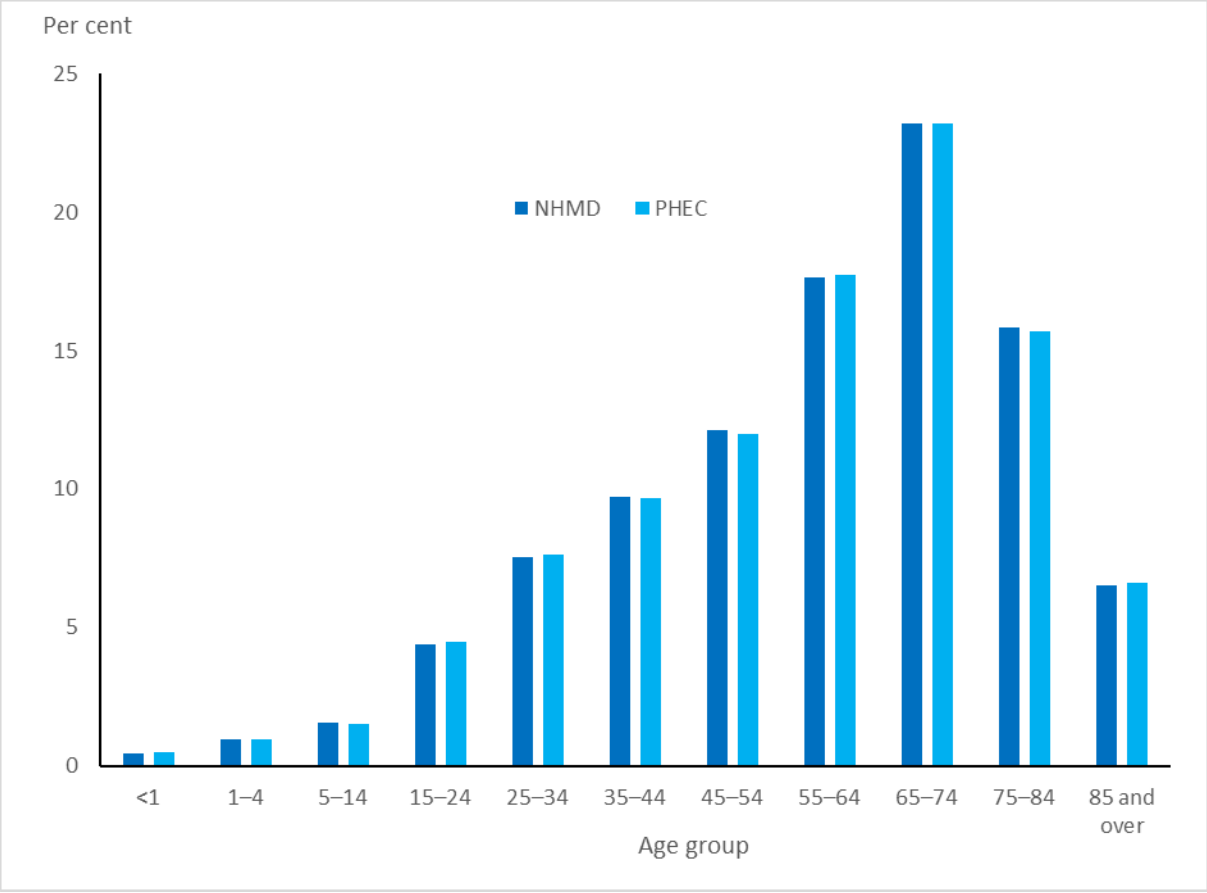
(a) Tasmania, the Australian Capital Territory and the Northern Territory combined.

Sources: ABS 2018; AIHW 2018a.

3 The characteristics of the people who used the services

Although the PHEC has a considerably higher number of separations with sex not reported than the NHMD, the proportion of separations by sex can be calculated on a similar basis by using a denominator of only those separations reported as male or female in each collection. In this case, the percentage of separations in the NHMD and the PHEC for males versus females is very similar, at 45.4% males and 54.6% females for the NHMD and 45.2% males and 54.8% females for the PHEC. (Note that these proportions may not match the proportions published for the two collections, as they exclude unreported sex from the denominators used in the proportion calculations). The age distribution for the NHMD and PHEC is also essentially the same, as can be seen from Figure 3.1.

Figure 3.1: Percentage of separations, by age group, for the NHMD and the PHEC, 2016–17



(a) Due to significant differences in the number of separations without an age reported in the two collections, percentages are calculated with a denominator based on only those separations with reported age.

Sources: ABS 2018; AIHW 2018a.

4 The principal diagnosis for the care

This section presents differences between the NHMD and the PHEC on the reasons for patients' hospital admissions, as described by the principal diagnosis—that is, the diagnosis established after study (for example, at the completion of the episode of care) to be chiefly responsible for occasioning the episode of admitted patient care.

Principal diagnoses are classified according to the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification* (ICD-10-AM).

As discussed in Section 1.3 and indicated in Table 1.2, the implementation of the ICD-10-AM Edition 9 coding change for rehabilitation suggests that the PHEC is being reported to a large degree using the same ICD-10-AM edition as the NHMD. Consequently differences between reported separations for the NHMD and the PHEC by principal diagnosis ICD-10-AM chapter are unlikely to be due largely to differences between ICD-10-AM editions.

Table 4.1 presents separation counts for the NHMD and approximate separation counts for the PHEC by ICD-10-M principal diagnosis chapter for 2016–17. Tables 4.2 and 4.3 present separation counts for the NHMD and approximate separations counts for the PHEC for each of the ICD-10-AM principal diagnosis chapters *Factors influencing health status and contact with health services* and *Mental and behavioural disorders,* broken down by type of hospital and state, respectively, for 2016–17.

These tables show that for 2016–17:

- *factors influencing health status and contact with health services* and *Mental and behavioural disorders* between them account for more than half of the approximately 463,000 difference in separations between the two collections
- the majority of the discrepancy between the NHMD and the PHEC for *Mental and behavioural disorders* is for *Other private hospitals*
- the majority of the discrepancy between the NHMD and the PHEC for *Factors influencing health status and contact with health services* is for private free-standing day hospital facilities
- Victoria is the main contributor to the differences in separation counts between the two collections for *Factors influencing health status and contact with health services* and *Mental and behavioural disorders*
- the combination of Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory is also a significant contributor in each case.

Of note is the fact that *Factors influencing health status and contact with health services* includes episodes for dialysis and chemotherapy which can also be performed as same-day non-admitted patient episodes, depending on admission practices. Hence there may be some episodes of care which are being classified as admitted or non-admitted episodes differently for the two collections.

Table 4.1: Separations, by type of hospital, by principal diagnosis in ICD-10-AM chapters, private hospitals, reported from the NHMD and the PHEC, 2016–17

Principal diagnosis[a]		NHMD	PHEC[b]	Difference: PHEC estimated separations – NHMD separations	Difference(%) as a percentage of total NHMD separations
A00–B99	Certain infectious and parasitic diseases	29,199	34,224	5,025	17.2
C00–D48	Neoplasms	370,818	410,682	39,864	10.8
D50–D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	70,151	78,225	8,074	11.5
E00–E89	Endocrine, nutritional and metabolic diseases	72,661	78,225	5,564	7.7
F00–F99	Mental and behavioural disorders	213,320	288,455	75,135	35.2
G00–G99	Diseases of the nervous system	140,570	151,561	10,991	7.8
H00–H59	Diseases of the eye and adnexa	295,736	308,012	12,276	4.2
H60–H95	Diseases of the ear and mastoid process	32,057	34,224	2,167	6.8
I00–I99	Diseases of the circulatory system	191,879	200,452	8,573	4.5
J00–J99	Diseases of the respiratory system	113,254	122,227	8,973	7.9
K00–K93	Diseases of the digestive system	555,296	596,467	41,171	7.4
L00–L99	Diseases of the skin and subcutaneous tissue	51,189	63,558	12,369	24.2
M00–M99	Diseases of the musculoskeletal system and connective tissue	531,407	547,577	16,170	3.0
N00–N99	Diseases of the genitourinary system	208,532	220,008	11,476	5.5
O00–O99	Pregnancy, childbirth and the puerperium	130,140	146,672	16,532	12.7
P00–P96	Certain conditions originating in the perinatal period	10,986	9,778	-1,208	–11.0
Q00–Q99	Congenital malformations, deformations and chromosomal abnormalities	11,820	14,667	2,847	24.1
R00–R99	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	298,511	312,901	14,390	4.8
S00–T98	Injury, poisoning and certain other consequences of external causes	169,399	180,896	11,497	6.8
Z00–Z99	Factors influencing health status and contact with health services	929,523	1,095,153	165,630	17.8
Total[c]		**4,426,467**	**4,889,076**	**462,609**	**10.5**

(a) The NHMD principal diagnosis is collected under ICD-10-AM Edition 9, while the PHEC is reportedly collected under ICD-10-AM Edition 6.

(b) Approximate counts derived from published proportions and using total separation counts (including separations with missing principal diagnosis) as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

(c) Components may not add up to the totals due to the approximation methodology.

Sources: ABS 2018; AIHW 2018a.

Table 4.2: Separations with a principal diagnosis for *Mental and behavioural disorders* or *Factors influencing health status and contact with health services,* by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2016–17

	NHMD	PHEC[a]	Difference: PHEC estimated separations – NHMD separations
Principal diagnosis F00–F99: *Mental and behavioural disorders*			
Private free-standing day hospital facilities	405	10,977	10,572
Other private hospitals	212,915	275,207	62,292
All private hospitals[b]	**213,320**	**288,455**	**75,135**
Principal diagnosis Z00–Z99: *Factors influencing health status and contact with health services*			
Private free-standing day hospital facilities	337,399	462,245	124,846
Other private hospitals	592,124	631,142	39,018
All private hospitals[b]	**929,523**	**1,095,153**	**165,630**

(a) Approximate counts derived from published proportions and using total separation counts (including separations with a missing principal diagnosis) as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

(b) Components may not add up to the totals due to the approximation methodology.

Sources: ABS 2018; AIHW 2018a.

Table 4.3: Separations with a principal diagnosis for *Mental and behavioural disorders* or *Factors influencing health status and contact with health services*, private hospitals, reported from the NHMD and the PHEC, by state and territory, 2016–17

	NHMD	PHEC[a]	Difference: PHEC estimated separations – NHMD separations
Principal diagnosis F00–F99: *Mental and behavioural disorders*[b]			
New South Wales	75,691	81,245	5,554
Victoria	49,629	78,149	28,520
Queensland	68,166	73,123	4,957
Remainder[c]	19,834	42,690	22,856
Australia[d]	**213,320**	**275,207**	**61,887**
Principal diagnosis Z00–Z99: *Factors influencing health status and contact with health services*			
New South Wales	210,287	245,461	35,174
Victoria	214,431	293,999	79,568
Queensland	249,150	247,607	–1,543
Remainder[c]	255,655	306,030	50,375
Australia[e]	**929,523**	**1,095,153**	**165,630**

(a) Approximate counts derived from published proportions and using total separation counts (including separations with missing principal diagnosis) as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

(b) PHEC values for F00–F99: *Mental and behavioural disorders* based on private acute and psychiatric hospitals only.

(c) Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory combined.

(d) Components do not add up to the totals in Table 4.1 for the PHEC due to the restriction to private acute and psychiatric hospitals.

(e) Components may not add up to the totals due to the approximation methodology.

Sources: ABS 2018; AIHW NHMD 2016–17.

5 Procedures performed

A procedure is defined as a clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training, and/or requires special facilities or equipment only available in an acute care setting. Procedures therefore encompass surgical procedures and also non-surgical investigative and therapeutic procedures.

The *Australian Classification of Health Interventions* (ACHI) is the Australian national standard for procedure and intervention coding in Australian hospitals, based around the Medicare Benefits Schedule (MBS).

As discussed in Section 1.3 and indicated in Table 1.2, the implementation of the ICD-10-AM Edition 9 coding change for rehabilitation suggests that the PHEC is being reported to a large degree using the same ICD-10-AM edition (and hence, same edition of the ACHI), as for the NHMD. Consequently, differences between reported procedures for the NHMD and the PHEC, by ACHI procedure chapter, are unlikely to be due largely to differences in editions of the ACHI.

Table 5.1 details the total number of procedures reported in private hospitals from the NHMD and approximate counts of procedures reported from the PHEC, in 2016–17. Table 5.2 presents the number of separations and the number of procedures for the PHEC and the NHMD, by type of hospital. Table 5.3 presents the number of procedures for the ACHI chapter *Non-invasive, cognitive and interventions n.e.c.* for the two collections, by type of hospital. There is insufficient information available to undertake a comparison, by state and territory, of procedures reported.

These tables show that, for 2016–17:

- the difference in separations between the PHEC and the NHMD is 10.5%, whereas the difference in procedures between the PHEC and the NHMD is only 2.7%. This suggests that, relative to the number of separations being captured, the PHEC is capturing fewer procedures than the NHMD
- this pattern is occurring for both private free-standing day facilities and *Other private hospitals*
- the ACHI procedure chapter with the most significant relative difference in procedure counts is *Chemotherapeutic and radiation oncology procedures* (which can be same-day admitted episodes or non-admitted episodes, depending on hospital admission practices)
- the ACHI procedure chapter with the most significant absolute difference in total procedure counts is *Non-invasive, cognitive and interventions n.e.c.,* which occur largely in *Other private hospitals*. This includes counselling and generalised allied health interventions which may be associated with episodes with diagnoses for *Mental and behavioural disorders* and which may also be treated as either ‘admitted’ or ‘non-admitted’ patient episodes, depending on admission practice.

Table 5.1: Number of procedures[a] in private hospitals, by type of hospital, reported from the NHMD and the PHEC, 2016–17

Procedure[b]	NHMD	PHEC[c]	Difference: PHEC estimated procedures – NHMD procedures	Difference(%) as a percentage of total NHMD procedures
Procedures on nervous system	312,506	305,883	–6,623	–2.1
Procedures on endocrine system	11,528	11,329	–199	–1.7
Procedures on eye and adnexa	358,216	362,528	4,312	1.2
Procedures on ear and mastoid process	48,379	45,316	–3,063	–6.3
Procedures on nose, mouth and pharynx	206,678	192,593	–14,085	–6.8
Dental services	274,233	260,567	–13,666	–5.0
Procedures on respiratory system	58,638	56,645	–1,993	–3.4
Procedures on cardiovascular system	287,332	283,225	–4,107	–1.4
Procedures on blood and blood-forming organs	32,402	33,987	1,585	4.9
Procedures on digestive system	1,349,990	1,348,151	–1,839	–0.1
Procedures on urinary system	529,022	543,792	14,770	2.8
Procedures on male genital organs	85,677	90,632	4,955	5.8
Gynaecological procedures	383,753	396,515	12,762	3.3
Obstetric procedures	159,766	169,935	10,169	6.4
Procedures on musculoskeletal system	596,731	589,108	–7,623	–1.3
Dermatological and plastic procedures	482,871	464,489	–18,382	–3.8
Procedures on breast	67,732	67,974	242	0.4
Chemotherapeutic and radiation oncology procedures	7,281	101,961	94,680	1,300.4
Non-invasive, cognitive and interventions n.e.c.	5,727,230	5,959,054	231,824	4.0
Imaging services	50,582	45,316	–5,266	–10.4
Total procedures[d]	**11,030,553**	**11,329,000**	**298,447**	**2.7**

(a) Numbers of procedures are counts for all reported ACHI procedure codes. If a separation has multiple procedure codes reported then all procedure codes are included in the counts.

(b) The NHMD procedure information is collected under ACHI Edition 9, while the PHEC is reportedly collected under ACHI Edition 6.

(c) Approximate counts derived from published proportions and using total procedure counts as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

(d) Includes procedure codes which are not valid in ACHI Edition 9.

Sources: ABS 2018; AIHW 2018a.

Table 5.2: Separations and procedures[a], by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2016–17

	NHMD	PHEC	Difference: PHEC estimated procedures – NHMD procedures	Difference(%) as a percentage of total NHMD procedures
		Separations		
Private free-standing day hospital facilities	939,950	1,219,645	279,695	29.8
Other private hospitals	3,486,517	3,669,431	182,914	5.2
All private hospitals	**4,426,467**	**4,889,076**	**462,609**	**10.5**
		Procedures[a]		
Private free-standing day hospital facilities	1,853,066	2,101,000	247,934	13.4
Other private hospitals	9,177,487	9,228,000	50,513	0.6
All private hospitals	**11,030,553**	**11,329,000**	**298,447**	**2.7**

(a) Numbers of procedures are counts for all reported ACHI procedure codes. If a separation has multiple procedure codes reported, then all procedure codes are included in the counts.

Sources: ABS 2018; AIHW NHMD 2016–17.

Table 5.3: *Non-invasive, cognitive and interventions n.e.c.* procedures[a], by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2016–17

	NHMD	PHEC[b]	Difference: PHEC estimated procedures – NHMD procedures
Private free-standing day hospital facilities	708,546	787,875	79,329
Other private hospitals	5,018,684	5,176,908	158,224
All private hospitals[c]	**5,727,230**	**5,959,054**	**231,824**

(a) Numbers of procedures are counts for all reported ACHI procedure codes. If a separation has multiple procedure codes reported, then all procedure codes are included in the counts.

(b) Approximate counts derived from published proportions, using total procedure counts as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

(c) Components may not add up to totals, due to the approximation process.

Sources: ABS 2018; AIHW NHMD 2016–17.

6 The overall casemix of the care

Australian Refined Diagnosis Related Groups (AR-DRGs) is an Australian admitted patient classification system which provides a clinically meaningful way of relating the number and type of patients treated in a hospital (known as **hospital casemix**) to the resources required by the hospital. Each AR-DRG represents a class of patients with similar clinical conditions requiring similar hospital services. AR-DRGs are classified into 23 broad categories called Major Diagnostic Categories (MDCs), which correspond generally to the major organ systems of the body.

In this chapter, PHEC separation counts for MDCs are reportedly based on AR-DRG version 5.2 while NHMD separations have been reported using AR-DRG version 6.0x. Between the PHEC and the NHMD, there will be some minor differences in assignment to MDCs due to the different AR-DRG versions being reported—however these differences are expected to be minimal, given the similarity of the AR-DRG versions.

Table 6.1 presents separation counts reported from the NHMD and approximate separation counts reported from the PHEC by MDC for 2016–17. Table 6.2 presents separation counts reported from the NHMD and approximate separation counts reported from the PHEC for each of the MDCs *Diseases and disorders of the digestive system* and *Neoplastic disorders (haematological and solid neoplasms)*, broken down by type of hospital for 2016–17. No further comparative breakdowns are possible based on the available information.

The tables show that, for 2016–17:

- the MDCs with the greatest difference between separations for the PHEC and the NHMD are *Neoplastic disorders (haematological and solid neoplasms)*; *Diseases and disorders of the digestive system;* and *Mental diseases and disorders*
- the majority of the difference between the PHEC and the NHMD for *Neoplastic disorders (haematological and solid neoplasms)* and *Diseases and disorders of the digestive system* is for private free-standing day facilities.

The MDC *Neoplastic disorders (haematological and solid neoplasms)* includes chemotherapy procedures and the MDC *Diseases and disorders of the digestive system* includes endoscopic procedures, both of which can be same-day admitted episodes or non-admitted episodes, depending on hospital admission practices. Again, this suggests some episodes of care may be classified as ‘admitted’ or ‘non-admitted’ patient episodes differently for the two collections.

Table 6.1: Separations, by Major Diagnostic Category, by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2016–17

Major Diagnostic Category[a]		NHMD[b]	PHEC[c]	Difference: PHEC estimated separations – NHMD separations	Difference(%) as a percentage of total NHMD separations
PR	Pre-MDC (tracheostomies, transplants, ECMO)	4,848	3,669	–1,174	–24.2
1	Diseases and disorders of the nervous system	146,835	156,534	11,052	7.6
2	Diseases and disorders of the eye	301,591	311,345	9,852	3.3
3	Diseases and disorders of the ear, nose, mouth and throat	242,669	262,811	20,211	8.3
4	Diseases and disorders of the respiratory system	127,954	143,087	15,155	11.8
5	Diseases and disorders of the circulatory system	210,087	218,915	8,910	4.2
6	Diseases and disorders of the digestive system	679,496	731,953	52,373	7.7
7	Diseases and disorders of the hepatobiliary system and pancreas	39,379	42,803	3,569	9.1
8	Diseases and disorders of the musculoskeletal system and connective tissue	653,540	676,342	21,480	3.3
9	Diseases and disorders of the skin, subcutaneous tissue and breast	229,237	246,841	17,605	7.7
10	Endocrine, nutritional and metabolic diseases and disorders	71,868	75,807	4,008	5.6
11	Diseases and disorders of the kidney and urinary tract	396,894	419,020	22,160	5.6
12	Diseases and disorders of the male reproductive system	71,114	77,027	5,942	8.4
13	Diseases and disorders of the female reproductive system	185,190	195,542	10,366	5.6
14	Pregnancy, childbirth and puerperium	133,924	150,342	16,418	12.3
15	Newborns and other neonates	13,718	14,678	960	7.0
16	Diseases and disorders of the blood and blood-forming organs, and immunological disorders	76,640	81,863	5,221	6.8
17	Neoplastic disorders(haematological and solid neoplasms)	335,932	414,226	78,284	23.3
18	Infectious and parasitic diseases	18,439	22,006	3,522	19.1
19	Mental diseases and disorders	173,144	216,496	42,269	24.3
20	Alcohol/drug use and alcohol/drug induced organic mental disorders	36,365	51,372	15,007	41.3
21	Injuries, poisoning and toxic effects of drugs	30,438	31,795	1,240	4.1
22	Burns	366	0	–360	–100.0

(continued)

Table 6.1 (continued): Separations, by Major Diagnostic Category, by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2016–17

Major Diagnostic Category[a]		NHMD[b]	PHEC[c]	Difference: PHEC estimated separations – NHMD separations	Difference(%) as a percentage of total NHMD separations
23	Factors influencing health status and other contacts with health services	242,121	265,198	24,160	10.0
ED	Error DRGs	4,678	3,669	–1,356	–27.0
Total[d]		**4,426,467**	**4,889,076**	**462,609**	**10.5**

(a) The NHMD MDC has been assigned based on AR-DRG version 6.0x, while the PHEC MDC has reportedly been assigned based on AR-DRG version 5.2.

(b) Includes separations for all care types except *Unqualified newborn, Hospital boarder* and *Posthumous organ procurement* care types.

(c) Approximate counts derived from published proportions and using total separation counts as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

(d) Components may not add up to the totals, due to approximation methodology.

Sources: ABS 2018; AIHW NHMD 2016–17.

Table 6.2: Separations with a Major Diagnostic Category[a] for *Diseases and disorders of the digestive system* or *Neoplastic disorders (haematological and solid neoplasms),* by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2016–17

	NHMD	PHEC[b]	Difference: PHEC estimated separations – NHMD separations
Diseases and disorders of the digestive system			
Private free-standing day hospital facilities	200,732	247,588	46,856
Other private hospitals	478,848	484,365	5,517
All private hospitals	**679,580**	**731,953**	**52,373**
Neoplastic disorders (haematological and solid neoplasms)			
Private free-standing day hospital facilities	81,870	146,357	64,487
Other private hospitals	254,072	267,868	13,796
All private hospitals	**335,942**	**414,226**	**78,284**

(a) The NHMD MDC has been assigned based on AR-DRG version 6.0x, while the PHEC MDC has reportedly been assigned based on AR-DRG version 5.2.

(b) Approximate counts derived from published proportions and using total separation counts as the denominator. Counts should be used as a relative rather than an absolute indicator of activity.

Sources: ABS 2018; AIHW NHMD 2016–17.

7 How the care was completed

Table 7.1 shows the mode of separation from hospital as reported in the NHMD and the PHEC. While the bulk of the discrepancy in separations is largest for separation to *Usual residence*, a much larger number of separations reported in the PHEC than in the NHMD are coded as separation to *Residential aged care* and *Other hospitals*.

Table 7.1: Separations, by separation mode, by type of hospital, private hospitals, reported from the NHMD and the PHEC, 2016–17

Mode of separations	NHMD	PHEC[(a)]	Differences: PHEC estimate – NHMD separations	Difference(%) as a percentage of total NHMD separations
Usual residence[(b)]	4,302,093	4,667,000	364,907	8.5
Residential aged care[(c)]	8,284	25,000	16,716	201.8
Other hospital[(d)]	65,827	116,000	50,173	76.2
Died	14,273	16,000	1,727	12.1
Left against advice	3,257	5,000	1,743	53.5
Other[(e)]	32,733	61,000	28,267	86.4
Total[(f)]	**4,426,467**	**4,889,076**	**462,609**	**10.5**

(a) Some values rounded to the nearest 1,000.

(b) Includes own accommodation/welfare institution (including prisons, hostels and group homes providing primarily welfare services).

(c) Unless this is the usual place of residence.

(d) Includes acute and psychiatric hospitals.

(e) Includes *Statistical discharge type change*; *Statistical discharge from leave*; *Other health-care accommodation;* and *Not reported*.

(f) Components may not add up to totals due to rounding.

Sources: ABS 2018; AIHW 2018a.

8 Recommendations

Private hospital admitted patient care separation estimates published by the ABS from the PHEC have been consistently higher than private hospital admitted patient separation counts from the NHMD between the years 2009–10 and 2016–17. Analysis of the available data suggests that some of the major differences between the levels of activity reported for the two collections are likely to be related to:

- which hospitals are reporting to each of the two collections. The data suggest that this is particularly an issue for private free-standing day facilities, where the activity captured by the two collections differs the most. This most likely reflects private hospitals which report directly to the ABS for PHEC and are not included in data provided to the AIHW for the NHMD by state and territory health authorities
- the treatment of hospitals which were privately owned and/or operated but which predominantly provided public hospital services. While it is known that differences in treatment of these hospitals for Western Australia from 2014–15 had a significant impact on observed differences between reported private hospital separation counts from the NHMD and the PHEC, the degree and impact of differences in treatment for these hospitals for the other states and territories is not clearly understood
- definitions of admitted patient episodes for each of the collections. The data suggest that some episodes, particularly in private free-standing day facilities, are being treated as 'non-admitted' episodes for the purposes of the NHMD (that is, they are not reported to the NHMD) but are being reported as 'admitted' episodes in the PHEC. It is unclear to what extent these differences may indicate under-reporting of admitted patient activity to the NHMD as opposed to over-reporting of admitted patient activity to the PHEC.

Given the differences identified between the NHMD and the PHEC in the number of separations reported over this period and the fact that the ABS has ceased collection of data through the PHEC, the following steps have been identified as ways to improve national reporting of private hospitals information:

- continue working with state and territory health authorities to improve coverage, particularly in relation to:
  - private hospitals which are known not to provide data to states and territories, so states and territories cannot pass the data onto the NHMD
  - any admitted patient episodes that are not included in the NHMD
- investigate the options for the AIHW to collect additional private hospital information to augment that currently collected for public hospitals. This could include information on hospital resources to address gaps left by the cessation of the PHEC, as well as information on non-admitted patient activity
- Investigate whether linkage between the NHMD and other data sources, such as Medicare Benefits Schedule (MBS) data and PHDB data, can be used to identify and investigate private hospital activity which is not included in the NHMD
- review the metadata for collecting hospital-sector data to develop well-defined and more consistent classifications for hospitals that are privately owned and/or operated but which undertake predominantly public activity.

Appendix A: Data quality statement

This appendix includes a data quality summary and additional detailed information relevant to interpretation of the National Hospital Morbidity Database (NHMD) for 2016–17. It also contains information on other changes that may affect interpretation of the data presented in this report. Data quality statements for earlier years of the NHMD can be found in Appendix A of the relevant *Admitted patient care: Australian hospital statistics* report.

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 Admitted Patient Care National Minimum Data Set (NMDS) 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 Admitted Patient Care NMDS s 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 data set for the 2016–17 reference period includes records for admitted patient separations between 1 July 2016 and 30 June 2017.

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.
- For 2016–17, the great majority of private hospitals provided data, the known exceptions being the private free-standing day hospital facilities and one overnight private hospital in the Australian Capital Territory.
- 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 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 2016–17 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 2016–17, 17% of separations for Australian Capital Territory hospitals were for patients who lived in New South Wales.

- 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 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* (AIHW 2017b).
- Between 2012–13 and 2016–17, for New South Wales, increases in the numbers of separations for private hospitals are, in part, accounted for by improvements in the coverage of reporting.

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.

State-specific coding standards

The Australian Coding Standards (ACS) were developed for use in both public and private hospitals with the aim of implementing sound coding conventions consistent with 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.

Changes to ICD-10-AM/ACHI classifications

The major changes between ICD–10-AM /ACHI editions 6 and 9 potentially affecting the interpretation of information in this report include, but are not limited to:

- principal diagnoses for *Rehabilitation care* separations
- coding of blocks 1940–2016 *Imaging services*

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 procedures* (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*.

Coding of Blocks 1940–2016 Imaging services

Changes were made to ACS 0042 – *Procedures not normally coded* in ACHI edition 7 to include procedures in blocks 1940–2016 *Imaging servic*es. From ACHI edition 7, implemented on July 1 2010, all codes in ACHI Chapter 20 *Imaging services* except *Transoesophageal Echocardiogram* (TOE) ceased being coded because they are usually routine in nature; performed for most patients; and/or can occur multiple times during an episode. Most importantly, the resources used to perform these procedures are often reflected in the diagnosis or in an associated procedure. (That is, for a particular diagnosis or procedure, there is a standard treatment which is unnecessary to code.)

As a result of the change in ACS 0042, there was a marked decrease in imaging service procedures reported between 2009–10 and 2010–11.

More information about data quality for the 2016–17 NHMD can be found in Appendix A of *Admitted patient care 2016–17: Australian hospital statistics*.

Acknowledgments

This report would not have been possible without the cooperation of the state and territory health authorities and of the Australian Bureau of Statistics.

Within the AIHW, the report was prepared by Katrina Hicks and Holly Cockburn, with valuable input from Jenny Hargreaves, Adrian Webster, David Bulbeck, Danling Zhou, Brett Henderson and George Bodilsen.

The Department of Health funded this project.

Abbreviations

ABS	Australian Bureau of Statistics
ACHI	Australian Classification of Health Interventions
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
AR-DRG	Australian Refined Diagnosis Related Groups
ED	Error DRGs
HCP1	Hospital Casemix Protocol
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification
MBS	Medicare Benefits Schedule
MDC	Major Diagnostic Category
NHMD	National Hospital Morbidity Database
NSW	New South Wales
NT	Northern Territory
PHDB	Private Hospital Data Bureau
PHEC	Private Health Establishments Collection
PR	Pre-MDC (tracheostomies, transplants, ECMO)
Qld	Queensland
SA	South Australia
Tas	Tasmania
Vic	Victoria
WA	Western Australia

Symbols

n.a.	not available

Glossary

Some definitions in the Glossary contain an identification number from the Metadata Online Registry (METeOR). METeOR is Australia's central repository for health, community services and housing assistance metadata, or 'data about data'. It provides definitions for data for health and community services-related topics and specifications for related national minimum data sets (NMDSs). METeOR can be viewed on the AIHW website at www.aihw.gov.au.

This glossary specifically covers definitions and METeOR numbers that are applicable to the NHMD for 2016–17. (METeOR numbers for earlier years of the NHMD may differ.) Furthermore, while general definitions are likely to also hold for the PHEC, the relevant METeOR items applicable to the PHEC may not be the same.

admitted patient: A patient who undergoes a hospital's admission process to receive treatment and/or care. This treatment and/or care is provided over a period of time and can occur in hospital and/or in the person's home (for hospital-in-the-home patients). METeOR identifier: 268957.

Australian Classification of Health Interventions (ACHI): ACHI was developed by the Australian Consortium for Classification Development. The 9th edition was used for the 2016–17 procedures data for admitted patients in Australian hospitals for the NHMD.

Australian Refined Diagnosis Related Groups (AR-DRGs): An Australian system of diagnosis related groups (DRGs). DRGs provide a clinically meaningful way of relating the number and type of patients treated in a hospital (that is, its **casemix**) to the resources required by the hospital. Each AR-DRG represents a class of patients with similar clinical conditions requiring similar hospital services.

average length of stay (ALOS): The average number of patient days for admitted patient episodes. Patients admitted and separated on the same date are allocated a length of stay of 1 day.

care type: The care type defines the overall nature of a clinical service provided to an admitted patient during an episode of care (**admitted care**), or the type of service provided by the hospital for boarders or posthumous organ procurement (**care other than admitted care**). METeOR identifier: 584408.

Admitted patient care consists of the following categories:

- acute care
- rehabilitation care
- palliative care
- geriatric evaluation and management
- psychogeriatric care
- maintenance care
- newborn care
- mental health care
- other admitted patient care—where the principal clinical intent does not meet the criteria for any of the above.

Care other than admitted care includes:

- posthumous organ procurement
- hospital boarder.

casemix: The range and types of patients (the mix of cases) treated by a hospital or other health service. Casemix classifications (such as AR-DRGs) provide a way of describing and comparing hospitals and other services for management purposes.

Diagnosis Related Group (DRG): A widely used casemix classification system used to classify admissions into groups with similar clinical conditions (related diagnoses) and similar resource usage. This allows the activity and performance of hospitals to be compared on a common basis. In Australian acute hospitals, AR-DRGs are used.
METeOR identifier: 391295.

episode of care: The period of admitted patient care between a formal or statistical admission and a formal or statistical separation, characterised by only 1 care type (see **separation**). METeOR identifier: 268956.

error DRGs: AR-DRGs to which separations are assigned if their records contain clinically inconsistent or invalid information.

establishment type: The type of establishment (defined in terms of legislative approval, service provided and patients treated) for each separately administered establishment. METeOR identifier: 619594.

hospital: A health-care facility established under Commonwealth, state or territory legislation as a hospital or a free-standing day procedure unit and authorised to provide treatment and/or care to patients. METeOR identifier: 268971.

inpatient: See **admitted patient**.

International Classification of Diseases (ICD): The World Health Organization's internationally accepted classification of diseases and related health conditions. The Tenth Revision, Australian Modification (ICD-10-AM) is currently in use in Australian hospitals for admitted patients.

length of stay: The length of stay of an overnight patient is calculated by subtracting the date on which the patient is admitted from the date of separation and deducting days the patient was on leave. A **same-day patient** is allocated a length of stay of 1 day. METeOR identifier: 269982.

Major Diagnostic Category (MDC): The category into which the patient's diagnosis and the associated AR-DRG falls. MDCs correspond generally to the major organ systems of the body. METeOR identifier: 391298.

mode of separation: Status at separation of a person such as whether discharged, dying, transferring to another hospital or changing type of care (for example, from acute to rehabilitation) and place to which a person is released, such as another hospital or other accommodation (where applicable). METeOR identifier: 270094.

non-admitted patient: A patient who does not undergo a hospital's formal admission process. There are 3 categories of non-admitted patient: emergency department patient; outpatient; and other non-admitted patient (treated by hospital employees off the hospital site—includes community/outreach services). METeOR identifier: 268973.

overnight-stay patient: A patient who, following a clinical decision, receives hospital treatment for a minimum of 1 night (that is, who is admitted to and separated from the hospital on different dates).

patient days: The total number of days for all patients who were admitted for an episode of care and who separated during a specified reference period. A patient who is admitted and separated on the same day is allocated 1 patient day. METeOR identifier: 270045.

principal diagnosis: The diagnosis established, after study, to be chiefly responsible for occasioning an episode of admitted patient care, an episode of residential care or an attendance at the health care establishment. METeOR identifier: 588987.

private hospital: A privately owned and operated institution, catering for patients who are treated by a doctor of their own choice. Patients are charged fees for accommodation and other services provided by the hospital and by relevant medical and paramedical practitioners. Acute care and psychiatric hospitals are included, as are private free-standing day hospital facilities. See also **establishment type**.

pre-MDC (pre-Major Diagnostic Category): AR-DRGs to which separations are grouped, regardless of their principal diagnoses, if they involve procedures that are particularly resource-intensive (transplants, tracheostomies or extra-corporeal membrane oxygenation without cardiac surgery).

procedure: A clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training and/or requires special facilities or equipment only available in an acute care setting. METeOR identifier: 589101.

psychiatric hospital: See **establishment type**.

qualified days: The number of qualified days within newborn episodes of care. Days within newborn episodes of care are either **qualified** or **unqualified**. This definition includes all babies who are 9 days old or less. METeOR identifier: 327254 (Newborn qualification status).

A newborn day is **acute** (qualified) when a newborn meets at least 1 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.

same-day patient: An admitted patient who is admitted and separated on the same date.

separation: An episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute care to rehabilitation).

'Separation' also means the process by which an admitted patient completes an episode of care either by being discharged, dying, transferring to another hospital or changing type of care.

separations: The total number of episodes of care for admitted patients, which can be total hospital stays (from admission to discharge, transfer or death) or portions of hospital stays beginning or ending in a change of type of care (for example, from acute to rehabilitation) that cease during a reference period. METeOR identifier: 270407.

unqualified days: A **patient day** that is not a qualified day. See **patient days** and **qualified days**.

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Between 2009–10 and 2016–17, the number of private hospital admitted patient care separations reported through the Private Health Establishments Collection were consistently higher than those reported through the National Hospital Morbidity Database.

The difference in separations reported by private free-standing day facilities increased from 9.8% in 2009–10 to 29.8% in 2016–17, rising sharply from 2012–13.

The differences in separations reported for other private hospitals rose from 1.9% in 2009–10 to 5.2% in 2016–17.

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