

Appendix A: Database quality statement summaries

This appendix includes data quality summaries and additional detailed information relevant to interpretation of the:

- National Hospital Morbidity Database (NHMD)
- National Public Hospital Establishments Database (NPHED)
- National Outpatient Care Database (NOCD)
- National Emergency Access Target Database (NEATD)
- National Elective Surgery Target Database (NESTD).

This appendix also contains information on variation in the categorisation of public and private hospitals, and other changes in hospital reporting that may affect interpretation of the data presented in this report.

Complete data quality statements for these databases are available online at <meteor.aihw.gov.au>.

Public and private hospitals

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. A list of such hospitals is in Table A1 with information on how they are reported. The categorisations listed are those used for this report; reports produced by other agencies may categorise these hospitals differently.

For example, Peel and Joondalup hospitals are private hospitals that predominantly treat public patients under contract to the Western Australian Department of Health. From 2006–07, two new reporting units (public hospitals) were created to cover the public health services of these two hospitals, whereas in previous years all activity was reported for the private hospitals.

Another example is the Hawkesbury District Health Service, which was categorised as a private hospital until 2002–03 and has been categorised as a public hospital in AIHW reports since 2003–04.

Lists of all public and private hospitals contributing to this report are in tables A.S1 and A.S2 accompanying this report online at <www.aihw.gov.au/hospitals>.

Table A1: Hospitals included in this report that predominantly provide public hospital services that were privately owned and/or operated, 2012–13

Hospital	How reported
Hawkesbury District Health Service, NSW	Public hospital
Mildura Base Hospital, Victoria	Public hospital
Mater Adult Hospital, Qld	Public hospital
Mater Children's Hospital, Qld	Public hospital
Mater Mother's Hospital, Qld	Public hospital
Joondalup Health Campus, WA	Public hospital for services provided under the contract and a private hospital for services provided to private patients
Peel Health Campus, WA	Public hospital for services provided under the contract and a private hospital for services provided to private patients
McLaren Vale and Districts War Memorial Private Hospital, SA	Public hospital for services provided under the contract and a private hospital for services provided to private patients
May Shaw District Nursing Centre, Tas	Public hospital
Toosey Hospital, Tas	Public hospital
Mersey Community Hospital	Public hospital

National Hospital Morbidity Database

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

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

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

The reference period for this data set is 2012–13. The data set includes records for admitted patient separations between 1 July 2012 and 30 June 2013.

Summary of key issues

- The NHMD is a comprehensive dataset 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 one record in the NHMD.
- For 2012–13, almost all public hospitals provided data for the NHMD. The exception was a mothercraft hospital in the Australian Capital Territory. The great majority of private hospitals also provided data, the exceptions being the private free-standing day hospital facilities in the Australian Capital Territory, the single private free-standing day hospital in the Northern Territory, and a private free-standing day hospital in Victoria.

- Hospitals may be re-categorised as public or private between or within years.
- There is apparent variation between states and territories in the use of statistical discharges and associated assignment of care types. For example, for public hospitals, the proportion of separations ending with a statistical discharge varied from 0.9% to 3.9% across states and territories.
- There was variation between states and territories in the reporting of separations for *Newborns* (without qualified days).
- Data on state 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 2012–13, about 18% of separations for Australian Capital Territory hospitals were for patients who resided in New South Wales.
- Variations in admission practices and policies lead to variation among providers in the number of admissions for some conditions.
- Caution should be used in comparing diagnosis, procedure and external cause data over time, as the classifications and coding standards for those data can change over time. In particular, between 2009–10 and 2010–11, there were significant changes in the coding of diagnoses for diabetes and obstetrics and for imaging procedures. There were also significant changes made to coding practices for diabetes and related conditions for the 2012–13 year, resulting in increased counts for these conditions.
- The Indigenous status data in the NHMD for all states and territories are considered of sufficient quality for statistical reporting for 2010–11, 2011–12 and 2012–13. In 2011–12, an estimated 88% of Indigenous patients were correctly identified in public hospitals. The overall quality of the data provided for Indigenous status is considered to be in need of some improvement and varied between states and territories.

The list of public hospitals that contributed to the NHMD in 2012–13 is in Table A.S1, which accompanies this report online.

Factors affecting interpretation of the NHMD data

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

Newborn episodes of care

There is variation in the reporting of *Newborn* care between states and territories.

Between 2010–11 and 2011–12, the reporting of *Newborn* episodes with qualified days increased markedly for New South Wales public hospitals. Therefore, the data for *Newborn* care in New South Wales public hospitals for 2011–12 and 2012–13 are not comparable to the data reported by New South Wales in previous years.

For Victoria, private hospitals did not report all *Newborn* episodes without qualified days. Therefore, the count of newborns may be underestimated.

The Northern Territory did not report separations for *Newborn* episodes with a mixture of qualified and unqualified days.

Information on reporting practices for *Newborn* episodes before 2012–13 is available in previous *Australian hospital statistics* reports.

Quality of Indigenous status data

Indigenous identification in hospital separations data: 2013 quality report

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

The results of the study indicated that, overall, the quality of Indigenous identification in hospital separations data was similar to that achieved in the previous study (AIHW 2010). However, the 2011–12 survey was performed on larger samples for each jurisdiction/region and is therefore considered more robust than the previous study.

The report recommends that the data for all jurisdictions are used in analysis of Indigenous hospitalisation rates, for hospitalisations in total in national analyses of Indigenous admitted patient care for data from 2010–11 onwards.

Based on the results of the survey data a correction factor of 1.09 was calculated, suggesting that the 'true' number of Indigenous persons should be about 9% higher than indicated in the hospital record. The correction factor is calculated based on a number of possible variables including over-identification or under-identification of Indigenous persons in the hospital record.

Quality in 2012–13

The following information has been provided by the states and territories to provide some additional insight into the quality of Indigenous status data in the hospitals data provided to the AIHW.

New South Wales

The New South Wales Ministry of Health (NSW) noted that NSW had achieved an overall weighted completeness of 80% for Indigenous identification in 2011–12. The low level of completeness for hospitals in major cities (67% compared with 98% in remote areas) revealed that education in Indigenous status data collection should be focused on hospital staff in urban areas. NSW's Data Quality Audit and Assurance Program revealed that individual Local Health Districts have initiated, and are delivering, their own comprehensive programs to staff on cultural sensitivity and innovative methods of Indigenous data collection.

Victoria

The Victorian Department of Health reports that Indigenous status data for 2012–13 is of an adequate standard for reporting, but should still be considered to under-count the number of Aboriginal and Torres Strait Islander patients. There is a continued effort to improve the quality of this data element through data validation processes and communication channels.

Queensland

The Queensland Department of Health noted that for 2012–13, Indigenous status was reported as 'not stated' for 3.8% of admitted patient separations (1.0% of public hospital separations and 6.8% of private hospital separations). The level of non-reporting of Indigenous status has continued to improve for both public and private hospitals compared to the previous financial years.

Western Australia

The Western Australian Department of Health regards its Indigenous status data as being of good quality, with 99.5% of cases having a valid Indigenous status reported in 2012–13.

A recent sample survey concluded that Western Australia was collecting Indigenous status with a high degree of accuracy.

South Australia

South Australia considers the quality of Indigenous status data to be acceptable for reporting and analysis purposes. The department contracted the Australian Bureau of Statistics to develop a training package for the collection of Indigenous identifier aimed at frontline staff in hospitals and other healthcare units. The package is based on the best practice guidelines developed by the AIHW. A state-wide training program was completed in 2011. A second training program commenced in late 2012 and was completed in mid-2013.

Tasmania

The Tasmanian Department of Health and Human Services reports that the quality and the level of Indigenous status identification, across public hospital information collections, are of a high standard. However, as with all data collections, there is constant and continued work on maintaining and improving, where needed, the collection of this data element.

Australian Capital Territory

The Australian Capital Territory Government Health Directorate is continuing to undertake a number of initiatives aligned with local and national developments to improve the quality of collection and reporting of Aboriginal and Torres Strait Islander data.

Northern Territory

The Northern Territory Department of Health participated in the national review of the quality of demographic data, coordinated by AIHW, in 2011. Indigenous status was found to be accurately recorded in 98% of admitted patients, consistent with findings from previous surveys in 1997 and 2008. The department retains historical reporting of Indigenous status. All management and statistical reporting, however, is based on a person's most recently reported Indigenous status.

Quality of the coded clinical data

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

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

The quality and comparability of the coded data can, however, be gauged by information provided by the states and territories on the quality of the data and by assessment of apparent variation in the reporting of additional diagnoses.

State-specific coding standards

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

For example, there are variations in coding standards between jurisdictions with regard to the reporting of external cause codes and place of occurrence codes. The ACS requires a place of occurrence code to be reported if an external cause code in the range V00–Y89 has been reported, and requires an activity when injured code to be recorded if the external cause code is in the range V00–Y34. The Western Australian coding standard requires the mandatory recording of a place of occurrence and activity when injured code for all records with a diagnosis code in the range S00–T98, regardless of the external cause code reported. The Victorian coding standard does not require the recording of external cause, place of occurrence or activity when injured for separations where the care type is *Rehabilitation care*.

State and territory comments on the quality of the data

The following information has been provided by the states and territories to provide some insight into the quality of the coded data in the NHMD.

New South Wales

For New South Wales, hospitals perform formal audits on ICD-10-AM coded data at a local level. Data edits are monitored regularly and consistent errors are identified and rectified by individual hospitals.

All NSW public hospital coded data is routinely processed, monitored and validated using Performance Indicators for Coding Quality (PICQ™) by the Ministry of Health and disseminated back to the Local Health Districts and individual hospitals. The data from PICQ™ is also used to benchmark Local Health District's/Network's performance.

Victoria

As part of a comprehensive health data integrity audit program, the Victorian Department of Health continues to conduct state-wide external audits of admitted patient data across public sites. These audits review the ICD-10-AM/ACHI coding and the application of ACSs along with some key demographic and administrative data. Approximately 13,000 patient records are audited each year. In the most recently completed 3-year audit cycle, the rate of AR-DRG change reported for audited records continued to decrease, falling to less than 5% in the third year, indicating a high quality of coding. Coded data is also validated using PICQ™ with published state-wide results for both public and private hospitals.

Queensland

Hospitals in Queensland conduct their own coding quality audits, and ICD-10-AM/ACHI validations are automatically executed as part of the general processing of morbidity data in the corporate data collection. A Statewide Health Information Management Clinical Coding Network (SHIM-CCN) Steering Committee has been established to aid the improvement of Health Information Management (HIM) and clinical coding services state-wide. It also fosters appropriate education and development of HIMs and clinical coders. The Queensland Department of Health complements this activity by undertaking a range of quality assurance processes.

Western Australia

The Western Australian Department of Health conducts in-house data quality activities and regular comprehensive external audits of hospital medical records and admitted patient data reporting processes. The Edit Protocol for Hospital Morbidity Data System and the Clinical Information Audit Program aims to provide assurances of data quality and integrity, promoting confidence in the use of health information by hospitals and throughout the system.

South Australia

The South Australian Department for Health and Ageing completed a major audit of coding practices in 2011. The rate of AR-DRG change for metropolitan hospitals was marginally above 10%. A result of less than 10% is generally regarded as an indication of high quality coding.

The Department conducts a number of other coding improvement activities, aimed at improving compliance with national and state coding standards. For example, desktop audits of coded data are regularly run. Individual hospitals are followed-up as required and results are reported to all coders in quarterly newsletters. A coding educator has been appointed to assist hospitals in further developing their coding knowledge.

Tasmania

In Tasmania, hospitals continue to conduct coding quality improvement activities using the Australian Coding Benchmark Audit tool and PICQ™. Validation of ICD-10-AM data also occurs routinely as the data are processed from the hospitals. A state-wide coding auditor/educator has been appointed and that position will assume the responsibility of managing state-wide coding audits and education in relation to findings from them. Also the position will manage changes/updates to coding classifications and grouping systems.

Australian Capital Territory

The Australian Capital Territory conducts regular coding data quality improvement and integrity activities including analysis using the PICQ™ tool to ensure a high standard of coding quality. Validations are automatically undertaken as part of the processing data flow in the hospital level and corporate level data collections and further education and training supports these quality improvement activities.

Northern Territory

The Northern Territory is committed to the continual improvement of clinical coding across the Northern Territory Hospitals Network, and in the past has experienced challenges in recruiting suitably experienced staff. In the last 12 months off-site coding has discontinued and recruitment to vacant coding positions has been successful. With the introduction of integrated clinical coding software, there have been gains in coding quality, consistency and timeliness.

Apparent variation in reporting of additional diagnoses

A measure of apparent variation among Australian states and territories in the reporting and coding of additional diagnoses is the proportion of separations in the lowest resource split for adjacent AR-DRGs, standardised to the national distribution of adjacent AR-DRGs to take into account differing casemixes (Coory & Cornes 2005).

Method

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

For many adjacent AR-DRGs, this split is based on the inclusion of significant additional diagnoses, also known as complications or comorbidities (CCs). Adjacent AR-DRGs are signified in the AR-DRG classification by having the first three characters in common. The allocation of a fourth character code is hierarchical, with the highest resource use level being assigned an A and the lowest resource use level being assigned the lowest letter in the sequence.

This analysis concentrates on differences in the reporting of additional diagnoses that are significant in AR-DRG assignment within the adjacent AR-DRG groupings. The analysis covers four groups of adjacent AR-DRGs:

1. all applicable adjacent AR-DRGs (that is, excluding adjacent AR-DRGs with other factors affecting partitioning)
2. adjacent AR-DRGs where the lowest split was without complications or comorbidities
3. adjacent AR-DRGs where the lowest split was without catastrophic or severe complications or comorbidities
4. Vaginal and caesarean deliveries.

Categories 2, 3 and 4 are subsets of category 1.

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

Table A2 shows that there is variation among jurisdictions, and by sector, in the proportion of separations grouped to the lowest resource split for adjacent AR-DRGs.

Overall for public hospitals, about 71% of separations were allocated to the lowest resource split for adjacent AR-DRGs, ranging from 66% for Victoria to 74% for Western Australia.

For private hospitals, there was less variation among jurisdictions in the proportion allocated to the lowest resource split, ranging from 74% in Victoria to 77% in South Australia.

For *Vaginal and caesarean deliveries*, the proportion allocated to the lowest resource split was 37% for both public and private hospitals. However, there was some variation among jurisdictions, with public hospital proportions ranging from 34% in Victoria to 40% in Queensland and Tasmania.

Standardised proportion

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

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

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

Table A2: Standardised proportion of separations^(a) in lowest resource level AR-DRG for selected adjacent AR-DRGs version 6.0x, public and private hospitals, states and territories, 2012–13

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
All adjacent AR-DRGs split by complications only									
Public hospitals									
Separations	709,829	506,473	442,282	227,131	171,670	43,329	36,947	32,850	2,170,511
Standardised proportion in lowest resource level	0.72	0.66	0.72	0.74	0.71	0.71	0.69	0.67	0.71
Private hospitals									
Separations	220,085	227,201	217,508	97,290	73,788	n.p.	n.p.	n.p.	870,568
Standardised proportion in lowest resource level	0.75	0.74	0.75	0.76	0.77	n.p.	n.p.	n.p.	0.75
Adjacent AR-DRGs with 'without complication' as the lowest resource level AR-DRG									
Public hospitals									
Separations	226,305	173,713	143,710	75,840	53,123	13,584	13,595	11,390	711,260
Standardised proportion in lowest resource level	0.61	0.56	0.61	0.61	0.60	0.60	0.58	0.52	0.60
Private hospitals									
Separations	83,472	81,610	76,496	39,705	24,930	n.p.	n.p.	n.p.	318,276
Standardised proportion in lowest resource level	0.62	0.62	0.63	0.64	0.64	n.p.	n.p.	n.p.	0.63
Adjacent DRGs with 'without catastrophic or severe complication' as the lowest resource level AR-DRG									
Public hospitals									
Separations	483,524	332,760	298,572	151,291	118,547	29,745	23,352	21,460	1,459,251
Standardised proportion in lowest resource level	0.77	0.72	0.77	0.80	0.77	0.77	0.75	0.74	0.76
Private hospitals									
Separations	136,613	145,591	141,012	57,585	48,858	n.p.	n.p.	n.p.	552,292
Standardised proportion in lowest resource level	0.81	0.80	0.81	0.83	0.84	n.p.	n.p.	n.p.	0.82
Adjacent DRGs for Vaginal and caesarean delivery									
Public hospitals									
Separations	73,480	56,099	44,094	22,781	15,502	3,843	4,799	3,187	223,785
Standardised proportion in lowest resource level	0.38	0.34	0.40	0.35	0.38	0.40	0.37	0.35	0.37
Private hospitals									
Separations	23,707	20,708	17,936	10,725	4,707	n.p.	n.p.	n.p.	81,871
Standardised proportion in lowest resource level	0.36	0.36	0.38	0.36	0.34	n.p.	n.p.	n.p.	0.37

AR-DRG—Australian Refined Diagnosis Related Group.

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

Changes affecting ICD-10-AM/ACHI classifications

The Australian Coding Standard for *Diabetes mellitus and Impaired glucose regulation* (ACS 0401) has undergone changes in the last few ICD-10-AM editions.

The 7th edition of ICD-10-AM was implemented in Australian hospitals from 1 July 2010. From 1 July 2012, changes were implemented to the coding standard for diabetes (ACS 0401) to ensure that 'when documented, diabetes mellitus should always be coded'.

The coding practice for classifying diabetes under ICD-10-AM 6th edition (used 1 July 2008 to 30 June 2010) was largely consistent with previous editions of ICD-10-AM. However, clarification of how the coding standard for additional diagnoses (ACS 0002) should be applied under ICD-10-AM 6th edition meant that conditions would only be coded as an additional diagnosis if they were 'significant in terms of treatment required, investigations needed and resources used in each episode of care'. While this clarification resulted in a decrease in the number of conditions being coded as additional diagnoses for all separations, it had a particularly significant impact on the reporting of diabetes as an additional diagnosis for separations that involved a patient with diabetes.

The coding practice for classifying diabetes under ICD-10-AM 7th edition (from 1 July 2010) changed as a result of changes made to the ACS specialty standard for *Diabetes Mellitus and impaired glucose regulation* (ACS 0401). The ACS changes resulted in a further decrease between 2009–10 and 2010–11 in the reporting of diabetes-related conditions, due to the condition not meeting the criteria for being assigned as either a principal (ACS 0001) or additional diagnosis (ACS 0002).

During 2011, the National Casemix and Classification Centre's ICD Technical Group and the Diagnosis Related Group Technical Group investigated the effect of the changes to diabetes coding and recommended that 'when documented, diabetes mellitus should always be coded'.

This recommendation was agreed by the National Health Information Standards and Statistics Committee (NHISSC) at its March 2012 meeting, for implementation from 1 July 2012.

Effect on reporting

Between 2009–10 and 2010–11, the numbers of diagnoses reported for diabetes and impaired glucose regulation (E09–E14) decreased by 38% from 531,000 diagnoses in 2009–10 to 330,000 diagnoses in 2010–11 (Table A3).

Between 2010–11 and 2011–12, there were increases in the numbers of diagnoses reported for diabetes (E10–E14) that may be unrelated to coding changes.

Between 2011–12 and 2012–13, the numbers of codes reported for both principal and additional diagnoses of diabetes increased markedly. The reporting of diabetes as a principal diagnosis increased by an average of 29.6% between 2011–12 and 2012–13 (Table A3). The reporting of diabetes as an additional diagnosis increased by an average of 247% between 2011–12 and 2012–13.

Examining the reporting of codes for E11 – *Type 2 diabetes mellitus* in more detail, the greatest increases in reporting between 2011–12 and 2012–13 were for E11.3 (*Type 2 diabetes mellitus with ophthalmic complication*) and E11.9 (*Type 2 diabetes mellitus without complications*) (Table A4). There was also a very large increase in the reporting of E11.2 (*Type 2 diabetes mellitus with kidney complication*).

Table A3: Diabetes mellitus and impaired glucose regulation, reporting, all hospitals, 2008–09 to 2012–13

	ICD-10-AM 6th edition		ICD-10-AM 7th edition			Change (%) since 2011–12
	2008–09	2009–10	2010–11	2011–12	2012–13	
Principal diagnoses						
E09	229	198	46	106	93	–12.3
E10	22,363	23,584	18,280	19,946	24,490	22.8
E11	129,475	130,983	47,133	48,220	64,137	33.0
E13	689	719	413	481	589	22.5
E14	655	858	374	479	382	–20.3
<i>Total principal diagnoses</i>	<i>153,411</i>	<i>156,342</i>	<i>66,246</i>	<i>69,232</i>	<i>89,691</i>	<i>29.6</i>
Additional diagnoses						
E09	2,242	1,986	1,347	1,276	6,798	432.8
E10	24,499	24,238	19,750	21,029	58,916	180.2
E11	373,472	345,873	238,737	265,782	939,309	253.4
E13	3,579	3,454	2,976	3,707	7,866	112.2
E14	1,560	1,102	691	646	5,242	711.5
<i>Total additional diagnoses</i>	<i>403,792</i>	<i>375,551</i>	<i>262,810</i>	<i>291,794</i>	<i>1,012,889</i>	<i>247.1</i>
Total (E09–E14)	557,203	531,893	329,056	361,026	1,102,580	205.4

E09—Impaired glucose regulation; E10—Type 1 diabetes mellitus; E11—Type 2 diabetes mellitus; E13—Other specified diabetes mellitus.
E14—Unspecified diabetes mellitus; E09–E14—Impaired glucose regulation and diabetes mellitus.

Source: National Hospital Morbidity Database.

Table A4: Type 2 diabetes mellitus, all diagnoses reported, all hospitals, 2008–09 to 2012–13

Diagnosis	ICD-10-AM 6th edition		ICD-10-AM 7th edition			Change (%) since 2011–12
	2008–09	2009–10	2010–11	2011–12	2012–13	
Type 2 diabetes mellitus						
E11.0 – with hyperosmolarity	951	974	1,088	1,265	2,003	58.3
E11.1 – with acidosis	1,835	2,122	1,913	2,123	4,000	88.4
E11.2 – with kidney complication	103,820	98,041	58,576	62,897	177,945	182.9
E11.3 – with ophthalmic complication	40,858	39,201	7,323	7,058	82,190	1,064.5
E11.4 – with neurological complication	10,156	9,837	6,101	6,914	50,534	630.9
E11.5 – with circulatory complication	22,370	20,292	9,405	10,206	51,261	402.3
E11.6 – with other specified complication	54,288	57,600	60,981	67,640	86,994	28.6
E11.7 – with multiple complications	236,463	223,289	119,087	132,613	160,498	21.0
E11.9 – without complication	32,184	25,458	21,362	23,240	387,940	1,569.3
Total Type 2 diabetes mellitus (E11)	502,925	476,814	285,836	313,956	1,003,365	219.6

Source: National Hospital Morbidity Database.

Condition onset flag data

The data element 'Episode of admitted patient care – condition onset flag' was mandated for national collection for the first time for the 2008–09 reporting period.

Information on the data reported for Conditions onset flag for 2012–13 is included in Chapter 6.

Quality of the Condition onset flag data for 2012–13

Overall, the provision of COF data for 2012–13 was similar to that provided for 2010–11 and 2011–12:

- In 2012–13, the coverage of COF data was 91% for public hospitals and 72% for private hospitals (Table A5). Data were missing for all private hospital records for New South Wales and there were major gaps for public hospitals for New South Wales.
- Private hospital COF data were reported by the private hospital in the Northern Territory for the first time in 2012–13.
- There was marked variation between states and territories in the overall proportion of records for which a condition was reported as arising during the episode of care. For public hospitals, the proportion ranged from 4.0% for the Northern Territory to 12.6% in Victoria (Table 6.24). For private hospitals, the proportion ranged from 1.5% for Tasmania to 7.4% for Victoria (Table 6.25). Differences in casemix between states and territories may account for some of this variation. However, this variation may indicate that there are differences in the allocation of COF values.
- There was some variation among jurisdictions in the conditions reported as having onset during the episode of care.
- The top 30 conditions reported as arising during the hospital stay provide support for the quality of the condition onset flag assignment (Table 6.26).
- The top 20 external caused of injury or poisoning reported as arising during the hospital stay provide support for the quality of the condition onset flag assignment (Table 6.27).

Table A5: Proportion of separations with Condition onset flag reported^(a) (%), public and private hospitals, states and territories, 2012–13

	Public hospitals	Private hospitals
New South Wales	71.2	0.0
Victoria	100.0	100.0
Queensland	100.0	100.0
Western Australia	100.0	100.0
South Australia	100.0	100.0
Tasmania	100.0	97.6
Australian Capital Territory	100.0	99.9
Northern Territory	100.0	100.0
Total	91.0	71.8

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

National Public Hospital Establishments Database

The National Public Hospital Establishments Database (NPHEd) is based on the National Minimum Data Set (NMDS) for Public hospital establishments. It holds establishment-level data for each public hospital in Australia, including public acute hospitals, psychiatric hospitals, drug and alcohol hospitals and dental hospitals in all states and territories. Hence, public hospitals not administered by the state and territory health authorities (hospitals operated by correctional authorities for example, and hospitals located in offshore territories) are not included. The collection does not include data for private hospitals.

The purpose of the NMDS for Public hospital establishments is to collect information on the characteristics of public hospitals and summary information on non-admitted services provided by them. Information is included on hospital resources (beds, staff and specialised services), recurrent expenditure (including depreciation), non-appropriation revenue and services to non-admitted patients.

The reference period for this data set is 2012–13.

Summary of key issues

- In 2012–13, the NPHEd included essentially all public hospitals in Australia.
- Differences in accounting, counting and classification practices across jurisdictions and over time may affect the comparability of these data. There was variation between states and territories in the reporting of expenditure, depreciation, revenue, available beds, staffing categories and outpatient occasions of service.
- The number of hospitals reported can be affected by administrative and/or reporting arrangements and is not necessarily a measure of the number of physical hospital buildings or campuses.
- Comparability of bed numbers can be affected by the range and types of patients treated by a hospital (casemix), with, for example, different proportions of beds being available for special and more general purposes.
- Recurrent expenditure reported to the NPHEd is largely expenditure by hospitals, and may not necessarily include all expenditure on hospital services by each state or territory government.
- The collection of data by staffing category is not consistent among states and territories.
- The outsourcing of services with a large labour related component (such as food services and domestic services) can have a substantial impact on estimates of costs.
- A small number of establishments in 2012–13 did not report any financial data, or reported incomplete financial data.
- For 2012–13, Queensland was not able to provide complete data for the three privately-managed Mater public hospitals in Brisbane. Data were not available for expenditure and staffing categories. In 2011–12, these hospitals reported a total of about \$560 million for recurrent expenditure and about 3,800 full time equivalent staff.
- Victoria substantially under-reported outpatient *Dental* services data in 2011–12, with those data being not directly comparable with previous years. For 2012–13, Victoria reported substantially more *Dental* services activity than for 2011–12. The reporting of *Dialysis* occasions of service in 2012–13 captured data for dialysis training activity.

The list of public hospitals that contributed to the NPHEd is available in Table A.S1, which accompanies this report online.

National Outpatient Care Database

The National Outpatient Care Database (NOCD) includes aggregate data on services provided to non-admitted, non-emergency patients registered for care in outpatient clinics of public hospitals. It includes data on the type of outpatient clinic and counts of individual and group occasions of service. The data supplied are based on the National Minimum Data Set for Outpatient care (OPC NMDS).

The scope of the NOCD covers public hospitals that are classified as either peer group A or B (*Principal referral and specialist women's and children's hospitals* or *Large hospitals*) in the *Australian hospital statistics* publication from the preceding financial year.

The reference period for this data set is 2012–13. The data set includes records for outpatient care occasions of service provided between 1 July 2012 and 30 June 2013.

Summary of key issues

- While the scope of the NOCD covers public hospitals in public hospital peer groups A and B (*Principal referral and specialist women's and children's* and *Large hospitals*), data were also provided by some states and territories for hospitals in peer groups other than A and B.
- For 2012–13, the proportion of outpatient occasions of service reported to the NOCD was estimated as 100% for public hospitals in peer groups A and B and 80% for all public hospitals.
- Although the NOCD is a valuable source of information on services provided to non-admitted, non-emergency patients, the data have limitations. For example, there is variation in admission practices between states and territories and there is variation in the types of services provided for non-admitted patients in a hospital setting.
- Over the three reporting periods 2010–11, 2011–12 and 2012–13 the reporting of outpatient clinic care for some jurisdictions was changed in order to align with the reporting requirements for Activity Based Funding. These changes included: the discontinuation of reporting for some activity; the commencement of reporting for some activity; and the re-categorisation of some clinics according to the Tier 2 clinics structure (IHPA 2011). Therefore, data for 2010–11, 2011–12 and 2012–13 may not be comparable with data reported for previous years.
- Victoria substantially under-reported outpatient *Dental* services data in 2011–12, with those data being not directly comparable with previous years. For 2012–13, Victoria reported considerably more *Dental* services activity than for 2011–12.
- For 2012–13, Tasmania was able to provide outpatient care data for one *Principal referral hospital* that did not report in 2011–12.

The list of public hospitals that contributed to the NOCD in 2012–13 is in Table A.S1, which accompanies this report online.

The National Emergency Access Target Database

The National Emergency Access Target Database (NEATD) includes episode-level data on non-admitted patients treated in the emergency departments of Australian public hospitals. The data supplied for the period from 1 January to 30 June 2013 are based on the NMDS for Non-admitted patient emergency department care (NAPEDC NMDS) 2012–13. The data supplied for the period from 1 July to 31 December 2013 are based on the NAPEDC NMDS for 2013–14.

The scope of the NEATD covers public hospitals in public hospital peer groups A and B (*Principal referral and specialist women's and children's hospitals and Large hospitals*) in the AIHW's *Australian hospital statistics* of the previous year. Some states and territories also provided data for public hospitals that were classified in peer groups other than A or B, as agreed between the Commonwealth and states and territories for the purposes of the National Partnership Agreement on Improving Public Hospital Services (NPA-IPHS). For 2013, coverage of the NEATD in relation to the reporting requirements for the NPA-IPHS was 100%.

Summary of key data quality issues

- The NEATD is a compilation of episode-level data for emergency department presentations in public hospitals.
- The scope of the NEATD is patients registered for care in emergency departments in public hospital peer groups A and B (*Principal referral and specialist women's and children's and Large hospitals*).
- Some states and territories also provided data for public hospitals that were classified in peer groups other than A or B as agreed between the Commonwealth and states and territories for the purpose of the NPA-IPHS.
- The NEATD includes all care provided to patients treated in emergency departments. Care is included until the patient is recorded as having physically departed the emergency department, regardless of whether they have been admitted to hospital. Care provided to patients admitted to 'short stay units' is not included.
- Although there are national standards for data on non-admitted patient emergency department services, there are some variations in how those services are defined and counted across states and territories and over time.
- The care provided to patients in emergency departments is, in most instances, recognised as being provided to 'non-admitted' patients. Patients being treated in emergency departments may subsequently become 'admitted'.
- Non-admitted patients who are treated in outpatient clinics are not included in the NEATD.

National Elective Surgery Target Database

The National Elective Surgery Target Database (NESTD) provides episode-level data on patients added to or removed from elective surgery waiting lists managed by public hospitals. This includes private patients treated in public hospitals, and may include public patients treated in private hospitals. 'Public hospitals' may include hospitals that are set up to provide services for public patients (as public hospitals do), but are managed privately.

The data supplied for 1 January 2013 to 30 June 2013 are based on the NMDS for Elective surgery waiting times (ESWT NMDS—Removals) 2012–13. The data supplied for 1 July 2013 to 31 December 2014 are based on the NMDS for ESWT NMDS—Removals 2013—.

Data for the NESTD are reported quarterly. The NESTD includes episode-level data on patients added to, removed from, or still waiting on elective surgery waiting lists managed by public hospitals from 1 January 2013 to 31 December 2013.

Summary of key data quality issues

- The NESTD is a compilation of episode-level data on patients added to, removed from, or still waiting on elective surgery waiting lists managed by public hospitals.
- States and territories provided data to the NESTD as agreed between the Commonwealth and states and territories for the purposes of the NPA-IPHS. The NESTD covered most hospitals that undertook elective surgery. Hospitals that were not included may not undertake elective surgery, may not have had waiting lists, or may have had different waiting lists compared with other hospitals.
- Although there are national standards for data on elective surgery waiting times, methods to calculate waiting times have varied between states and territories and over time. For example, some states and territories vary in how they report on patients transferred from a waiting list managed by one hospital to that managed by another.
- There is an apparent lack of comparability of clinical urgency categories among jurisdictions that may result in statistics that are not meaningful or comparable between jurisdictions.