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OECD health-care quality indicators for Australia 2015

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Authoritative information and statistics to promote better health and wellbeing

OECD health-care quality indicators for Australia

2015

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Abbreviations

ABS	Australian Bureau of Statistics
ACD	Australian Cancer Database
ACHI	Australian Classification of Health Interventions
AIHW	Australian Institute of Health and Welfare
AMI	acute myocardial infarction
CHF	congestive heart failure
COPD	chronic obstructive pulmonary disease
DVT	deep vein thrombosis
GP	general practitioner
HCQI	Health Care Quality Indicator
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th Revision
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification
ICD-9-CM	International Statistical Classification of Diseases, 9th Revision, Clinical Modification
ICD-O-3	International Classification of Diseases for Oncology, 3rd edition
LOS	length of stay
MDC	major diagnostic category
NHMD	National Hospital Morbidity Database
NMDS	national minimum data set
OECD	Organisation for Economic Co-operation and Development
PE	Pulmonary embolism
WHO	World Health Organization

Symbol

. .	not applicable

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Summary

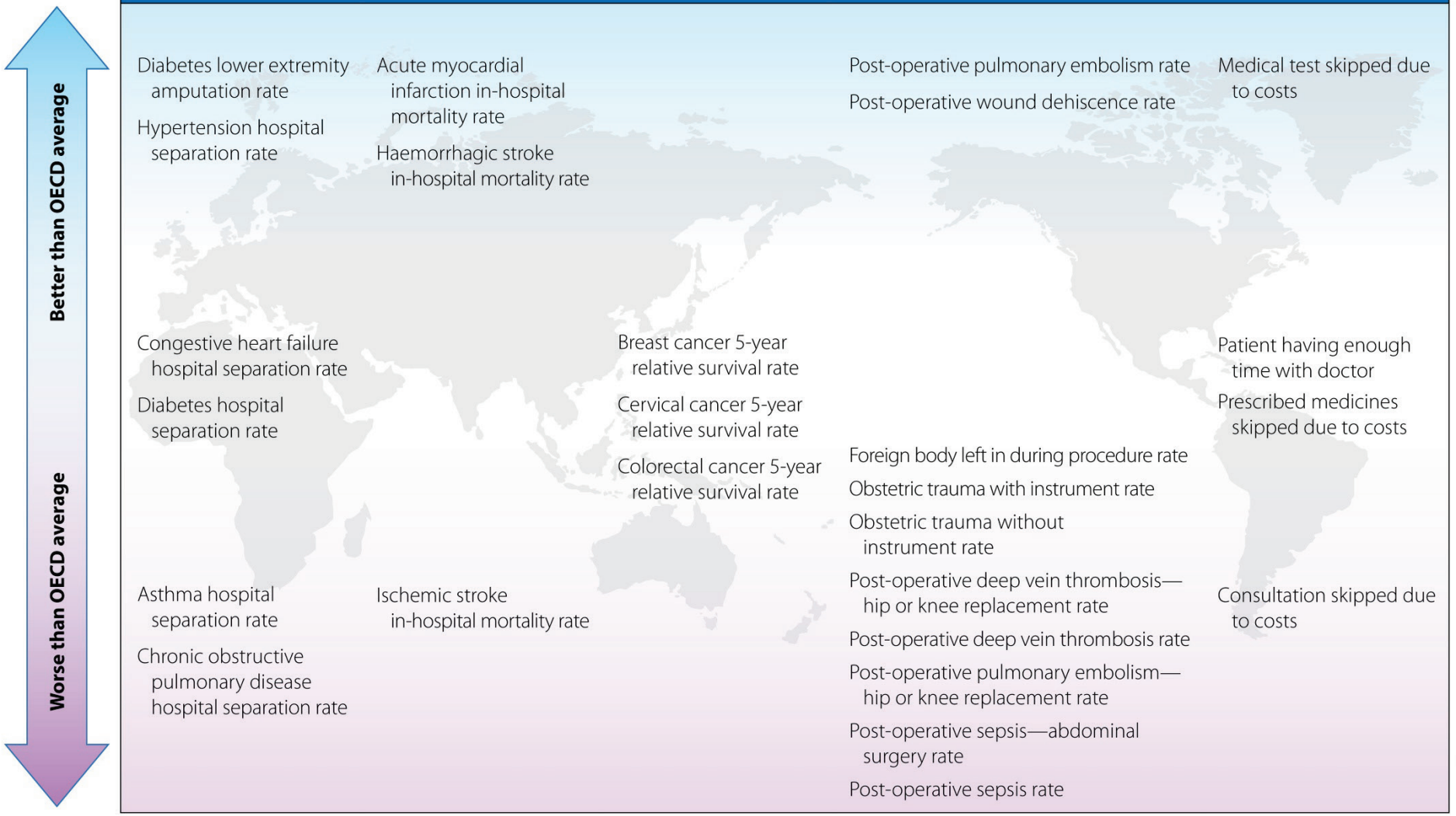
This report summarises information provided by Australia to the Organisation for Economic Co-operation and Development's (OECD's) *Health at a glance 2015* report for a common set of indicators about the quality of health care delivered across OECD member countries.

International comparisons of this kind are complex due to the diverse nature of health-care systems, and differences in data sources and quality across countries, but such comparisons nevertheless provide a tool to inform priorities and policies for health services and to monitor progress in achieving health objectives.

The graphic on the next page represents Australia's performance compared with the OECD average for each indicator.

Indicators for which Australia performed favourably are listed toward the top of the graphic, and indicators where Australia performed unfavourably are listed toward the bottom. Australia performed about the same as the OECD average for indicators in the middle of the graphic.

The OECD's *Health at a glance 2015* report provides information about the quality of the data provided by countries and note that, in particular, postoperative deep vein thrombosis, postoperative pulmonary embolism, and the obstetric trauma indicators may be affected by data quality limitations, and should be interpreted with caution.


Better than OECD average
Worse than OECD average
Primary care—avoidable hospital separation indicators
Acute care indicators
Cancer care indicators
Patient safety indicators
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Diabetes lower extremity amputation rate
Hypertension hospital separation rate
Acute myocardial infarction in-hospital mortality rate
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Medical test skipped due to costs
Congestive heart failure hospital separation rate
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Breast cancer 5-year relative survival rate
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Colorectal cancer 5-year relative survival rate
Patient having enough time with doctor
Prescribed medicines skipped due to costs
Foreign body left in during procedure rate
Obstetric trauma with instrument rate
Obstetric trauma without instrument rate
Post-operative deep vein thrombosis—hip or knee replacement rate
Post-operative deep vein thrombosis rate
Post-operative pulmonary embolism—hip or knee replacement rate
Post-operative sepsis—abdominal surgery rate
Post-operative sepsis rate
Asthma hospital separation rate
Chronic obstructive pulmonary disease hospital separation rate
Ischemic stroke in-hospital mortality rate
Consultation skipped due to costs

1 Introduction

This report summarises the information provided by Australia to the Organisation for Economic Co-operation and Development's (OECD's) Health Care Quality Indicator (HCQI) 2015 data collection published in *Health at a glance 2015* (OECD 2015a, 2015b). The OECD's HCQI project is an international project aimed at developing a common set of indicators about the quality of health care delivered across OECD member countries, for reporting at a national level for international comparison. This report compares the latest data available for Australia with the data supplied by Australia for previous years, and with 2013 (or nearest year) data reported by the OECD for other countries.

Australia has a high-quality health-care system, delivering good health outcomes for the population. Against a range of health indicators, Australia compares favourably with other developed countries (AIHW 2014a). Nevertheless, the safety and quality of health care in Australia is of ongoing interest to health-care planners, providers and users, and efforts continue to maintain and improve the performance of health-care services.

Australia's participation in the OECD HCQI project is one example of activities undertaken in Australia to monitor the safety and quality of Australia's health services. For this activity, the focus is comparison of Australia with other countries, rather than comparisons within Australia, which is the focus of related national indicator reporting activities such as occurs against the National Healthcare Agreement (COAG 2012), the National Health Performance Framework (AIHW 2016) and in the *Report on government services* (SCRGSP 2016).

Comparisons of this kind are complex due to the diverse nature of health-care systems, data sources, coding systems and practices, and data quality across countries (and also within countries, and over time). Differences in the availability and/or organisation of health-care resources among OECD-member countries can be demonstrated, for example, by examining differences in the availability of hospital beds, which ranged between 1.6 beds per 1,000 population in Mexico to 13.3 beds per 1,000 population in Japan. The number of hospital beds in Australia was 3.8 per 1,000 population and the OECD average was 4.8 beds per 1,000 population (OECD 2015a).

Similarly, there are differences in the way in which health-care resources are organised and delivered, as suggested by differences in the average length of stay (LOS) for hospitalisations. This average ranged from 3.9 days in Turkey to 17.2 days in Japan. Australia was the fourth lowest, at 5.6 days, and the OECD average was 8.1 days (OECD 2015a). Therefore, results presented in this report should be interpreted in that context and with caution.

While international comparisons are complex due to the diverse nature of health-care systems, such comparisons are an important tool in informing priorities and policies for health services and in monitoring progress in achieving health objectives.

1.1 OECD's Health Care Quality Indicators

The HCQI project began in 2002 with the development of a conceptual framework for measuring HCQIs, and associated research on international health performance frameworks (Arah et al. 2006). Work since 2002 has seen the development and continued refinement of a set of indicators that support international comparisons of the quality of health care. After initial testing of a set of indicators and extensive investigations of their comparability, the

publication of a chapter on quality of care was included in the OECD's report *Health at a glance 2007* (OECD 2007).

A selection of HCQIs are presented biennially in the OECD's *Health at a glance* series, the most recent being *Health at a glance 2015: OECD indicators* (2015a). The OECD also publishes the full set of indicators it collects for the HCQI data collection in its online statistical database: OECD.*Stat* (OECD 2015b).

1.2 Australia's Health Care Quality Indicator submissions

The Australian Institute of Health and Welfare (AIHW) has provided data to the OECD's HCQI project since 2011:

- In 2011, the AIHW calculated and submitted data for 20 of 40 HCQIs.
- In 2013, Australia submitted data for 33 of the 60 HCQIs; the AIHW prepared 28 and the Australian Bureau of Statistics (ABS) prepared 5.
- In 2015, Australia submitted data for 26 of the 52 HCQIs requested; the AIHW prepared 22 and the ABS prepared 4.

Table 1.1 lists the HCQIs requested for the 2015 collection, indicates whether Australia submitted data and, if so, outlines the data sources and the latest data reference period for the data reported to the OECD. The table also indicates the name used in this publication to refer to the OECD indicators. Details of the indicator specifications are provided at Appendix A.

Table 1.1: HCQIs for which Australia supplied data, 2015

HCQI requested by OECD	Indicator name used in this publication	Data source	Latest data reported to OECD (year)
Primary care—avoidable hospital separations			
Asthma hospital admission	Asthma hospital separation rate	AIHW NHMD	2013–14
Chronic obstructive pulmonary disease (COPD) hospital admission	COPD hospital separation rate	AIHW NHMD	2013–14
Congestive heart failure (CHF) hospital admission	CHF hospital separation rate	AIHW NHMD	2013–14
Hypertension hospital admission	Hypertension hospital separation rate	AIHW NHMD	2013–14
Diabetes hospital admission	Diabetes hospital separation rate	AIHW NHMD	2013–14
Diabetes lower extremity amputation	Diabetes lower extremity amputation rate	AIHW NHMD	2013–14
Primary care—prescribing			
Diabetic patients with at least one prescription of cholesterol lowering medication	Not provided	. .	. .
Diabetic patients with prescription of first choice antihypertensive medication	Not provided	. .	. .
Elderly patients with prescription of long-term benzodiazepines or related drugs	Not provided	. .	. .
Elderly patients with prescription of long-acting benzodiazepines or related drugs	Not provided	. .	. .

(continued)

Table 1.1 (continued): HCQIs for which Australia supplied data, 2015

HCQI requested by OECD	Indicator name used in this publication	Data source	Latest data reported to OECD (year)
Patients with long-term prescription of any anticoagulating drug in combination with an oral nonsteroidal anti-inflammatory drug	Not provided	. .	. .
Total volume of antibiotics for systemic use	Not provided	. .	. .
Volume of second line antibiotics as a share of total volume	Not provided	. .	. .
Acetyl salicylic acid (aspirin) at a dose >80 mg daily for ≥1 month	Not provided	. .	. .
Acute care			
Thirty-day mortality after admission to hospital for acute myocardial infarction (AMI) based on patient data	Not provided	. .	. .
Thirty-day mortality after admission to hospital for AMI based on admission data	AMI in-hospital mortality rate	AIHW NHMD	2013–14
Thirty-day mortality after admission to hospital for haemorrhagic stroke based on patient data	Not provided	. .	. .
Thirty-day mortality after admission to hospital for haemorrhagic stroke based on admission data	Haemorrhagic stroke in-hospital mortality rate	AIHW NHMD	2013–14
Thirty-day mortality after admission to hospital for ischemic stroke based on patient data	Not provided	. .	. .
Thirty-day mortality after admission to hospital for ischemic stroke based on admission data	Ischemic stroke in-hospital mortality rate	AIHW NHMD	2013–14
Hip-fracture surgery initiated within 2 days after admission to the hospital	Not provided	. .	. .
Mental health care			
In-patient suicide among patients diagnosed with a mental disorder	Not provided	. .	. .
Suicide within 1 year after discharge among patients diagnosed with a mental disorder	Not provided	. .	. .
Suicide within 30 days after discharge among patients diagnosed with a mental disorder	Not provided	. .	. .
Excess mortality for patients diagnosed with schizophrenia	Not provided	. .	. .
Excess mortality for patients diagnosed with bipolar disorder	Not provided	. .	. .
Excess mortality for patients diagnosed with a severe mental illness	Not provided	. .	. .
Cancer care			
Breast cancer five year relative survival	Breast cancer 5-year relative survival rate	AIHW ACD	2009 to 2011
Cervical cancer five year relative survival	Cervical cancer 5-year relative survival rate	AIHW ACD	2009 to 2011
Colorectal cancer five year relative survival	Colorectal cancer 5-year relative survival rate	AIHW ACD	2009 to 2011

(continued)

Table 1.1 (continued): HCQIs for which Australia supplied data, 2015

HCQI requested by OECD	Indicator name used in this publication	Data source	Latest data reported to OECD (year)
Patient safety			
Foreign body left in during procedure	Foreign body left in during procedure rate	AIHW NHMD	2013–14
Post-operative deep vein thrombosis (DVT)	Post-operative DVT rate	AIHW NHMD	2013–14
Post-operative DVT after hip or knee replacement	Post-operative DVT—hip or knee replacement rate	AIHW NHMD	2013–14
Post-operative pulmonary embolism (PE)	Post-operative PE rate	AIHW NHMD	2013–14
Post-operative PE after hip or knee replacement	Post-operative PE—hip or knee replacement rate	AIHW NHMD	2013–14
Post-operative sepsis	Post-operative sepsis rate	AIHW NHMD	2013–14
Post-operative sepsis after abdominal surgery	Post-operative sepsis—abdominal surgery rate	AIHW NHMD	2013–14
Post-operative wound dehiscence	Post-operative wound dehiscence rate	AIHW NHMD	2013–14
Obstetric trauma vaginal delivery with instrument	Obstetric trauma with instrument rate	AIHW NHMD	2013–14
Obstetric trauma vaginal delivery without instrument	Obstetric trauma without instrument rate	AIHW NHMD	2013–14
Patient experiences			
Consultation skipped due to costs	Consultation skipped due to costs	ABS Patient Experience Survey	2013–14
Medical tests, treatment or follow-up skipped due to costs	Medical tests skipped due to costs	ABS Patient Experience Survey	2013–14
Prescribed medicines skipped due to costs	Prescribed medicines skipped due to costs	ABS Patient Experience Survey	2013–14
Waiting time of more than four weeks for getting an appointment with a specialist	Not provided	. .	. .
Patients reporting having spent enough time with any doctor during the consultation	Patient having enough time with doctor	ABS Patient Experience Survey	2013–14
Patients reporting having spent enough time with their regular doctor during the consultation	Not provided	. .	. .
Patients reporting having received easy-to-understand explanations by any doctor	Not provided	. .	. .
Patients reporting having received easy-to-understand explanations by their regular doctor	Not provided	. .	. .
Patients reporting having had the opportunity to ask questions or raise concerns to any doctor	Not provided	. .	. .
Patients reporting having had the opportunity to ask questions or raise concerns to their regular doctor	Not provided	. .	. .
Patients reporting having been involved in decisions about care or treatment by any doctor	Not provided	. .	. .

(continued)

Table 1.1 (continued): HCQIs for which Australia supplied data, 2015

HCQI requested by OECD	Indicator name used in this publication	Data source	Latest data reported to OECD (year)
Patients reporting having been involved in decisions about care or treatment by their regular doctor	Not provided	. .	. .

NHMD = National Hospital Morbidity Database; ACD = Australian Cancer Database.

Australia was not able to provide a number of HCQIs for the 2015 data collection for a range of reasons, largely relating to availability of data. Some of these reasons are given here by way of example:

- Data are not collected for some patient experience indicators.
- Indicators that aimed to measure mortality after discharge from hospital were not available, as Australia does not routinely link hospital and mortality data.
- Data on suicides among admitted patients were not available as there is no agreed method for collecting and reporting these data in Australia.
- Indicators for readmissions to any hospital could not be prepared as individual patient records are not routinely linked in the national hospital data collections.
- Some indicators required the use of patient-based data; however, the AIHW was unable to meet this requirement and so, instead, reported indicators based on separation-based data.

2 Methods and data sources

This chapter presents information about the data sources used to report HCQI data for Australia and some basic information about the way in which the available data could support the OECD's requirements for the HCQI specifications. It also includes information on broad issues affecting the comparability of Australia's data with those of other OECD member countries. More specific guidance on the comparability of Australian HCQI data is included in chapters 3 through to 7.

2.1 Data sources for the HCQIs

The data provided for the HCQIs by the AIHW and the ABS were sourced from three national data collections:

- The primary care (avoidable hospital separations), acute care and patient safety HCQIs were reported using data from the AIHW's National Hospital Morbidity Database (NHMD).
- Data for the cancer care indicators were sourced from the AIHW's Australian Cancer Database (ACD).
- Patient experience data were sourced from the ABS's Patient Experience Survey.

National Hospital Morbidity Database

The NHMD is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals (see Box 1.1). The data supplied are based on the national minimum data set (NMDS) for Admitted patient care and include demographic, administrative and LOS 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 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.

Box 1.1: Caution on use of NHMD data for HCQI reporting

It should be noted that data from the AIHW's NHMD are collected primarily for the purposes of recording care provided to admitted patients. Use for purposes such as reporting on the OECD HCQIs has not been validated for accuracy in Australia. The results prepared using data from the NHMD should therefore be treated with caution.

The counting unit in the NHMD is the separation. 'Separation' refers to the episode of admitted patient care (see Glossary). This 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). When interpreting data from the NHMD, it is worth noting that data on hospital activity are affected by changes in coverage, administrative and reporting arrangements over time.

Diagnoses and procedures are recorded in the NHMD using the International Statistical Classification of Diseases and Related Health Problems, 10th revision, Australian Modification (ICD-10-AM) and the Australian Classification of Health Interventions (ACHI), respectively.

The AIHW routinely reports data from the NHMD in the *Australian hospital statistics* series, which is available online at <http://www.aihw.gov.au/hospitals/australian-hospital-statistics/>.

The data quality statement for the NHMD is at Appendix B.

Australian Cancer Database

The ACD is a collection of data on all primary cancers diagnosed in Australia since 1982. The following exclusions apply to the ACD:

- Basal cell carcinomas of the skin and squamous cell carcinomas of the skin are not included.
- Only the first occurrence of a cancer is included. That is, recurrences and metastases are not included.
- Tumours diagnosed as benign, of borderline malignancy or in situ are not included.

Australian cancer data are coded using the International Classification of Diseases for Oncology, 3rd edition (ICD-O-3). The data are usually mapped to ICD-10 codes for reporting purposes.

The ACD is routinely linked to the AIHW's National Death Index so that cancer data can be updated with information on deaths of people who have been reported with cancer. The National Death Index is a database of all deaths that have occurred in Australia since 1980 and is maintained by the AIHW for the purposes of record linkage. At the time of analysis, cancer cases had been followed for deaths (from any cause) to the end of 2011.

The AIHW routinely reports data from the ACD in cancer and screening publications, which are available online at <http://www.aihw.gov.au/cancer-publications/>.

The data quality statement for the ACD is at Appendix B.

ABS Patient Experience Survey

The ABS Patient Experience Survey is conducted annually and collects national data on access and barriers to a range of health-care services. Data are also collected on aspects of communication between patients and health professionals (ABS 2014b).

The Patient Experience Survey has been conducted by the ABS throughout Australia from July to June each year since 2009–10, as a topic on the ABS Multipurpose Household Survey. For 2013–14, patient experience data were also collected via the Health Services Survey.

The 2013–14 survey asked up to two residents aged 15 or over from each household questions in relation to their own health. If the randomly selected person was aged 15 to 17, permission was sought from a parent or guardian before conducting the interview; in some cases, permission was not given and the parent or guardian was asked the questions.

After taking into account sample loss, the response rate for the Patient Experience Survey in 2013–14 was 77% (27,327 fully responding people). The response rate for the Health Services Survey was 83% (8,541 fully responding people).

A data quality statement and other information on the 2013–14 Patient Experience Survey are available online at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4839.0Main+Features12013-14>.

2.2 Methodological issues

In preparing data for the HCQIs, the AIHW adhered as closely as possible to the specifications supplied in the OECD guidelines and technical manual. Where the indicator differed from the OECD specification the differences are outlined in Appendix A.

In many instances, other countries also did not fully comply with the specifications. The OECD's *Health at a glance 2015* report and the OECD.*Stat* database provide broad information about the extent to which countries complied with the indicator specifications or note other issues that might affect interpretation of the data. In this report, comparisons are made against all OECD countries that reported data (and were included in the OECD reports), regardless of their compliance with the specifications. In addition to issues affecting compliance with the specifications, there may be other differences in the way in which health services are organised and delivered (as noted earlier) that may have affected the results reported.

An overarching terminology issue is important to note: where indicators refer to a 'discharge' or an 'admission' in the OECD specifications, the similar (but not identical) concept 'separation' is used by Australia (see 'separation' in the Glossary) as this is the basis of episode of care records provided to the NHMD. Diagnosis and procedure codes are assigned after separation, when all information regarding the episode of care is available. This enables more accurate capture of information.

The OECD requested data for same-day separations, defined as a LOS less than 24 hours. Australia's mechanism for identifying same-day separations was not the same as that specified by the OECD, although it is considered unlikely to affect comparability. The NHMD does not hold information on time of admission or separation, so a LOS of less than 24 hours cannot be accurately identified. A same-day flag identifies separations where a patient was discharged from hospital on the same calendar day as the one during which they were admitted. Such separations were used as a proxy for separations with an LOS of less than 24 hours.

Patient days are calculated as the difference between admission and separation dates, less leave days if any, or one, depending on which was greater. Patient days were used to calculate LOS <3 days and <2 days as specified by the OECD. This does not perfectly capture the concept in all cases, but was the best available option.

The OECD specifications requested the exclusion of some diagnoses when present on admission; however, due to data quality issues, the AIHW did not do this as not all diagnoses that arose during the episode were flagged as such.

The OECD specifications also requested the identification of readmissions; however, the AIHW was unable to identify readmissions, whether to the same or to a different hospital, as a unique patient identifier is not assigned outside individual hospitals and individual patient episodes are not routinely linked in the NHMD. Some indicators required the use of patient-based data; however, the AIHW was unable to meet this requirement and so, instead, reported indicators based on separation-based data.

The HCQI specifications were originally defined using the International Statistical Classification of Diseases, 9th revision, Clinical Modification (ICD-9-CM) (used in the United States of America). In developing the specifications, ICD-9-CM diagnosis codes were then mapped by the OECD to ICD-10 codes for use in other countries. These ICD-10 codes were then further mapped by the AIHW to ICD-10-AM.

Australian information presented over time may be affected by changes to ICD-10-AM/ACHI coding standards. Hence, caution is advised when comparing data across years due to changes between the ICD-10-AM, 6th edition (used in 2009–10), the ICD-10-AM, 7th edition (used in 2010–11 and 2011–12) and the ICD-10-AM 8th edition (used in 2012–13 and 2013–14) and their associated Australian Coding Standards.

As there is no common international classification of medical procedures, the OECD specifications use ICD-9-CM (United States version) procedure codes to define inclusions or exclusions to the numerator, denominator, or both, for some indicators. These ICD-9-CM codes were mapped by the AIHW to codes in the ACHI (NCCC 2012) for the relevant years to calculate Australian results. While ICD-9-CM to ACHI mapping is not always straightforward, relevant ACHI codes were identified during the mapping process and no major mapping issues were encountered, except where noted in the report.

The most recent data presented by the OECD in *Health at a glance 2015* for the HCQIs was for 2013 (or where data were not available for 2013 for some countries, the nearest available year of data). The OECD considered the nearest year for Australia to be 2012–13 for the primary care indicators, acute care indicators and patient safety indicators, and 2013–14 the nearest year for the patient experience indicators. The most recent data presented by the OECD for the cancer care indicators was for 2008–13 (or nearest period); the OECD considered the nearest period for Australia to be 2009–11. For most of these indicators, Australia was also able to supply data for 2013–14, which are also presented in this report.

The OECD calculated the OECD average for the indicators that were published in *Health at a glance 2015.* For those indicators that were not included in *Health at a glance 2015,* the AIHW calculated the OECD average from the data available in OECD.*Stat*.

Note that results presented for earlier periods in the previous publication, *OECD health-care quality indicators for Australia 2011–12* (AIHW 2014c), may differ due to data supply updates.

Where *Health at a glance 2015* notes issues with comparability for each group of indicators, these are referenced in this publication.

Confidence intervals

In line with OECD specifications, Australia provided confidence intervals for the HCQIs, where required. Confidence intervals have been included in this publication only for data sourced from survey data; that is, only the patient experience data, used for the patient experience indicators. They have not been provided for indicators based on NHMD and ACD data.

In the case of data collected by way of a sample survey, confidence intervals represent the sampling error—that is, the uncertainty of the quantity being reported arising from estimating a value for a population, based on data from a sample of that population. This theory is well developed and longstanding and therefore confidence intervals are considered reliable.

For data from the NHMD and the ACD, which are collations of records of all relevant events (rather than a sample), it is very difficult to determine the cause and properties of variability and therefore construct 'correct' or meaningful confidence intervals. Therefore, the AIHW considers that confidence intervals created for such sources would be of uncertain reliability.

3 Primary care indicators—avoidable hospital separations

This chapter presents data for the primary care indicators supplied for Australia to *Health at a glance 2015*. It compares these data with the HCQI results for OECD countries and comments on the comparability of the data provided to the OECD specification (OECD 2015a, 2015b).

The OECD HCQIs for primary care include rates of avoidable hospital admissions for a range of conditions. Rates of avoidable hospital admissions serve as measures of the effectiveness of the primary health-care system, as access to 'a high-performing primary health-care system can reduce acute deterioration in people living with [these conditions] and prevent their admission to hospital' (OECD 2015a).

The OECD published all primary care indicators in OECD.*Stat* and a selection of primary care indicators in *Health at a glance 2015.* The AIHW supplied 6 primary care indicators for the 2015 HCQI data submission, based on 2009–10 to 2013–14 NHMD data. The indicators requested by the OECD were for avoidable hospital admission rates but, as noted in Chapter 2, Australia uses the similar concept of 'separation'. Therefore, the indicators supplied were:

- *asthma hospital separation rate*
- *chronic obstructive pulmonary disease (COPD) hospital separation rate*
- *congestive heart failure (CHF) hospital separation rate*
- *hypertension hospital separation rate*
- *diabetes hospital separation rate*
- *diabetes lower extremity amputation rate.*

Overall data comparability and methods

The most recent data published by the OECD for the primary care indicators was for 2013 (or nearest year); the OECD considered the nearest year for Australia to be 2012–13. Primary care indicators were reported by the OECD for adults aged 15 and over, with rates age–sex standardised to the 2010 OECD population. The indicators are presented on the same basis here.

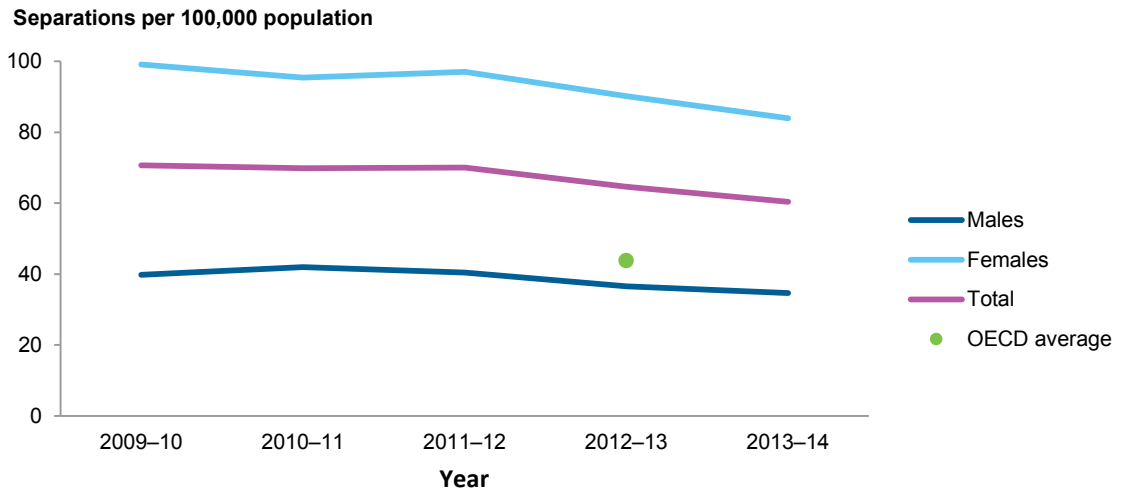
Health at a glance 2015 notes that disease prevalence, differences in coding practices across countries and the definition of an admission may affect the comparability of the data. To prevent double counting, countries were asked to exclude the transfer of patients between hospitals from the calculations for primary care indicators. This was done for the Australian data, although not all countries were able to do this.

For further details of the methods used for calculating all indicators see Chapter 2 and Appendix A.

3.1 Asthma hospital separation rate

In 2013–14, the *asthma hospital separation rate* reported for people aged 15 and over in Australia was 60 per 100,000 population, a decrease since 2009–10 (71 per 100,000 population). Rates reported for females were more than twice as high as those for males (84 separations and 35 separations per 100,000 population, respectively), with this difference consistent over time (Figure 3.1).

In 2012–13, Australia's rate was 65 separations per 100,000 population, 1.5 times the OECD average of 44 in the comparison year. A total of 33 countries provided *asthma hospital separation rates* data to *Health at a glance 2015;* rates ranged from a low of 9.8 per 100,000 separations in Italy to a high of 110 in the Slovak Republic.



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 15 and over.

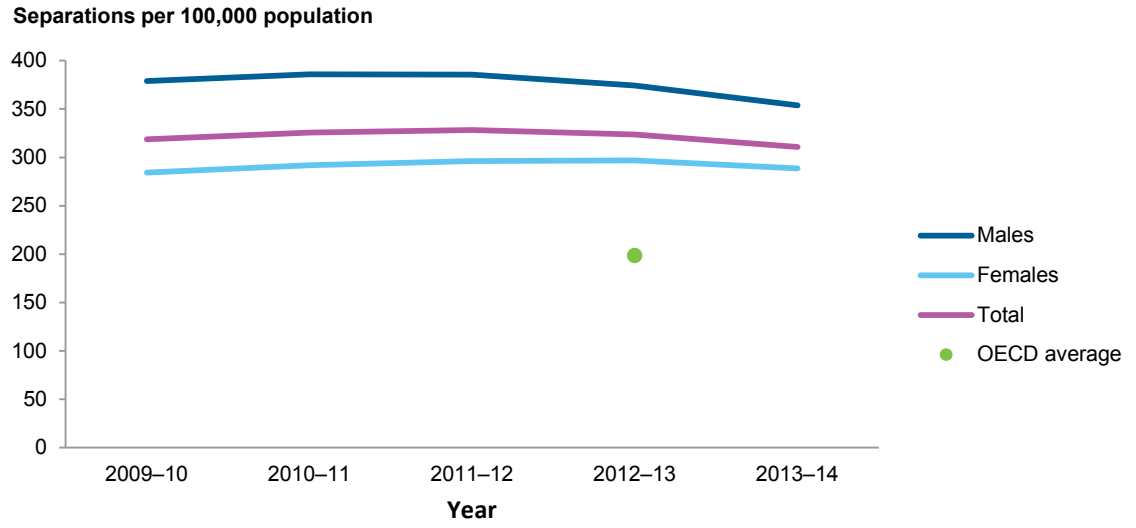
Sources: Appendix Table C3.1; OECD 2015b.

Figure 3.1: Asthma hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

3.2 COPD hospital separation rate

In 2013–14, the *COPD hospital separation rate* reported for people aged 15 and over in Australia was 311 per 100,000 population, a decrease since 2009–10 (319 per 100,000 separations). Rates were higher for males than females in each year; however, the rates are converging (Figure 3.2).

In 2012–13, Australia's rate was 324 per 100,000 population—1.6 times the OECD average of 199 in the comparison year. A total of 33 countries contributed rates of COPD to *Health at a glance 2015;* the lowest rate reported for COPD hospital separation was in Japan (24) and the highest was in Ireland (395).



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 15 and over.

Sources: Appendix Table C3.2; OECD 2015b.

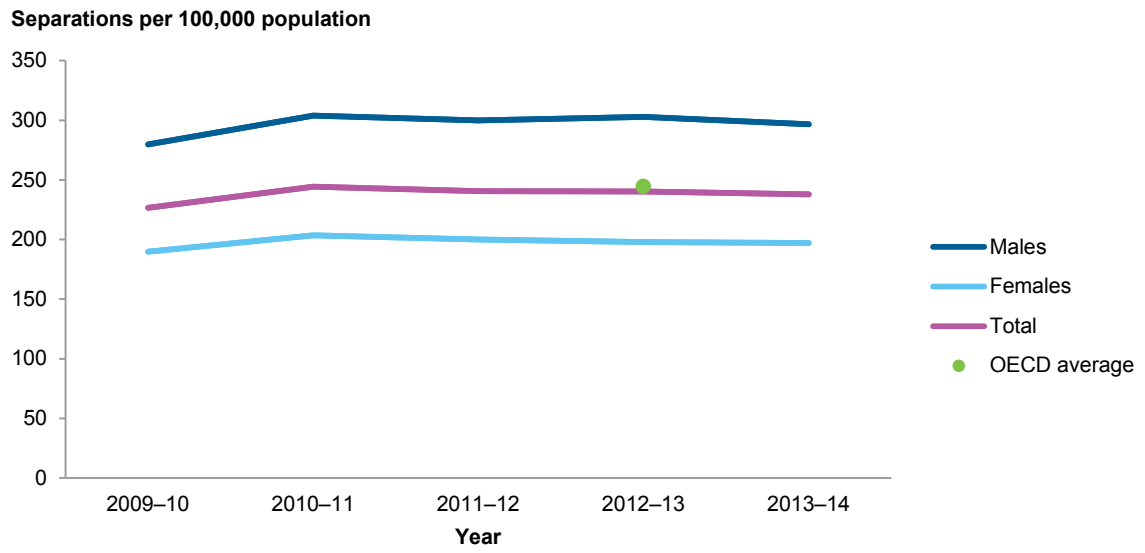
Figure 3.2: COPD hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

3.3 CHF hospital separation rate

In 2013–14, the *CHF hospital separation rate* reported for people aged 15 and over in Australia was 238 per 100,000 population, an increase since 2009–10 (227 per 100,000 separations). Rates for males were higher than for females, a trend that has been stable over the reported period (Figure 3.3).

In 2012–13, Australia's rate was 240 per 100,000 population, similar to the OECD average of 244 in the equivalent period. *Health at a glance 2015* includes *CHF hospital separation rates* for 30 OECD countries, which ranged from 74 per 100,000 population in Mexico to 548 in Poland.

Cardiac procedure codes were required for the calculation of the *CHF hospital separation rate*. The AIHW found that mapping was not straightforward in this instance as the ICD-9-CM codes supplied by the OECD did not map directly (in a one-to-one manner) to the ACHI code list used in Australia. The effect of this on the comparability of data is unknown.



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 15 and over.

Sources: Appendix Table C3.3; OECD 2015b.

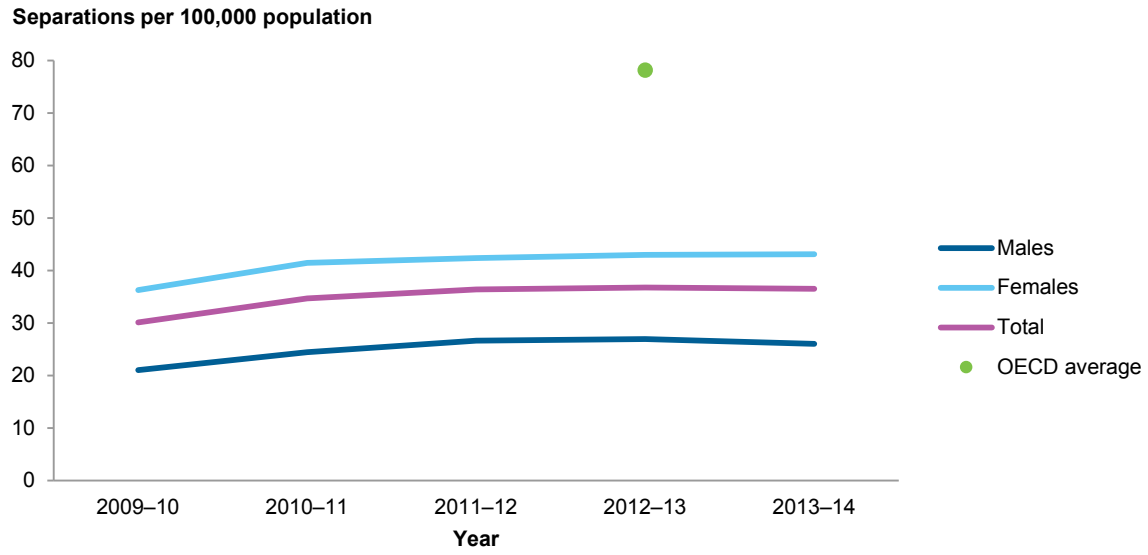
Figure 3.3: CHF hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

3.4 Hypertension hospital separation rate

The *hypertension hospital separation rate* reported for people aged 15 and over in Australia was 37 per 100,000 population in 2013–14, an increase from 30 in 2009–10. Rates for females (43 per 100,000 population) were more than 1.5 times as high as rates for males (26) (Figure 3.4).

In 2012–13, Australia's rate for hypertension hospital separations was 37 per 100,000 population. OECD.*Stat* includes rates for 30 OECD countries; these ranged from 8.6 per 100,000 separations in Belgium to 397 in the Slovak Republic, with the average for OECD countries being 78.

Cardiac procedure codes were required for the calculation of the *hypertension hospital separation rate*. The AIHW found that mapping was not straightforward in this instance as the ICD-9-CM codes supplied by the OECD did not map directly (in a one- to-one manner) to the ACHI code list used in Australia. The effect of this on the comparability of data is unknown.



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 15 and over.

Sources: Appendix Table C3.4; OECD 2015b.

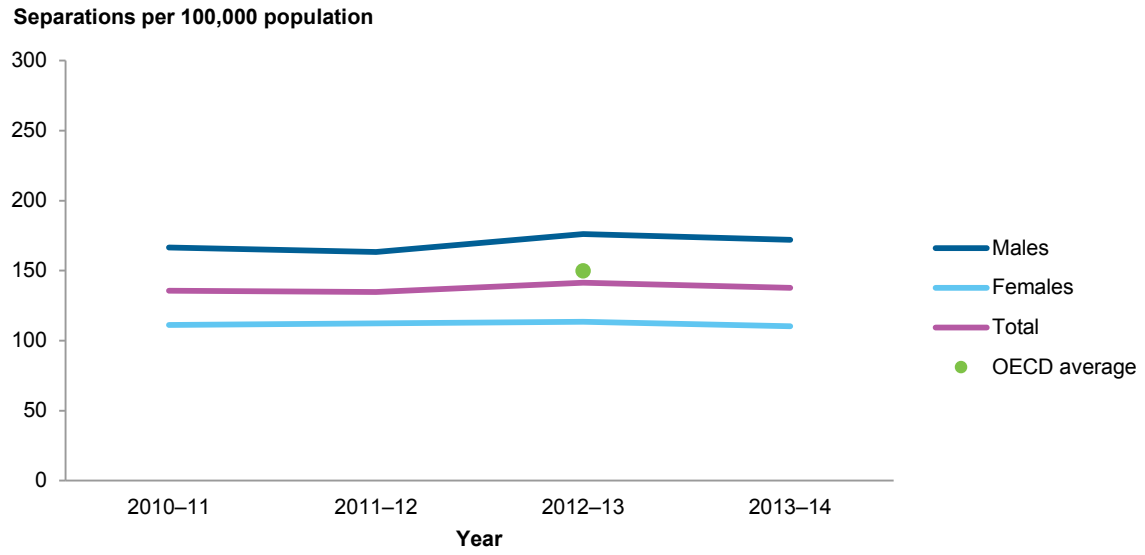
Figure 3.4: Hypertension hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

3.5 Diabetes hospital separation rate

The *diabetes hospital separation rate* reported for people aged 15 and over in Australia was 138 per 100,000 population in 2013–14. Rates were higher for males (172 per 100,000 population) than females (110 per 100,000 population). When looking at data for all people, the rate was relatively stable between 2010–11 and 2013–14 (Figure 3.5).

It should be noted that changes to the Australian Coding Standards between 2009–10 and 2012–13 have affected the comparability of data reported over time for diabetes. The AIHW considers there is a break in series between 2009–10 and 2010–11 and therefore 2009–10 data are not presented. The AIHW also recommends that some caution should be taken when comparing data for 2010–11 and 2011-12 with data for 2012–13 and 2013-14 due to further changes in the coding standards that related to diabetes from 1 July 2012.

In 2012–13, Australia's rate for diabetes hospital separation was 141 per 100,000 population, about the same as the OECD average of 150 per 100,000 population. *Health at a glance 2015* includes rates for 32 OECD countries for diabetes hospital separation for the comparison year; these ranged from 44 per 100,000 population in Italy to 338 per 100,000 population in Mexico.



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 15 and over.
3. The AIHW considers there is a break in series between 2009–10 and 2010–11.

Sources: Appendix Table C3.5; OECD 2015b.

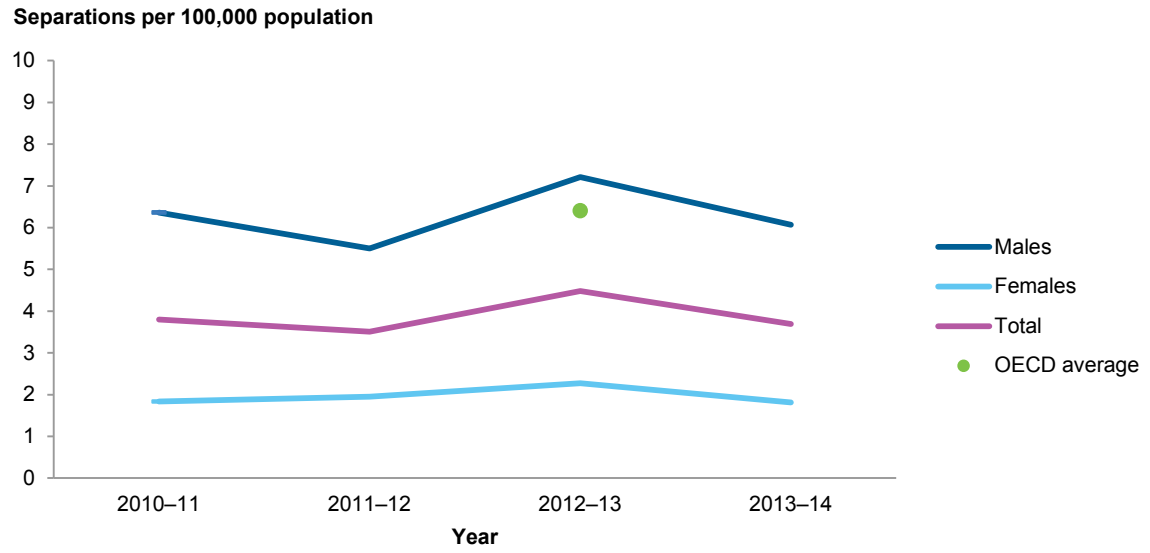
Figure 3.5: Diabetes hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2010–11 to 2013–14

3.6 Diabetes lower extremity amputation rate

In 2013–14, the *diabetes lower extremity amputation rate* reported for people aged 15 and over in Australia was 3.7 per 100,000 population. The rates for males were more than 3 times as high as those reported for females (6.1 separations and 1.8 separations, respectively) (Figure 3.6).

In 2012–13, Australia's rate for diabetes lower extremity amputation was 4.5 per 100,000 population, about 35% lower than the OECD average of 6.4 per 100,000 population. Of the 21 OECD countries that supplied data for this indicator, Korea had the lowest rate (2.4 per 100,000 population), while Israel had the highest rate (16 per 100,000 population).

As outlined in Section 3.5, caution should be taken when comparing diabetes data because of changes to the Australian Coding Standards, which affected the recording of data relating to diabetes.



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 15 and over.
3. The AIHW considers there is a break in series between 2009–10 and 2010–11.

Sources: Appendix Table C3.6; OECD 2015b.

Figure 3.6: Diabetes lower extremity amputation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2010–11 to 2013–14

4 Acute care indicators

This chapter presents data for the acute care indicators supplied for Australia to *Health at a glance 2015*. It compares these data with the HCQI results for OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2015a, 2015b).

The OECD published all acute care indicators in OECD.*Stat* and a selection of acute care indicators in *Health at a glance 2015.* Australia calculated and submitted 3 of the 7 acute care indicators requested. The OECD specifications request patient-based and admission-based data. Australia has supplied data for the admission-based indicators, but using separations data, as explained in Chapter 2. The indicators are for:

- *acute myocardial infarction (AMI) in-hospital mortality rate*
- *haemorrhagic stroke in-hospital mortality rate*
- *ischaemic stroke in-hospital mortality rate.*

The acute care indicators measure the proportion of total separations where the patient died in the hospital within 30 days of admission, within the one episode of care. In-hospital mortality rates for AMI and stroke may reflect the quality of care provided for those conditions (OECD 2011).

Note that when comparing acute care indicators for the same year's data between this and the previous publication, *OECD health-care quality indicators for Australia 2011–12* (AIHW 2014c):

- the standard population used by the OECD changed considerably, having an impact on the rates published. Raw data supplied by the AIHW showed only small differences due to data supply updates
- the rate reported in this publication is for people aged 45 and over (consistent with the OECD's presentation of this indicator); however, the rate previously published by the AIHW was for people aged 15 and over.

Overall data comparability and methods

The most recent data published by the OECD for the acute care indicators was for 2013 (or nearest year); the OECD considered the nearest year for Australia to be 2012–13.

The OECD published the acute care indicators for adults aged 45 and over only. Rates were age–sex standardised to the 2010 OECD population aged 45 and over admitted to hospital for AMI or stroke, but were not risk-adjusted for any other patient characteristics. The indicators are presented on the same basis here.

Australian data can identify if a patient dies during a single episode of care in one hospital. However, if a patient was discharged from hospital or had a change in care type, then returned to that same hospital or another hospital and died, all within 30 days, that death would not be reported by the AIHW as part of this indicator. Therefore, the acute care indicators reported by the AIHW underestimate true in-hospital fatality rates.

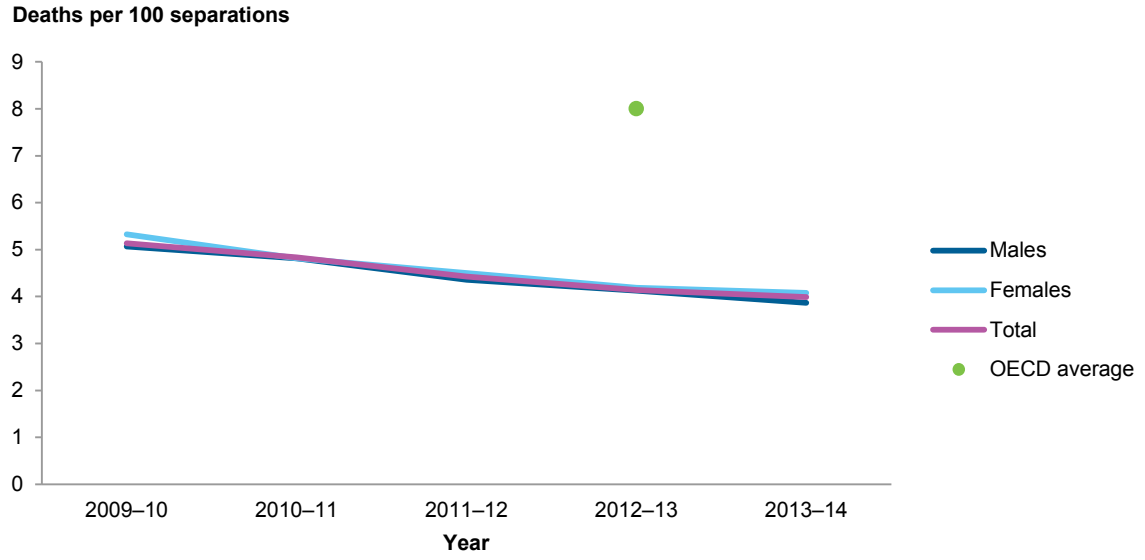
For further details of the methods used for calculating all indicators see Chapter 2 and Appendix A.

4.1 AMI in-hospital mortality rate

The AMI in-hospital mortality indicator measures deaths as a result of AMI that occurred within 30 days of hospital admission. Comparisons are presented for other OECD countries that reported data for this indicator (that is, based on separations data, not patient data). Note that the AIHW could only provide data for separations where death occurred within the one (hospital) episode of care.

In 2013–14, the *AMI in-hospital mortality rate* reported in Australia was 4.0 per 100 separations, a decrease from 5.1 in 2009–10. The mortality rate was similar for males and females, a trend that is stable over the reported period (Figure 4.1).

In 2012–13, Australia's AMI in-hospital mortality rate was 4.1 per 100 separations, compared with the OECD average of 8.0. Australia had the lowest rate (4.1 per 100 separations) among the 33 countries that reported AMI in-hospital mortality rates; the highest rate was reported by Mexico (28.2 per 100 separations).



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 45 and over admitted to hospital for AMI.

Sources: Appendix Table C4.1; OECD 2015b.

Figure 4.1: AMI in-hospital mortality rate for people aged 45 and over, deaths per 100 separations for AMI, by sex, Australia, 2009–10 to 2013–14

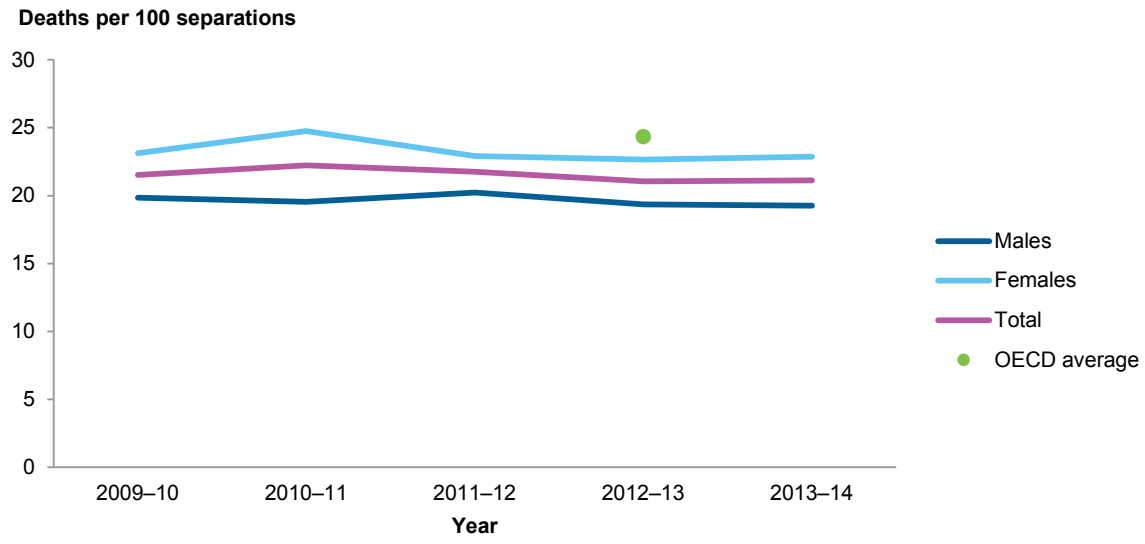
4.2 Haemorrhagic stroke in-hospital mortality rate

The haemorrhagic stroke in-hospital mortality indicator measures deaths as a result of haemorrhagic stroke that occurred within 30 days of hospital admission. Comparisons are presented for other OECD countries that reported data for this indicator (that is, based on separations data, not patient data). Note that the AIHW could only provide data for separations where death occurred within the one (hospital) episode of care.

Figure 4.2 shows the *haemorrhagic stroke in-hospital mortality rate* per 100 separations from 2009–10 to 2013–14. The rate was relatively stable over the reported period at around 21

deaths per 100 separations, including in 2013–14 (21 deaths per 100 separations). In 2013–14, the mortality rates were higher for females (23 deaths per 100 separations) than males (19 deaths per 100 separations), a trend that was stable over the reported period (Figure 4.2).

In 2012–13, Australia's haemorrhagic stroke in-hospital mortality rate was 21 per 100 separations, which compared with the OECD average of 24 per 100 separations. The lowest rate was for Japan (12 deaths per 100 separations) and the highest rate was for Hungary (41 deaths).



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 45 and over admitted to hospital for haemorrhagic stroke.

Sources: Appendix Table C4.2; OECD 2015b.

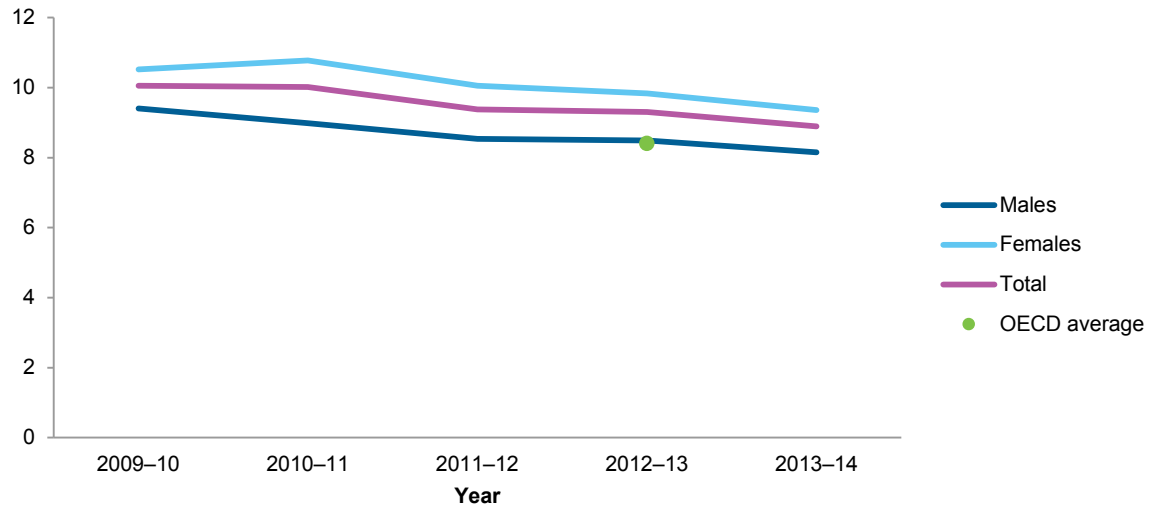
Figure 4.2: Haemorrhagic stroke in-hospital mortality rate for people aged 45 and over, deaths per 100 separations for haemorrhagic stroke, by sex, Australia, 2009–10 to 2013–14

4.3 Ischaemic stroke in-hospital mortality rate

The ischaemic stroke in-hospital mortality indicator measures deaths as a result of ischaemic stroke that occurred within 30 days of hospital admission. Comparisons are presented for other OECD countries that reported data for this indicator (that is, based on separations data, not patient data). Note that the AIHW could only provide data for separations where death occurred within the one (hospital) episode of care.

In 2013–14, the *ischaemic stroke in-hospital mortality rate* reported in Australia was 8.9 per 100 separations, a decrease since 2009–10 (10.1 per 100 separations). Rates were higher for females than for males, a trend that was stable over the reported period (Figure 4.3).

In 2012–13, Australia's *ischaemic stroke in-hospital mortality rate* was 9.3 per 100 separations, compared with the OECD average of 8.4. Japan had the lowest rate (3.0 per 100 separations), while the highest rate was reported by Mexico (19.5 per 100 separations).



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population aged 45 and over admitted to hospital for ischaemic stroke.

Sources: Appendix Table C4.3; OECD 2015b.

Figure 4.3: Ischaemic stroke in-hospital mortality rate for people aged 45 and over, deaths per 100 separations for ischaemic stroke, by sex, Australia, 2009–10 to 2013–14

5 Cancer care indicators

This chapter presents data for the cancer care indicators supplied for Australia to *Health at a glance 2015*. It compares these data with the HCQI results for OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2015a, 2015b).

The OECD published relative survival rates for all cancer care indicators in OECD.*Stat* and in *Health at a glance 2015*. There were 3 cancer care indicators in the 2015 HCQI data collection and all of these were submitted for Australia:

- *breast cancer 5-year relative survival rate*
- *cervical cancer 5-year relative survival rate*
- *colorectal cancer 5-year relative survival rate.*

A person's chance of surviving cancer depends on many factors, including their lifestyle and health conditions, the type of cancer they have, how far it had progressed before being diagnosed and what kinds of treatment are available. For some cancers, survival for 5 years after diagnosis is an important indicator of successful cancer management, although for others there is still a substantial chance that the cancer may recur (AIHW 2012).

Cancer patients are also at risk of dying from causes other than cancer and the risk varies between populations. In order to make valid comparisons of survival between populations, it is necessary to adjust the observed survival among cancer patients by the rate of all-cause mortality in the general population; the figure so obtained is called the relative survival. Relative survival is obtained by dividing the observed survival in a group of people diagnosed with cancer by the expected survival of a similar group of people (matched by age and sex) in the corresponding general population after a specified interval following diagnosis (in this case 5 years) (AIHW 2014b).

Overall data comparability and methods

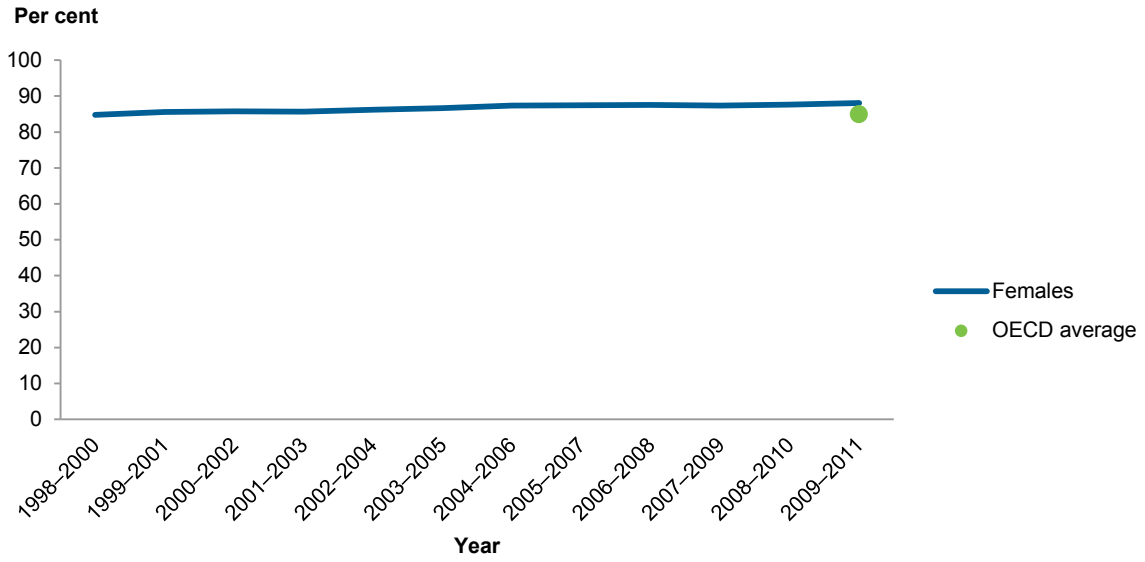
The most recent data published by the OECD for the cancer care indicators was for 2008–13 (or nearest period); the OECD considered the nearest period for Australia to be 2009–11. Both Australian and OECD cancer relative survival rates were age standardised using the appropriate populations from the International Cancer Survival Standards. Results for the cancer care HCQIs were calculated from the 2011 version of the ACD, with 3-year periods from 1998–2000 to 2009–2011 used to calculate 5-year relative survival rates.

For further details of the methods used for calculating all indicators see Chapter 2 and Appendix A.

5.1 Breast cancer 5-year relative survival rate

Five-year relative survival in Australia for females diagnosed with breast cancer was 88% for the period 2009–2011. Relative survival for this cancer has improved since 1998–2000 (85%) (Figure 5.1).

Australia's 5-year relative survival from breast cancer was similar to the OECD average of 85% for the comparison period. Of the OECD countries that supplied data, Estonia (74%) had the lowest survival rate, while Sweden (89%) had the highest survival rate.



Notes

1. The OECD published data for 2008–2013 (or nearest period) which was compared with 2009–2011 data for Australia.
2. Rates were age standardised using the International Cancer Survival Standard population.

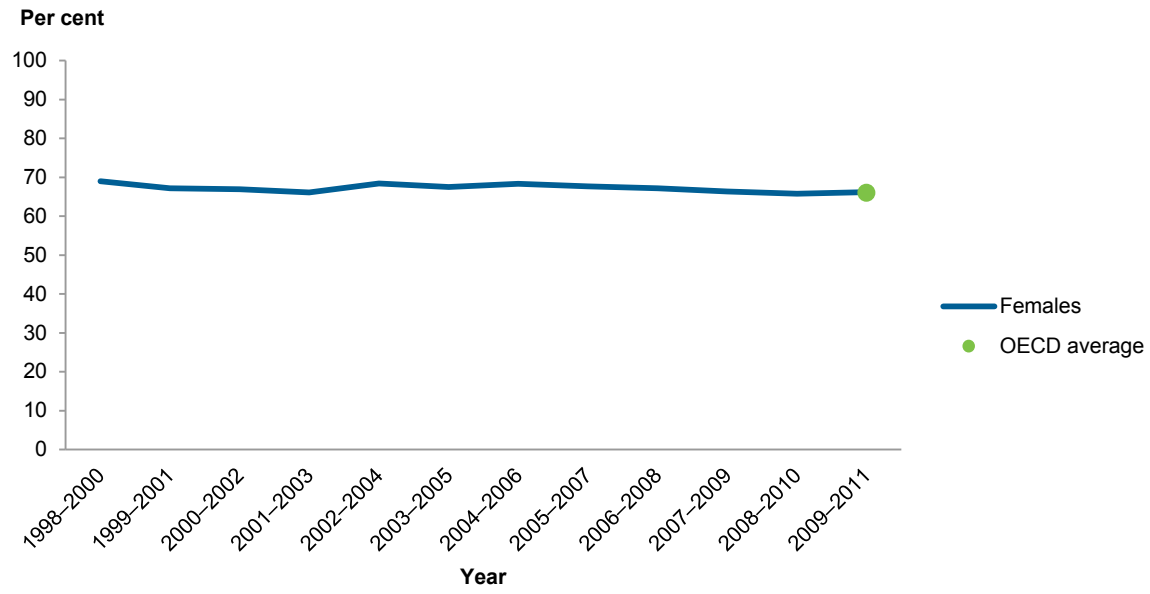
Sources: Appendix Table C5.1; OECD 2015b.

Figure 5.1: Breast cancer 5-year relative survival rate for females aged 15 and over, Australia, 1998–2000 to 2009–2011

5.2 Cervical cancer 5-year relative survival rate

Five-year relative survival for females diagnosed with cervical cancer was 66% for the period 2009–2011, a decline from 69% for the period 1998–2000 (Figure 5.2).

Australia's 5-year relative survival from cervical cancer was the same as the OECD average for the comparison period (66%). Of the OECD countries that supplied data, Chile (45%) had the lowest survival rate, while Norway (81%) had the highest survival rate.



Notes

1. The OECD published data for 2008–2013 (or nearest period) which was compared with 2009–2011 data for Australia.
2. Rates were age standardised using the International Cancer Survival Standard population.

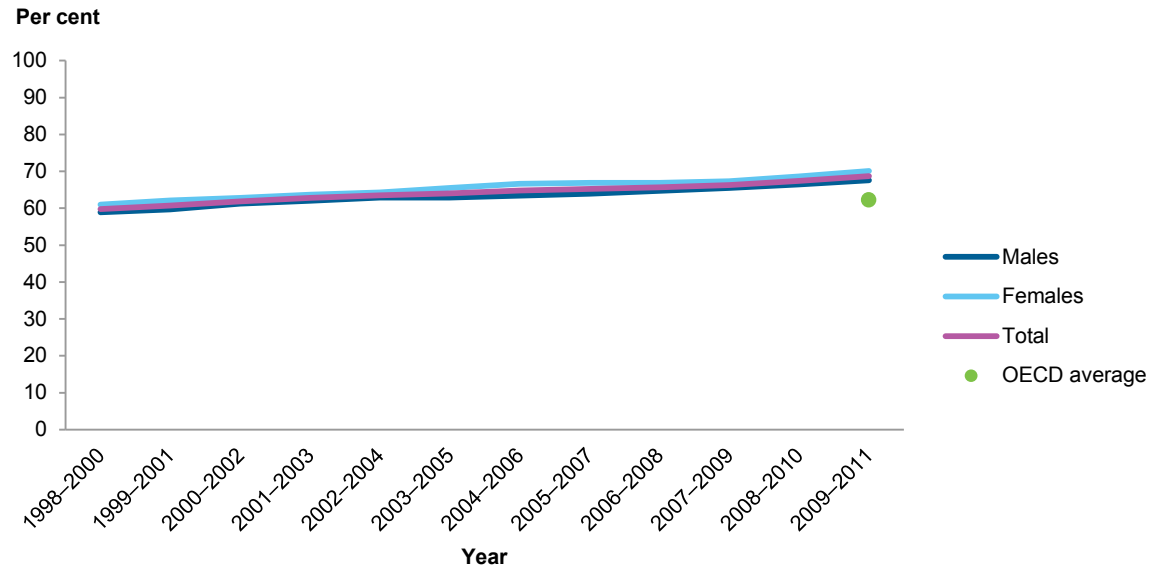
Sources: Appendix Table C5.2; OECD 2015b.

Figure 5.2: Cervical cancer 5-year relative survival rate for females aged 15 and over, Australia, 1998–2000 to 2009–2011

5.3 Colorectal cancer 5-year relative survival rate

Five-year relative survival in Australia for colorectal cancer was 69% for the period 2009–2011, an increase from 1998–2000 (60%). For males, 5-year relative survival from colorectal cancer improved from 59% for the period 1998–2000 to 68% for the period 2009–2011. For females, survival rates improved from 61% for the period 1998–2000 to 70% for the period 2009–2011 (Figure 5.3).

Australia's 5-year relative survival from colorectal cancer was similar to the OECD average for the comparison period (62%). Of the OECD countries that supplied data, Estonia (48%) had the lowest survival rate from colorectal cancer, while Israel (72%) had the highest survival rate.



Notes

1. The OECD published data for 2008–2013 (or nearest period) which was compared with 2009–2011 data for Australia.
2. Rates were age standardised using the International Cancer Survival Standard population.

Sources: Appendix Table C5.3; OECD 2015b.

Figure 5.3: Colorectal cancer 5-year relative survival rate for people aged 15 and over, Australia, 1998–2000 to 2009–2011

6 Patient safety indicators

This chapter presents data for the patient safety indicators supplied for Australia to *Health at a glance 2015*. It compares these data with the HCQI results for OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2015a, 2015b).

The patient safety indicators are a set of quality measures that use hospital separation data to provide a perspective on patient safety for the purpose of international comparison of health systems. Patient safety indicators screen for events that patients experience during their hospital stays as a result of exposure to the health-care system—either adverse events, which cannot be totally avoided, or events that should never occur (OECD 2015a).

The OECD published all patient safety indicators in OECD.*Stat* and a selection of patient safety indicators in *Health at a glance 2015*. For the 2015 OECD HCQI data collection, Australia submitted results for all 10 patient safety indicators in the data collection. The indicators were:

- *foreign body left in during procedure rate*
- *post-operative deep vein thrombosis (DVT) rate*
- *post-operative DVT—knee replacement rate*
- *post-operative pulmonary embolism (PE) rate*
- *post-operative PE—hip or knee replacement rate*
- *post-operative sepsis rate*
- *post-operative sepsis—abdominal surgery rate*
- *post-operative wound dehiscence rate*
- *obstetric trauma with instrument rate*
- *obstetric trauma without instrument rate*.

Note the following indicators are not comparable with data submitted to the OECD in 2013 (as reported in AIHW 2014c):

- The rates published in this report for *post-operative sepsis* and *post-operative sepsis after abdominal surgery* exclude cases with a LOS less than 3 days, whereas the rates published in the previous report excluded cases with a LOS less than 4 days. This has resulted in a higher reported rate for the 2015 data supply.
- The abdominopelvic surgery code list used in the calculation of the *post-operative sepsis after abdominal surgery* indicator and the *post-operative wound dehiscence* indicator changed considerably between the two data collection periods, having an impact on the rates published. The new list included many more laparoscopic surgeries. This is likely to have resulted in lower rates for the 2015 data supply.

Overall data comparability and methods

The most recent data published by the OECD for the patient safety indicators was for 2013 (or nearest year); the OECD considered the nearest year for Australia to be 2012–13. Patient

safety rates reported by the OECD were for adults aged 15 and over and were not age–sex standardised. The data are reported on the same basis in this report.

It should be noted that data from the AIHW's NHMD are collected primarily for the purposes of recording care provided to admitted patients, and that use of the data for purposes such as reporting the OECD HCQIs has not been validated for accuracy in Australia. The results should therefore be treated with caution.

Health at a glance 2015 notes that 'Caution is needed in interpreting the extent to which these indicators accurately reflect international differences in patient safety rather than differences in the way that countries report, code and calculate rates of adverse events' (OECD 2015a:144). It further notes that 'A fundamental challenge in international comparison of patient safety indicators centres on the quality of the underlying data. Variations in how countries record diagnoses and procedures and define hospital admissions can affect calculation of rates…[and that]… in some cases, higher adverse event rates may signal more developed patient safety monitoring systems and a stronger patient safety culture rather than worse care' (OECD 2015a:144).

In Australia, there is, largely, a lack of financial disincentives connected to the reporting of adverse events, and this may have contributed to some relatively high rates reported for Australia. It is also possible that efforts to improve coding quality and to improve the focus on patient safety in Australia in recent years could have led to increased reporting of patient safety events in Australia compared with some other OECD countries.

A number of features of Australian patient safety monitoring would support the claim that Australia is one of those countries that has a more developed patient safety monitoring system. Australia employs specially trained staff to identify and code information from patient records. This practice was identified in *Health at a glance 2013* (OECD 2013) as more likely to provide better data than systems that rely on report by clinicians that may be more inconsistent.

It is likely that in Australia additional diagnoses are generally well recorded at the national level due to the ability to record up to 99 additional diagnoses for reporting to the NHMD. In previous years, the OECD adjusted patient safety data by the average number of additional diagnoses; however, patient safety data presented in *Health at a glance 2015* were not adjusted, as a positive correlation between the number of secondary diagnoses and indicator rates was not found for data reported.

Some of the patient safety indicator specifications exclude particular separations based on patient LOS—for example, the specifications for *post-operative PE, post-operative DVT* and *post-operative wound dehiscence* exclude separations with a LOS less than 2 days and *post-operative sepsis* excludes separations less than 3 days. Australia's average LOS for separations (5.6 days) was below the OECD average of 8.1 days for 2013 (or nearest year) (OECD 2013a). In a country where the average LOS was higher than in Australia, selecting cases from hospitalisations with LOS greater than 2 or 3 days would be likely to include a greater proportion of their hospitalisations, adding more of the less complex cases. The proportion of more complex cases in the mix for each country could possibly increase the rates for selected patient safety indicators.

The AIHW endeavoured to apply all specifications as supplied by the OECD; however, there were some points where this was not able to be achieved. The OECD specifications for the patient safety indicators requested identification of readmissions in order to identify any subsequent related admissions to hospital within 30 days of the original hospital admission,

as some adverse events are likely to manifest in the period following discharge from hospital. As outlined in Chapter 4, Australia was unable to meet this requirement; therefore, only instances that occurred within the one (hospital) episode of care were included in the calculations of the patient safety indicators.

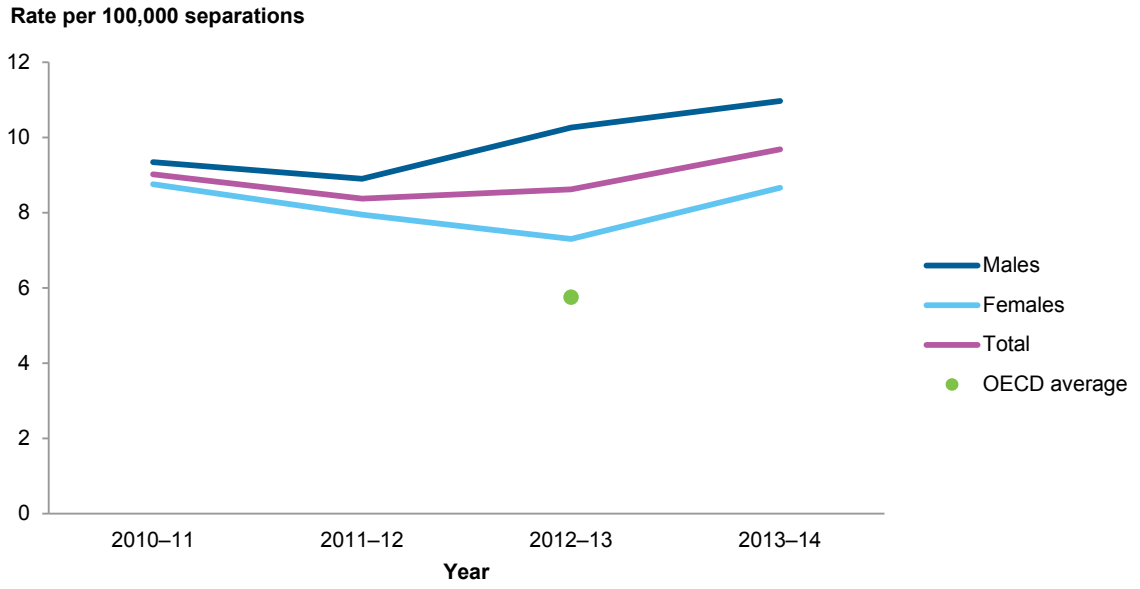
The OECD specifications also requested the exclusion of some cases where the condition of interest was present on admission; however, due to data quality issues, the AIHW did not do this, as not all cases that arose during the episode were flagged as such.

For further details of the methods used for calculating all indicators see Chapter 2 and Appendix A for details.

6.1 Foreign body left in during procedure rate

In Australia in 2013–14, the *foreign body left in during procedure rate* for people aged 15 and over was 9.7 per 100,000 separations, which was similar to that reported for 2010–11(9.0 per 100,000 separations). The rate was higher for males than females (11.0 and 8.7 separations per 100,000 separations, respectively) (Figure 6.1).

In 2012–13, Australia's *foreign body left in during procedure rate* was 8.6 per 100,000 separations, higher than the OECD average of 5.7 for the comparison year. *Health at a glance 2015* published rates from 17 countries for this indicator. Poland had the lowest rate of 0.4 per 100,000 separations, while Switzerland had the highest rate of 12 per 100,000 separations.



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.1; OECD 2015b.

Figure 6.1: Foreign body left in during procedure rate for people aged 15 and over, per 100,000 surgical and medical separations, by sex, Australia, 2010–11 to 2013–14

6.2 Post-operative DVT rate

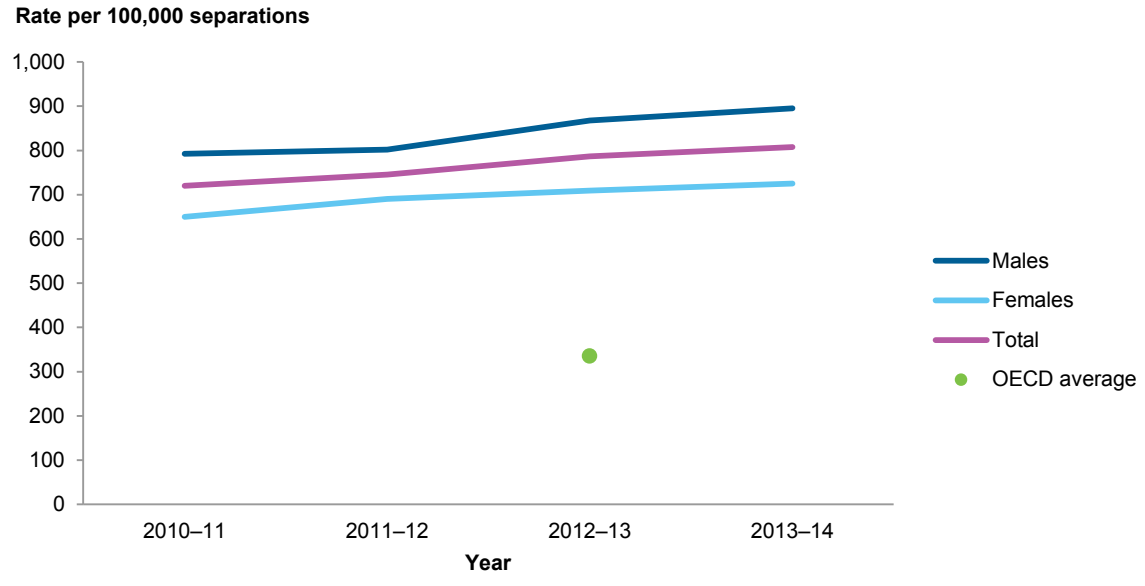
In 2013–14, the *post-operative DVT rate* reported for all surgical separations was 808 per 100,000 separations, an increase from 2010–11 (720 per 100,000 separations) (Figure 6.2a).

In the HCQI data collection, this indicator was reported separately for all surgical separations and for hip or knee replacement separations, as these are high-risk procedures with higher rates expected (OECD 2015a). Consistent with this expectation, the rate for these surgeries was higher than for all surgeries (1,209 per 100,000 separations) (Figure 6.2b).

Australia's 2012–13 *post-operative DVT rate* for all surgeries was 787 per 100,000 separations, more than twice as high as the OECD average of 336 and the highest rate recorded among participating OECD countries. For hip or knee replacements, the Australian rate for 2012–13 was 1,187 per 100,000 separations, again more than twice as high as the OECD average of 506.

In 2012–13 *Post-operative DVT rates* reported by participating OECD countries ranged from 32 per 100,000 separations in Poland to Australia's rate of 787, with countries spread across that range. There was a similar spread of results reported for *post-operative DVT – hip or knee replacement rates*, ranging from 27 per 100,000 separations in Poland to 1,785 in France.

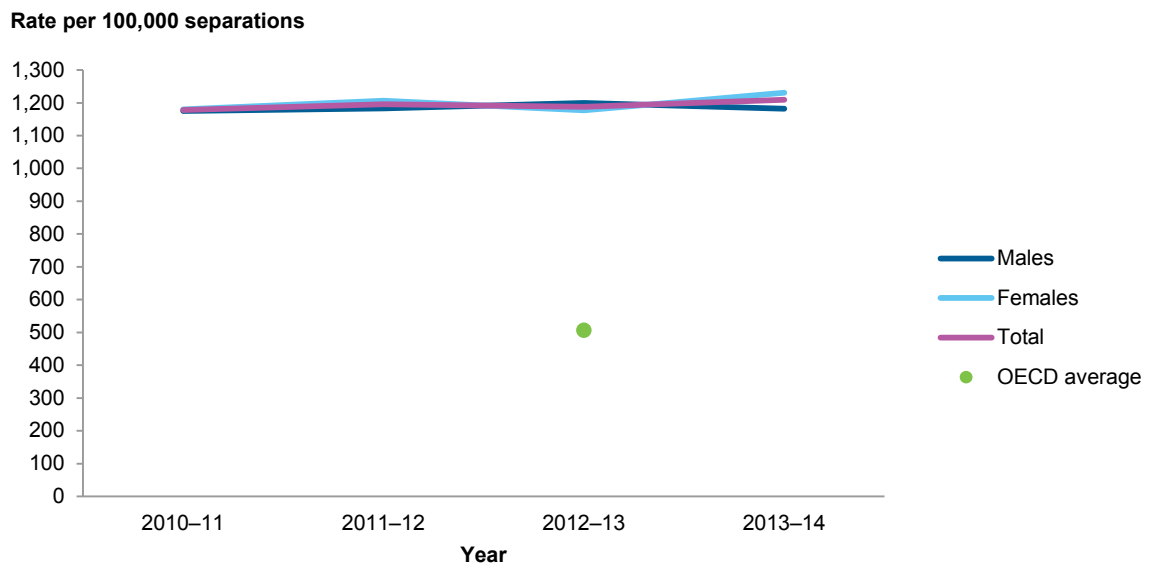
Health at a glance 2015 notes that 'Recent analysis of dispersion of post-operative PE or DVT rates across hospitals within OECD countries revealed extremely large variations in reported rates, including implausibly high and low rates for hospitals in the same country…Hence, differences in the national rates presented here are likely to reflect differences in coding and recording practices both between and within countries and mask true differences in care quality' (OECD 2015a:144).



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.2a; OECD 2015b.

Figure 6.2a: Post-operative DVT rate for people aged 15 and over, per 100,000 surgical separations, by sex, Australia, 2010–11 to 2013–14



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.2b; OECD 2015b.

Figure 6.2b: Post-operative DVT rate for people aged 15 and over, per 100,000 hip or knee replacement separations, by sex, Australia, 2010–11 to 2013–14

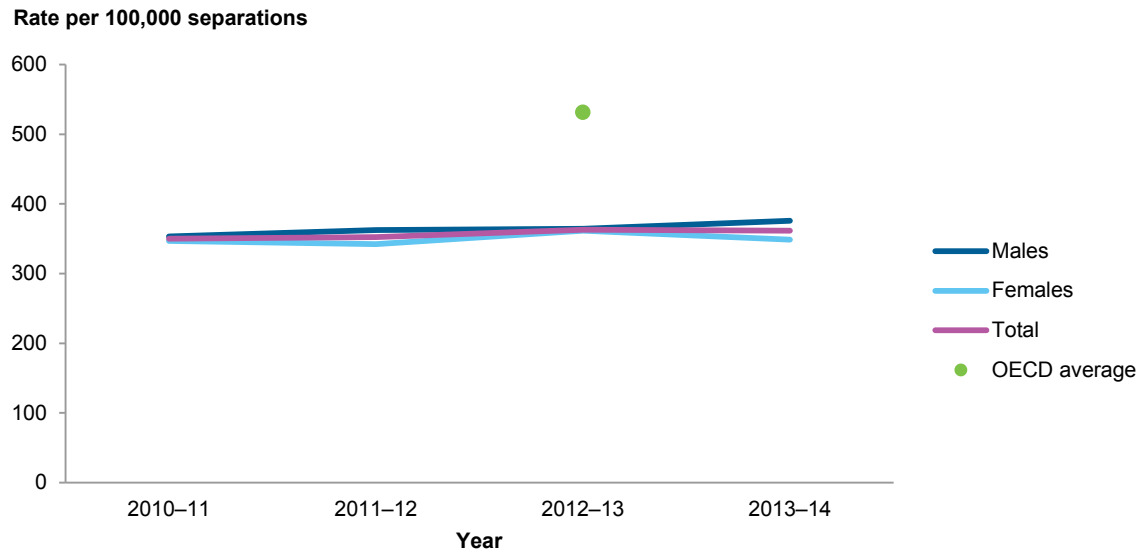
6.3 Post-operative PE rate

In 2013–14, the *post-operative PE rate* reported for all surgical separations was 362 per 100,000 separations, an increase from 350 in 2010–11 (Figure 6.3a).

Similar to the post-operative DVT indicator, this indicator was reported separately for all surgical separations and for hip or knee replacement separations, as these are high-risk procedures with higher rates expected (OECD 2013). As expected, the rate of post-operative PE in hip or knee separations in Australia, in 2013–14 was more than 1.5 times as high as all surgical separations (557 per 100,000 separations) (Figure 6.3b).

Australia's 2012–13 *post-operative PE rate* for all surgeries was 363 per 100,000 separations, lower than the OECD average of 531. For hip or knee replacements in 2012–13, the Australian rate was 529 per 100,000 separations compared with the OECD average of 329. Across OECD countries, rates for post-operative PE ranged from 24 per 100,000 separations in Poland to 2,834 per 100,000 separations in Switzerland. *Post-operative PE – hip or knee replacements rates* across participating OECD countries ranged from 53 per 100,000 separations in Poland to 691 per 100,000 separations in Slovenia.

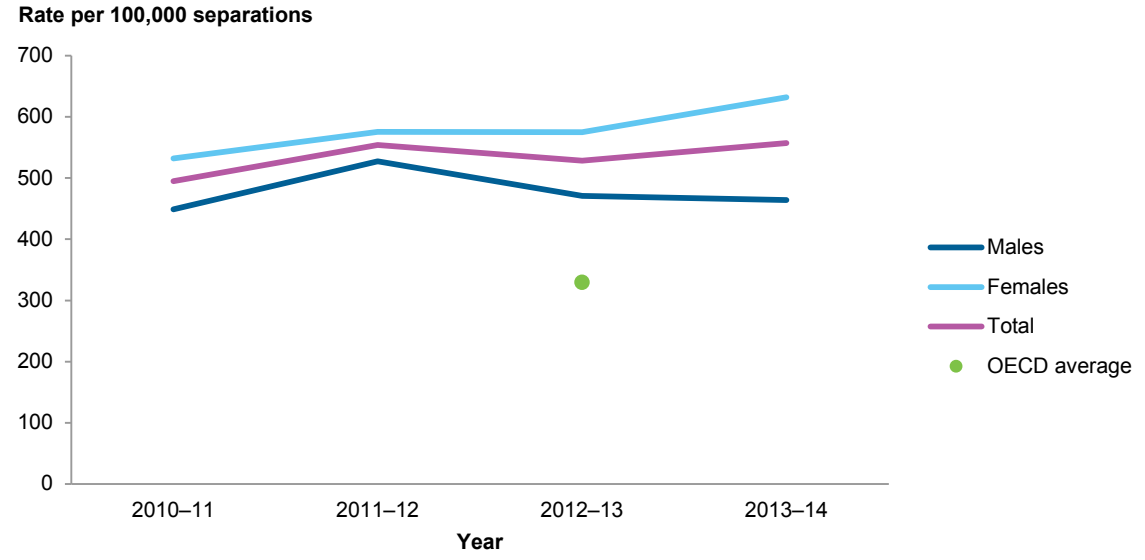
As outlined in Section 6.2, *Health at a glance 2015* notes that there were large variations in the data reported for PE rates. These variations were concluded to be likely to reflect differences in coding and reporting practices and to mask true differences in care quality.



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.3a; OECD 2015b.

Figure 6.3a: Post-operative PE rate for people aged 15 and over, per 100,000 surgical separations, by sex, Australia, 2010–11 to 2013–14



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.3b; OECD 2015b.

Figure 6.3b: Post-operative PE rate for people aged 15 and over, per 100,000 hip or knee replacement separations, by sex, Australia, 2010–11 to 2013–14

6.4 Post-operative sepsis rate

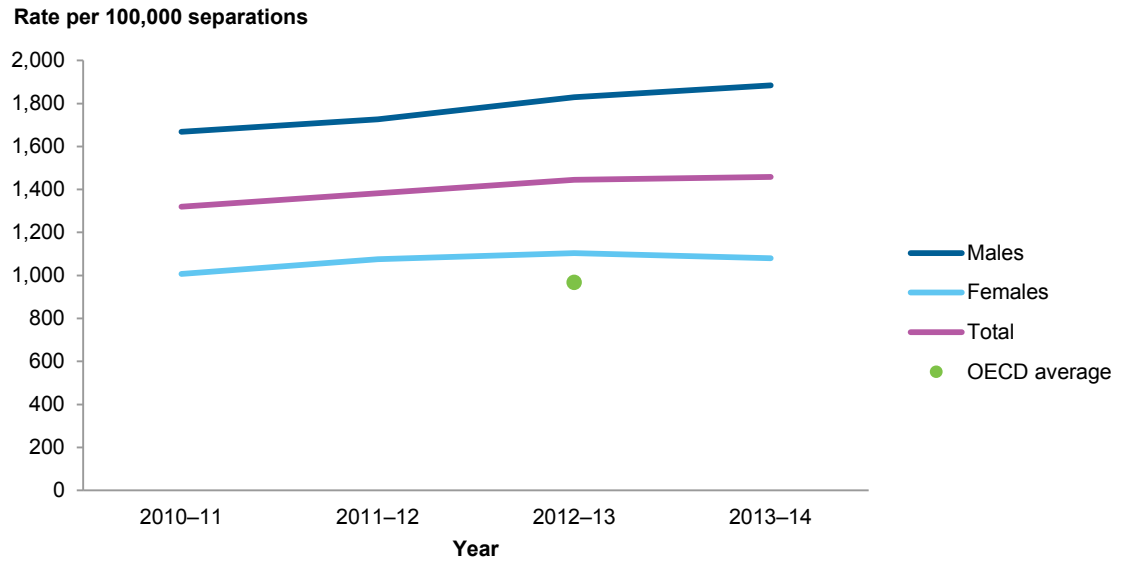
Post-operative sepsis is a severe complication which can cause organ failure and lead to death (OECD 2015a). The risk of sepsis following abdominal surgery is greater than following other surgical procedures, and is therefore reported as a separate indicator (OECD 2015a).

In 2013–14, the *post-operative sepsis rate* reported in Australia was 1,458 per 100,000 separations. The rate for males was 1.7 times as high as that for females (1,885 and 1,079 per 100,000 separations, respectively) (Figure 6.4a). In 2013–14 the *post-operative sepsis – abdominal surgery rate* was 2,338 per 100,000 separations—1.6 times as high as the rate for all surgical separations (Figure 6.4b).

In 2012–13, the rate of post-operative sepsis for all surgical separations in Australia was 1,445 per 100,000 separations, while the OECD average was 967. For post-operative sepsis following abdominal surgery, the rate for Australia was 2,272 per 100,000 separations, again higher than the OECD average of 1,819.

Across OECD countries, rates for post-operative sepsis ranged from 83 per 100,000 separations in Poland to 1,758 in Ireland. For post-operative sepsis following abdominal surgery, rates ranged across OECD countries from 364 per 100,000 separations in Poland to 2,960 in Ireland.

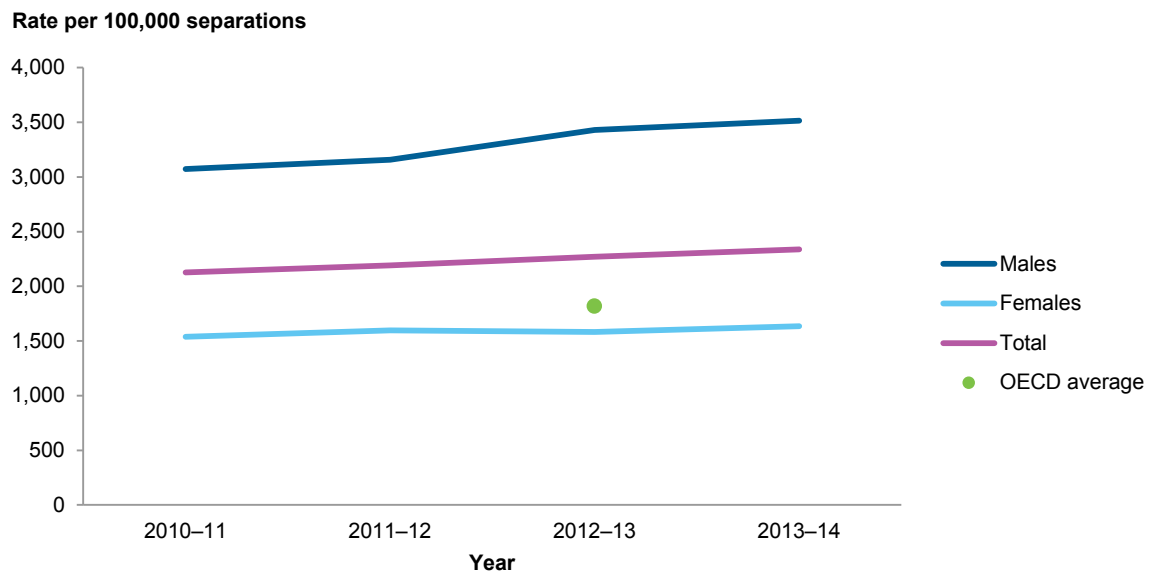
Abdominopelvic procedure codes were required for the calculation of the *post-operative sepsis – abdominal surgery rate*. The AIHW found that mapping was not straightforward in this instance as the ICD-9-CM codes supplied by the OECD did not map directly (in a one-to-one manner) to the ACHI code list used in Australia. The effect of this on the comparability of data is unknown.



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.4a; OECD 2015b.

Figure 6.4a: Post-operative sepsis rate for people aged 15 and over, per 100,000 surgical separations, by sex, Australia, 2010–11 to 2013–14



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.4b; OECD 2015b.

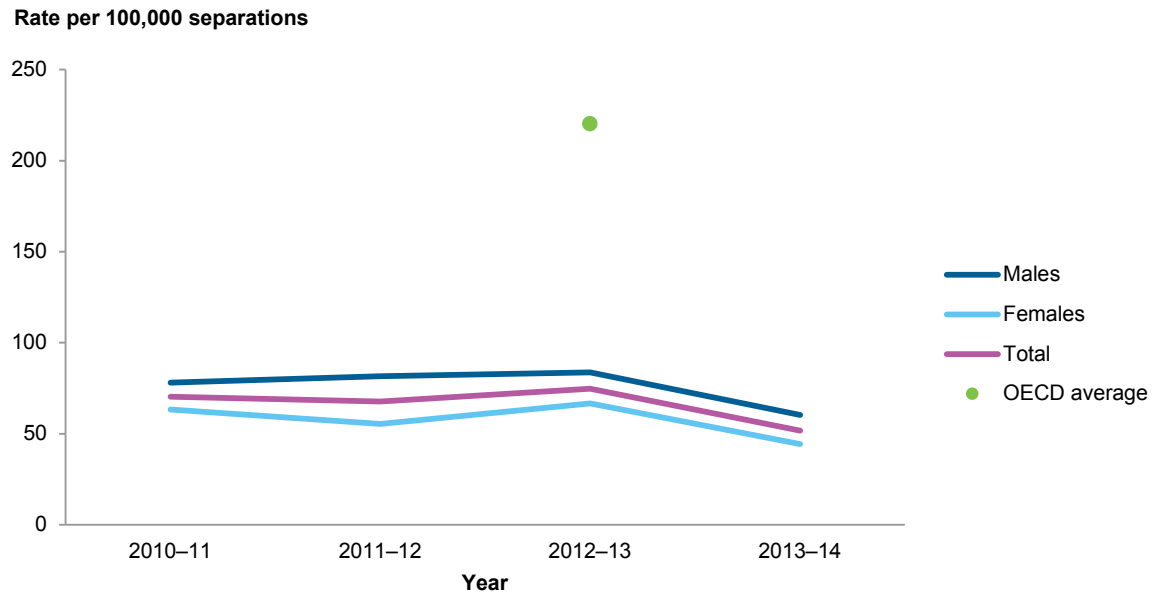
Figure 6.4b: Post-operative sepsis rate for people aged 15 and over, per 100,000 abdominal surgical separations, by sex, Australia, 2010–11 to 2013–14

6.5 Post-operative wound dehiscence rate

In 2013–14, the rate reported for post-operative wound dehiscence (where a wound ruptures along the surgical suture) in people aged 15 and over was 52 per 100,000 separations, a decrease since 2010–11 (70 per 100,000 separations). Rates for males were higher than for females (60 and 44 per 100,000 separations, respectively), a trend that has remained stable over time (Figure 6.5).

Australia's *post-operative wound dehiscence rate* in 2012–13 was 75 per 100,000 separations, less than the OECD average of 220. Rates for OECD countries ranged from 2.4 per 100,000 separations in Belgium to 865 in Portugal.

Abdominopelvic procedure codes were required for the calculation of the *post-operative wound dehiscence rate*. The AIHW found that mapping was not straightforward in this instance, as the ICD-9-CM codes supplied by the OECD did not map directly (in a one-to-one manner) to the ACHI code list used in Australia. The effect of this on the comparability of data is unknown.



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.5; OECD 2015b.

Figure 6.5: Post-operative wound dehiscence rate for people aged 15 and over, per 100,000 abdominal surgical separations, by sex, Australia, 2010–11 to 2013–14

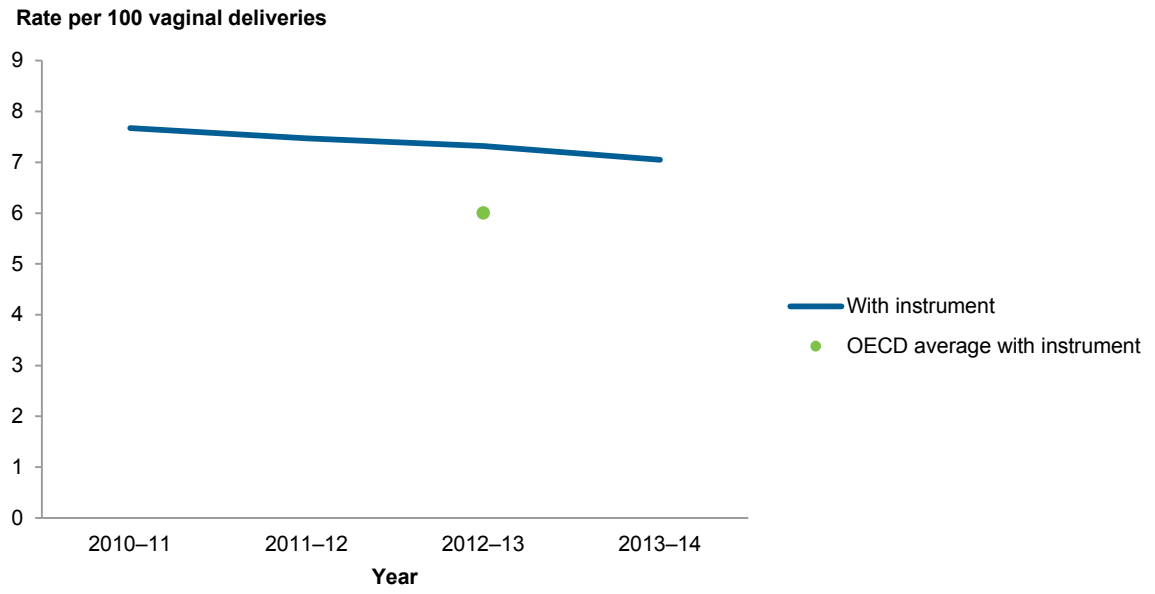
6.6 Obstetric trauma with and without instrument rate

In 2013–14 in Australia, the rate reported for obstetric trauma with instrument (such as use of forceps or vacuum extraction) was 7.1 per 100 vaginal deliveries. There has been little change in this rate since 2010–11 (7.7 per 100 vaginal deliveries) (Figure 6.6a). This rate was almost 3 times the rate of obstetric trauma without instrument in 2013–14, which was 2.5 per 100 vaginal deliveries. This rate has remained relatively stable since 2010–11 (2.3 per 100 vaginal deliveries) (Figure 6.6b).

Health at a glance 2015 notes that for obstetric trauma '…differences in data reporting across countries may influence the calculated rates of obstetric patient safety indicators. These relate primarily to differences in coding practices and data sources' (OECD 2015a:146). There is some evidence that countries that rely on data from registries produce higher quality data and report a greater number of obstetric trauma events compared with administrative data sets (OECD 2015a). Australia's obstetric trauma data were prepared using data from the NHMD, which is an administrative data set.

The 2013 OECD average (over 21 countries) for obstetric trauma with instrument was 6.0 per 100 vaginal deliveries, ranging from 0.8 in Poland to 17.1 in Canada. Australia's rate for the equivalent period (2012–13) was 7.3 per 100 vaginal deliveries.

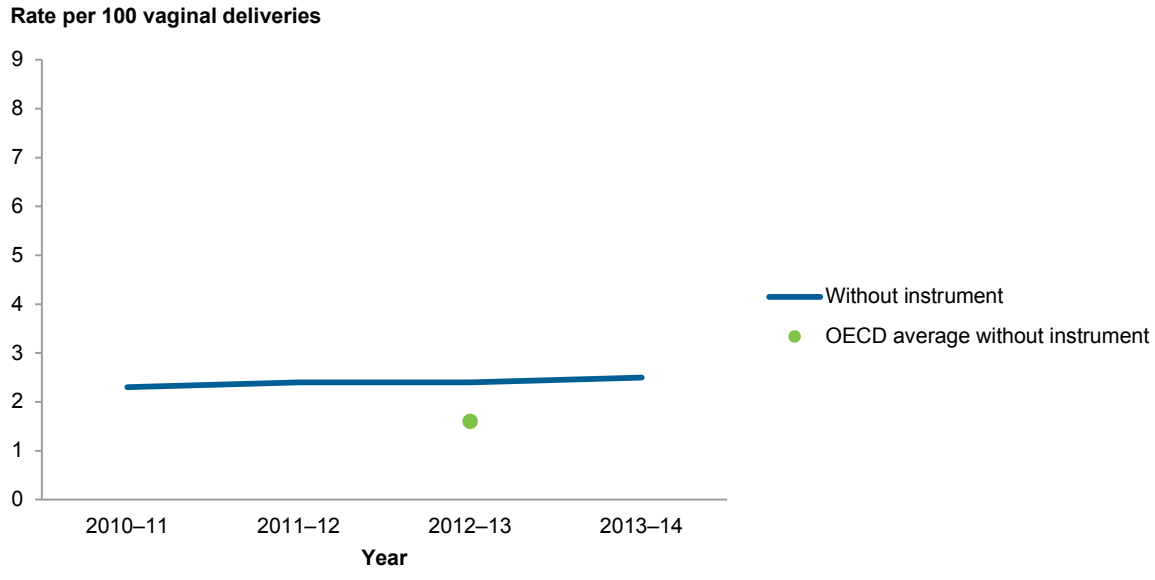
For obstetric trauma without instrument in this period, Australia's rate (2.4 per 100 vaginal deliveries) was also higher than the OECD average (1.6). Obstetric trauma rates for this measure ranged from 0.1 in Poland to 3.1 in Canada.



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.6a; OECD 2015b.

Figure 6.6a: Obstetric trauma during vaginal delivery with instrument rate for females aged 15 and over, number per 100 vaginal deliveries, Australia, 2010–11 to 2013–14



Note: The OECD published data for 2013 (or nearest year).

Sources: Appendix Table C6.6b; OECD 2015b.

Figure 6.6b: Obstetric trauma during vaginal delivery without instrument rate for females aged 15 and over, number per 100 vaginal deliveries, Australia, 2010–11 to 2013–14

7 Patient experience indicators

This chapter presents data for the patient experience indicators supplied for Australia to *Health at a glance 2015*. It compares these data with the HCQI results for OECD countries and comments on the comparability of the data provided to the OECD specification (OECD 2015a, 2015b).

The OECD published all patient experience indicators in OECD.*Stat* and a selection of patient experience indicators in *Health at a glance 2015*. Four indicators of patient experience were supplied from the 2011–12 and 2013–14 ABS Patient Experience Surveys for the 2015 HCQI data collection. These were:

- *consultation skipped due to costs*
- *medical tests skipped due to costs*
- *prescribed medicines skipped due to costs*
- *patient having enough time with doctor.*

Overall data comparability and methods

The most recent data presented by the OECD for the patient experience indicators was for 2013 (or nearest year); the OECD considered the nearest year for Australia to be 2013–14. Patient experience indicators reported by the OECD were for adults aged 16 and over, and were age–sex standardised to the 2010 OECD population. The indicators are reported on the same basis in this report.

The 2013–14 ABS Patient Experience Survey collected data from over 35,000 people. For the 'consultation skipped' indicators, the ABS survey asked people various questions about their experience with general practitioners (GPs), medical specialists, dental professionals or hospitals, whereas the OECD HCQI specified 'a health professional' (for example, a doctor, nurse or allied health professional). Therefore, the wording used by the ABS in the Patient Experience Survey differs from the OECD specifications, as detailed at Appendix A.

Confidence intervals have been included for these data (as explained in Chapter 2) and can be found in the detailed statistical tables at Appendix C.

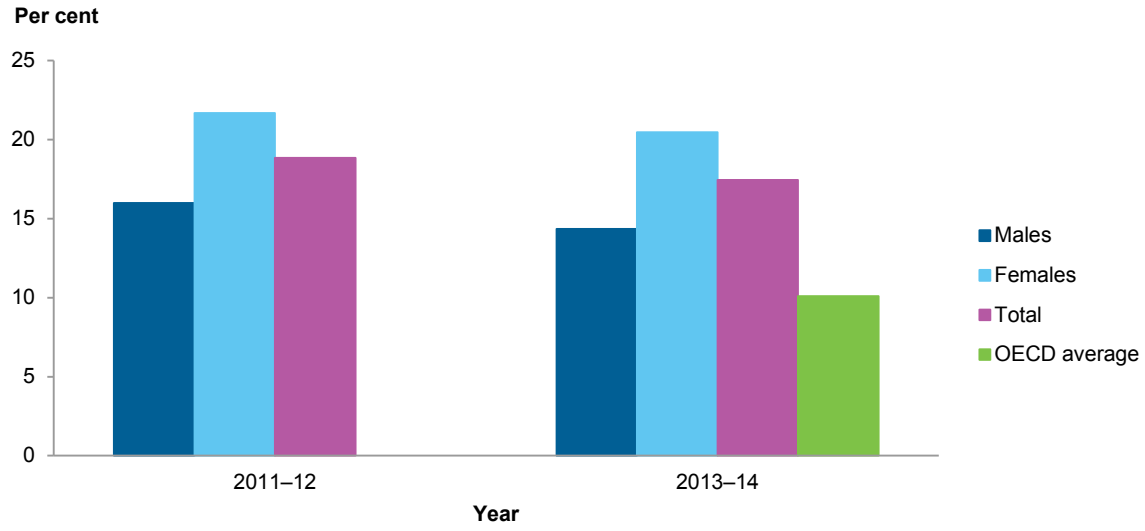
For further details of the methods used for calculating all indicators see Chapter 2 and Appendix A.

7.1 Consultation skipped due to costs

This indicator was supplied using multiple questions from the ABS Patient Experience Survey that asked people whether there had been any time they needed to go to a GP, medical specialist, dental professional or hospital but did not go, or delayed going, due to the cost.

In 2013–14 in Australia, 18% of people aged 16 and over skipped a consultation due to costs. This percentage was higher for females (21%) than males (14%).

The OECD average for this indicator was 10%, ranging from 2.2% in the United Kingdom to 33% in Poland (Figure 7.1).



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population.

Sources: Appendix Table C7.1; OECD 2015b.

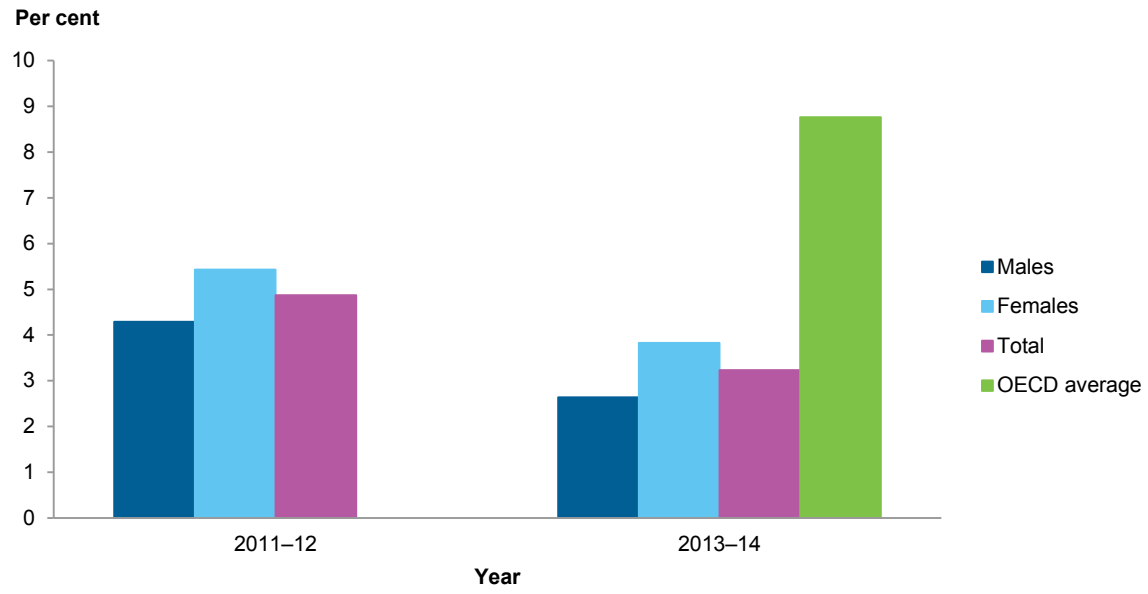
Figure 7.1: Consultation skipped due to costs for people aged 16 and over, Australia, 2011–12 and 2013–14

7.2 Medical tests skipped due to costs

This indicator was supplied using the ABS Patient Experience Survey questions that asked people whether they delayed, or did not get, referred pathology or imaging tests because of the cost.

In 2013–14 in Australia, 3.2% of people aged 16 and over delayed or skipped a pathology or imaging test due to costs. The rate for males was 2.6% and the rate for females was 3.8%.

Across OECD countries, this indicator ranged from 2.4% in Sweden to 21% in the United States of America, with the OECD average being 8.8% (Figure 7.2).



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population.

Sources: Appendix Table C7.2; OECD 2015b.

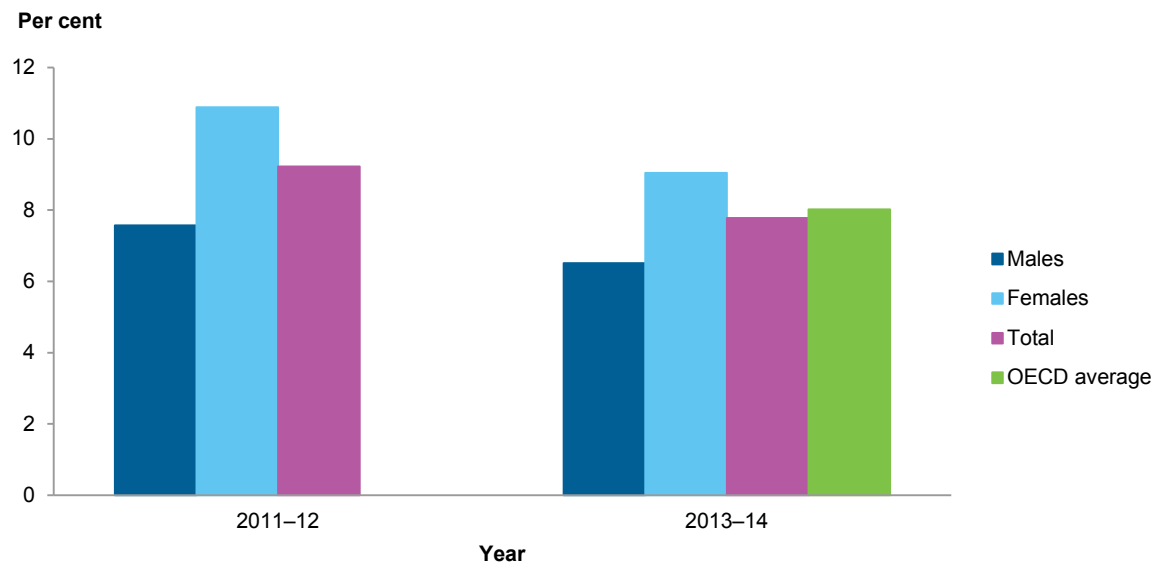
Figure 7.2: Medical tests skipped due to costs for people aged 16 and over, Australia, 2011–12 and 2013–14

7.3 Prescribed medicines skipped due to costs

This indicator was supplied using the ABS Patient Experience Survey question that asked whether people delayed or did not get a prescription due to the cost.

In 2013–14 in Australia, 7.8% of people aged 16 and over skipped prescribed medicines due to costs. More females than males skipped prescribed medicine (9.0% and 6.5%, respectively).

The proportion of Australians skipping prescribed medicines due to costs was similar to that of the OECD average (8.0%); rates for this indicator ranged from 2.1% in the United Kingdom to 21% in the United States of America (Figure 7.3).



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population.

Sources: Appendix Table C7.3; OECD 2015b.

Figure 7.3: Prescribed medicines skipped due to costs for people aged 16 and over, Australia, 2011–12 and 2013–14

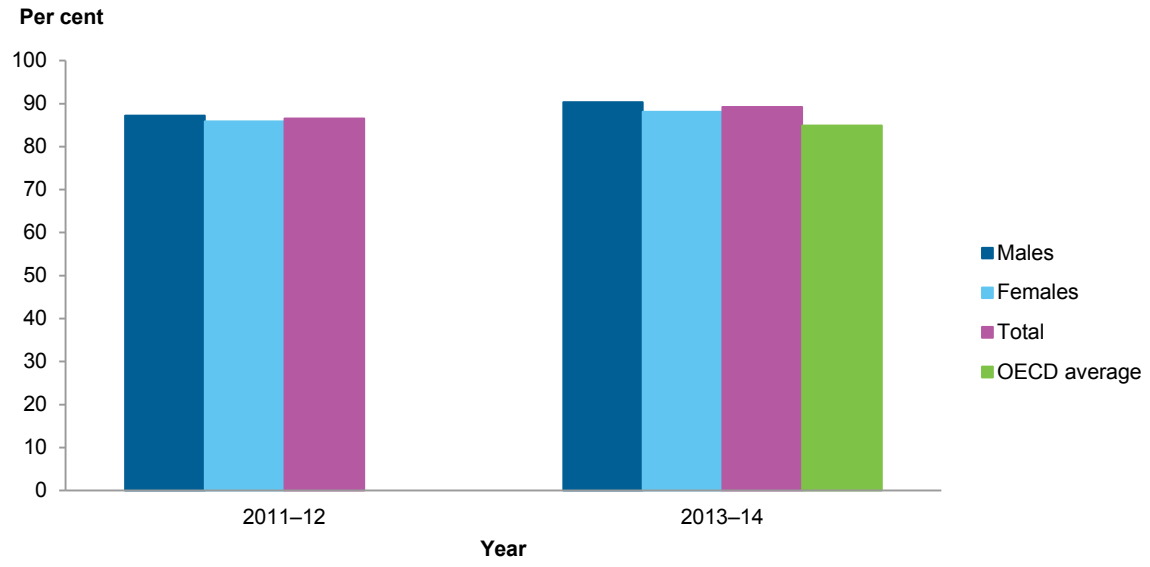
7.4 Patient having enough time with doctor

This indicator was supplied based on responses to the following question by those people who saw a GP for their own health: 'Think about all the the GPs you have seen in the last 12 months. How often did they spend enough time with you?' Possible responses were: 'always', 'often', 'sometimes' or 'rarely'. Responses of 'always' and 'often' were considered to be equivalent to 'yes' (that is, the doctor(s) did spend enough time with respondents during the consultation) for the OECD HCQIs.

In 2013–14, 89% of patients aged 16 and over reported that for all the GPs seen in the past 12 months, the doctor had always or often spent enough time with them. These rates were similar for males and females (90% and 88%, respectively).

The OECD average for this indicator was 85%, ranging from 60% in Poland to 98% in Belgium (Figure 7.4).

The OECD recommends monitoring patient experience with any doctor (OECD 2015a), as Australia has done, but some of the other countries to which Australia is compared measure experience with a patient's regular doctor. The ABS Patient Experience Survey does not distinguish between the concepts of 'regular doctor' and 'any doctor'.



Notes

1. The OECD published data for 2013 (or nearest year).
2. Rates were age–sex standardised to the 2010 OECD population.

Sources: Appendix Table C7.4; OECD 2015b.

Figure 7.4: Patients reporting having spent enough time with any doctor during the consultation for people aged 16 and over, Australia, 2011–12 and 2013–14

Appendix A: OECD HCQI specifications and application of methods

This appendix summarises the technical specifications for the 2015 OECD HCQI data collection as provided to the AIHW by the OECD. It also provides some detail around some methodological issues encountered in preparing the indicators using Australian data, which are not outlined elsewhere in the report. Only those indicators for which Australia supplied data are included. The technical specifications are based on information provided by the OECD in its request, as outlined in its data collection guidelines and technical manual.

The guidelines and technical manual for the HCQIs outline key concepts underpinning the preparation of the HCQIs. The specifications outline the numerators and denominators for each indicator, with inclusions and exclusions specified where necessary. The technical manual lists the required codes from the ICD-9-CM (United States version) and the ICD-10-WHO) (2010 World Health Organization [WHO] version) and outlines steps required to map these codes supplied in the specifications to the version of the ICD and procedure classification used in that country. Disaggregations required for each HCQI (for example, age ranges) are also included in these specification documents. Where the AIHW's method for preparing an indicator differed from the specification, this is noted in the relevant section.

Code lists for inclusions and exclusions are generally outlined within each specification. However, some code lists are supplied in supplementary tables. These tables are available on the AIHW's webpage associated with this publication under the 'additional materials' tab. Supplementary tables include:

- Supplementary Table 1: ACHI 8th eighth edition operating room procedure codes
- Supplementary Table 2: ICD-10-WHO code list for MDC-14 (major diagnostic category-14)
- Supplementary Table 3: ICD-10-WHO code list for MDC-15
- Supplementary Table 4: ACHI 8th edition abdominopelvic procedure codes
- Supplementary Table 5: ICD-10-AM immunocompromised state codes
- Supplementary Table 6: ICD-10-AM cancer codes
- Supplementary Table 7: ICD-10-AM infection codes.

Data sourced from the NHMD excluded:

- separations where the care type was *Newborn* with no qualified days, *Hospital boarder* or *Organ procurement – posthumous*
- patients if their sex was categorised as 'indeterminate' or 'not stated/inadequately described', as per OECD specifications. In 2013–14, 262 separations of a total of 9.7 million separations did not have sex reported as male or female.

A1 Primary care indicators

Primary care indicator specifications included codes in ICD-9-CM and ICD-10-WHO. The AIHW mapped these to ICD-10-AM and/or ACHI codes as appropriate.

For each of the primary care indicators, the denominator required is the population count. For the 2013–14 data, the population that the AIHW used is the preliminary estimated resident population as at 30 June 2014 (as published by the ABS in the Australian Demographic Statistics series) (ABS 2014a). For earlier years, the population used is the preliminary rebased estimated resident population as at 30 June in the relevant year. Refer to the ABS Australian Demographic Statistics series for further details about population estimation.

Asthma hospital separation rate

OECD indicator name: Asthma hospital admission.

Coverage: Population aged 15 and older (5 year age group).

Numerator: All non-maternal/non-neonatal hospital admissions with a principal diagnosis code of asthma (Table A1.1) in a specified year.

Exclusions:

- Cases transferring from another acute care institution.
- Cases with MDC 14 or specified pregnancy, childbirth, and puerperium codes (Supplementary Table 2).
- Cases with MDC 15 or specified newborn and other neonates codes (Supplementary Table 3).
- Cases with cystic fibrosis and anomalies of the respiratory system diagnosis code (Table A1.2).
- Cases that are same day/day only admissions.

Denominator: Population count.

Table A1.1: ICD-10 (WHO and AM) diagnosis codes for asthma

Code	Description
J45.0	Predominantly allergic asthma
J45.1	Nonallergic asthma
J45.8	Mixed asthma
J45.9	Asthma, unspecified
J46	Status asthmaticus

Table A1.2: ICD-10-AM diagnosis codes for cystic fibrosis and anomalies of the respiratory system

Code	Description
E84.0	Cystic fibrosis with pulmonary manifestations
E84.1	Cystic fibrosis with intestinal manifestations
E84.8	Cystic fibrosis with other manifestations

(continued)

Table A1.2 (continued): ICD-10-AM diagnosis codes for cystic fibrosis and anomalies of the respiratory system

Code	Description
E84.9	Cystic fibrosis, unspecified
P27.0	Wilson-Mikity syndrome
P27.1	Chronic neonatal lung disease (bronchopulmonary dysplasia originating in the perinatal period)
P27.8	Other chronic respiratory diseases originating in the perinatal period
P27.9	Unspecified chronic respiratory disease originating in the perinatal period
Q25.40	Congenital malformation of aorta, unspecified
Q25.41	Absence of aorta
Q25.42	Congenital aneurysm of aorta
Q25.43	Double aortic arch [vascular ring of aorta]
Q25.44	Hypoplasia of aorta
Q25.45	Persistent aortic arch
Q25.46	Pseudotruncus arteriosus
Q25.47	Overriding aorta
Q25.49	Other specified congenital malformations of aorta
Q31.1	Congenital subglottic stenosis
Q31.2	Laryngeal hypoplasia
Q31.3	Laryngocele
Q31.5	Congenital laryngomalacia
Q31.8	Other congenital malformations of larynx
Q31.9	Congenital malformation of larynx, unspecified
Q32.0	Congenital tracheomalacia
Q32.1	Other congenital malformations of trachea
Q32.2	Congenital bronchomalacia
Q32.3	Congenital stenosis of bronchus
Q32.4	Other congenital malformations of bronchus
Q33.00	Congenital cystic lung, unspecified
Q33.01	Congenital cystic adenomatoid lung
Q33.02	Congenital honeycomb lung
Q33.03	Congenital single cyst of lung
Q33.04	Congenital polycystic lung
Q33.05	Congenital pulmonary lymphangiectasis
Q33.09	Other congenital cystic lung
Q33.1	Accessory lobe of lung
Q33.2	Sequestration of lung
Q33.3	Agenesis of lung
Q33.4	Congenital bronchiectasis
Q33.5	Ectopic tissue in lung

(continued)

Table A1.2 (continued): ICD-10-AM diagnosis codes for cystic fibrosis and anomalies of the respiratory system

Code	Description
Q33.6	Hypoplasia and dysplasia of lung
Q33.8	Other congenital malformations of lung
Q33.9	Congenital malformation of lung, unspecified
Q34.0	Anomaly of pleura
Q34.1	Congenital cyst of mediastinum
Q34.8	Other specified congenital malformations of respiratory system
Q34.9	Congenital malformation of respiratory system, unspecified
Q39.0	Atresia of oesophagus without fistula
Q39.10	Atresia of oesophagus with oesophageal fistula, unspecified
Q39.13	Atresia of oesophagus with fistula between trachea and oesophageal pouch
Q39.14	Atresia of oesophagus with broncho-oesophageal fistula
Q39.15	Atresia of oesophagus with tracheo-oesophageal fistula
Q39.21	Congenital tracheo-oesophageal fistula without atresia
Q39.22	Congenital broncho-oesophageal fistula without atresia
Q39.3	Congenital stenosis and stricture of oesophagus
Q39.4	Oesophageal web
Q39.81	Congenital duplication of oesophagus
Q39.82	Oesophageal dysmotility
Q39.83	Congenital absence of oesophagus
Q39.84	Congenital displacement of oesophagus
Q39.85	Congenital duplication cyst of oesophagus
Q39.89	Other congenital malformations of oesophagus
Q89.30	Situs inversus, unspecified
Q89.31	Dextrocardia with situs inversus
Q89.32	Mirror-image atrial arrangement with situs inversus
Q89.33	Situs inversus abdominalis
Q89.34	Situs inversus thoracis
Q89.35	Kartagener's syndrome
Q89.39	Other specified situs inversus

COPD hospital separation rate

OECD indicator name: Chronic obstructive pulmonary disease hospital admission.

Coverage: Population aged 15 and older (5 year age group).

Numerator: All non-maternal/non-neonatal hospital admissions with a principal diagnosis code of COPD (Table A1.3) in a specified year.

Exclusions:

- Cases transferring from another acute care institution.

- Cases with MDC 14 or specified pregnancy, childbirth, and puerperium codes (Supplementary Table 2).
- Cases with MDC 15 or specified newborn and other neonates codes (Supplementary Table 3).
- Cases that are same day/day only admissions.

Denominator: Population count.

Table A1.3: ICD-10 (WHO and AM) diagnosis codes for COPD

Code	Description
J40	Bronchitis[(a)]
J41.0	Simple chronic bronchitis
J41.1	Mucopurulent chronic bronchitis
J41.8	Mixed simple and mucopurulent chronic bronchitis
J42	Unspecified chronic bronchitis
J43.0	Macleod's syndrome
J43.1	Panlobular emphysema
J43.2	Centrilobular emphysema
J43.8	Other emphysema
J43.9	Emphysema, unspecified
J44.0	COPD with acute lower respiratory infection
J44.1	COPD with acute exacerbation, unspecified
J44.8	Other specified chronic obstructive pulmonary disease
J44.9	Chronic obstructive pulmonary disease, unspecified
J47	Bronchiectasis

(a) Qualifies only if accompanied by secondary diagnosis of J41, J43, J44, J47.

CHF hospital separation rate

OECD indicator name: Congestive heart failure hospital admission.

Coverage: Population aged 15 and older (5 year age group).

Numerator: All non-maternal/non-neonatal hospital admissions with principal diagnosis code of CHF (Table A1.4) in a specified year.

Exclusions:

- Cases transferring from another acute care institution.
- Cases with cardiac procedure codes (Table A1.5).
- Cases with MDC 14 or specified pregnancy, childbirth, and puerperium codes (Supplementary Table 2).
- Cases with MDC 15 or specified Newborn and other neonate codes in any field (Supplementary Table 3).
- Cases that are same day/day only admissions.

Denominator: Population count.

Table A1.4: ICD-10 (WHO and AM) diagnosis codes for CHF

Code	Description
I11.0	Hypertensive heart disease with (congestive) heart failure
I13.0	Hypertensive heart and renal disease with (congestive) heart failure
I13.2	Hypertensive heart and renal disease with both (congestive) heart failure and renal failure
I50.0	Congestive heart failure
I50.1	Left ventricular failure
I50.9	Heart failure, unspecified

Table A1.5: ACHI 8th edition cardiac procedure codes

ACHI block		ACHI block	
600	Incision procedures on atrium	636	Incision procedures on pulmonary valve
601	Destruction procedures on atrium	637	Repair or replacement of pulmonary valve
602	Excision procedures on atrium	638	Other procedures on pulmonary valve
603	Repair procedures on atrium	639	Incision procedures on myocardium
604	Reconstruction procedures on atrium	640	Excision procedures on myocardium
606	Other procedures on atrium	641	Repair procedures on myocardium
609	Destruction procedures on ventricle	644	Other incision procedures on pericardium
610	Ventricular myectomy	645	Biopsy of pericardium
611	Excision of ventricular aneurysm	646	Other excision procedures on pericardium
612	Other excision procedures on ventricle	647	Insertion of temporary transvenous electrode for cardiac pacemaker or defibrillator
613	Baffle or conduit procedures	648	Insertion of permanent transvenous electrode for cardiac pacemaker or defibrillator
614	Other repair procedures on ventricle	649	Insertion of other electrode or patch for cardiac pacemaker or defibrillator
615	Other procedures on ventricle	650	Insertion of cardiac pacemaker generator
616	Excision procedures on septum	653	Insertion of cardiac defibrillator generator
617	Closure of atrial septal defect	654	Adjustment, replacement or removal of electrode for cardiac pacemaker or defibrillator
618	Closure of ventricular septal defect	655	Adjustment, replacement or removal of cardiac pacemaker generator
619	Other repair procedures on septum	656	Adjustment, replacement or removal of cardiac defibrillator generator
620	Other procedures on septum	660	Transplantation of heart or lung
621	Incision procedures on aortic valve	661	Other repair procedures on other sites of heart
622	Repair of aortic valve	662	Reconstruction procedures on other sites of heart
623	Replacement of aortic valve	666	Other procedures on other sites of heart
624	Other procedures on aortic valve	669	Excision procedures on coronary arteries
625	Incision procedures on mitral valve	670	Transluminal coronary angioplasty
626	Repair of mitral valve	671	Transluminal coronary angioplasty with stenting
627	Mitral valve annuloplasty	672	Coronary artery bypass—saphenous vein graft
628	Replacement of mitral valve	673	Coronary artery bypass—other vein graft

(continued)

Table A1.5 (continued): ACHI 8th edition cardiac procedure codes

ACHI block		ACHI block	
629	Reconstruction procedures on mitral valve	674	Coronary artery bypass—left internal mammary artery [LIMA] graft
630	Other procedures on mitral valve	675	Coronary artery bypass—right internal mammary artery [RIMA] graft
631	Incision procedures on tricuspid valve	676	Coronary artery bypass—radial artery graft
632	Repair of tricuspid valve	677	Coronary artery bypass—epigastric artery graft
633	Tricuspid valve annuloplasty	678	Coronary artery bypass—other artery graft
634	Replacement of tricuspid valve	679	Coronary artery bypass—other graft
635	Other procedures on tricuspid valve	681	Other procedures on coronary arteries

Hypertension hospital separation rate

OECD indicator name: Hypertension hospital admission.

Coverage: Population aged 15 and older (5 year age group).

Numerator: All non-maternal/non-neonatal hospital admissions with principal diagnosis code of hypertension (Table A1.6) in a specified year.

Exclusions:

- Cases transferring from another acute care institution.
- Cases with cardiac procedure codes (Table A1.5).
- Cases with MDC 14 or specified pregnancy, childbirth, and puerperium codes (Supplementary Table 2).
- Cases with MDC 15 or specified Newborn and other neonate codes in any field (Supplementary Table 3).
- Cases that are same day/day only admissions.

Denominator: Population count.

Table A1.6: ICD-10 (WHO and AM) diagnosis codes for hypertension

Code	Description
I10	Essential (primary) hypertension
I11.9	Hypertensive heart disease without (congestive) heart failure
I12.9	Hypertensive renal disease without renal failure
I13.9	Hypertensive heart and renal disease, unspecified

Diabetes hospital separation rate

OECD indicator name: Diabetes hospital admission.

Coverage: Population aged 15 and older (5 year age group).

Numerator: All non-maternal/non-neonatal hospital admissions with a principal diagnosis code of diabetes (Table A1.7) in a specified year.

Exclusions:

- Cases transferring from another acute care institution.
- Cases with MDC 14 or specified pregnancy, childbirth, and puerperium codes (Supplementary Table 2).
- Cases with MDC 15 or specified Newborn and other neonate codes in any field (Supplementary Table 3).
- Cases that are same day/day only admissions.

Denominator: Population count.

Table A1.7: ICD-10-AM diagnosis codes for diabetes

Code	Description
E10.0–	Type 1 diabetes mellitus with hyperosmolarity
E10.1–	Type 1 diabetes mellitus with acidosis
E10.2–	Type 1 diabetes mellitus with kidney complication
E10.3–	Type 1 diabetes mellitus with ophthalmic complication
E10.4–	Type 1 diabetes mellitus with neurological complication
E10.5–	Type 1 diabetes mellitus with circulatory complication
E10.6–	Type 1 diabetes mellitus with other specified complication
E10.7–	Type 1 diabetes mellitus with multiple complications
E10.8	Type 1 diabetes mellitus with unspecified complication
E10.9	Type 1 diabetes mellitus without complication
E11.0–	Type 2 diabetes mellitus with hyperosmolarity
E11.2–	Type 2 diabetes mellitus with kidney complication
E11.3–	Type 2 diabetes mellitus with ophthalmic complication
E11.4–	Type 2 diabetes mellitus with neurological complication
E11.5–	Type 2 diabetes mellitus with circulatory complication
E11.6–	Type 2 diabetes mellitus with other specified complication
E11.7–	Type 2 diabetes mellitus with multiple complications
E11.8	Type 2 diabetes mellitus with unspecified complication
E11.9	Type 2 diabetes mellitus without complication
E13.0–	Other specified diabetes mellitus with hyperosmolarity
E13.1–	Other specified diabetes mellitus with acidosis
E13.2–	Other specified diabetes mellitus with kidney complication
E13.3–	Other specified diabetes mellitus with ophthalmic complication
E13.4–	Other specified diabetes mellitus with neurological complication
E13.5–	Other specified diabetes mellitus with circulatory complication
E13.6–	Other specified diabetes mellitus with other specified complication
E13.7–	Other specified diabetes mellitus with multiple complications
E13.8	Other specified diabetes mellitus with unspecified complication
E13.9	Other specified diabetes mellitus without complication
E14.0–	Unspecified diabetes mellitus with hyperosmolarity

(continued)

Table A1.7 (continued): ICD-10-AM diagnosis codes for diabetes

Code	Description
E14.1–	Unspecified diabetes mellitus with acidosis
E14.2–	Unspecified diabetes mellitus with kidney complication
E14.3–	Unspecified diabetes mellitus with ophthalmic complication
E14.4–	Unspecified diabetes mellitus with neurological complication
E14.5–	Unspecified diabetes mellitus with circulatory complication
E14.6–	Unspecified diabetes mellitus with other specified complication
E14.7–	Unspecified diabetes mellitus with multiple complications
E14.8	Unspecified diabetes mellitus with unspecified complication
E14.9	Unspecified diabetes mellitus without complication

Diabetes lower extremity amputation rate

OECD indicator name: Diabetes lower extremity amputation.

Coverage: Population—all ages.

Numerator: All non-maternal/non-neonatal admissions with a procedure code of major lower extremity amputation (Table A1.8) and a diagnosis code of diabetes (Table A1.7) in a specified year.

Exclusions:

- Cases transferring from another acute care institution.
- Cases with MDC 14 or specified pregnancy, childbirth, and puerperium codes (Supplementary Table 2).
- Cases with MDC 15 or specified Newborn and other neonate codes (Supplementary Table 3).
- Cases with trauma diagnosis code (Table A1.9).
- Cases with tumour-related peripheral amputation code (ICD-10-AM and ICD-10-WHO C40.2 and C40.3) in any field.
- Cases that are same day/day only admissions.

Denominator: Population count.

Table A1.8: ACHI 8th edition major lower extremity amputation procedure codes

Code	Description
44361–00	Disarticulation through ankle
44361–01	Amputation of ankle through malleoli of tibia and fibula
44367–02	Amputation below knee
44367–01	Disarticulation at knee
44367–00	Amputation above knee
44370–00	Amputation at hip
44373–00	Hindquarter amputation

Table A1.9: ICD-10-AM diagnosis codes for trauma

Code	Description
S78.0	Traumatic amputation at hip joint
S78.1	Traumatic amputation at level between hip and knee
S78.9	Traumatic amputation of hip and thigh, level unspecified
S88.0	Traumatic amputation at knee level
S88.1	Traumatic amputation at level between knee and ankle
S88.9	Traumatic amputation of lower leg, level unspecified
S98.0	Traumatic amputation of foot at ankle level
S98.1	Traumatic amputation of one toe
S98.2	Traumatic amputation of two or more toes
S98.3	Traumatic amputation of other parts of foot
S98.4	Traumatic amputation of foot, level unspecified
T05.3	Traumatic amputation of both feet
T05.4	Traumatic amputation of one foot and other leg [any level, except foot]
T05.5	Traumatic amputation of both legs [any level]
T13.6	Traumatic amputation of lower limb, level unspecified

A2 Acute care indicators

ICD-10-WHO codes supplied by the OECD for acute care indicators were assessed by the AIHW and found to be equivalent to ICD-10-AM codes.

The AIHW prepared these indicators for the years 2009–10 to 2013–14. ICD-10-AM diagnosis codes used for indicator calculation are considered appropriate for use and consistent in meaning for the reference years reported.

Note that same-day hospital episodes (that is, day cases) were included in both the numerator and denominator for the acute care indicators only. (See Chapter 2 for a description of Australia's method for identifying same-day separations.)

Note that while the OECD requested data for patients aged 15 and older for all acute care indicators, the OECD published rates for patients aged 45 and older only. Therefore, the AIHW has also published rates for those aged 45 and older in this report.

AMI in-hospital mortality rate

OECD indicator name: Thirty-day mortality after admission to hospital for AMI based on admission data.

Coverage: Patients aged 15 and older (5 year age group).

Numerator: Number of deaths in the same hospital that occurred within 30 days of eligible hospital admission.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: Number of admissions to hospital with principal diagnosis of AMI (Table A2.1) where the admission did not result in a transfer to another acute care hospital, from 1 January to 31 December in the specified year.

Table A2.1: ICD-10 (WHO and AM) AMI codes

Codes	Description
I21	Acute myocardial infarction
I22	Subsequent myocardial infarction

Haemorrhagic stroke in-hospital mortality rate

OECD indicator name: Thirty-day mortality after admission to hospital for haemorrhagic stroke based on admission data.

Coverage: Patients aged 15 and older (5 year age groups).

Numerator: Number of deaths in the same hospital that occurred within 30 days of eligible hospital admission.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: Number of admissions to hospital with a principal diagnosis of haemorrhagic stroke (Table A2.2) where the admission did not result in a transfer to another acute care hospital, from 1 January to 31 December in the specified year.

Table A2.2: ICD-10 (WHO and AM) haemorrhagic stroke codes

Code	Description
I60	Subarachnoid haemorrhage
I61	Intracerebral haemorrhage
I62	Other nontraumatic intracranial haemorrhage

Ischaemic stroke in-hospital mortality rate

OECD indicator name: Thirty-day mortality after admission to hospital for ischemic stroke based on admission data.

Coverage: Patients aged 15 and older (5 year age group).

Numerator: Number of deaths in the same hospital that occurred within 30 days of eligible hospital admission.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: Number of admissions to hospital with a principal diagnosis of ischaemic stroke (Table A2.3) where the admission did not result in a transfer to another acute care hospital, from 1 January to 31 December in the specified year.

Table A2.3: ICD-10 (WHO and AM) ischaemic stroke codes

Code	Description
I63	Cerebral infarction
I64	Stroke, not specified as haemorrhage or infarction

A3 Cancer care indicators

ICD-10-WHO codes as supplied in the HCQI specifications were found to be adequate to describe the specified diseases in the ACD; therefore, no mappings were required.

As per the OECD's request, the period method of analysis was used (as opposed to the cohort method) with 3-year periods from (calendar years) 1998–2000 to 2009–2011 used to calculate 5-year relative survival rates.

Breast cancer 5-year relative survival rate

OECD indicator name: Breast cancer five year relative survival.

Five-year observed survival for women aged 15–99 diagnosed with breast cancer (first primary cancer at the specified site) (ICD-10 WHO code C50) divided by the expected survival of a comparable group from the general population (expressed as a percentage).

Cervical cancer 5-year relative survival rate

OECD indicator name: Cervical cancer five year relative survival.

Five-year observed survival for women aged 15–99 diagnosed with cervical cancer (first primary cancer at the specified site) (ICD-10 WHO code C53) divided by the expected survival of a comparable group from the general population (expressed as a percentage).

Colorectal cancer 5-year relative survival rate

OECD indicator name: Colorectal cancer five year relative survival.

Five-year observed survival for men, women and total population aged 15–99 diagnosed with colorectal cancer (first primary cancer at the specified site) (ICD-10 WHO codes C18, C19, C20, C21) divided by the expected survival of a comparable group from the general population (expressed as a percentage).

A4 Patient safety indicators

Patient safety indicator specifications included codes in ICD-9-CM and ICD-10-WHO. The AIHW mapped these to ICD-10-AM and/or ACHI codes as appropriate, following the intent of the indicators where mapping was not straightforward.

Foreign body left in during procedure rate

OECD indicator name: Foreign body left in during procedure.

Coverage: Surgical and medical discharges for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with ICD code for foreign body left in during procedure in a secondary diagnosis field during the surgical episode (Table A4.1) and in any diagnosis field during readmissions within 30 days of the surgery. If the date of surgery is not available, then 30 days from the admission date for the first surgical episode.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: All surgical and medical discharges meeting the inclusion and exclusion rules.

Exclusions:

- Cases with a code for foreign body left in during procedure, in the principal diagnosis field (Table A4.1).
- Cases with a LOS less than 24 hours.

Table A4.1: ICD-10 (WHO and AM) foreign body left in during procedure codes

Code	Description
T81.5	Foreign body accidentally left in body cavity or operation wound following a procedure
T81.6	Acute reaction to foreign substance accidentally left during a procedure
Y61.0	Foreign object accidentally left in body during surgical operation
Y61.1	Foreign object accidentally left in body during infusion or transfusion
Y61.2	Foreign object accidentally left in body during kidney dialysis or other perfusion
Y61.3	Foreign object accidentally left in body during injection or immunisation
Y61.4	Foreign object accidentally left in body during endoscopic examination
Y61.5	Foreign object accidentally left in body during heart catheterisation
Y61.6	Foreign object accidentally left in body during aspiration, puncture and other catheterisation
Y61.7	Foreign object accidentally left in body during removal of catheter or packing
Y61.8	Foreign object accidentally left in body during other surgical and medical care
Y61.9	Foreign object accidentally left in body during unspecified surgical and medical care

Post-operative DVT rate

OECD indicator name: Post-operative deep vein thrombosis.

Coverage: Surgical discharges for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with ICD code for DVT in a secondary diagnosis field during the surgical episode (Table A4.2) and in any diagnosis field during readmissions within 30 days of the surgery. If the date of surgery is not available, then 30 days from the admission date for the first surgical episode.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: All surgical discharges, meeting the inclusion and exclusion rules with an ACHI code for an operating room procedure (Supplementary Table 1).

Exclusions:

- Cases from the numerator and denominator for MDC 14 (pregnancy, childbirth, and puerperium) or principal diagnosis (Supplementary Table 2).
- Cases where a patient has both PE and DVT, are assigned to PE.
- Cases where a procedure for interruption of vena cava (Table A4.3) is the only operating room procedure.
- Cases with a LOS less than 2 days.
- Cases with a principal diagnosis or secondary diagnosis present on admission (if known) of DVT during the surgical episode.
  Note: Due to data quality issues the AIHW did not exclude cases that arose during the surgical episode with a secondary diagnosis present on admission of DVT. (Exclusion of

cases with a principal diagnosis of DVT would only have been required if readmissions were able to be included.)

Table A4.2: ICD-10 (WHO and AM) DVT diagnosis codes

Code	Description
I80.1	Phlebitis and thrombophlebitis of femoral vein
I80.2	Phlebitis and thrombophlebitis of other deep vessels of lower extremities
I80.3	Phlebitis and thrombophlebitis of lower extremities, unspecified
I80.8	Phlebitis and thrombophlebitis of other sites
I80.9	Phlebitis and thrombophlebitis of unspecified site
I82.8	Embolism and thrombosis of other specified veins
I82.9	Embolism and thrombosis of unspecified vein

Table A4.3: ACHI 8th edition interruption of vena cava procedure codes

Code	Description
34800–00	Interruption of vena cava
35330–00	Percutaneous insertion of inferior vena cava filter
35330–01	Open insertion of inferior vena cava filter

Post-operative DVT—hip or knee replacement rate

OECD indicator name: Post-operative deep vein thrombosis after hip or knee replacement.

Coverage: Hip and knee replacement discharges (Table A4.4) for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with ICD code for DVT in a secondary diagnosis field during the surgical episode (Table A4.2) and in any diagnosis field during readmissions within 30 days of the surgery. If the date of surgery is not available, then 30 days from the admission date for the first surgical episode.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: Hip and knee replacement discharges, meeting the inclusion and exclusion rules with an ACHI code for an operating room procedure (Supplementary Table 1).

Exclusions:

- Cases from the numerator and denominator for MDC 14 (pregnancy, childbirth, and puerperium) or principal diagnosis (Supplementary Table 2).
- Cases where a patient has both PE and DVT, are assigned to PE.
- Cases where a procedure for interruption of vena cava (Table A4.3) is the only operating room procedure.
- Cases with a LOS less than 2 days.
- Cases with a principal diagnosis or secondary diagnosis present on admission (if known) of DVT during the surgical episode.
  Note: Due to data quality issues the AIHW did not exclude cases that arose during the surgical episode with a secondary diagnosis present on admission of DVT. (Exclusion of cases with a principal diagnosis of DVT would only have been required if readmissions were able to be included.)

Table A4.4: ACHI 8th edition total hip and knee replacement procedure codes

Code	Description
49318–00	Total arthroplasty of hip, unilateral
49319–00	Total arthroplasty of hip, bilateral
90607–00	Resurfacing of hip, unilateral
90607–01	Resurfacing of hip, bilateral
49346–00	Revision of partial arthroplasty of hip
49324–00	Revision of total arthroplasty of hip
49327–00	Revision of total arthroplasty of hip with bone graft to acetabulum
49330–00	Revision of total arthroplasty of hip with bone graft to femur
49333–00	Revision of total arthroplasty of hip with bone graft to acetabulum and femur
49339–00	Revision of total arthroplasty of hip with anatomic specific allograft to acetabulum
49342–00	Revision of total arthroplasty of hip with anatomic specific allograft to femur
49345–00	Revision of total arthroplasty of hip with anatomic specific allograft to acetabulum and femur
49517–00	Hemiarthroplasty of knee
49518–00	Total arthroplasty of knee, unilateral
49519–00	Total arthroplasty of knee, bilateral
49521–00	Total arthroplasty of knee with bone graft to femur, unilateral
49521–01	Total arthroplasty to knee with bone graft to femur, bilateral
49521–02	Total arthroplasty to knee with bone graft to tibia, unilateral
49521–03	Total arthroplasty to knee with bone graft to tibia, bilateral
49524–00	Total arthroplasty of knee with bone graft to femur and tibia, unilateral
49524–01	Total arthroplasty of knee with bone graft to femur and tibia, bilateral
49534–01	Total replacement arthroplasty of patellofemoral joint of knee
49530–00	Revision of total arthroplasty of knee with bone graft to femur
49530–01	Revision of total arthroplasty of knee with bone graft to tibia
49533–00	Revision of total arthroplasty of knee with bone graft to femur and tibia
49554–00	Revision of total arthroplasty of knee with anatomic specific allograft
49545–00	Revision arthrodesis of knee
49548–00	Revision of patellofemoral stabilisation of knee
49551–00	Revision of reconstructive surgery of knee
49527–00	Revision of total arthroplasty of knee
90562–00	Patella resurfacing

Post-operative PE rate

OECD indicator name: Post-operative pulmonary embolism.

Coverage: Surgical discharges for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with ICD code for PE in a secondary diagnosis field during the surgical episode (Table A4.5) and in any diagnosis field during readmissions within 30 days of the surgery. If the date of surgery is not available, then 30 days from the admission date for the first surgical episode.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: All surgical discharges, meeting the inclusion and exclusion rules with an ACHI code for an operating room procedure (Supplementary Table 1).

Exclusions:

- Cases from the numerator and denominator for MDC 14 (pregnancy, childbirth, and puerperium) or principal diagnosis (Supplementary Table 2).
- Cases where a procedure for interruption of vena cava (Table A4.3) is the only operating room procedure.
- Cases with a LOS less than 2 days.
- Cases with a principal diagnosis or secondary diagnosis present on admission (if known) of PE during the surgical episode.
  Note: Due to data quality issues the AIHW did not exclude cases that arose during the surgical episode with a secondary diagnosis present on admission of PE. (Exclusion of cases with a principal diagnosis of PE would only have been required if readmissions were able to be included.)

Table A4.5: ICD-10 (WHO and AM) PE diagnosis codes

Code	Description
I26.0	Pulmonary embolism with mention of acute cor pulmonale
I26.9	Pulmonary embolism without mention of acute cor pulmonale

Post-operative PE—hip or knee replacement rate

OECD indicator name: Post-operative pulmonary embolism—hip or knee replacement.

Coverage: Hip and knee replacement (Table A4.4) discharges for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with ICD code for PE in a secondary diagnosis field during the surgical episode (Table A4.5) and in any diagnosis field during readmissions within 30 days of the surgery. If the date of surgery is not available, then 30 days from the admission date for the first surgical episode.
Note: The AIHW could only identify instances within the one episode of care.

Denominator: Hip and knee replacement discharges, meeting the inclusion and exclusion rules with an ACHI code for an operating room procedure (Supplementary Table 1).

Exclusions:

- Cases from the numerator and denominator for MDC 14 (pregnancy, childbirth, and puerperium) or principal diagnosis (Supplementary Table 2).
- Cases where a procedure for interruption of vena cava (Table A4.3) is the only operating room procedure.
- Cases with a LOS less than 2 days.
- Cases with a principal diagnosis or secondary diagnosis present on admission (if known) of PE during the surgical episode.
  Note: Due to data quality issues the AIHW did not exclude cases that arose during the surgical episode with a secondary diagnosis present on admission of PE. (Exclusion of cases with a principal diagnosis of PE would only have been required if readmissions were able to be included.)

Post-operative sepsis rate

OECD indicator name: Post-operative sepsis.

Coverage: Surgical discharges for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with ICD code for sepsis in a secondary diagnosis field during the surgical episode (Table A4.6) and in any diagnosis field during readmissions within 30 days of the surgery. If the date of surgery is not available, then 30 days from the admission date (first surgical episode).
Note: The AIHW could only identify instances within the one episode of care.

Denominator: All surgical discharges, meeting the inclusion and exclusion rules with an ACHI code for an operating room procedure (Supplementary Table 1).

Exclusions:

- Cases from the numerator and denominator for MDC 14 (pregnancy, childbirth, and puerperium) or principal diagnosis (Supplementary Table 2).
- Cases from the numerator and denominator with any code for immunocompromised state (Supplementary Table 5) or cancer (Supplementary Table 6).
- Cases with principal diagnosis of sepsis during the surgical episode (Table A4.6).
- Cases with LOS of less than 3 days.
- Cases from the numerator and denominator with principal diagnosis of infection or secondary diagnosis present on admission, if known (Supplementary Table 7).
  Note: Due to data quality issues, the AIHW did not do this, as not all cases that arose during the episode were flagged as such.

Table A4.6: ICD-10-AM sepsis diagnosis codes

Code	Description
A40.0	Sepsis due to *streptococcus*, group A
A40.1	Sepsis due to *streptococcus*, group B
A40.2	Sepsis due to *streptococcus*, group D
A40.3	Sepsis due to *Streptococcus pneumoniae*
A40.8	Other streptococcal sepsis
A40.9	Streptococcal sepsis, unspecified
A41.0	Sepsis due to *Staphylococcus aureus*
A41.1	Sepsis due to other specified *staphylococcus*
A41.2	Sepsis due to unspecified *staphylococcus*
A41.3	Sepsis due to *Haemophilus influenzae*
A41.4	Sepsis due to anaerobes
A41.50	Sepsis due to unspecified Gram-negative organisms
A41.51	Sepsis due to *Escherichia coli* [E. Coli]
A41.52	Sepsis due to *Pseudomonas*
A41.58	Sepsis due to other Gram-negative organisms
A41.8	Other specified sepsis

(continued)

Table A4.6 (continued): ICD-10-AM sepsis diagnosis codes

Code	Description
A41.9	Sepsis, unspecified
R57.2	Septic shock
R57.8	Other shock
R65.0	Systemic inflammatory response syndrome [SIRS] of infectious origin without acute organ failure
R65.1	Systemic inflammatory response syndrome [SIRS] of infectious origin with acute organ failure
T81.1	Shock during or resulting from a procedure, not elsewhere classified

Post-operative sepsis—abdominal surgery rate

OECD indicator name: Post-operative sepsis after abdominal surgery.

Coverage: Abdominal discharges for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with ICD code for sepsis in a secondary diagnosis field during the surgical episode (Table A4.6) and in any diagnosis field during readmissions within 30 days of the surgery. If the date of surgery is not available, then 30 days from the admission date (first surgical episode).
Note: The AIHW could only identify instances within the one episode of care.

Denominator: Abdominopelvic surgical discharges only (Supplementary Table 4), meeting the inclusion and exclusion rules with an ACHI code for an operating room procedure (Supplementary Table 1).

Exclusions:

- Cases from the numerator and denominator for MDC 14 (pregnancy, childbirth, and puerperium) or principal diagnosis (Supplementary Table 2).
- Cases from the numerator and denominator with any code for immunocompromised state (Supplementary Table 5) or cancer (Supplementary Table 6).
- Cases with principal diagnosis of sepsis during the surgical episode (Table A4.6).
- Cases with LOS of less than 3 days.
- Cases from the numerator and denominator with principal diagnosis of infection or secondary diagnosis present on admission, if known (Supplementary Table 7).
  Note: Due to data quality issues, the AIHW did not do this, as not all cases that arose during the episode were flagged as such.

Post-operative wound dehiscence rate

OECD indicator name: Post-operative wound dehiscence.

Coverage: Abdominal discharges for patients aged 15 and older.

Numerator: Discharges among cases defined in the denominator with procedure code for *Reclosure of post-operative disruption of abdominal wall* (ACHI 8th edition code 30403–03) during the surgical episode and readmissions within 30 days of the surgery. If the date of surgery is not available, 30 days from the admission date (first surgical episode).
Note: The AIHW could only identify instances within the one episode of care.

Denominator: All abdominopelvic surgical discharges (Supplementary Table 4) meeting the inclusion and exclusion rules.

Exclusions:

- Cases from the numerator and denominator for MDC 14 (pregnancy, childbirth, and puerperium) or principal diagnosis (Supplementary Table 2).
- Cases from the numerator and denominator with any diagnosis or procedure code for immunocompromised state (Supplementary Table 5).
- Cases from the numerator and denominator where a procedure for reclosure of post-operative disruption of abdominal wall occurs before or on the same day as the first abdominopelvic surgery procedure.
- Cases where LOS is less than 2 days.

Obstetric trauma with instrument rate

OECD indicator name: Obstetric trauma vaginal delivery with instrument.

Coverage: Vaginal delivery discharges for patients aged 15 and over (Table A4.7).

Numerator: Discharges among cases defined in the denominator with an ICD code for 3rd and 4th degree obstetric trauma in any diagnosis or procedure field (Tables A4.8 and A4.9).

Denominator: All vaginal delivery discharges with any procedure code for instrument-assisted delivery (Table A.10).

Table A4.7: ICD-10 (WHO and AM) outcome of delivery codes

Code	Description
O81	Single delivery by forceps and vacuum extractor
O83	Other assisted single delivery
O84.1	Multiple delivery, all by forceps and vacuum extractor
O84.81	Multiple delivery, all assisted, not elsewhere classified
O84.82	Multiple delivery by combination of methods

Table A4.8: ICD-10 (WHO and AM) obstetric trauma diagnosis codes

Code	Description
O70.2	Third degree perineal laceration during delivery
O70.3	Fourth degree perineal laceration during delivery

Table A4.9: ACHI 8th edition obstetric trauma procedure codes

Code	Description
90480–00	Suture of current obstetric laceration of bladder and/or urethra without perineal involvement
90480–01	Suture of current obstetric laceration of rectum and/or sphincter ani without perineal involvement
16573–00	Suture of third or fourth degree tear of perineum

Table A4.10: ACHI 8th edition instrument-assisted delivery procedure codes

Code	Description
90468–00	Low forceps delivery
90468–01	Mid-cavity forceps delivery
90468–02	High forceps delivery
90468–03	Forceps rotation of fetal head
90468–04	Forceps rotation of fetal head with delivery
90468–05	Failed forceps
90469–00	Vacuum extraction with delivery
90469–01	Failed vacuum extraction
90470–01	Assisted breech delivery
90470–02	Assisted breech delivery with forceps to after-coming head
90470–04	Breech extraction with forceps to after-coming head
90474–00	Incision of cervix to assist delivery
90475–00	Symphysiotomy to assist delivery

Obstetric trauma during vaginal delivery without instrument rate

OECD indicator name: Obstetric trauma vaginal delivery without instrument.

Coverage: Vaginal delivery discharges for patients aged 15 and over (Table A4.11).

Numerator: Discharges among cases defined in the denominator with an ICD code for 3rd and 4th degree obstetric trauma in any diagnosis or procedure field (Table A4.8 and A4.9).

Denominator: All vaginal delivery discharge patients.

Exclusions:

- Cases with instrument-assisted delivery (Table A4.12).

Table A4.11: ICD-10 (WHO and AM) outcome of delivery codes

Code	Description
O80	Single spontaneous delivery
O84.0	Multiple delivery, all spontaneous
O84.9	Multiple delivery, unspecified

Table A4.12: ICD 10 (WHO and AM) instrument-assisted delivery procedure codes

Code	Description
O81	Single delivery by forceps and vacuum extractor
O82	Single delivery by caesarean section
O83	Other assisted single delivery
O84.1	Multiple delivery, all by forceps and vacuum extractor
O84.81	Multiple delivery, all assisted, not elsewhere classified
O84.82	Multiple delivery by combination of methods

A5 Patient experience indicators

Patient experience data were sourced from the 2011–12 and 2013–14 ABS Patient Experience surveys and do not align with the OECD specifications; the points of variation are outlined in the specifications that follow. Confidence intervals have been included for these indicators as explained in Chapter 2. The ABS Patient Experience Survey can be viewed online (ABS 2014b).

HCQI specifications for the denominator of the patient experience indicators requested both weighted and unweighted counts from survey data. The AIHW was unable to provide the denominator unweighted as the ABS does not release that information.

Consultation skipped due to costs

OECD indicator name: Consultation skipped due to costs.

Coverage: Survey respondents aged 16 and over (4 age groups (16–24, 25–44, 45–65 and 65+) and 16+) who answered the specific question.

Crude and weighted rates are calculated based on the following definitions:

Numerator: Number of survey respondents among denominator cases who answered not having visited a health professional (for example, a doctor, nurse or allied health professional) because of costs (that is actual out-of-pocket payments for services).

Denominator: Number of survey respondents who reported having had a medical problem in the reference year and answered 'yes' or 'no' to a survey question on whether consultation was skipped due to costs.

Standard errors should be calculated based on the sample design.

ABS methods: The ABS did not use 'Number of survey respondents who reported having had a medical problem in the reference year'. Instead this indicator was supplied using multiple questions from the ABS Patient Experience Survey that asked people whether there had been any time they needed to go to a GP, medical specialist, dental professional or hospital but did not, or delayed going, due to the cost.

Medical tests skipped due to costs

OECD indicator name: Medical tests, treatment or follow-up skipped due to costs.

Coverage: Survey respondents aged 16 and over (4 age groups (16–24, 25–44, 45–65 and 65+) and 16+) who answered the specific question.

Crude and weighted rates are calculated based on the following definitions:

Numerator: Number of survey respondents among denominator cases who answered having skipped a medical test, treatment (excluding medicines), or other follow-up that was recommended by a health professional (for example, a doctor, nurse or allied health professional) because of costs (that is, actual out-of-pocket payments for services).

Denominator: Number of survey respondents who answered 'yes' or 'no' to a survey question on whether recommended medical tests, treatment or follow-up was skipped due to costs in the reference year.

Standard errors should be calculated based on the sample design.

ABS methods: This indicator was supplied using the ABS Patient Experience Survey questions that asked people whether they delayed, or did not get, referred pathology or imaging tests because of the cost.

Prescribed medicines skipped due to costs

OECD indicator name: Prescribed medicines skipped due to costs.

Coverage: Survey respondents aged 16 and over (4 age groups (16–24, 25–44, 45–65 and 65+) and 16+) who answered the specific question.

Crude and weighted rates are calculated based on the following definitions:

Numerator: Number of survey respondents among denominator cases who answered not having filled a prescription for medicine/collected a prescription for medicine, or skipped doses of medicine because of the cost (that is, actual out-of-pocket payments for medicine).

Denominator: Number of survey respondents who answered 'yes' or 'no' to a survey question on whether prescribed medicine was skipped due to costs in the reference year.

Standard errors should be calculated based on the sample design.

ABS methods: This indicator was supplied using the ABS Patient Experience Survey question that asked whether people delayed or did not get prescription due to cost. The ABS does not ask respondents about whether they 'skipped doses of medicine'.

Patient having enough time with doctor

OECD indicator name: Patients reporting having spent enough time with any doctor during the consultation.

Coverage: Survey respondents aged 16 and over (4 age groups (16–24, 25–44, 45–65 and 65+) and 16+) who answered the specific question.

Crude and weighted rates are calculated based on the following definitions:

Numerator: Number of survey respondents among denominator cases who answered that a doctor spent enough time with them.

Denominator: Number of survey respondents who reported having had a consultation with a doctor in the reference year and answered 'yes' or 'no' to a survey question on whether a doctor spent enough time with them.

Standard errors should be calculated based on the sample design.

ABS methods: This indicator was supplied using a question for which respondents who saw a GP for their own health were asked to: 'Think about all the GPs you have seen in the last 12 months. How often did they spend enough time with you?' Possible responses were: 'always', 'often', 'sometimes' or 'rarely'. Responses of 'always' and 'often' were those considered to be equivalent to 'yes' for the OECD HCQIs.

Appendix B: Data quality statement summaries

This appendix includes data quality summaries relevant to interpretation of the:

- NHMD for the reference period 2013–14
- ACD for the reference period 2011.

Complete data quality statements for these databases, including statements for previous years, are available online at <http://meteor.aihw.gov.au/>.

A data quality statement for the ABS Patient Experience Survey is available online at <www.abs.gov.au>.

National Hospital Morbidity Database

The NHMD is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals. It is a comprehensive data set that has records for all episodes of admitted patient care from essentially all public and private hospitals in Australia.

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

In 2013–14, diagnoses and external causes of injury and poisoning were recorded using the 8th edition of the ICD-10-AM. Procedures were recorded using the 8th edition of the ACHI.

The counting unit for the NHMD is the 'separation'. Separation is the term used to refer to the 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 care to rehabilitation).

The NHMD contains records from 1993–94 to 2013–14. For each reference year, the NHMD includes records for admitted patient separations between 1 July and 30 June.

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 one record in the NHMD.
- For 2013–14, almost all public hospitals provided data for the NHMD. The exception was an early parenting centre 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.
- There was apparent variation among jurisdictions in the use of statistical discharges and the assignment of care types (for example, when a patient's care type changes from acute care to rehabilitation), which may affect the comparability of the data. However, revised definitions for care types were implemented from 1 July 2013 aimed at improving

comparability in care type assignment among jurisdictions. Therefore, information presented by care type may not be comparable with data presented for earlier periods.

- There was variation between states and territories in the reporting of separations for Newborns (without qualified days or with a mixture of qualified and unqualified days).
- Variations in admission practices and policies led 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.
  - Reporting in ICD-10-AM 8th edition began from 1 July 2013. A number of changes implemented in the 8th edition of the ICD-10-AM/ACHI classifications may affect the interpretation of data when compared with data reported in earlier years.
  - Changes to the Australian Coding Standard 0401 Diabetes mellitus and intermediate hyperglycaemia between 2009–10 and 2013–14 have affected the comparability over time of data reported for diabetes.

Australian Cancer Database

To avoid excessive repetition in this data quality statement, the word 'cancer' is used to mean 'cancer, excluding basal cell carcinomas of the skin and squamous cell carcinomas of the skin'. In most states and territories, these two skin cancers are not notifiable diseases, and in any case are not collected, and as such are not in the scope of the Australian Cancer Database (ACD).

All states and territories have legislation that makes cancer a notifiable disease. Various institutions such as hospitals, pathology laboratories and registries of births, deaths and marriages must report cancer cases and deaths to their jurisdictional cancer registry.

Each registry supplies incidence data annually to the AIHW under an agreement between the registries and the AIHW. These data are compiled into the ACD, the only repository of national cancer incidence data.

The 2010 and 2011 incidence data for New South Wales and the Australian Capital Territory were not available for inclusion in the 2011 version of the ACD. These data have been estimated by the AIHW. Although the estimation procedure has been shown to be reasonably accurate for estimating overall cancer incidence, its accuracy with respect to individual cancers will vary. As the populations of New South Wales and the Australian Capital Territory make up about a third of Australia's population, the national incidence data for 2010 and 2011 are likely to be somewhat inaccurate for some individual cancers; which cancers these are is not predictable. Until the actual data are available from these jurisdictions, caution should be exercised when comparing the 2010 and 2011 New South Wales, Australian Capital Territory and Australian data with data from previous years.

Appendix C: Detailed statistical tables

Primary care indicators

Table C3.1: Asthma hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

Year	Males	Females	Total
2009–10	39.8	99.1	70.7
2010–11	41.9	95.4	69.8
2011–12	40.4	97.0	70.0
2012–13	36.6	90.2	64.6
2013–14	34.6	84.0	60.4

Source: NHMD, 2009–10 to 2013–14.

Table C3.2: COPD hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

Year	Males	Females	Total
2009–10	378.8	284.3	318.8
2010–11	385.9	291.8	325.5
2011–12	385.4	296.3	328.3
2012–13	374.4	296.7	323.8
2013–14	353.7	288.7	310.8

Source: NHMD, 2009–10 to 2013–14.

Table C3.3: CHF hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

Year	Males	Females	Total
2009–10	279.9	189.7	226.7
2010–11	303.9	203.5	244.4
2011–12	300.0	200.1	240.7
2012–13	302.7	198.0	240.3
2013–14	296.7	197.0	237.8

Source: NHMD, 2009–10 to 2013–14.

Table C3.4: Hypertension hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2009–10 to 2013–14

Year	Males	Females	Total
2009–10	21.0	36.3	30.2
2010–11	24.5	41.5	34.7
2011–12	26.7	42.4	36.4
2012–13	27.0	43.0	36.8
2013–14	26.0	43.1	36.5

Source: NHMD, 2009–10 to 2013–14.

Table C3.5: Diabetes hospital separation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	166.5	111.3	135.8
2011–12	163.4	112.4	134.8
2012–13	176.2	113.4	141.3
2013–14	172.1	110.3	137.7

Source: NHMD, 2009–10 to 2013–14.

Table C3.6: Diabetes lower extremity amputation rate for people aged 15 and over, per 100,000 population, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	6.4	1.8	3.8
2011–12	5.5	1.9	3.5
2012–13	7.2	2.3	4.5
2013–14	6.1	1.8	3.7

Source: NHMD, 2009–10 to 2013–14.

Acute care indicators

Table C4.1: AMI in-hospital mortality rate for people aged 45 and over, deaths per 100 separations for AMI, by sex, Australia, 2009–10 to 2013–14

Year	Males	Females	Total
2009–10	5.1	5.3	5.1
2010–11	4.8	4.8	4.8
2011–12	4.4	4.5	4.4
2012–13	4.1	4.2	4.1
2013–14	3.9	4.1	4.0

Source: NHMD, 2009–10 to 2013–14.

Table C4.2: Haemorrhagic stroke in-hospital mortality rate for people aged 45 and over, deaths per 100 separations for haemorrhagic stroke, by sex, Australia, 2009–10 to 2013–14

Year	Males	Females	Total
2009–10	19.8	23.1	21.5
2010–11	19.6	24.8	22.2
2011–12	20.2	22.9	21.8
2012–13	19.3	22.7	21.1
2013–14	19.3	22.9	21.1

Source: NHMD, 2009–10 to 2013–14.

Table C4.3: Ischaemic stroke in-hospital mortality rate for people aged 45 and over, deaths per 100 separations for ischaemic stroke, by sex, Australia, 2009–10 to 2013–14

Year	Males	Females	Total
2009–10	9.4	10.5	10.1
2010–11	9.0	10.8	10.0
2011–12	8.5	10.1	9.4
2012–13	8.5	9.8	9.3
2013–14	8.1	9.4	8.9

Source: NHMD, 2009–10 to 2013–14.

Cancer care indicators

Table C5.1: Breast cancer 5-year relative survival rate for females aged 15 and over, Australia, 1998–2000 to 2009–2011

Year[(a)]	Relative survival (%)
1998–2000	84.8
1999–2001	85.6
2000–2002	85.8
2001–2003	85.7
2002–2004	86.2
2003–2005	86.6
2004–2006	87.4
2005–2007	87.4
2006–2008	87.5
2007–2009	87.4
2008–2010	87.6
2009–2011	88.0

(a) Data are based on calendar year reporting periods.

Source: AIHW ACD 2011.

Table C5.2: Cervical cancer 5-year relative survival rate for females aged 15 and over, Australia, 1998–2000 to 2009–2011

Year[(a)]	Relative survival (%)
1998–2000	69.0
1999–2001	67.2
2000–2002	66.9
2001–2003	66.1
2002–2004	68.4
2003–2005	67.5
2004–2006	68.3
2005–2007	67.7
2006–2008	67.2
2007–2009	66.3
2008–2010	65.8
2009–2011	66.2

(a) Data are based on calendar year reporting periods.

Source: AIHW ACD 2011.

Table C5.3: Colorectal cancer 5-year relative survival rate for people aged 15 and over, Australia, 1998–2000 to 2009–2011

Year[(a)]	Males (%)	Females (%)	Total (%)
1998–2000	58.9	61.0	59.8
1999–2001	59.7	62.2	60.7
2000–2002	61.2	62.8	61.9
2001–2003	62.1	63.7	62.8
2002–2004	62.9	64.3	63.5
2003–2005	62.9	65.5	64.0
2004–2006	63.4	66.6	64.8
2005–2007	63.9	66.9	65.3
2006–2008	64.7	66.9	65.7
2007–2009	65.5	67.3	66.3
2008–2010	66.4	68.6	67.4
2009–2011	67.5	70.1	68.7

(a) Data are based on calendar year reporting periods.

Source: AIHW ACD 2011.

Patient safety indicators

Table C6.1: Foreign body left in during procedure rate for people aged 15 and over, per 100,000 surgical and medical separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	9.4	8.8	9.0
2011–12	8.9	8.0	8.4
2012–13	10.3	7.3	8.6
2013–14	11.0	8.7	9.7

Source: NHMD, 2010–11 to 2013–14.

Table C6.2a: Post-operative DVT rate for people aged 15 and over, per 100,000 surgical separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	792.3	649.7	719.9
2011–12	802.0	690.4	745.2
2012–13	868.1	709.7	787.1
2013–14	895.2	725.5	807.7

Source: NHMD, 2010–11 to 2013–14.

Table C6.2b: Post-operative DVT rate for people aged 15 and over, per 100,000 hip or knee replacement separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	1,175.3	1,180.4	1,178.1
2011–12	1,183.3	1,206.4	1,196.1
2012–13	1,199.9	1,177.3	1,187.4
2013–14	1,182.4	1,230.9	1,209.3

Source: NHMD, 2010–11 to 2013–14.

Table C6.3a: Post-operative PE rate for people aged 15 and over, per 100,000 surgical separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	353.2	347.1	350.1
2011–12	362.4	342.3	352.2
2012–13	364.4	361.4	362.9
2013–14	375.8	348.6	361.8

Source: NHMD, 2010–11 to 2013–14.

Table C6.3b: Post-operative PE rate for people aged 15 and over, per 100,000 hip or knee replacement separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	449.0	531.9	494.9
2011–12	527.2	575.5	553.9
2012–13	471.0	575.1	528.6
2013–14	464.1	632.3	557.3

Source: NHMD, 2010–11 to 2013–14.

Table C6.4a: Post-operative sepsis for people aged 15 and over, per 100,000 surgical separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	1,668.3	1,007.0	1,319.9
2011–12	1,726.3	1,075.6	1,382.3
2012–13	1,828.5	1,104.1	1,445.4
2013–14	1,884.5	1,079.4	1,457.6

Source: NHMD, 2010–11 to 2013–14.

Table C6.4b: Post-operative sepsis for people aged 15 and over, per 100,000 abdominal surgical separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	3,071.8	1,539.9	2,125.6
2011–12	3,157.8	1,598.4	2,191.1
2012–13	3,429.2	1,581.9	2,271.9
2013–14	3,515.0	1,635.6	2,337.9

Source: NHMD, 2010–11 to 2013–14.

Table C6.5: Post-operative wound dehiscence rate for people aged 15 and over, per 100,000 abdominal surgical separations, by sex, Australia, 2010–11 to 2013–14

Year	Males	Females	Total
2010–11	78.0	63.4	70.3
2011–12	81.6	55.3	67.7
2012–13	83.8	66.6	74.7
2013–14	60.3	44.3	51.8

Source: NHMD, 2010–11 to 2013–14.

Table C6.6a: Obstetric trauma during vaginal delivery with instrument for females aged 15 and over, Australia, 2010–11 to 2013–14

Year	Rate (number per 100 vaginal deliveries)
2010–11	7.7
2011–12	7.5
2012–13	7.3
2013–14	7.1

Source: NHMD, 2010–11 to 2013–14.

Table C6.6b: Obstetric trauma during vaginal delivery without instrument for females aged 15 and over, Australia, 2010–11 to 2013–14

Year	Rate (number per 100 vaginal deliveries)
2010–11	2.3
2011–12	2.4
2012–13	2.4
2013–14	2.5

Source: NHMD, 2010–11 to 2013–14.

Patient experience indicators

Table C7.1: Consultation skipped due to costs for people aged 16 and over, Australia, 2011–12 and 2013–14

	Males			Females			Total		
Year	%	95% CI* Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit
2011–12	16.0	15.1	16.8	21.7	20.9	22.5	18.9	18.3	19.4
2013–14	14.3	13.5	15.2	20.5	19.7	21.2	17.5	16.9	18.0

* CI = confidence interval

Source: ABS Patient Experience Survey 2011–12 and 2013–14.

Table C7.2: Medical tests skipped due to costs for people aged 16 and over, Australia, 2011–12 and 2013–14

	Males			Females			Total		
Year	%	95% CI* Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit
2011–12	4.3	3.6	5.0	5.4	4.9	5.9	4.9	4.4	5.3
2013–14	2.6	2.2	3.1	3.8	3.4	4.3	3.2	2.9	3.5

* CI = confidence interval

Source: ABS Patient Experience Survey 2011–12 and 2013–14.

Table C7.3: Prescribed medicines skipped due to costs for people aged 16 and over, Australia, 2011–12 and 2013–14

	Males			Females			Total		
Year	%	95% CI* Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit
2011–12	7.6	6.8	8.3	10.9	10.2	11.6	9.2	8.7	9.8
2013–14	6.5	5.9	7.1	9.0	8.4	9.7	7.8	7.4	8.2

* CI = confidence interval

Source: ABS Patient Experience Survey 2011–12 and 2013–14.

Table C7.4: Patients reporting having spent enough time with any doctor during the consultation for people aged 16 and over, Australia, 2011–12 and 2013–14

	Males			Females			Total		
Year	%	95% CI* Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit	%	95% CI Lower limit	95% CI Upper limit
2011–12	87.2	86.3	88.1	85.9	85.1	86.6	86.5	86.0	87.1
2013–14	90.3	89.5	91.2	88.1	87.4	88.7	89.2	88.7	89.7

* CI = confidence interval

Source: ABS Patient Experience Survey 2011–12 and 2013–14.

Glossary

Most definitions in this 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 topics related to health and community services, and specifications for related NMDSs. METeOR can be viewed on the AIHW website at <www.aihw.gov.au>.

additional diagnosis: A condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. This is equivalent to the OECD HCQI concept of secondary diagnosis. METeOR identifier: 391322.

age standardisation: A set of techniques used to remove, as far as possible, the effects of differences in age when comparing two or more populations.

Australian Classification of Health Interventions (ACHI): The 6th edition was used for the 2008–09 and 2009–10 procedures data for admitted patients in Australian hospitals. The 7th edition was used for the 2011–12 procedures data for admitted patients in Australian hospitals and the 8th was used for the 2013–14 procedures data for admitted patients in Australian hospitals. METeOR identifier: 514008

episode of care: The period of admitted patient care between a formal or statistical admission and a formal or statistical separation, characterised by only one care type (see also **separation**). METeOR identifier: 270174 (Care type), METeOR identifier: 268956 (Episode of admitted patient care).

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.

International Classification of Diseases (ICD): The World Health Organization's internationally accepted classification of diseases and related health conditions. The 10th revision, Australian modification (ICD-10-AM) is currently in use in Australian hospitals for admitted patients. Data for 2013–14 were reported to the NHMD using the 8th edition of ICD-10-AM, with data for 2010–11 and 2011–12 reported to the NHMD using the 7th edition of ICD-10-AM and 2009–10 data used the 6th edition. METeOR identifier: 514003.

length of stay: For an overnight patient, calculated by subtracting the date 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 one day. METeOR identifier: 269982.

principal diagnosis: The diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care. METeOR identifier: 391326.

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 relevant medical and paramedical practitioners. Acute care and psychiatric hospitals are included, as are private free-standing day hospital facilities.

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 available only in the acute-care setting. METeOR identifier: 391349.

public hospital: A hospital controlled by a state or territory health authority. Public hospitals offer free diagnostic services, treatment, care and accommodation to all eligible patients.

secondary diagnosis: See also **additional diagnosis**.

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 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 by changing type of care. The OECD HCQI specifications refer to admissions; however, Australia's data are for separations.

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Related publications

The following AIHW publications relating to the OECD and international health comparisons might also be of interest:

- AIHW (Australian Institute of Health and Welfare) 2009. Towards national indicators of safety and quality in health care. Cat. no. HSE 75. Canberra: AIHW.
- AIHW 2012. A working guide to international comparisons of health. Cat. no. PHE 195. Canberra: AIHW.
- AIHW 2014. OECD health-care quality indicators for Australia 2011–12. Cat. no. PHE 174. Canberra: AIHW.

This report summarises information Australia provided to the Organisation for Economic Co-operation and Development's Health at a glance 2015 report, and compares data supplied by Australia in 2015 with data it supplied for previous years and with data reported by other OECD countries. The OECD HCQIs provide a common set of data about the quality of health care delivered across participating OECD member countries.