OECD Health Care Quality and Outcomes Indicators, Australia 2021

Web report | Last updated: **21 Apr 2022** | Topic: International comparisons

About

This report summarises data for Australia provided to the Organisation for Economic Co-operation and Development's (OECD) Health Care Quality and Outcomes data collection, and compares these data with Australia's performance for previous years and with data reported by other OECD countries. These OECD indicators aim to reflect the quality of health care delivered across participating OECD member countries using comparable data. Australia generally performed better than other OECD countries across most indicators.

Cat. no: PHE 301

Findings from this report:

- Australia and Korea had the highest 5-year net survival rates for rectal cancer (71%)

- Australia had the highest rate of retained foreign object after surgery (7.5 per 100,000 hospital discharges)

- Australia had the highest rate of PE after hip and knee replacement discharges (523 per 100,000 hospital discharges)

- Australia had the third lowest AMI in-hospital mortality rate (3.2 per 100 separations)

Introduction

This report summarises the information provided for Australia to the Organisation for Economic Co-operation and Development's (OECD's) Health Care Quality and Outcomes (HCQO) 2021 data collection. Data submitted to the HCQO collection are published in OECD.*Stat*, and selected indicators are also published by the OECD in *Health at a glance 2021*.

The OECD's HCQO project is an international project aimed at developing 'a set of indicators that reflect a robust picture of health care quality that can be reliably reported across countries using comparable data' (Kelley & Hurst 2006:9). This report compares the latest data available for Australia with the data supplied by Australia for previous years, and with the same year (or nearest year) data reported by the OECD for other countries.

Australia is generally considered to have a high-quality health care system, delivering good health outcomes for the population (Schneider et al. 2021). Against a range of health indicators, Australia compares favourably with other developed countries (AIHW 2020). 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.

The 2019–2020 bushfires and the ongoing management of COVID-19 have especially highlighted the importance of ensuring Australia's health systems can respond effectively to current and changing needs.

References

Australian Institute of Health and Welfare (AIHW) 2020. International health data comparisons, 2020. Cat. no. PHE 237. Canberra: AIHW.

Kelley E and Hurst J 2006. Health Care Quality Indicators Project: conceptual framework paper. OECD health working papers no. 23. Paris: OECD.

OECD 2021. Health at a glance 2021: OECD indicators. Paris: OECD.

Schneider et al. 2021. Mirror, mirror 2021 – reflecting poorly: Health care in the U.S. compared to other high-income countries. New York: The Commonwealth Fund.

Data submission

The Australian Institute of Health and Welfare (AIHW) has co-ordinated provision of data to the OECD's HCQO project since 2011. Tables 1.1-1.6 list the HCQO indicators requested for the 2021 collection, indicates whether data for Australia were available and provided and, if so, outlines the data sources and the latest data reference period for the data reported to the OECD. The tables also indicate the name used in this publication to refer to the OECD indicators.

All data tables submitted to the OECD for this collection were prepared by the AIHW, except for the Cancer care indicators which were provided to the OECD by the CONCORD program.

Table 1.1: Acute care HCQO indicators, 2021

Acute care HCQO indicator requested	Indicator name used in this report	Data source	Latest data reported to OECD (year)
Patient-based AMI 30 day (in-hospital and out of hospital) mortality	Not provided	. .	. .
Admission-based AMI 30 day in-hospital mortality	AMI in-hospital mortality rate	AIHW NHMD	2018–19
Patient-based hemorrhagic stroke 30 day (in-hospital and out of hospital) mortality	Not provided	. .	. .
Admission-based hemorrhagic stroke 30 day in-hospital mortality	Haemorrhagic stroke in-hospital mortality rate	AIHW NHMD	2018–19
Patient-based ischemic stroke 30 day (in-hospital and out of hospital) mortality	Not provided	. .	. .
Admission-based ischemic stroke 30 day in-hospital mortality	Ischaemic stroke in-hospital mortality rate	AIHW NHMD	2018–19
Hip fracture surgery initiated within 2 calendar days after admission to the hospital	Not provided	. .	. .

Table 1.2: Cancer care HCQO indicators, 2021

Cancer care HCQO indicator requested	Indicator name used in this report	Data source	Latest data reported to OECD (period)
Breast cancer 5-year net survival rate	Breast cancer 5-year net survival rate	CONCORD program	2010–14
Cervical cancer 5-year net survival rate	Cervical cancer 5-year net survival rate	CONCORD program	2010–14
Colon cancer 5-year net survival rate	Colon cancer 5-year net survival rate	CONCORD program	2010–14
Rectal cancer 5-year net survival rate	Rectal cancer 5-year net survival rate	CONCORD program	2010–14
Childhood acute lymphoblastic leukaemia 5-year net survival rate	Childhood acute lymphoblastic leukaemia 5-year net survival rate	CONCORD program	2010–14
Lung cancer 5-year net survival rate	Lung cancer 5-year net survival rate	CONCORD program	2010–14
Stomach cancer 5-year net survival rate	Stomach cancer 5-year net survival rate	CONCORD program	2010–14

Table 1.3: Patient experiences HCQO indicators, 2021

Patient experiences HCQO indicator requested	Indicator name used in this report	Data source	Latest data reported to OECD (period)
Consultation skipped due to costs	Consultation skipped due to costs	ABS Patient Experience Survey	2019-20
Medical tests, treatment or follow-up skipped due to costs	Medical tests skipped due to costs	ABS Patient Experience Survey	2019-20
Prescribed medicines skipped due to costs	Prescribed medicines skipped due to costs	ABS Patient Experience Survey	2019-20
Doctor spending enough time with patients during the consultation	Patient having enough time with doctor	ABS Patient Experience Survey	2019-20
Regular doctor spending enough time with patients during the consultation	Not provided	. .	. .
Doctor providing easy-to-understand explanations	Not provided	. .	. .
Regular doctor providing easy-to-understand explanations	Not provided	. .	. .
Doctor giving opportunity to ask questions or raise concerns	Not provided	. .	. .
Regular doctor giving opportunity to ask questions or raise concerns	Not provided	. .	. .
Doctor involving patients in decisions about care or treatment	Not provided	. .	. .
Regular doctor involving patients in decisions about care or treatment	Not provided	. .	. .

Table 1.4: Patient safety HCQO indicators, 2021

Patient safety HCQO indicator requested	Indicator name used in this report	Data source	Latest data reported to OECD (year)
Retained surgical item or unretrieved device fragment	Retained surgical item or unretrieved device fragment	AIHW NHMD	2018-19
Postoperative pulmonary embolism – hip and knee replacement discharges	Post-operative pulmonary embolism – hip and knee replacement discharges	AIHW NHMD	2018-19
Postoperative deep vein thrombosis – hip and knee replacement discharges	Post-operative deep vein thrombosis – hip and knee replacement discharges	AIHW NHMD	2018-19
Postoperative sepsis – abdominal discharges	Post-operative sepsis – abdominal discharges	AIHW NHMD	2018-19
Postoperative wound dehiscence	Post-operative wound dehiscence	AIHW NHMD	2018-19
Obstetric trauma vaginal delivery with instrument	Obstetric trauma after vaginal delivery with instrument	AIHW NHMD	2018-19
Obstetric trauma vaginal delivery without instrument	Obstetric trauma after vaginal delivery without instrument	AIHW NHMD	2018-19

Table 1.5: Prescribing in primary care HCQO indicators, 2021

Prescribing in primary care HCQO requested	Indicator name used in this report	Data source	Latest data reported to OECD (year)
Adequate use of cholesterol lowering treatment in people with diabetes (DDDs/Days)	People with diabetes with at least one prescription of cholesterol lowering medication	PBS	2020

First choice antihypertensives for people with diabetes (DDDs/Days)	People with diabetes with prescription of first choice antihypertensive medication	PBS	2020
Long-term use of benzodiazepines and related drugs in ≥65 years of age (≥365 DDDs/Days per year)	Long-term benzodiazepine use among older adults	PBS	2020
Use of long-acting benzodiazepines in ≥65 years of age	Long-acting benzodiazepine use among older adults	PBS	2020
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed (DDDs)	Volume of second line antibiotics as a share of total volume	PBS	2020
Overall volume of antibiotics for systemic use prescribed (DDDs)	Total volume of antibiotics for systemic use	PBS	2020
Any anticoagulating drug in combination with an oral NSAID	Long-term prescription of any anticoagulating drug in combination with an oral nonsteroidal anti-inflammatory drug (NSAID)	PBS	2020
Proportion of 75 years and over who are taking more than 5 medications concurrently	Polypharmacy among people aged 75 and over	PBS	2020
Overall volume of opioids prescribed	Overall volume of opioids prescribed	PBS	2020
Proportion of the population who are chronic opioid users	Proportion of the population who are chronic opioid users	PBS	2020
Proportion of people 65 and over prescribed antipsychotics	Proportion of older adults prescribed antipsychotics	PBS	2020

Table 1.6: Primary care HCQO indicators, 2021

Primary care HCQO requested	Indicator name used in this report	Data source	Latest data reported to OECD (year)
Asthma hospital admission	Asthma hospital admission rate	AIHW NHMD	2018–19
Chronic obstructive pulmonary disease (COPD) hospital admission	COPD hospital admission rate	AIHW NHMD	2018–19
Congestive heart failure (CHF) hospital admission	CHF hospital admission rate	AIHW NHMD	2018–19
Hypertension hospital admission	Hypertension hospital admission rate	AIHW NHMD	2018–19
Diabetes hospital admission	Diabetes hospital admission rate	AIHW NHMD	2018–19
Admission-based diabetes lower extremity amputation	Diabetes lower extremity amputation rate	AIHW NHMD	2018–19
Patient-based diabetes lower extremity amputation	Not provided	AIHW NHMD	2018–19

Acute care

This section presents data for the acute care indicators supplied by Australia to the OECD HCQO collection. It compares these data with the results reported for other OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2021).

The OECD published all acute care indicators in OECD.*Stat* and a selection of acute care indicators in *Health at a glance 2021*. Australia calculated and submitted 3 of the 9 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 hospital separations data (that is, where the data are captured at the point at which an episode of care for an admitted patient ends). These indicators are:

- 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 2021).

The indicator definitions can be viewed here: Acute care indicator definitions

Overall data comparability and methods

The most recent data supplied by Australia for the acute care indicators was for 2018–19. These data are recorded as 2018 data in the OECD.*Stat* database, and so are described in that way here. Data from other OECD countries published on OECD.*Stat* for 2018 are used for comparison and calculation of OECD averages in this section. These data were extracted from the OECD.*Stat* database in November 2021, and may not reflect subsequent updates made to the database.

The OECD requested acute care data 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.

Australia's national data collection for admitted patients can identify if a patient dies during a single episode of care in one hospital. However, if a patient is discharged from hospital or had a change in the type of care provided (for example, from acute care to rehabilitation care), and then subsequently died within 30 days of the original hospital admission, that death would not be reported by the AIHW as part of these indicators.

Similarly, if the patient is discharged but is then subsequently admitted to the same hospital or another hospital and dies, all within 30 days of the original admission, only the second admission would be included in the numerator of these indicators (the original admissions are not 'linked' to the subsequent admissions). Therefore, the acute care indicators reported by the AIHW underestimate true in-hospital fatality rates.

Acute myocardial infarction 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. AMI is a life-threatening event that occurs when a blood vessel supplying the heart is suddenly blocked, causing damage to the heart muscle and its functions.

Comparisons are presented for other OECD countries that reported data for this indicator (that is, based on admissions 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 Australia, the AMI in-hospital mortality rate reported for 2018 was 3.2 per 100 separations, lower than the OECD average of 6.0 deaths per 100 separations. The mortality rate was similar for males and females (3.2 and 3.1 per 100 separations, respectively).

Australia's rate has decreased from 5.1 per 100 separations in 2009, consistent with the overall decline in coronary heart disease mortality over the past decades among other OECD countries. The trend may be attributed to reductions in smoking and improvements in treatment for heart diseases (OECD 2021).

Australia's AMI mortality rate in 2018 was slightly higher than that reported for Turkey and Iceland, the countries with the lowest mortality rates (2.4 and 1.7 per 100 separations, respectively).

Interactive AC1.1 below compares OECD countries with data published for this indicator for 2018, while AC1.2 presents Australia's 10-year trend for this indicator where data are available.

AC1.1 presents OECD countries with data published for AMI in-hospital mortality rate in 2018, which shows Australia had one of the lowest mortality rates. AC1.2 presents Australia's 10-year trend for this indicator, which shows an overall decrease.

AC1.1: Acute myocardial infarction in-hospital mortality rate, OECD, 2018

Country	Deaths per 100 separations
Iceland	1.7
Turkey	2.4
Australia	3.2
Norway	3.5
New Zealand	4.0
Sweden	4.1
Slovenia	4.4
Denmark	4.5
Canada	4.8
Poland	4.8
United States	4.9
Ireland	5.1
Israel	5.4
Austria	5.8
OECD Average	6.0
Slovak Republic	6.3
Belgium	6.7
United Kingdom	6.7
Spain	6.9
Finland	7.3
Chile	7.4
Portugal	8.2
Estonia	8.6
Korea	9.2
Lithuania	9.7
Latvia	13.6

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

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. Haemorrhagic stroke occurs when a blood vessel supplying blood to the brain ruptures and begins to bleed.

Comparisons are presented for other OECD countries that reported data for this indicator (that is, based on admissions 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 Australia, the haemorrhagic stroke in-hospital mortality rate reported for 2018 was 20 per 100 separations, lower than the OECD average of 23 deaths per 100 separations. The mortality rate was higher for females than males (21 and 18 per 100 separations, respectively). Australia's rate has decreased over time from 23 per 100 separations in 2009.
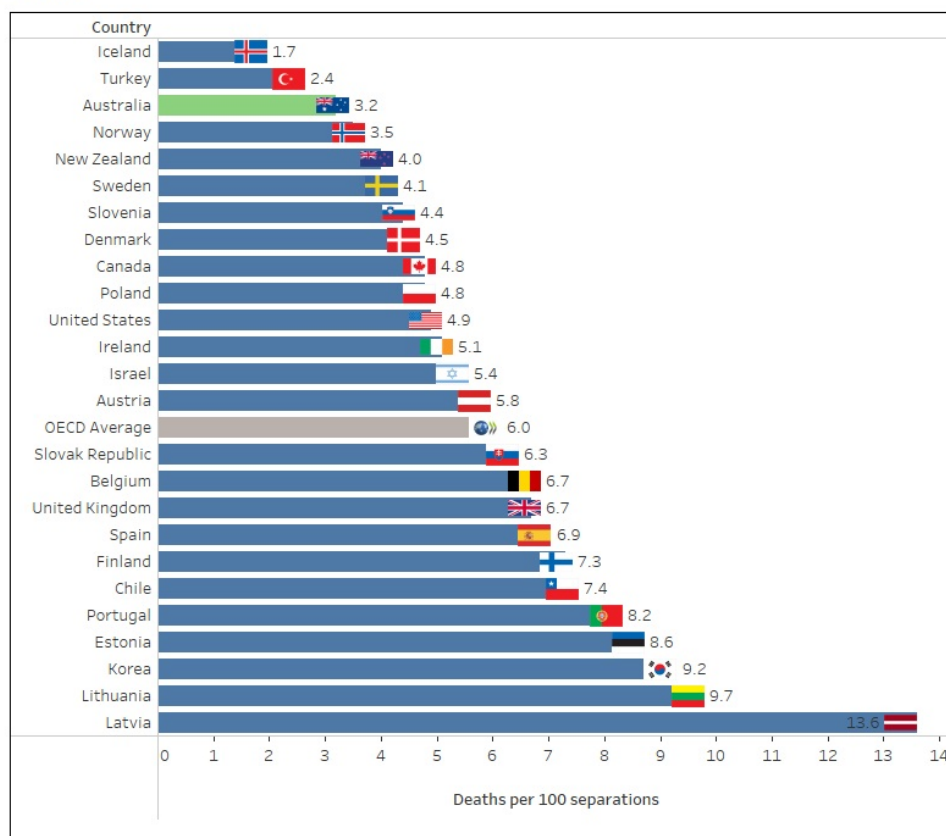
Turkey and Iceland had the lowest mortality rates (6.4 and 8.6 per 100 separations, respectively) among countries that reported data on this indicator for 2018.

Interactive AC2.1 below compares OECD countries with data published for this indicator for 2018, while AC2.2 presents Australia's 10-year trend for this indicator where data are available.
AC2.1 presents OECD countries with data published for haemorrhagic stroke in-hospital mortality rate in 2018, which shows Australia had a lower mortality rate than the OECD average. AC2.2 presents Australia's 10-year trend for this indicator, which shows an overall decrease over time.

AC2.1: Haemorrhagic stroke in-hospital mortality rate, OECD, 2018

Country	Deaths per 100 separations
Turkey	6.4
Iceland	8.6
Sweden	15.3
Norway	15.4
Korea	15.5
Austria	18.1
United States	19.4
New Zealand	19.8
Australia	19.9
Chile	21.6
OECD Average	22.9
Estonia	23.0
Israel	23.0
Finland	23.2
Canada	23.7
Ireland	24.1
Slovak Republic	25.4
Portugal	25.8
Denmark	25.9
Belgium	26.4
United Kingdom	27.3
Spain	28.1
Slovenia	30.2
Lithuania	30.8
Poland	33.2
Latvia	41.7

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

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. Ischaemic stroke occurs when a blood vessel supplying blood to the brain suddenly becomes blocked.

Comparisons are presented for other OECD countries that reported data for this indicator (that is, based on admissions data, not patient data). Note that the AIHW could only provide data for separations where death occurred within the one (hospital) episode of care.
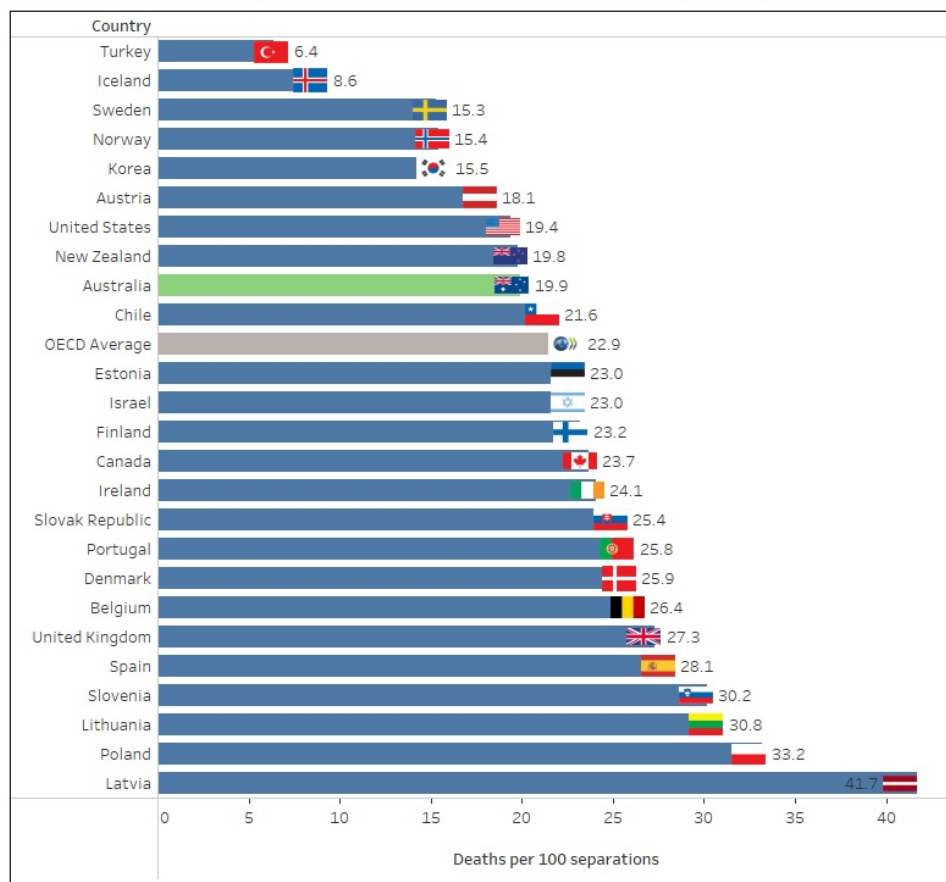
In Australia, the ischaemic stroke in-hospital mortality rate reported for 2018 was 5.4 per 100 separations, lower than the OECD average of 7.8 deaths per 100 separations. The mortality rate was slightly higher for females than males (5.7 and 5.0 per 100 separations, respectively).
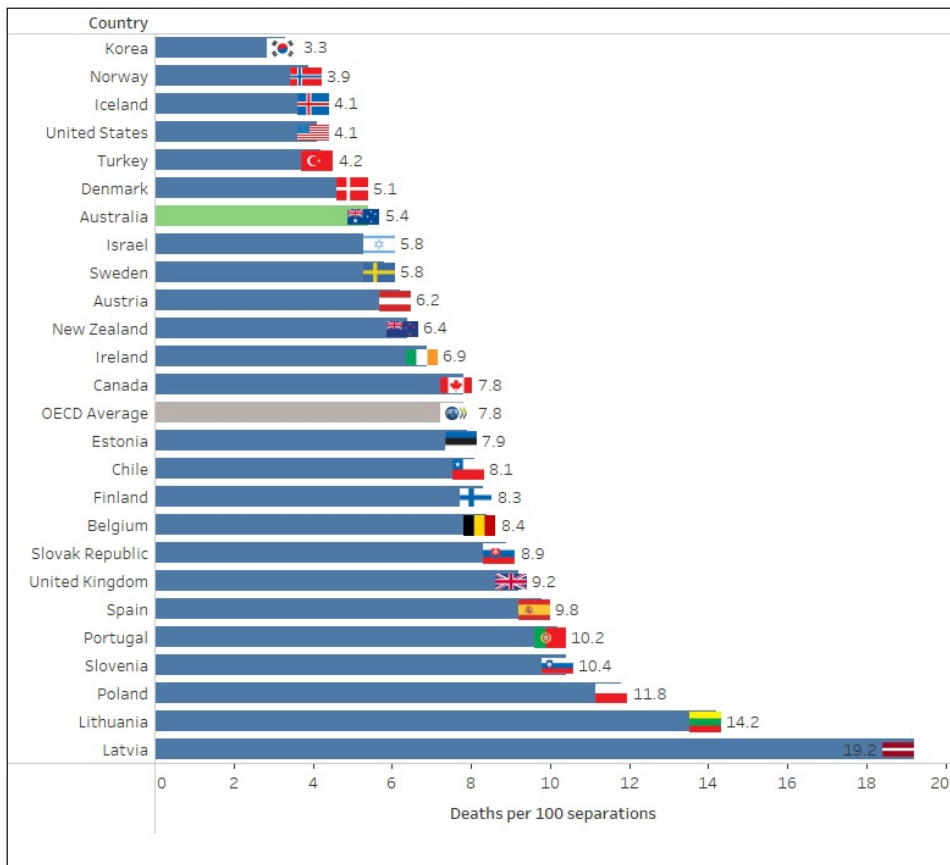
Australia's rate has decreased from 11 per 100 separations in 2009, consistent with the overall decline in ischaemic stroke mortality over the past decade among other OECD countries. The trend may be attributed to the increased systems and processes for identifying suspected ischaemic stroke cases and faster delivery of acute reperfusion therapy (OECD 2021).

Among countries that reported 2018 data for this indicator, Korea had the lowest mortality rate (3.3 per 100 separations).

Interactive AC3.1 below compares OECD countries with data available for this indicator for 2018, while AC3.2 presents Australia's 10-year trend for this indicator where data are available.

AC3.1 presents OECD countries with data published for ischaemic stroke in-hospital mortality rate in 2018, which shows Australia's mortality rate was below the OECD average. AC3.2 presents Australia's 10-year trend for this indicator, which shows a decreasing trend.

AC3.1: Ischaemic stroke in-hospital mortality rate, OECD, 2018

Country	Deaths per 100 separations
Korea	3.3
Norway	3.9
Iceland	4.1
United States	4.1
Turkey	4.2
Denmark	5.1
Australia	5.4
Israel	5.8
Sweden	5.8
Austria	6.2
New Zealand	6.4
Ireland	6.9
Canada	7.8
OECD Average	7.8
Estonia	7.9
Chile	8.1
Finland	8.3
Belgium	8.4
Slovak Republic	8.9
United Kingdom	9.2
Spain	9.8
Portugal	10.2
Slovenia	10.4
Poland	11.8
Lithuania	14.2
Latvia	19.2

Deaths per 100 separations

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Reference

OECD 2021. Health at a glance 2021: OECD indicators. Paris: OECD.

Cancer care

This section presents data for the cancer care indicators supplied for Australia to the OECD HCQO collection. It compares these data with the HCQO results reported for other OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2021).

The OECD published all cancer care indicators in OECD.*Stat* and a selection of cancer care indicators in *Health at a glance 2021.* Data for Australia were available for all 7 cancer care indicators:

- Breast cancer 5-year net survival
- Cervical cancer 5-year net survival
- Colon cancer 5-year net survival
- Rectal cancer 5-year net survival
- Childhood acute lymphoblastic leukaemia 5-year net survival
- Lung cancer 5-year net survival
- Stomach cancer 5-year net survival.

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).

Net survival rates are cited within this section; these rates adjust for differences that occur between populations and they improve the comparability of cancer survival rates between populations with different characteristics such as age distribution and risk from dying from causes other than cancer.

The indicator definitions can be viewed here: Cancer care indicator definitions

Overall data comparability and methods

The most recent data relating to Australia for the cancer care indicators were for the period 2010–14. These data were provided to the OECD by CONCORD, an international collaboration designed to monitor trends in cancer survival worldwide (Allemani et al. 2018). Data for the same period (2010–14) from other OECD countries published on OECD.*Stat* are used for comparison and calculation of OECD averages in this section. These data were extracted from the OECD.*Stat* database in November 2021, and may not reflect subsequent updates made to the database.

Five-year net survival is the cumulative probability that cancer patients survive their cancer for at least five years after diagnosis, after controlling for the risks of death from other causes, and taking into account that competing risks of deaths are higher in older people (OECD 2021). The net survival rates were age-standardised using the appropriate populations from the International Cancer Survival Standards (OECD 2021).

Breast cancer 5-year net survival rate

The five-year net survival in Australia for females aged 15 and over diagnosed with breast cancer was 89.5% for the period 2010–14, showing a 2.5 percentage-point improvement since 2000–04.
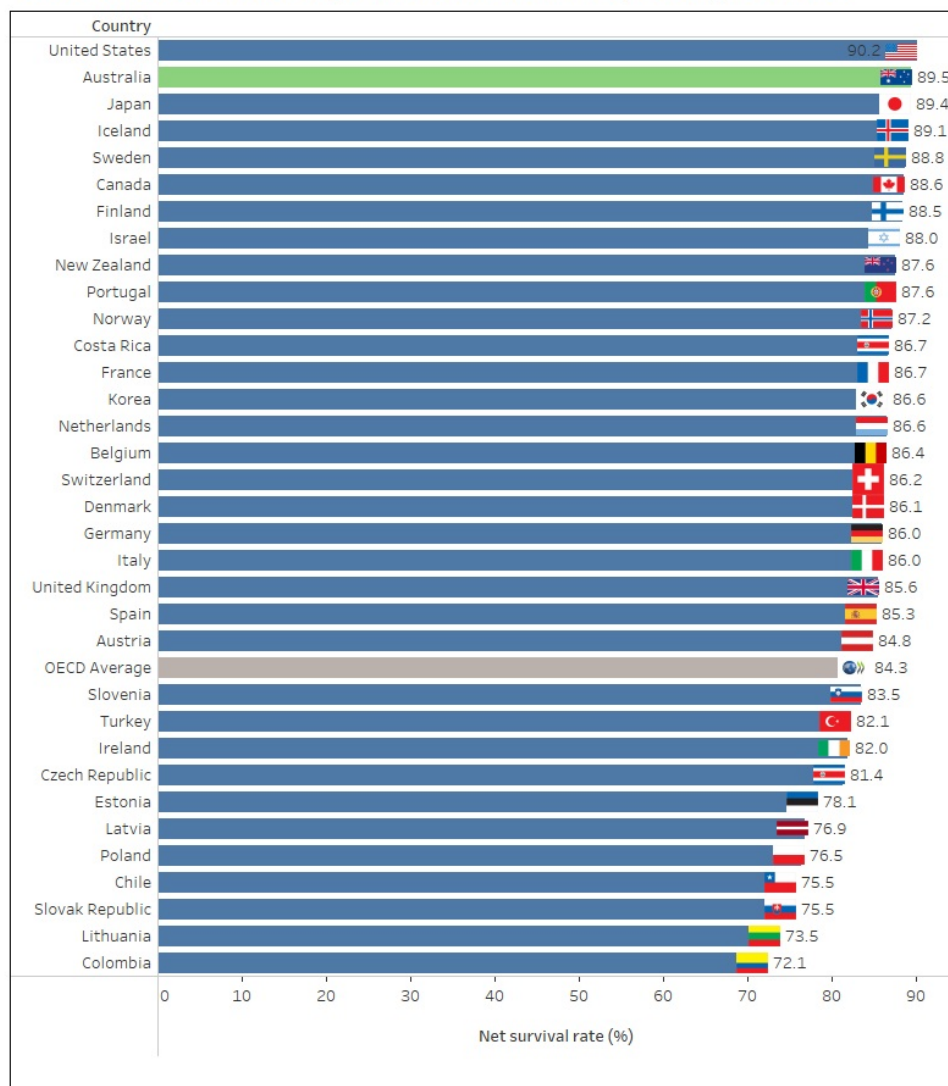
Australia had the second highest 5-year net survival from breast cancer among OECD countries that submitted data, behind the United States (90%). The OECD average was 84%.

The early detection of cancer is important for improving the chance of survival. In Australia, the five-year net survival rate after a breast cancer diagnosis in its earliest stage was 100% in 2011 (AIHW 2019). For females diagnosed with breast cancer at the latest stage, the survival rate reduced to 32% (AIHW 2019).

Interactive CC1.1 below compares OECD countries with data available for this indicator in 2010–14, while CC1.2 presents Australia's rate over time (post-2000) for this indicator where data were available.

CC1.1 presents OECD countries with data available for breast cancer 5-year net survival rate in 2010–14, which shows Australia had the 2nd highest survival rate. CC1.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase over time.

CC1.1: Breast cancer 5-year net survival rate, OECD, 2010-14

Country	Net survival rate (%)
United States	90.2
Australia	89.5
Japan	89.4
Iceland	89.1
Sweden	88.8
Canada	88.6
Finland	88.5
Israel	88.0
New Zealand	87.6
Portugal	87.6
Norway	87.2
Costa Rica	86.7
France	86.7
Korea	86.6
Netherlands	86.6
Belgium	86.4
Switzerland	86.2
Denmark	86.1
Germany	86.0
Italy	86.0
United Kingdom	85.6
Spain	85.3
Austria	84.8
OECD Average	84.3
Slovenia	83.5
Turkey	82.1
Ireland	82.0
Czech Republic	81.4
Estonia	78.1
Latvia	76.9
Poland	76.5
Chile	75.5
Slovak Republic	75.5
Lithuania	73.5
Colombia	72.1

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

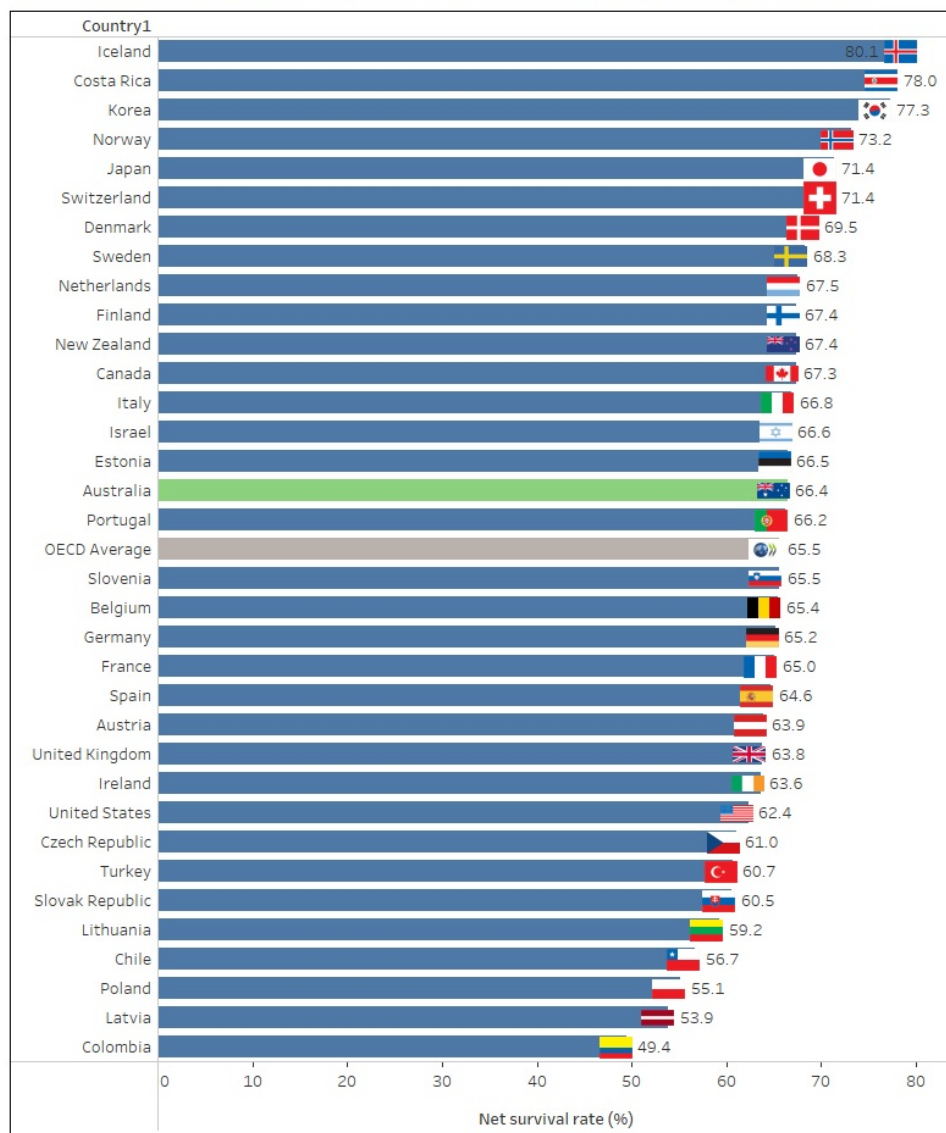## Cervical cancer 5-year net survival rate

The cervical cancer five-year net survival in Australia for females aged 15 and over was 66% for the period 2010–14, a decrease from 68% in the period 2000-04.

Australia's 5-year net survival from cervical cancer was similar to the OECD average (65.5%) for the comparison period. Among OECD countries with data available, Iceland (80%) had the highest survival rate from cervical cancer.

Interactive CC2.1 below compares OECD countries with data available for this indicator in 2010–14, while CC2.2 presents Australia's rate over time (post-2000) for this indicator where data were available.
CC2.1 presents OECD countries with data available for cervical cancer 5-year net survival rate in 2010–14, which shows Australia had the same survival rate as the OECD average. CC2.2 presents Australia's 10-year trend for this indicator, which shows a gradual decrease over time.

CC2.1: Cervical cancer 5-year net survival rate, OECD, 2010-14

Country1	Net survival rate (%)
Iceland	80.1
Costa Rica	78.0
Korea	77.3
Norway	73.2
Japan	71.4
Switzerland	71.4
Denmark	69.5
Sweden	68.3
Netherlands	67.5
Finland	67.4
New Zealand	67.4
Canada	67.3
Italy	66.8
Israel	66.6
Estonia	66.5
Australia	66.4
Portugal	66.2
OECD Average	65.5
Slovenia	65.5
Belgium	65.4
Germany	65.2
France	65.0
Spain	64.6
Austria	63.9
United Kingdom	63.8
Ireland	63.6
United States	62.4
Czech Republic	61.0
Turkey	60.7
Slovak Republic	60.5
Lithuania	59.2
Chile	56.7
Poland	55.1
Latvia	53.9
Colombia	49.4

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

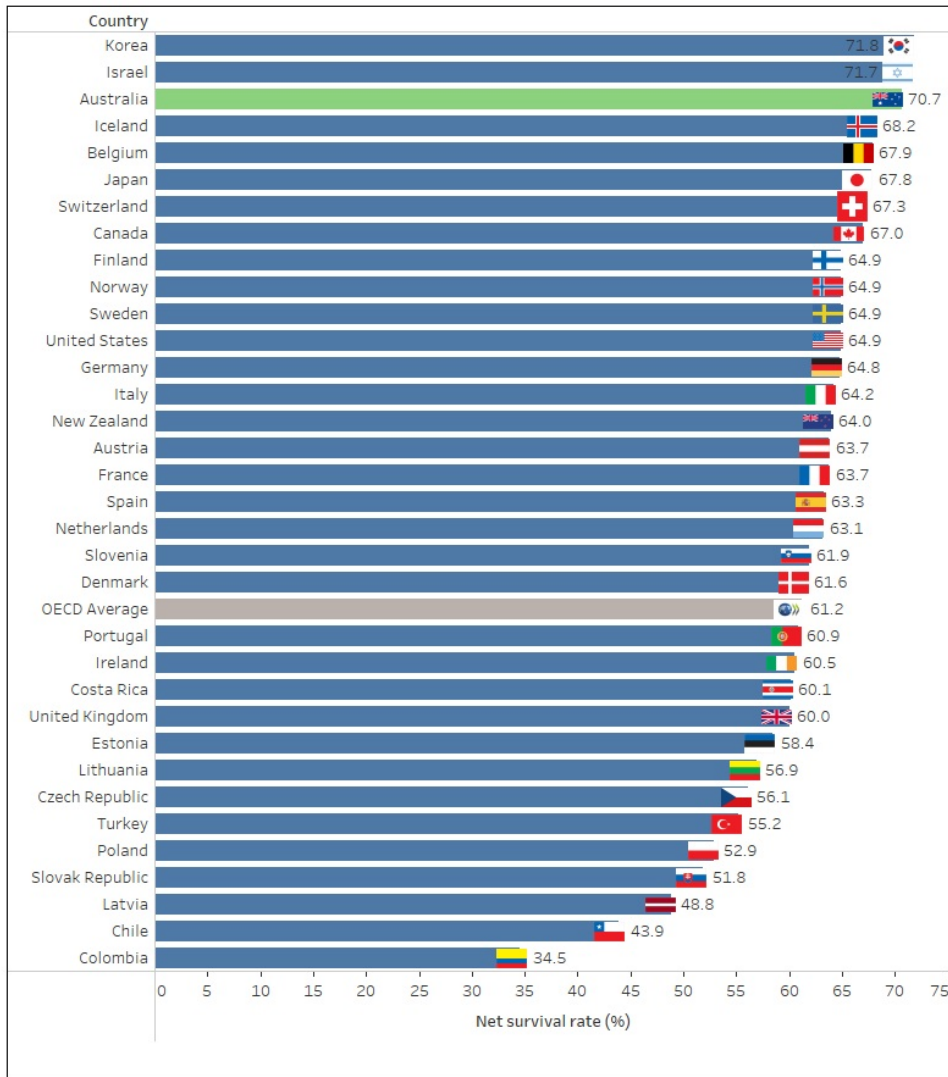## Colon cancer 5-year net survival rate

The five-year net survival rate for colon cancer among people aged 15 and over in Australia was 71% for the period 2010–14, showing a 7 percentage-point improvement since 2000–04. The survival rates for both males (70%) and females (72%) have also experienced a 7 percentage-point improvement since 2000–04. The OECD average was 61%.

Australia's colon cancer survival rate was slightly below that of Korea and Israel, the countries with the highest survival rates (both 72%).

Interactive CC3.1 below compares OECD countries with data available for this indicator in 2010–14, while CC3.2 presents Australia's rate over time (post-2000) for this indicator where data were available.

CC3.1 presents OECD countries with data available for colon cancer 5-year net survival rate in 2010–14, which shows Australia had one of the highest survival rates. CC3.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase over time.

CC3.1: Colon cancer 5-year net survival rate, OECD, 2010-14

Country	Net survival rate (%)
Korea	71.8
Israel	71.7
Australia	70.7
Iceland	68.2
Belgium	67.9
Japan	67.8
Switzerland	67.3
Canada	67.0
Finland	64.9
Norway	64.9
Sweden	64.9
United States	64.9
Germany	64.8
Italy	64.2
New Zealand	64.0
Austria	63.7
France	63.7
Spain	63.3
Netherlands	63.1
Slovenia	61.9
Denmark	61.6
OECD Average	61.2
Portugal	60.9
Ireland	60.5
Costa Rica	60.1
United Kingdom	60.0
Estonia	58.4
Lithuania	56.9
Czech Republic	56.1
Turkey	55.2
Poland	52.9
Slovak Republic	51.8
Latvia	48.8
Chile	43.9
Colombia	34.5

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

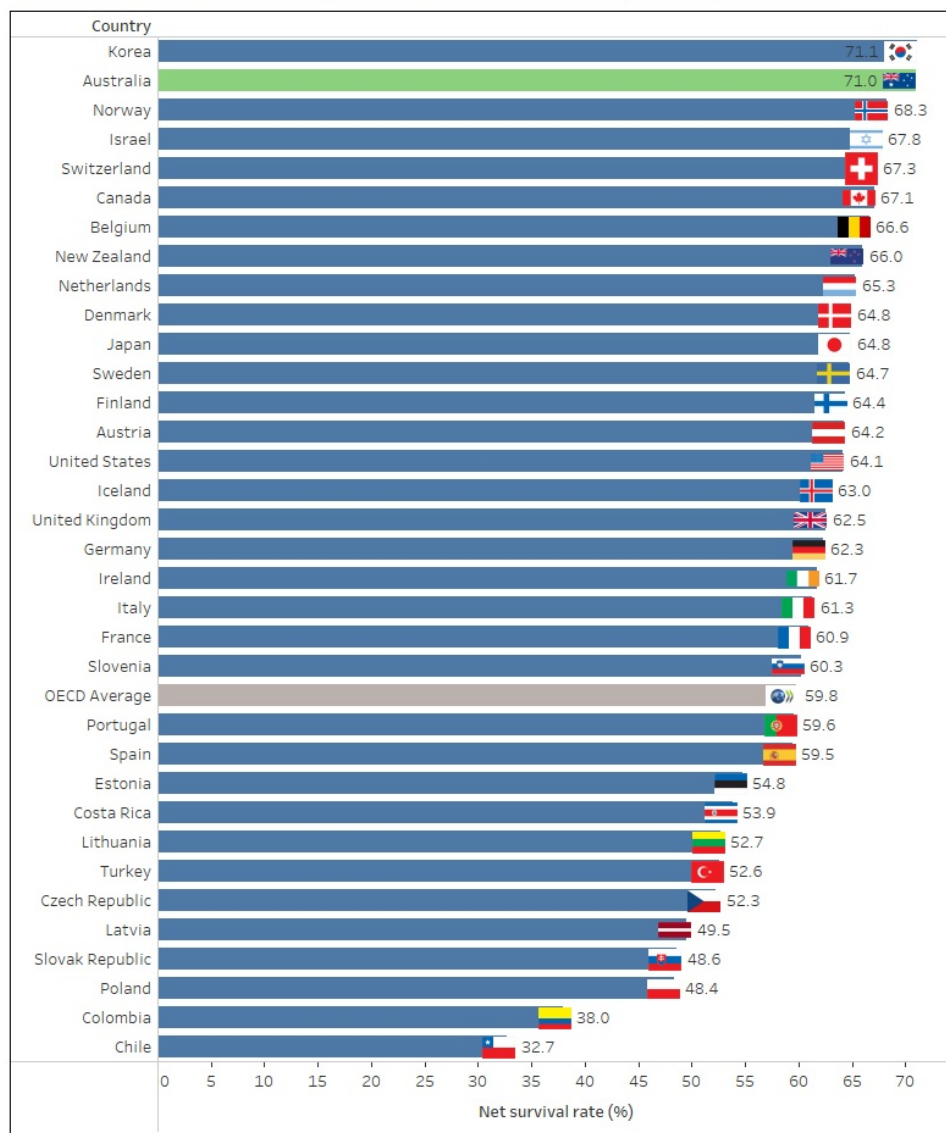## Rectal cancer 5-year net survival rate

The five-year net survival rate for rectal cancer among people aged 15 and over in Australia was 71% for the period 2010–14, showing a 7 percentage-point improvement since 2000–04. The survival rates for both males (70%) and females (74%) also experienced a 7 percentage-point improvement since 2000–04.

Korea and Australia had the highest rectal cancer survival rates (71%) among countries that submitted data. The OECD average was 60%.

Interactive CC4.1 below compares OECD countries with data available for this indicator in 2010–14, while CC4.2 presents Australia's rate over time (post-2000) for this indicator where data were available.

CC4.1 presents OECD countries with data available for rectal cancer 5-year net survival rate in 2010–14, which shows Australia and Korea had the highest rates. CC4.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase over time.

CC4.1: Rectal cancer 5-year net survival rate, OECD, 2010-14

Country	Net survival rate (%)
Korea	71.1
Australia	71.0
Norway	68.3
Israel	67.8
Switzerland	67.3
Canada	67.1
Belgium	66.6
New Zealand	66.0
Netherlands	65.3
Denmark	64.8
Japan	64.8
Sweden	64.7
Finland	64.4
Austria	64.2
United States	64.1
Iceland	63.0
United Kingdom	62.5
Germany	62.3
Ireland	61.7
Italy	61.3
France	60.9
Slovenia	60.3
OECD Average	59.8
Portugal	59.6
Spain	59.5
Estonia	54.8
Costa Rica	53.9
Lithuania	52.7
Turkey	52.6
Czech Republic	52.3
Latvia	49.5
Slovak Republic	48.6
Poland	48.4
Colombia	38.0
Chile	32.7

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Childhood acute lymphoblastic leukaemia 5-year net survival rate

The acute lymphoblastic leukaemia five-year net survival in Australia for children aged 0 to 14 was 91% for the period 2010–14, maintaining a similar rate since 2000–04.

Australia's 5-year net survival from childhood acute lymphoblastic leukaemia was higher than the OECD average of 86%. Finland (95%), Denmark (94%), Canada (93%) and the United Kingdom (92%) had the highest survival rates.

Interactive CC5.1 below compares OECD countries with data available for this indicator in 2010–14, while CC5.2 presents Australia's rate over time (post-2000) for this indicator where data were available.

CC5.1 presents OECD countries with data available for childhood acute lymphoblastic leukaemia 5-year net survival rate in 2010–14, which shows Australia had a higher survival rate than the OECD average. CC5.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase over time.

CC5.1: Childhood acute lymphoblastic leukaemia 5-year net survival rate, OECD, 2010-14
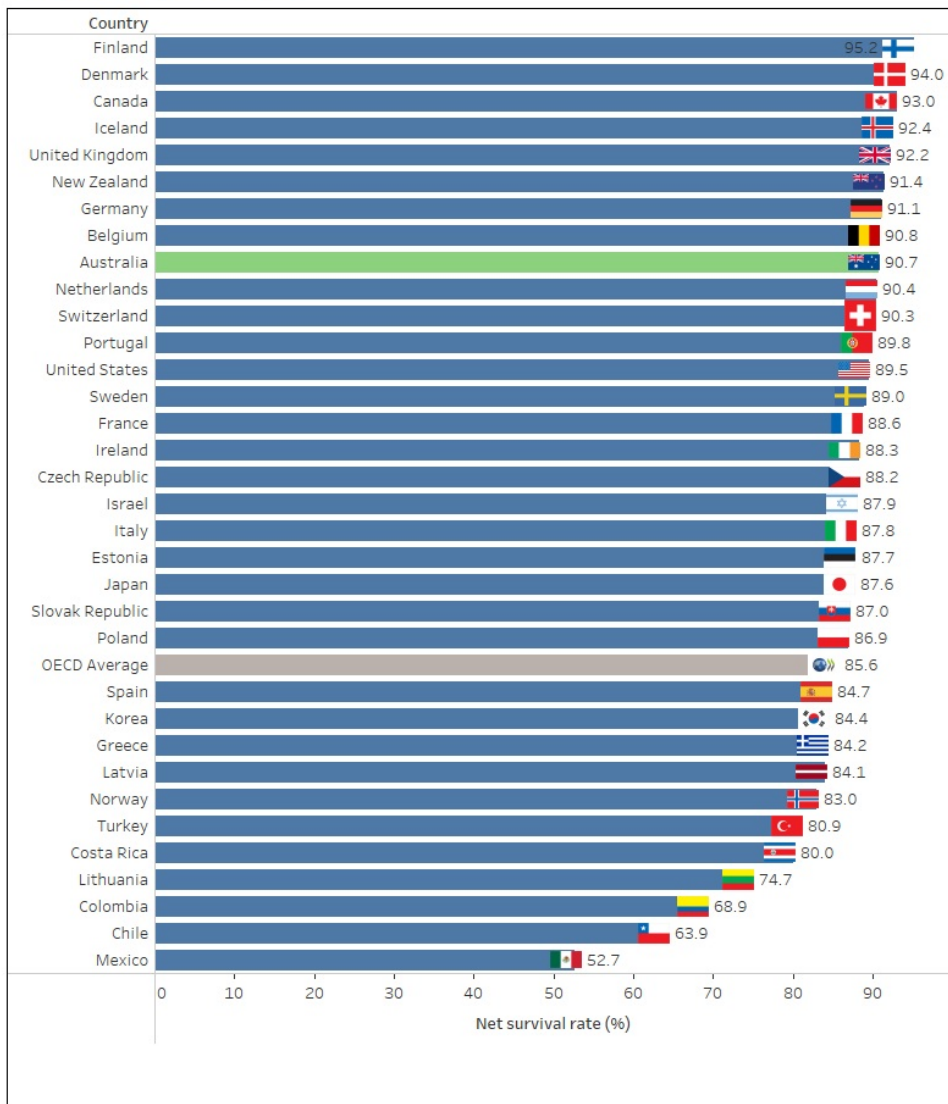
Country	Net survival rate (%)
Finland	95.2
Denmark	94.0
Canada	93.0
Iceland	92.4
United Kingdom	92.2
New Zealand	91.4
Germany	91.1
Belgium	90.8
Australia	90.7
Netherlands	90.4
Switzerland	90.3
Portugal	89.8
United States	89.5
Sweden	89.0
France	88.6
Ireland	88.3
Czech Republic	88.2
Israel	87.9
Italy	87.8
Estonia	87.7
Japan	87.6
Slovak Republic	87.0
Poland	86.9
OECD Average	85.6
Spain	84.7
Korea	84.4
Greece	84.2
Latvia	84.1
Norway	83.0
Turkey	80.9
Costa Rica	80.0
Lithuania	74.7
Colombia	68.9
Chile	63.9
Mexico	52.7

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.
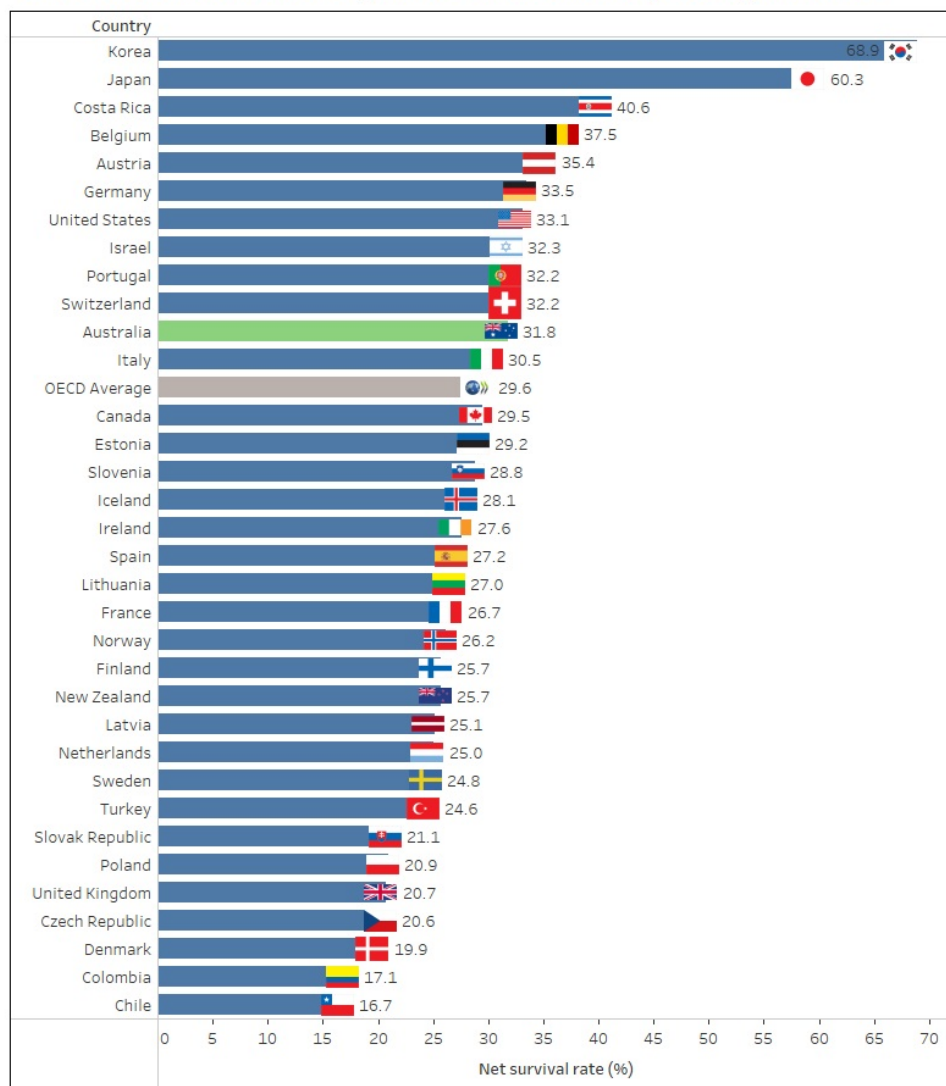
Lung cancer 5-year net survival rate

The five-year net survival rate for lung cancer among people aged 15 and over in Australia was 19% for the period 2010-14, showing a 4 percentage-point improvement since 2000-04. The survival rates for males (17%) and females (22%) experienced a 4 percentage-point and 5 percentage-point improvement respectively since 2000-04.

Australia's 5-year net survival from lung cancer was higher than the OECD average of 17% for the comparison period. Among OECD countries with data available, Japan (33%) had the highest survival rate.

Interactive CC6.1 below compares OECD countries with data published for this indicator in 2010-14, while CC6.2 presents Australia's rate over time (post-2000) for this indicator where data were available.

CC6.1 presents OECD countries with data published for lung cancer 5-year net survival rate in 2010-14, which shows Australia had a higher survival rate than the OECD average. CC6.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase over time.

Australia

CC6.1: Lung cancer 5-year net survival rate, OECD, 2010-14
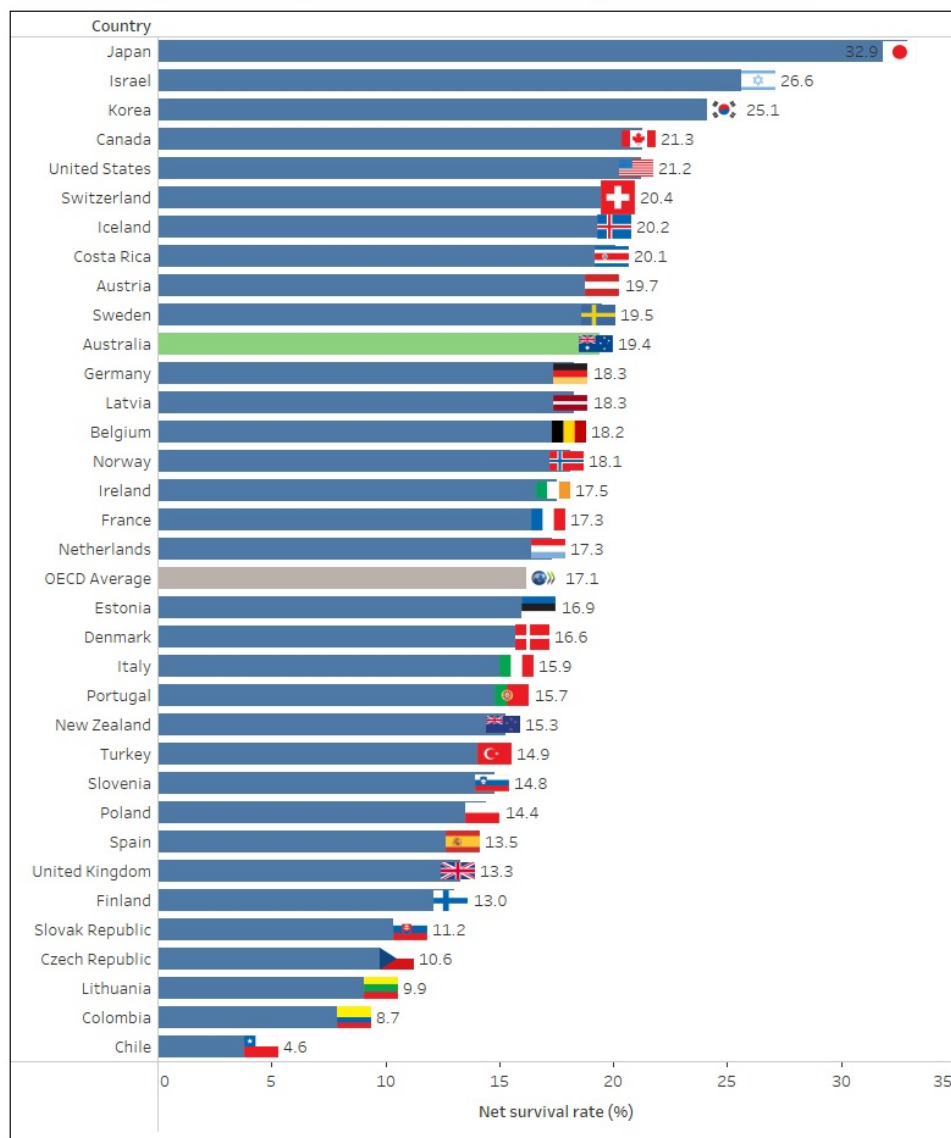
Net survival rate (%)

Country	Net survival rate (%)
Japan	32.9
Israel	26.6
Korea	25.1
Canada	21.3
United States	21.2
Switzerland	20.4
Iceland	20.2
Costa Rica	20.1
Austria	19.7
Sweden	19.5
Australia	19.4
Germany	18.3
Latvia	18.3
Belgium	18.2
Norway	18.1
Ireland	17.5
France	17.3
Netherlands	17.3
OECD Average	17.1
Estonia	16.9
Denmark	16.6
Italy	15.9
Portugal	15.7
New Zealand	15.3
Turkey	14.9
Slovenia	14.8
Poland	14.4
Spain	13.5
United Kingdom	13.3
Finland	13.0
Slovak Republic	11.2
Czech Republic	10.6
Lithuania	9.9
Colombia	8.7
Chile	4.6

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Stomach cancer 5-year net survival rate

The five-year net survival rate for stomach cancer among people aged 15 and over in Australia was 32% for the period 2010–14, showing a 4 percentage-point improvement since 2000–04. The survival rates for males (30%) and females (36%) experienced a 3 percentage-point and 7 percentage-point improvement respectively since 2000–04.

Australia's 5-year net survival from stomach cancer was higher than the OECD average of 30% for the comparison period. Among OECD countries with data available, Korea (69%) and Japan (60%) had the highest survival rates.

Interactive CC7.1 below compares OECD countries with data published for this indicator in 2010–14, while CC7.2 presents Australia's rate over time (post-2000) for this indicator where data were available.

CC7.1 presents OECD countries with data published for stomach cancer 5-year net survival rate in 2010–14, which shows Australia had a higher survival rate than the OECD average. CC7.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase over time.

CC7.1: Stomach cancer 5-year net survival rate, OECD, 2010-14

Country	Net survival rate (%)
Korea	68.9
Japan	60.3
Costa Rica	40.6
Belgium	37.5
Austria	35.4
Germany	33.5
United States	33.1
Israel	32.3
Portugal	32.2
Switzerland	32.2
Australia	31.8
Italy	30.5
OECD Average	29.6
Canada	29.5
Estonia	29.2
Slovenia	28.8
Iceland	28.1
Ireland	27.6
Spain	27.2
Lithuania	27.0
France	26.7
Norway	26.2
Finland	25.7
New Zealand	25.7
Latvia	25.1
Netherlands	25.0
Sweden	24.8
Turkey	24.6
Slovak Republic	21.1
Poland	20.9
United Kingdom	20.7
Czech Republic	20.6
Denmark	19.9
Colombia	17.1
Chile	16.7

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

References

AIHW 2012. *Cancer survival and prevalence in Australia: period estimates from 1982 to 2010*. Cancer series no. 69. Cat. no. CAN 65. Canberra: AIHW.

AIHW 2019. *Cancer in Australia 2019*. Cancer series no. 119. Cat. no. CAN 123. Canberra: AIHW.

Allemani C, Matsuda T, Di Carlo V et al. 2018. Global surveillance of trends in cancer survival 2000–14 (CONCORD-3): analysis of individual records for 37,513,025 patients diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. The Lancet 391(10125):1023–1075.

OECD 2021. Health at a glance 2021: OECD indicators. Paris: OECD.

Patient experiences

This section presents data for the patient experience indicators supplied by Australia to the HCQO collection. It compares these data with the HCQO results for other OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2021).

The OECD published all patient experience indicators in OECD.*Stat* and a selection of patient experience indicators in *Health at a glance 2021*. Australia calculated and submitted 4 of the patient experience indicators requested:

- Consultation skipped to costs
- Medical tests, treatment or follow-up skipped due to costs
- Prescribed medicines skipped due to costs
- Doctor spending enough time with patients during the consultation.

The indicator definitions can be viewed here: 📄 📄 Patient experiences indicator definitions

Overall data comparability and methods

The most recent data supplied by Australia for the patient experience indicators were for 2019–20. However, at the time of preparation of this report, the latest data for the patient experiences indicators have not yet been reported in the OECD.*Stat* database (for Australia or for any other country that provided the data). The data are expected to be recorded as 2019 data in the OECD.*Stat* database, and so are described in that way here. Because the latest data are not available for other countries, data for 2016 published on OECD.*Stat* were used for calculation of OECD averages in this section. These data were extracted from the OECD.*Stat* database in November 2021, and may not reflect subsequent updates made to the database.

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 2019 ABS Patient Experience Survey collected information from over 29,000 people. For the 'consultation skipped' indicators, the ABS survey asked people a number of questions about their experiences with GPs, medical specialists, dental professionals or hospitals, whereas the OECD HCQO requested information in relation to experiences with '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.

Consultations 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 Australia, 15% of people aged 16 and over skipped a consultation due to costs in 2019. This percentage was higher for females (18%) than males (12%). This rate has fluctuated over time in the past decade, ranging from 8.9% in 2016 to 19% in 2012.

There are no data for 2018 or 2019 published for other OECD countries on OECD.*Stat*. The most recent dataset available for comparison is for 2016, where Australia (8.9%) had a similar proportion of people who skipped a consultation due to costs to the OECD average (8.6%).

Interactive PE1 below presents Australia's 10-year trend for this indicator where data are available.
The figure presents Australia's 10-year trend for 'Consultations skipped due to costs' indicator. The rate has fluctuated over time.

PE1: Consultation skipped due to costs by sex, Australia, 2010-19
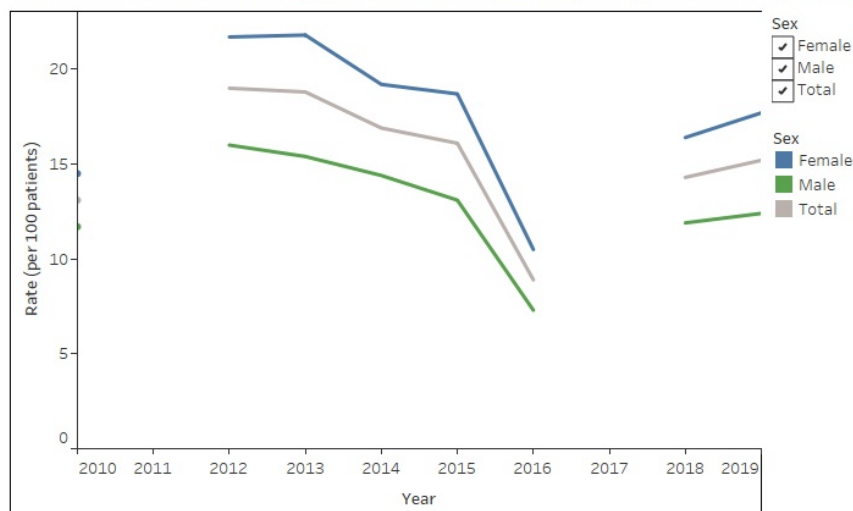
Notes:
1. Data is not available for 2011 and 2017.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Medical tests skipped due to costs

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

In Australia, 3.1% of people aged 16 and over delayed or skipped a pathology or imaging test due to costs in 2019. This rate has fluctuated over time in the past decade, ranging from 3.0% in 2018 to 14% in 2010. This percentage was slightly higher for females (3.5%) than males (2.5%).

There are no data from 2018 or 2019 published for other OECD countries on $OECD.Stat$. The most recent dataset available for comparison is for 2016, where Australia (7.7%) had a higher proportion of people who delayed or skipped a pathology or imaging test due to costs than the OECD average (6.7%).

Interactive PE2 below presents Australia's 10-year trend for this indicator where data are available.
The figure presents Australia's 10-year trend for 'Medical tests skipped due to costs' indicator. The rate has fluctuated over time.

PE2: Medical tests, treatment or follow-up skipped due to costs by sex, Australia, 2010-19
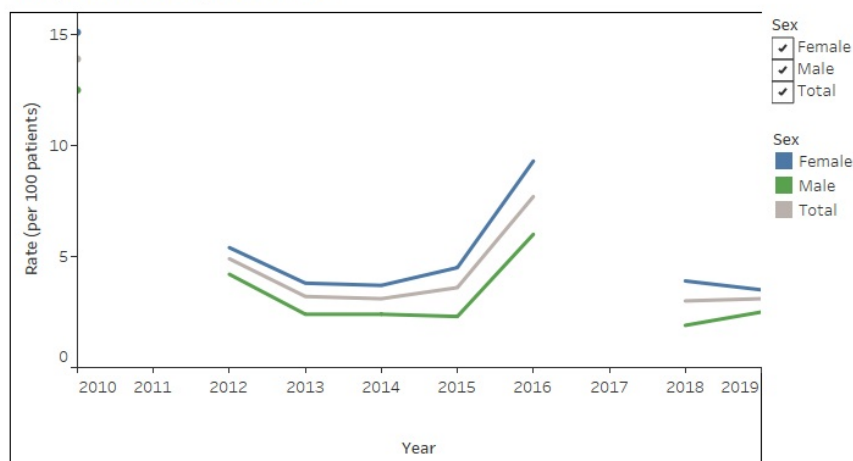
Notes:
1. Data is not available for 2011 and 2017.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

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 Australia, 6.6% of people aged 16 and over skipped prescribed medicines due to costs in 2019. This rate has remained relatively stable since 2016. This percentage was higher for females (7.7%) than males (5.2%).

There are no data for 2018 or 2019 published for other OECD countries on OECD.*Stat*. The most recent dataset available for comparison is for 2016, where Australia (6.5%) had a similar proportion of people who skipped prescribed medicines due to costs to the OECD average (6.9%).

Interactive PE3 below presents Australia's 10-year trend for this indicator where data are available.
The figure presents Australia's 10-year trend for 'Prescribed medicines skipped due to costs' indicator. The rate has remained stable since 2016.

PE3: Prescribed medicines skipped due to costs by sex, Australia, 2010-19
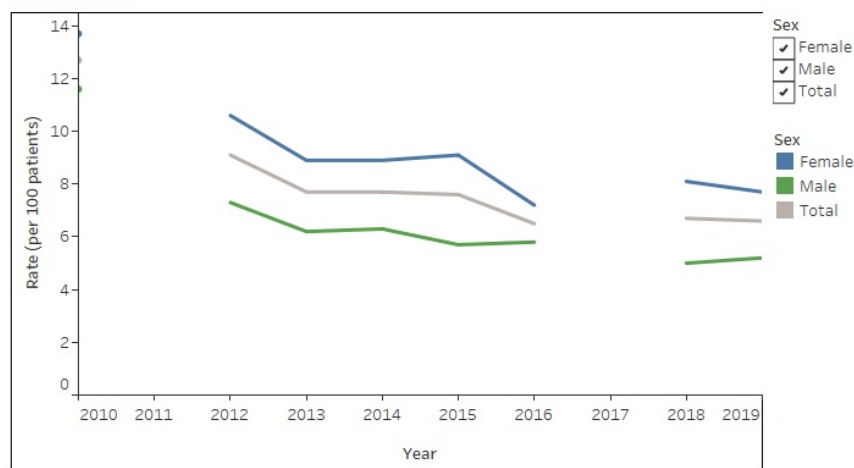
Notes:
1. Data is not available for 2011 and 2017.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

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 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 HCQOs.

In Australia, 91% 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 in 2019. This rate has remained relatively stable since 2013. The proportion was slightly higher for males (92%) than females (90%).

There are no data for 2018 or 2019 published for other OECD countries on OECD.*Stat*. The most recent dataset available for comparison is for 2015, where Australia (90%) had a higher proportion than the OECD average (87.5%).

The OECD recommends monitoring patient experience with any doctor, as Australia has done, but some of the other countries to which Australia is compared measure experience with a patient's regular doctor (OECD 2021). The ABS Patient Experience Survey does not distinguish between the concepts of 'regular doctor' and 'any doctor'.

Interactive PE4 below presents Australia's 10-year trend for this indicator where data are available.
PE4 presents Australia's 10-year trend for 'Patient having enough time with doctor' indicator. The rate has remained stable since 2013.

PE4: Patient having enough time with doctor by sex, Australia, 2012-19
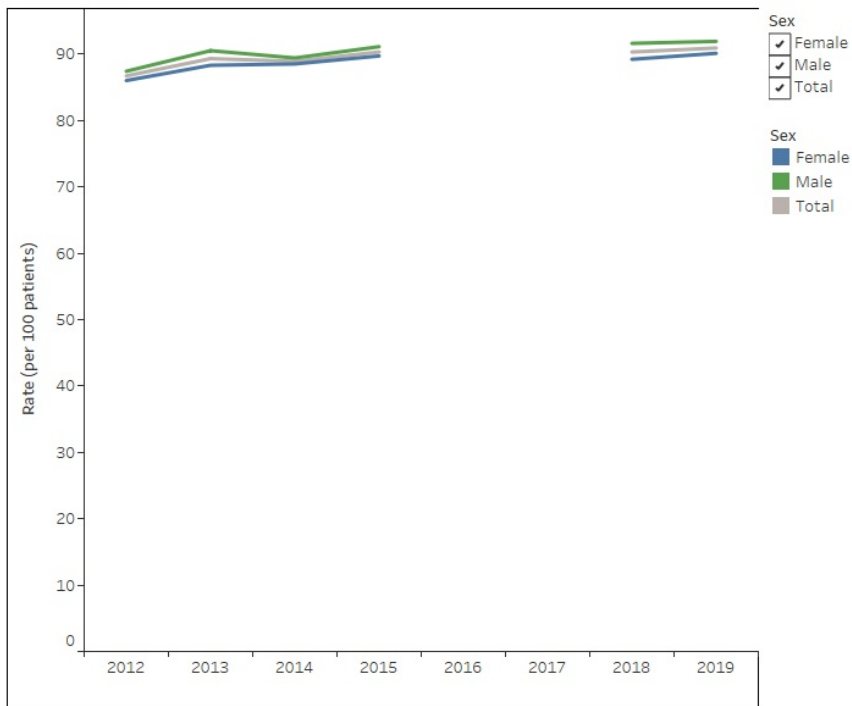
Refer to the data tables for more information.

References

OECD 2021. Health at a glance 2021: OECD indicators. Paris: OECD.

Patient safety

This section presents data for the patient safety indicators supplied by Australia to the HCQO collection. It compares these data with the HCQO results for other OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2021).

Patient safety remains a pressing issue in the delivery of health services, with over 15% of hospital expenditure and activity in OECD countries attributable to treating patients who experienced a safety event, many of which are preventable (OECD 2021). 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 that cannot be totally avoided or events that should never occur (OECD 2021).

The OECD published all patient safety indicators in OECD.*Stat* and a selection of patient safety indicators in *Health at a glance 2021*. Australia submitted results for all 7 patient safety indicators in the data collection:

- Retained surgical item or unretrieved device fragment
- Post-operative wound dehiscence
- Post-operative pulmonary embolism – hip and knee replacement discharges
- Post-operative deep vein thrombosis – hip and knee replacement discharges
- Post-operative sepsis – abdominal discharges
- Obstetric trauma after vaginal delivery with instrument
- Obstetric trauma after vaginal delivery without instrument.

The indicator definitions can be viewed here: 📄 patient safety indicator definitions

Overall data comparability and methods

The most recent data supplied by Australia for the patient safety indicators were for 2018–19. These data are recorded as 2018 data in the OECD.*Stat* database, and so are described in that way here. Data from other OECD countries published on OECD.*Stat* for 2018 are used for comparison and calculation of OECD averages in this section. These data were extracted from the OECD.*Stat* database in November 2021, and may not reflect subsequent updates made to the database.

Patient safety rates reported by the OECD were for adults aged 15 and over and were not age-sex standardised. The indicators are presented on the same basis here.

It should be noted that data from the AIHW's National Hospital Morbidity Database (NHMD) are collected primarily for the purposes of recording care provided to admitted patients, and that use of the data for HCQO purposes has not been validated for accuracy in Australia. The results should therefore be treated with caution. *Health at a glance 2021* notes that 'variations in definitions and medical recording practices between countries can affect calculation of rates and limit data comparability in some cases' (OECD 2021:28). It further notes that 'higher adverse event rates may signal more developed patient safety monitoring systems and a stronger patient safety culture rather than worse care' (OECD 2021:28).

In Australia, there is 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. It is also 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.

The AIHW endeavoured to apply all specifications as supplied by the OECD; however, there were some parts 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. Australia's national data collection for admitted patients (the NHMD) is based on a single episode of care as the statistical unit (as described in the *Acute care* section). Therefore, Australia was unable to meet this requirement, and could only include instances that occurred within the one (hospital) episode of care 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.

Retained surgical item or unretrieved device fragment

Sentinel events are a subset of adverse patient safety events that are wholly preventable and result in serious harm to, or death of, a patient (ACSQHC 2020). The 'unintended retention of a foreign object in a patient after surgery or other invasive procedure resulting in severe harm or death' is listed as one of the top 10 national sentinel events in Australia (ACSQHC 2020).
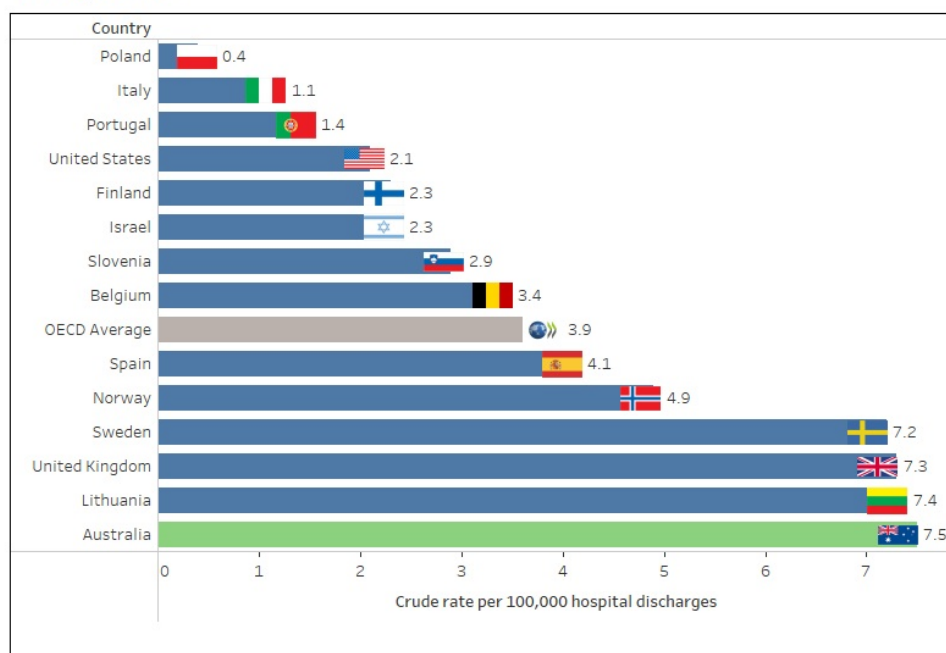
In Australia, the rate of retained surgical item or unretrieved device fragment for people aged 15 and over was 7.5 per 100,000 hospital discharges in 2018. The rate has fluctuated over time in the past decade, ranging from 9.7 per 100,000 hospital discharges in 2013 to 7.4 per 100,000 hospital discharges in 2015.

Australia had the highest rate of retained foreign object among OECD countries that submitted data for 2018. The OECD average was 3.9 per 100,000 hospital discharges, and Poland (0.4 per 100,000 hospital discharges) had the lowest rate.

Interactive PS1.1 below compares OECD countries that submitted data for this indicator for 2018, while PS1.2 presents Australia's 10-year trend for this indicator.

PS1.1 presents OECD countries with data available for retained surgical item or unretrieved device fragment indicator in 2018, which shows Australia had the highest rate. PS1.2 presents Australia's 10-year trend for this indicator, which shows a fluctuating trend over time.

PS1.1: Retained surgical item or unretrieved device fragment, OECD, 2018

Country	Crude rate per 100,000 hospital discharges
Poland	0.4
Italy	1.1
Portugal	1.4
United States	2.1
Finland	2.3
Israel	2.3
Slovenia	2.9
Belgium	3.4
OECD Average	3.9
Spain	4.1
Norway	4.9
Sweden	7.2
United Kingdom	7.3
Lithuania	7.4
Australia	7.5

Notes:
1. Confidence intervals are not available for Patient Safety indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Post-operative wound dehiscence

The post-operative wound dehiscence indicator measures wound ruptures along the surgical suture. This could result in fever, haematoma, seroma, separation of wound edges, and purulent discharge from the wound (Yao et al. 2013).

In Australia, the post-operative wound dehiscence rate was 76 per 100,000 hospital discharges in 2018, a decrease from 131 per 100,000 hospital discharges in 2009.

Australia's rate was lower than the OECD average of 237 per 100,000 hospital discharges. Israel (62 per 100,000 hospital discharges) had the lowest rate.

Abdominopelvic procedure codes were required for the calculation of this indicator. 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 to the ACHI code list used in Australia. The effect of this on the comparability of data is unknown.

Interactive PS2.1 below compares OECD countries that submitted data for this indicator for 2018, while PS2.2 presents Australia's 10-year trend for this indicator.

PS2.1 presents OECD countries with data available for post-operative wound dehiscence indicator in 2018, which shows Australia had a lower rate than the OECD average. PS2.2 presents Australia's 10-year trend for this indicator, which shows a decrease since 2009.

PS2.1: Post-operative wound dehiscence, OECD, 2018
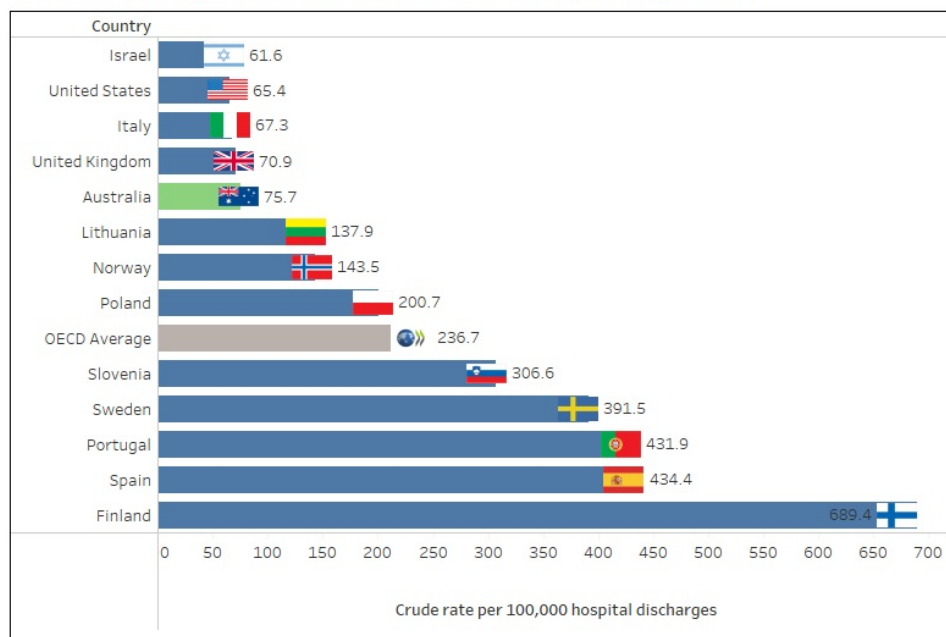
Notes:
1. Confidence intervals are not available for Patient Safety indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Post-operative pulmonary embolism and deep vein thrombosis – hip and knee replacement discharges

Pulmonary embolism (PE) is a blood clot that breaks off from the deep veins and travels round the circulatory system to block the arteries in the lung. Deep vein thrombosis (DVT) is a blockage in the deep veins of the legs, thighs or pelvis, caused by the clotting of blood. Most deaths arising from DVT are caused by PE (NICE 2018).

The risk of PE and DVT following hip and knee replacement procedures is higher than following other surgical procedures (OECD 2013). Both conditions may result in pain, decreased mobility, and sometimes death, but both can be prevented by anticoagulants and other measures (OECD 2021).

In 2018, Australia had the highest rate of PE after hip and knee replacement discharges (523 per 100,000 hospital discharges) for people aged 15 and over among OECD countries that submitted data. This rate has fluctuated over time in the past decade, ranging from 560 per 100,000 hospital discharges in 2013 to 472 per 100,000 hospital discharges in 2015.

The OECD average in 2018 was 254 per 100,000 hospital discharges. Poland (27 per 100,000 hospital discharges) had the lowest rate.

Interactive PS3.1 below compares OECD countries that submitted data for 2018 for this indicator, while PM3.2 presents Australia's 10-year trend for this indicator.

Australia also had the highest rate of DVT after hip and knee replacement discharges (808.5 per 100,000 hospital discharges) for people aged 15 and over among OECD countries that submitted data for 2018. The overall trend in Australia shows a decrease from 1,171 per 100,000 hospital discharges in 2010.
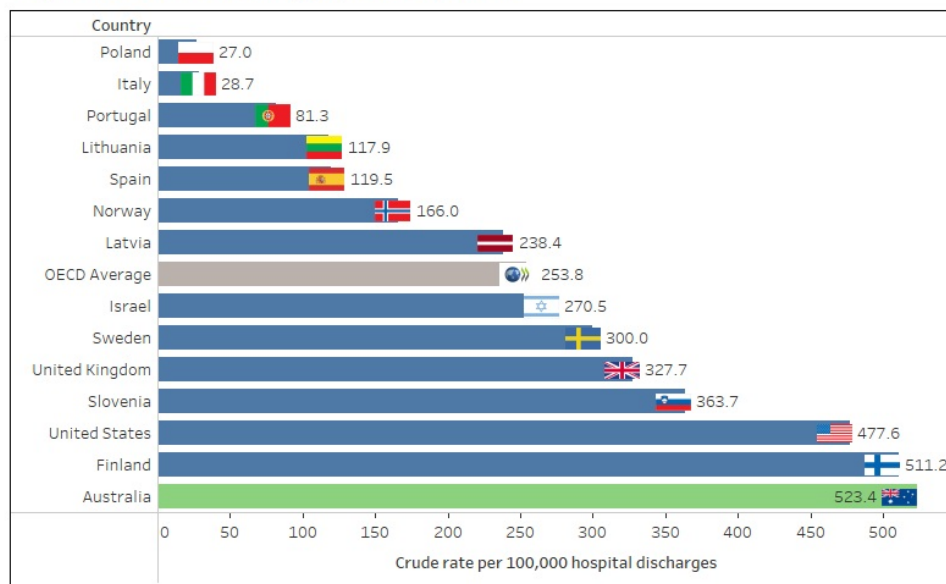
The OECD average was 200 per 100,000 hospital discharges, and Portugal had the lowest rate (34.5 per 100,000 hospital discharges).

Interactive PS4.1 below compares OECD countries that submitted data for 2018 for this indicator, while PM4.2 presents Australia's 10-year trend for this indicator.

Health at a glance 2021 notes that there were large variations in the data reported for both indicators. These variations were concluded to be likely to reflect differences in diagnostic practices across countries (OECD 2021).

PS3.1 presents OECD countries with data available for post-operative PE in hip and knee replacement discharges indicator in 2018, which shows Australia had the highest rate. PS3.2 presents Australia's 10-year trend for this indicator, which shows a fluctuating trend over time.
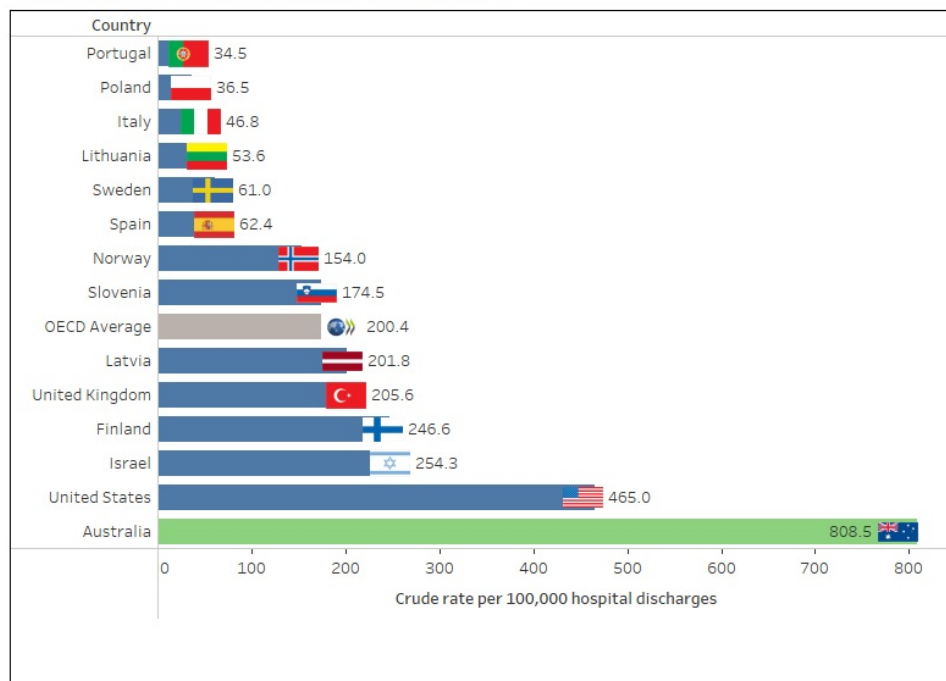
PS3.1: Post-operative pulmonary embolism -- hip and knee replacement discharges, OECD, 2018

Country	Crude rate per 100,000 hospital discharges
Poland	27.0
Italy	28.7
Portugal	81.3
Lithuania	117.9
Spain	119.5
Norway	166.0
Latvia	238.4
OECD Average	253.8
Israel	270.5
Sweden	300.0
United Kingdom	327.7
Slovenia	363.7
United States	477.6
Finland	511.2
Australia	523.4

Notes:
1. Confidence intervals are not available for Patient Safety indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

PS4.1 presents OECD countries with data available for post-operative DVT in hip and knee replacement discharges indicator in 2018, which shows Australia had the highest rate. PS4.2 presents Australia's 10-year trend for this indicator, which shows a decrease since 2010.

PS4.1: Post-operative deep vein thrombosis -- hip and knee replacement discharges, OECD, 2018

Country	Crude rate per 100,000 hospital discharges
Portugal	34.5
Poland	36.5
Italy	46.8
Lithuania	53.6
Sweden	61.0
Spain	62.4
Norway	154.0
Slovenia	174.5
OECD Average	200.4
Latvia	201.8
United Kingdom	205.6
Finland	246.6
Israel	254.3
United States	465.0
Australia	808.5

Notes:
1. Confidence intervals are not available for Patient Safety indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Post-operative sepsis – abdominal discharges

Sepsis is the systematic response to an infection manifested by organ dysfunction, hypoperfusion or hypotension combined with one or more of the following: fever, tachypnoea, elevated white cell count (Antibiotic Expert Groups 2014). In many cases, post-operative sepsis can be prevented by prophylactic antibiotics, sterile surgical techniques, and good postoperative care (OECD 2017). The risk of sepsis following abdominal surgery is greater than following other surgical procedures (OECD 2015).

In Australia, the post-operative sepsis rate for abdominal discharges among people aged 15 and over was 3,996 per 100,000 hospital discharges in 2018. This shows an increase from 2,641.5 per 100,000 hospital discharges in 2011.
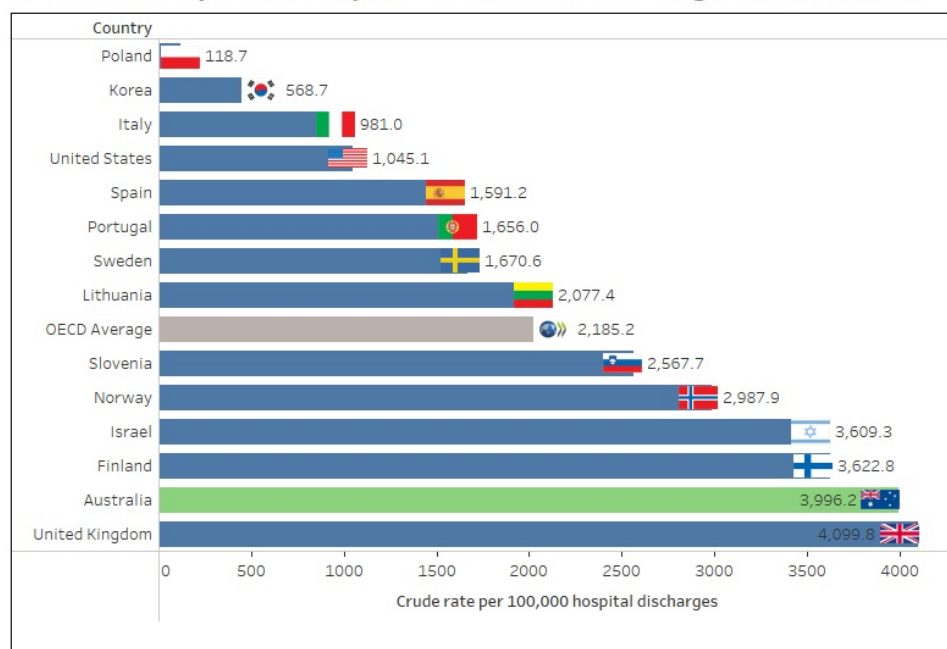
Australia had the second highest rate among OECD countries that submitted data, behind the United Kingdom (4,100 per 100,000 hospital discharges). The OECD average was 2,185 per 100,000 separations, and Poland had the lowest rate (119 per 100,000 hospital discharges).

Abdominopelvic procedure codes were required for the calculation of this indicator. 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 to the ACHI code list used in Australia. The effect of this on the comparability of data is unknown.

Interactive P5.1 below compares OECD countries that submitted data for this indicator for 2018, while PS5.2 presents Australia's 10-year trend for this indicator.

PS5.1 presents OECD countries with data available for post-operative sepsis in abdominal discharges in 2018, which shows Australia had the 2nd highest rate. PS5.2 presents Australia's 10-year trend for this indicator, which shows an increase since 2011.

PS5.1: Post-operative sepsis -- abdominal discharges, OECD, 2018

Country	Crude rate per 100,000 hospital discharges
Poland	118.7
Korea	568.7
Italy	981.0
United States	1,045.1
Spain	1,591.2
Portugal	1,656.0
Sweden	1,670.6
Lithuania	2,077.4
OECD Average	2,185.2
Slovenia	2,567.7
Norway	2,987.9
Israel	3,609.3
Finland	3,622.8
Australia	3,996.2
United Kingdom	4,099.8

Notes:
1. Confidence intervals are not available for Patient Safety indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Obstetric trauma with and without instrument

A woman's safety during childbirth can be assessed by looking at potentially preventable, severe tearing of the perineum during vaginal delivery (OECD 2021). These types of tears cannot be completely prevented, but can be reduced through appropriate labour management and high quality obstetric care (OECD 2021).

The obstetric trauma with and without instrument indicators measure third and fourth-degree tearing of the perineum during instrument-assisted (such as use of forceps or vacuum extraction) or non-assisted vaginal deliveries.

In 2018, 6.2 per 100 instrument-assisted vaginal deliveries in Australia experienced severe obstetric trauma – a decrease from 7.7 per 100 vaginal deliveries in 2010.

This rate was higher than the OECD average of 5.6 per 100 vaginal deliveries. Poland (0.7 per 100 vaginal deliveries) had the lowest obstetric trauma rate.

Interactive PS6.1 below compares OECD countries that submitted data for 2018 for this indicator, while PS6.2 presents Australia's 10-year trend for this indicator.
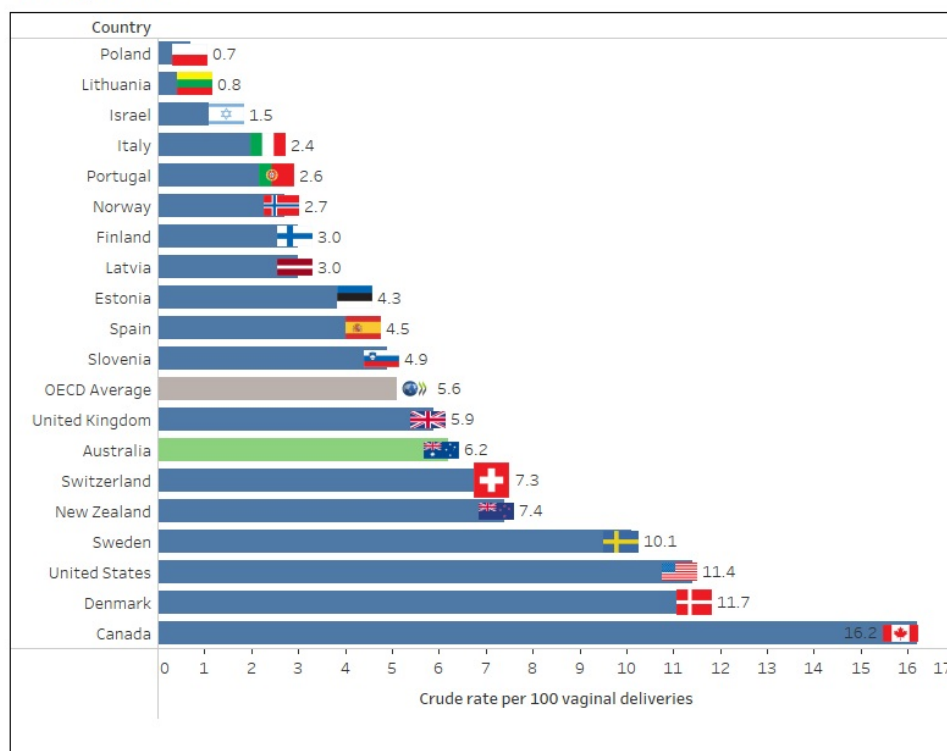
In 2018, Australia and the United Kingdom had the equal third highest rate of obstetric trauma for non-assisted vaginal deliveries (2.4 per 100 vaginal deliveries), behind Canada and Denmark (3.2 and 2.9 per 100 vaginal deliveries, respectively). In Australia, this rate has remained relatively stable since 2010.

The OECD average was 1.4 per 100 vaginal deliveries. Poland had the lowest rate (0.2 per 100 vaginal deliveries).

Interactive PS7.1 below compares OECD countries that submitted data for 2018 for this indicator, while PM7.2 presents Australia's 10-year trend for this indicator.

PS6.1 presents OECD countries with data available for obstetric trauma with instrument indicator in 2018, which shows Australia had a higher rate than the OECD average. PS6.2 presents Australia's 10-year trend for this indicator, which shows a gradual decrease since 2010.

PS6.1: Obstetric trauma after vaginal delivery with instrument, OECD, 2018

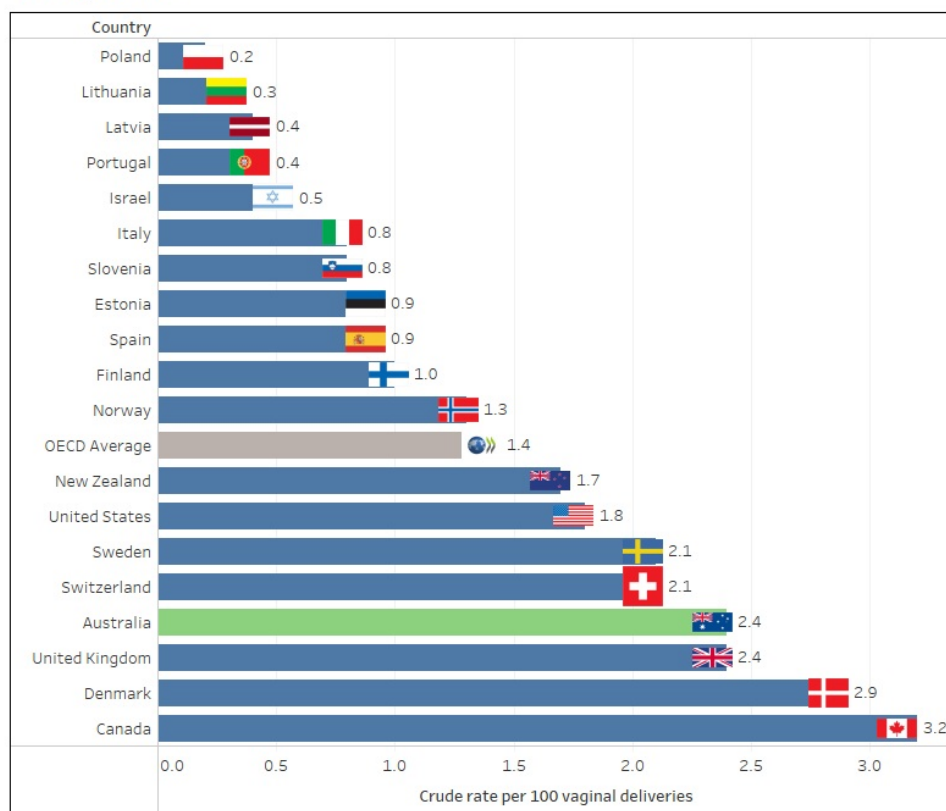| Country	Crude rate per 100 vaginal deliveries
Poland	0.7
Lithuania	0.8
Israel	1.5
Italy	2.4
Portugal	2.6
Norway	2.7
Finland	3.0
Latvia	3.0
Estonia	4.3
Spain	4.5
Slovenia	4.9
OECD Average	5.6
United Kingdom	5.9
Australia	6.2
Switzerland	7.3
New Zealand	7.4
Sweden	10.1
United States	11.4
Denmark	11.7
Canada	16.2

Notes:
1. Confidence intervals are not available for Patient Safety indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

PS7.1 presents OECD countries with data available for obstetric trauma without instrument indicator in 2018, which shows Australia had the 3rd highest rate. PS7.2 presents Australia's 10-year trend for this indicator, which shows a stable trend since 2010.

PS7.1: Obstetric trauma after vaginal delivery without instrument, OECD, 2018

Country

Country	Crude rate per 100 vaginal deliveries
Poland	0.2
Lithuania	0.3
Latvia	0.4
Portugal	0.4
Israel	0.5
Italy	0.8
Slovenia	0.8
Estonia	0.9
Spain	0.9
Finland	1.0
Norway	1.3
OECD Average	1.4
New Zealand	1.7
United States	1.8
Sweden	2.1
Switzerland	2.1
Australia	2.4
United Kingdom	2.4
Denmark	2.9
Canada	3.2

Crude rate per 100 vaginal deliveries

Notes:
1. Confidence intervals are not available for Patient Safety indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

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Prescribing in primary care

This section presents data for the prescribing in primary care indicators supplied by Australia to the HCQO collection. It compares these data with the HCQO results for other OECD countries, and comments on the comparability of the data provided to the OECD specification (OECD 2021).

Medicines can contribute to quality of life by curing or relieving the symptoms of illness. They can also prevent complications in existing health conditions or delay the onset of disease. However, the overuse, underuse, or misuse of prescription medicines may lead to health hazards and wasteful expenditure (OECD 2021).

The OECD published all prescribing in primary care indicators in OECD.*Stat* and a selection of prescribing in primary care indicators in *Health at a Glance 2021*. Australia submitted data for all 11 prescribing in primary care indicators:

- People with diabetes with at least one prescription of cholesterol lowering medication
- People with diabetes with prescription of first choice antihypertensive medication
- Older adults with prescription of long-term benzodiazepines or related drugs
- Older adults with prescription of long-acting benzodiazepines or related drugs
- Proportion of older adults prescribed antipsychotics
- Patients with long-term prescription of any anticoagulating drug in combination with an oral nonsteroidal anti-inflammatory drug (NSAID)
- Total volume of antibiotics for systemic use
- Volume of second line antibiotics as a share of total volume
- Polypharmacy among people aged 75 and over
- Overall volume of opioids prescribed
- Proportion of the population who are chronic opioid users.

The indicator definitions can be viewed here: Prescribing indicator definitions

Overall data comparability and methods

The most recent data supplied by Australia for the prescribing in primary care indicators were for 2020. Data from other OECD countries published on OECD.*Stat* for 2020 are used for comparison and calculation of OECD averages in this section. These data were extracted from the OECD.*Stat* database in November 2021, and may not reflect subsequent updates made to the database.

The denominators used in the calculation of the indicators comprise the population in the national prescribing database, rather than the total population estimates (OECD 2021). For Australia, this was calculated as a count of people who were dispensed medicines covered under PBS arrangements in the relevant year. The indicators are presented on the same basis here.

Health at a glance 2021 notes that differences in data sources and coverage may affect calculation of prescription rates (OECD 2021). For example, the PBS data collection contains information on all prescription medicines that qualify for a benefit under the *National Health Act 1953* and for which a claim has been processed. Hence, the Australian data include prescriptions dispensed at community pharmacies, private hospital pharmacies, and prescriptions provided to public hospital outpatients and admitted day patients. Meanwhile, data for Austria, Latvia, Estonia, Portugal, Spain, and Sweden include data for primary care physicians only (OECD 2019).

Defined daily dose (DDD) is the assumed average dose per day for a drug when used for its main indication in adults (OECD 2021:156). DDDs do not necessarily reflect the true average daily dose used in a given country.

People with diabetes

Diabetes is a chronic condition marked by high levels of glucose in the blood. It is caused either by the inability to produce insulin (a hormone made by the pancreas to control blood glucose levels) or by the body not being able to use insulin effectively, or both.

Diabetes may result in a range of health complications, including heart disease, kidney disease, blindness and lower limb amputation. It is frequently associated with other chronic health conditions, such as cardiovascular disease and chronic kidney disease.

In Australia, 79% of people with diabetes were dispensed at least one prescription of cholesterol lowering medication in 2020 – the highest rate among OECD countries that submitted data. This percentage was higher for males (81%) than females (77%). The OECD average was 71%.

Interactive PR1.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR1.2 presents Australia's 10-year trend for this indicator.

For people with diabetes and hypertension concurrently, angiotensin-converting enzyme inhibitors (ACE-Is) or angiotensin receptor blockers (ARBs) are recommended in most national guidelines as first-line medications for reducing blood pressure (OECD 2021).

In Australia, 88% of people with diabetes were dispensed at least one prescription for a first-line antihypertensive medication in 2020. This percentage was higher for males (90%) than females (87%).

Australia had the third highest rate among OECD countries that submitted data, behind Finland (100%) and Portugal (90%). The OECD average was 87%.

Interactive PR2.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR2.2 presents Australia's 10-year trend for this indicator.

PR1.1 presents OECD countries with data available for 'people with diabetes with at least one prescription of cholesterol lowering medication' indicator in 2020, which shows Australia had the highest rate. PR1.2 presents Australia's 10-year trend for this indicator, which has remained between 78% and 82% since 2011.

PR1.1: People with diabetes with at least one prescription of cholesterol lowering medication, OECD, 2020
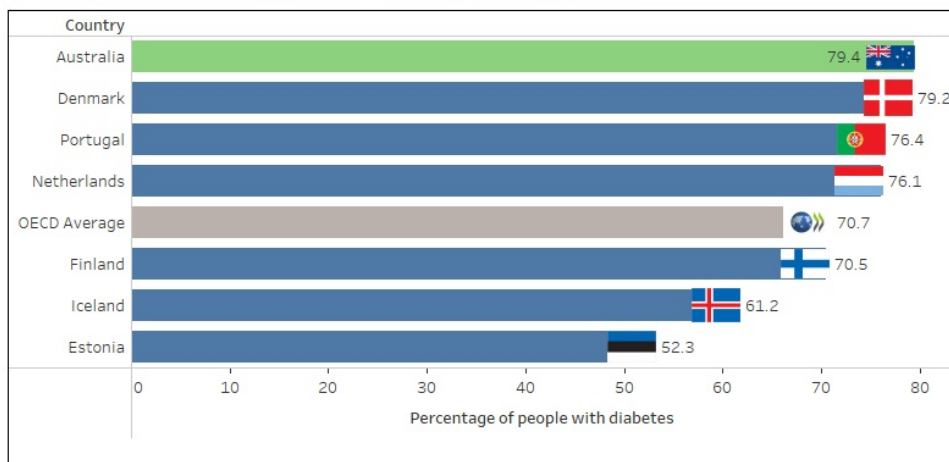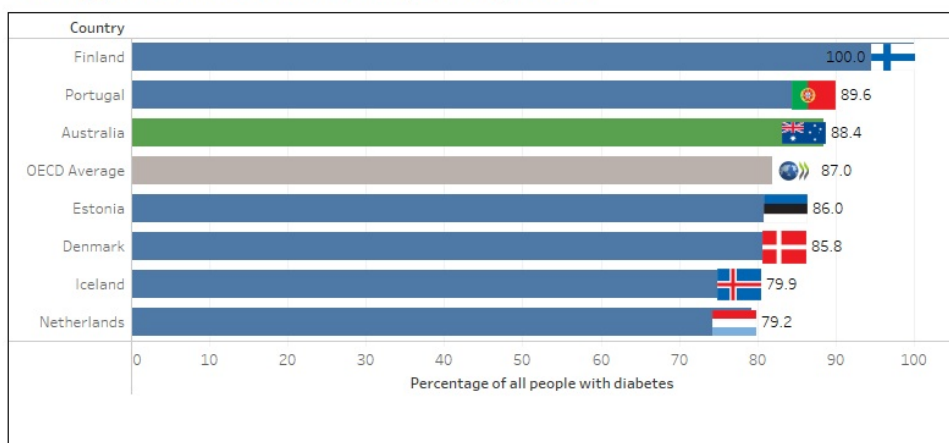

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

PR2.1 presents OECD countries with data available for 'people with diabetes with prescription of first choice antihypertensive medication' indicator in 2020, which shows Australia had the 3rd highest rate. PR2.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase since 2013.

PR2.1: People with diabetes with prescription of first choice antihypertensive medication, OECD, 2020

Notes:
1. Finland's rate should be interpreted with caution. As Finland submitted a percentage higher than 100%, it is reported as 100% here.
2. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
3. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Benzodiazepine use among older adults

Benzodiazepine is a type of sedative, a group of drugs that cause calming and sedative effects due to their depressive activity on the central nervous system. It is commonly prescribed for older adults with anxiety and sleep problems. However, long-term use of benzodiazepines can lead to adverse events such as falls, road accidents and overdose, tolerance, dependence and dose escalation (OECD

2017). However, long-acting benzodiazepines are not recommended for older adults as they take longer for the body to eliminate (OECD 2017). Older adults are defined as people aged 65 years and over.

In Australia, 2.5 per 1,000 older adults were chronic benzodiazepine users (≥365 DDDs in one year) in 2020, a decrease from 7.0 per 1,000 older adults in 2011. The rate was higher for females than males (2.8 and 2.1 per 1,000 older adults, respectively), although the gap between males and females has narrowed over the past decade.

Australia had the lowest rate among OECD countries that submitted data. The OECD average was 29 per 1,000 older adults.

Interactive PR3.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR3.2 presents Australia's 10-year trend for this indicator.

In 2020, 48 per 1,000 older adults in Australia were dispensed at least one prescription of long-acting benzodiazepines or related drugs, showing a decrease from 63 per 1,000 older adults in 2011. The rate was higher for females than males (57 and 37.5 per 1,000 older adults, respectively).

The OECD average was 47 per 1,000 older adults, and Latvia had the lowest rate (1.8 per 1,000 older adults).

Interactive PR4.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR4.2 presents Australia's 10-year trend for this indicator.

PR3.1 presents OECD countries with data available for 'Older adults with prescription of long-term benzodiazepines or related drugs' indicator in 2020, which shows Australia had the lowest rate. PR3.2 presents Australia's 10-year trend for this indicator, which shows an overall decrease since 2011.

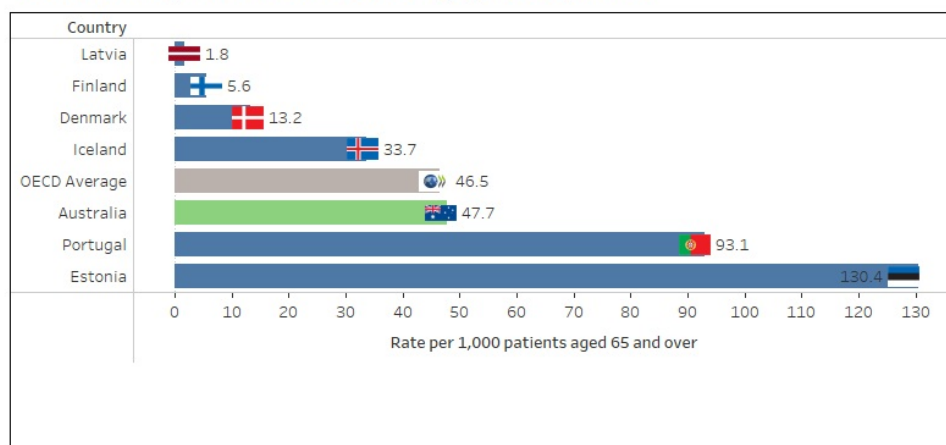PR3.1: Older adults with prescription of long-term benzodiazepines or related drugs, OECD, 2020
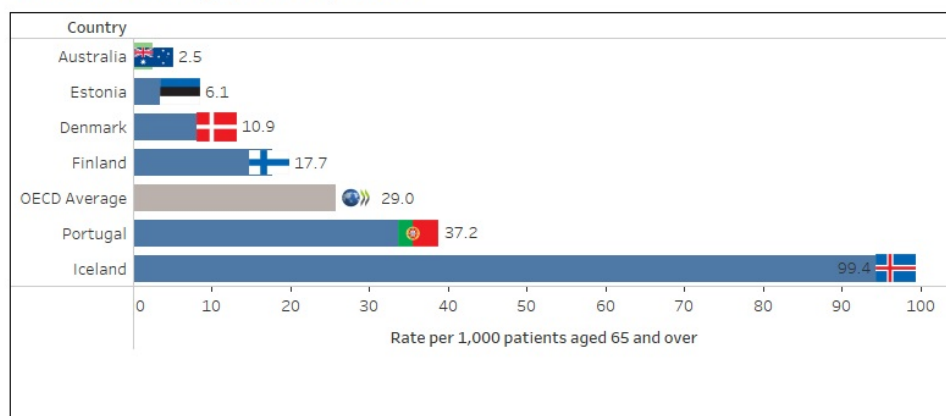
Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

PR4.1 presents OECD countries with data available for 'Older adults with prescription of long-acting benzodiazepines or related drugs' indicator in 2020, which shows Australia had a similar rate to the OECD average. PR4.2 presents Australia's 10-year trend for this indicator, which shows an overall decrease since 2011.

PR4.1: Older adults with prescription of long-acting benzodiazepines or related drugs, OECD, 2020

Country	Rate per 1,000 patients aged 65 and over
Latvia	1.8
Finland	5.6
Denmark	13.2
Iceland	33.7
OECD Average	46.5
Australia	47.7
Portugal	93.1
Estonia	130.4

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Antipsychotic use among older adults

People with dementia may experience changed behaviours, such as aggression, agitation and delusions, commonly known as behavioural and psychological symptoms of dementia. To manage these symptoms, non-pharmacological interventions are recommended, but medical professionals may prescribe antipsychotics to people with behavioural and psychological symptoms of dementia as a last resort. However, inappropriate prescribing of antipsychotic medicines may be a problem among older people living in residential aged care and was a key issue raised in the Royal Commission into Aged Care Quality and Safety (Royal Commission 2021). Older people are defined as people aged 65 years and over.
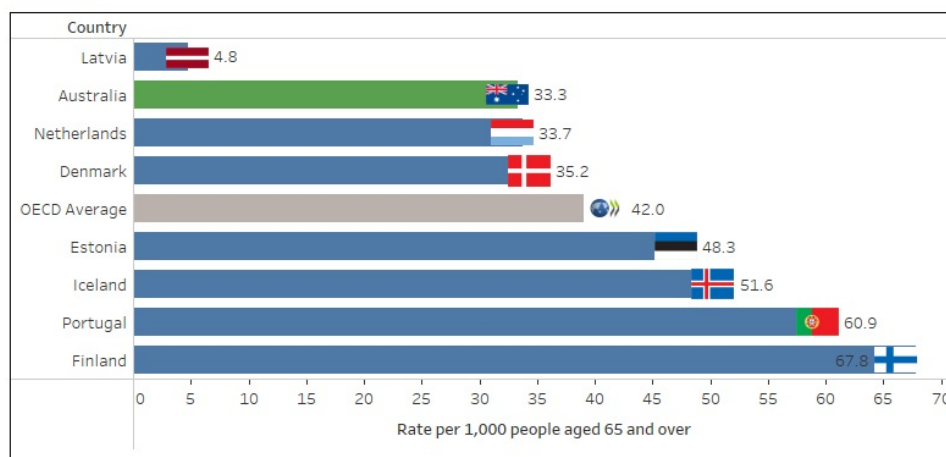
In Australia, 33 per 1,000 older adults were prescribed antipsychotics in 2020 – a decrease from 40 per 1,000 older adults in 2011. Females were more likely to be prescribed antipsychotics than males (35 and 31 per 1,000 population, respectively).

The OECD average was 42 per 1,000 older adults, and Latvia had the lowest rate (4.8 per 1,000 older adults).

Interactive PR5.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR5.2 presents Australia's 10-year trend for this indicator.

PR5.1 presents OECD countries with data available for 'Proportion of older adults prescribed antipsychotics' indicator in 2020, which shows Australia had a lower rate than the OECD average. PR5.2 presents Australia's 10-year trend for this indicator, which shows a gradual decrease from 2011.

PR5.1: Proportion of older adults prescribed antipsychotics, OECD, 2020

Country	Rate per 1,000 people aged 65 and over
Latvia	4.8
Australia	33.3
Netherlands	33.7
Denmark	35.2
OECD Average	42.0
Estonia	48.3
Iceland	51.6
Portugal	60.9
Finland	67.8

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Polypharmacy among people aged 75 years and over

Polypharmacy is the use of multiple medications concurrently. The OECD indicator measures the proportion of people aged 75 years and over who are taking more than five medications concurrently. Although polypharmacy is often necessary for people with many chronic health conditions, it increases the risk of medicines-related harm because of the greater chance of drug interaction and making mistakes with medicines (ACSQHC 2021).
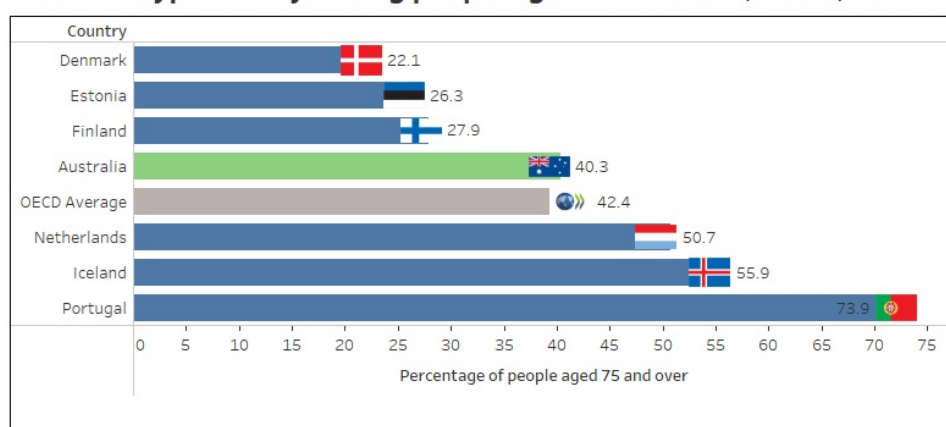
In Australia, 40% of people aged 75 and over took more than five medications concurrently in 2020. The trend has remained relatively stable since 2016. The gap between males and females has narrowed over the past decade, with the two groups having similar rates (41% and 40%, respectively) in 2020.

Australia's rate was lower than the OECD average of 42%, and Denmark had the lowest rate (22%).

Interactive PR6.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR6.2 presents Australia's 10-year trend for this indicator.

PR6.1 presents OECD countries with data available for 'Polypharmacy among people aged 75 and over' indicator in 2020, which shows Australia had a lower rate than the OECD average. PR6.2 presents Australia's 10-year trend for this indicator, which has remained between 40% and 41% since 2016.

PR6.1: Polypharmacy among people aged 75 and over, OECD, 2020

Country	Percentage of people aged 75 and over
Denmark	22.1
Estonia	26.3
Finland	27.9
Australia	40.3
OECD Average	42.4
Netherlands	50.7
Iceland	55.9
Portugal	73.9

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Long-term prescription of anticoagulants in combination with an oral non-steroidal anti-inflammatory drug

Anticoagulants are medicines that prevent or reduce the risk of blood clotting, such as warfarin. NSAIDs are widely used medications for treating pain, inflammation and fever, such as aspirin and ibuprofen. The concurrent use of anticoagulants and NSAIDs can increase the risk of major bleeding and stroke (Kent et al. 2018).
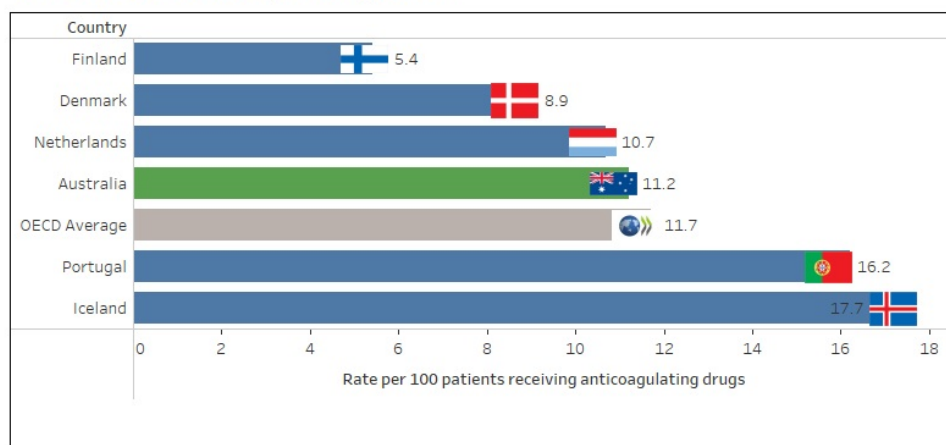
In Australia, 11 per 100 long-term users of anticoagulants had at least one prescription of NSAID dispensed in 2020. The rate has decreased from 14 per 100 long-term users of anticoagulants in 2013, but is similar to the rate seen in 2011. The rate in 2020 was similar for males and females (11 per 100 long-term users of anticoagulants).

Among OECD countries that submitted data, the OECD average was 12 per 100 long-term users of anticoagulants, and Finland had the lowest rate (5.4 per 100 long-term users of anticoagulants).

Interactive PR7.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR7.2 presents Australia's 10-year trend for this indicator.

PR7.1 presents OECD countries with data available for 'Long-term prescription of anticoagulants in combination with an oral non-steroidal anti-inflammatory drug' indicator in 2020, which shows Australia had a similar rate to the OECD average. PR7.2 presents Australia's 10-year trend for this indicator, which shows a decrease since 2014.

PR7.1: Long-term prescription of anticoagulants in combination with an oral NSAID, OECD, 2020

Country

Country	Rate
Finland	5.4
Denmark	8.9
Netherlands	10.7
Australia	11.2
OECD Average	11.7
Portugal	16.2
Iceland	17.7

Rate per 100 patients receiving anticoagulating drugs

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Antibiotic use

Antibiotics are medicines that destroy or slow the growth of bacteria. They are often prescribed to treat infection sites and infected wounds. However, unnecessary prescribing of antibiotics can increase anti-microbial resistance within the population (AIHW 2018a).

Australia's total volume of antibiotics prescribed in primary care in 2020 was 27 DDD/1,000 people/day, the highest rate among OECD countries that submitted data. The OECD average was 14 DDD/1,000 people/day, and Portugal had the lowest rate of 6 DDD/1,000 people/day.

Australia's rate has fluctuated over time in the past decade, ranging between 34 DDD/1,000 people/day in 2014 and 2015 to 27 in 2020. Females were more likely to be prescribed antibiotics than males (29 and 23 DDD/1,000 people/day, respectively).

Interactive PR8.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR8.2 presents Australia's 10-year trend for this indicator.
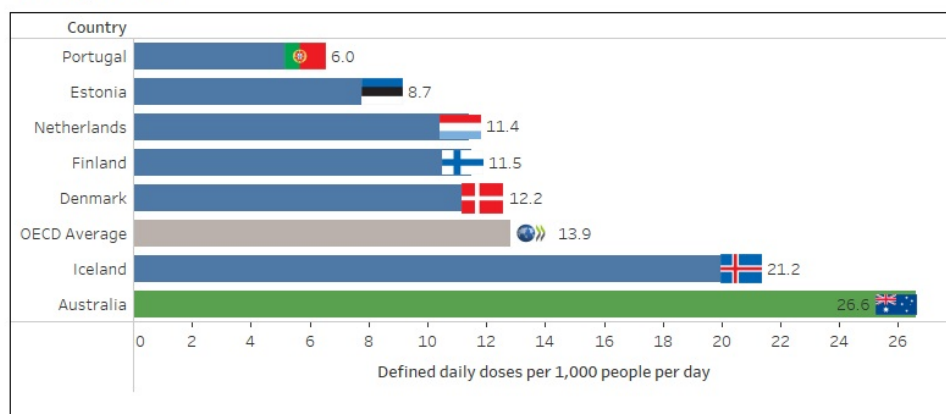
Meanwhile, the volume of second-line antibiotics comprised 17% of the total volume of antibiotics prescribed in Australia in 2020. Second-line antibiotics are antibiotics that are given when the initial prescription of antibiotics was not effective. The trend has remained relatively stable, ranging between 15% to 17% since 2012. The rate was similar for males and females (around 17%).

Australia's rate was close to the OECD average of 16% and Denmark had the lowest rate (3%).

Interactive PR9.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR9.2 presents Australia's 10-year trend for this indicator.

PR8.1 presents OECD countries with data available for 'Total volume of antibiotics for systemic use' indicator in 2020, which shows Australia had the highest rate. PR8.2 presents Australia's 10-year trend for this indicator, which shows a fluctuating trend over time.

PR8.1: Total volume of antibiotics prescribed for systemic use, OECD, 2020

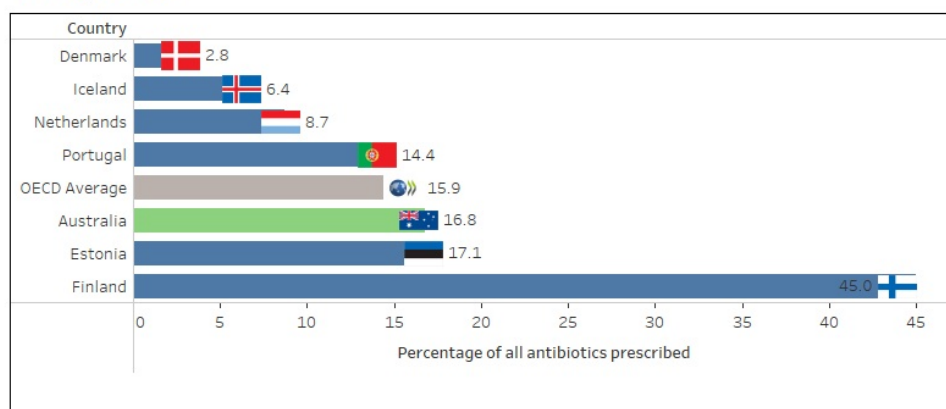| Country	Defined daily doses per 1,000 people per day
Portugal	6.0
Estonia	8.7
Netherlands	11.4
Finland	11.5
Denmark	12.2
OECD Average	13.9
Iceland	21.2
Australia	26.6

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

PR9.1 presents OECD countries with data available for 'Volume of second line antibiotics as a share of total volume' indicator in 2020, which shows Australia had a similar rate to the OECD average. PR9.2 presents Australia's 10-year trend for this indicator, which has remained between 15% and 17% since 2012.

PR9.1: Volume of second-line antibiotics as a share of total volume, OECD, 2020

Country	Percentage of all antibiotics prescribed
Denmark	2.8
Iceland	6.4
Netherlands	8.7
Portugal	14.4
OECD Average	15.9
Australia	16.8
Estonia	17.1
Finland	45.0

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Opioid use

Opioids are chemical substances that have a morphine-type action in the body. They are commonly prescribed for pain relief, but can lead to dependence, breathing difficulties, and death (OECD 2019). Opioid drugs can be obtained either illicitly or via prescription. Legal or pharmaceutical opioids (including codeine and oxycodone) are responsible for significantly more deaths and poisoning hospitalisations than illicit opioids (such as heroin) (AIHW 2018b).

In Australia, the overall volume of opioids prescribed in primary care for people aged 18 and over in 2020 was 24 DDD/1,000 people/day – a decrease from 31 DDD/1,000 people/day in 2012. The rate was similar for males and females (around 24%).

The OECD average was 17 DDD/1,000 people/day. Portugal had the lowest rate (8 DDD/1,000 people/day).

Interactive PR10.1 below compares OECD countries that submitted data for 2020 for this indicator, while PR10.2 presents Australia's 10-year trend for this indicator.

In the same period, 5.8% of Australia's adult population were chronic users of opioids. The proportion was similar for males and females (5.4% and 6.0%, respectively). This was the first year Australia submitted data for this indicator, and only three OECD countries submitted data for this indicator for 2020 (PR11).

PR10.1 presents OECD countries with data available for 'Overall volume of opioids prescribed' indicator in 2020, which shows Australia had a higher rate than the OECD average. PR10.2 presents Australia's 10-year trend for this indicator, which shows a gradual decrease since 2012.

PR10.1: Overall volume of opioids prescribed, OECD, 2020
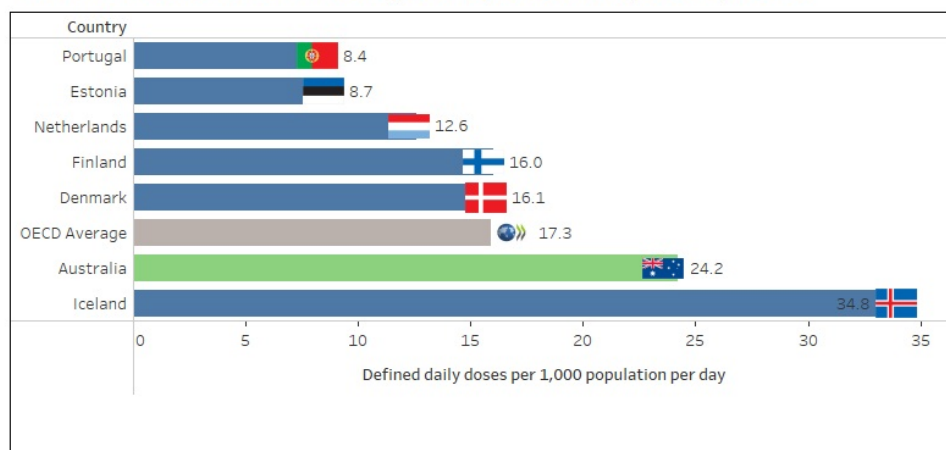
Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

PR11 presents the three OECD countries with data available for 'Proportion of the population who are chronic opioid users' indicator in 2020.

PR11: Proportion of the population who are chronic opioid users, OECD, 2020
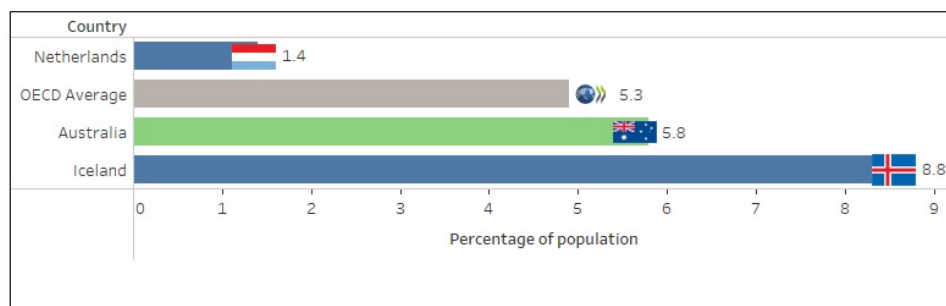

Notes:
1. Confidence intervals are not available for Prescribing indicators.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

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Primary care – avoidable hospital admissions

This section presents data for the primary care indicators supplied by Australia to the OECD collection. It compares these data with the HCQO results for OECD countries and comments on the comparability of the data provided to the OECD specification (OECD 2021).

The OECD HCQOs 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 care system can decrease acute deterioration and hospital admissions among people with the examined conditions (OECD 2021).

The OECD published all primary care indicators in OECD.*Stat* and a selection of primary care indicators in *Health at a glance 2021*. Australia calculated and submitted 6 of the primary care indicators requested:

- Asthma hospital admission rates
- Chronic obstructive pulmonary disease (COPD) hospital admission rates
- Congestive heart failure (CHF) hospital admission rates
- Hypertension hospital admission rates
- Diabetes hospital admission rates
- Diabetes lower extremity amputation rates.

The indicator definitions can be viewed here: Primary care indicator definitions

Overall data comparability and methods

The most recent data supplied by Australia for the acute care indicators was for 2018–19. These data are recorded as 2018 data in the OECD.*Stat* database, and so are described in that way here. Data from other OECD countries published on OECD.*Stat* for 2018 are used for comparison and calculation of OECD averages in this section. These data were extracted from the OECD.*Stat* database in November 2021, and may not reflect subsequent updates made to the database.

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 2021 notes that disease prevalence and availability of hospital care, differences in coding practices, and differences in hospital data coverage may affect the comparability of the data (OECD 2021). To prevent double counting, countries were asked to exclude the transfer of patients between hospitals from the calculations for primary care indicators.

The counting unit in the NHMD is the separation which indicates the end of an episode of admitted patient care. Hence, Australia's separation data are used in the calculation of hospital admission rates. Diagnosis and procedure codes are assigned after separation, when all information regarding the episode of care is available. This enables for more accurate capture of information.

Asthma hospital admission rate

Asthma is a common chronic condition that affects the airways (the breathing passage that carries air into our lungs).

In Australia, the asthma hospital admission rate reported for people aged 15 and over was 63 per 100,000 population in 2018 – an overall decrease from 70 per 100,000 population in 2011. The rate for females was higher than that for males (89 and 34 per 100,000 population, respectively).

Australia's rate was higher than the OECD average of 38 asthma hospital admissions per 100,000 population. Mexico reported the lowest rate (6.9 per 100,000 population) based on estimation.

Interactive AA1.1 below compares OECD countries that submitted data for 2018 for this indicator, while AA1.2 presents Australia's 10-year trend for this indicator where data are available.
AA1.1 presents OECD countries with data published for asthma hospital admission rate in 2018, which shows Australia had a higher rate than the OECD average. AA1.2 presents Australia's 10-year trend for this indicator, which shows an overall decrease from 2011.

AA1.1: Asthma hospital admission rates, OECD, 2018

Country	Rate per 100,000 population
Mexico	6.9
Italy	8.9
Iceland	9.3
Portugal	12.6
Canada	14.6
Sweden	15.6
Chile	16.6
Austria	21.7
Norway	22.2
Estonia	23.5
Belgium	27.6
Czech Republic	28.8
Switzerland	30.8
Slovenia	31.3
Spain	36.1
United States	37.1
OECD Average	38.4
Ireland	41.4
Finland	41.9
Israel	42.2
Lithuania	50.1
Denmark	53.7
Australia	63.1
Korea	74.8
United Kingdom	74.9
Slovak Republic	75.2
Poland	76.6
Latvia	98.4

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals.
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Chronic obstructive pulmonary disease hospital admission rate

COPD is a preventable and treatable lung disease characterised by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible.
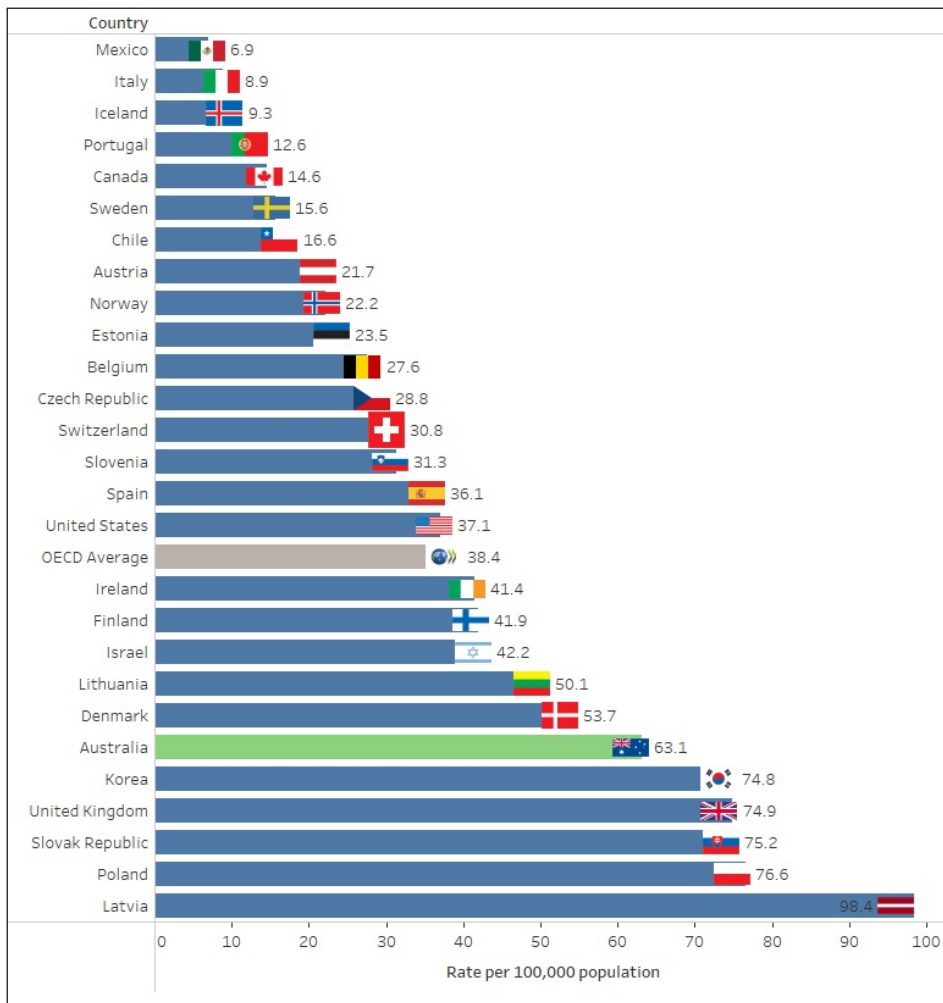
In Australia, the COPD hospital admission rate reported for people aged 15 and over was 300 per 100,000 population in 2018 – an overall decrease from 317 per 100,000 population in 2011. The rate was higher for males than females (313 and 297 per 100,000 population, respectively) – a gap which has narrowed over the past decade.

Australia's rate was higher than the OECD average of 177 per 100,000 population. Italy had the lowest rate (38 per 100,000 population).

Interactive AA2.1 below compares OECD countries that submitted data for 2018 for this indicator, while AA2.2 presents Australia's 10-year trend for this indicator where data are available.
AA2.1 presents OECD countries with data published for COPD hospital admission rate in 2018, which shows Australia had a higher rate than the OECD average. AA2.2 presents Australia's 10-year trend for this indicator, which shows an overall decrease from 2011.

AA2.1: Chronic obstructive pulmonary disease hospital admission rates, OECD, 2018

Country	Rate per 100,000 population
Italy	38.1
Mexico	71.0
Chile	71.8
Portugal	82.7
Estonia	83.6
Slovenia	92.2
Slovak Republic	114.5
Finland	120.8
Poland	121.5
Czech Republic	135.9
Sweden	141.5
Iceland	151.7
Latvia	155.2
Israel	165.7
OECD Average	177.0
Korea	181.8
Spain	187.3
United States	194.1
Austria	199.3
Norway	215.8
Lithuania	218.9
United Kingdom	224.1
Canada	224.5
Denmark	286.7
Belgium	299.5
Australia	299.8
Ireland	347.9
Switzerland	352.5

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Congestive heart failure hospital admission rate

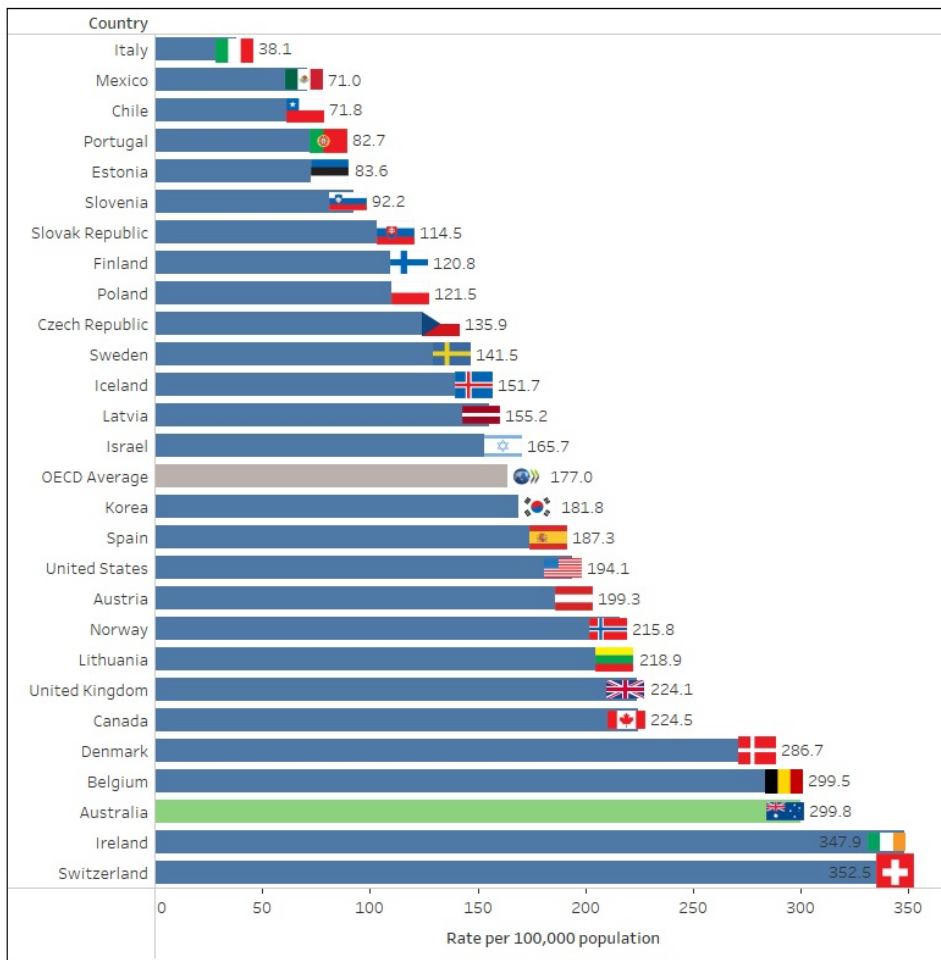CHF is a chronic condition in which the pumping power of the heart muscle is weakened.

In Australia, the CHF hospital admission rate reported for people aged 15 and over was 213.5 per 100,000 population in 2018. This rate has fluctuated over the past decade, ranging from 213 per 100,000 population in 2017 to 227 per 100,000 population in 2016. The rate was higher for males than females (256 and 184 per 100,000 population, respectively).
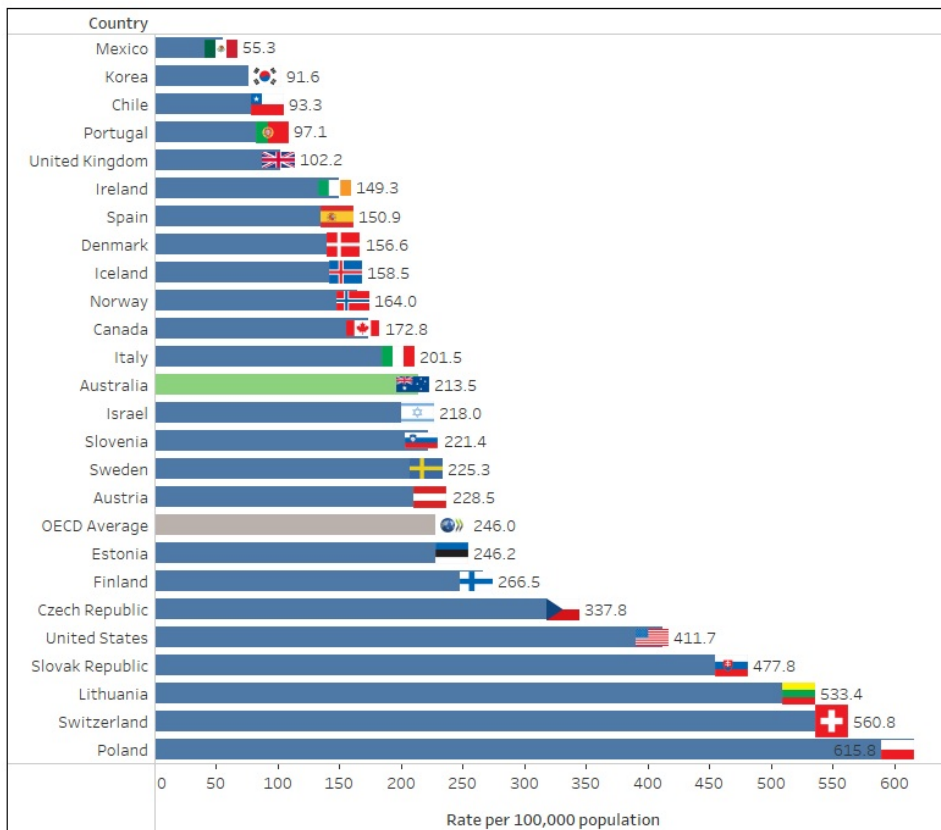
Australia's rate was lower than the OECD average of 246 per 100,000 population. Mexico had the lowest rate (55 per 100,000 population) based on estimation.

Cardiac procedure codes were required for the calculation of the CHF hospital admission 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 are unknown.

Interactive AA3.1 below compares OECD countries that submitted data for 2018 for this indicator, while AA3.2 presents Australia's 10-year trend for this indicator where data are available.

AA3.1 presents OECD countries with data published for CHF hospital admission rate in 2018, which shows Australia had a lower rate than the OECD average. AA3.2 presents Australia's 10-year trend for this indicator, which shows a fluctuating trend over time.

AA3.1: Congestive heart failure hospital admission rates, OECD, 2018

Country	Rate per 100,000 population
Mexico	55.3
Korea	91.6
Chile	93.3
Portugal	97.1
United Kingdom	102.2
Ireland	149.3
Spain	150.9
Denmark	156.6
Iceland	158.5
Norway	164.0
Canada	172.8
Italy	201.5
Australia	213.5
Israel	218.0
Slovenia	221.4
Sweden	225.3
Austria	228.5
OECD Average	246.0
Estonia	246.2
Finland	266.5
Czech Republic	337.8
United States	411.7
Slovak Republic	477.8
Lithuania	533.4
Switzerland	560.8
Poland	615.8

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Hypertension hospital admission rate

Hypertension, also known as high blood pressure, is a major risk factor for chronic conditions such as coronary heart disease and chronic kidney disease.

In Australia, the hypertension hospital admission rate reported for people aged 15 and over was 39 per 100,000 population in 2018, showing an overall increase from 36 per 100,000 population in 2011. The rate for females was higher than that for males (47 and 27 per 100,000 population, respectively).
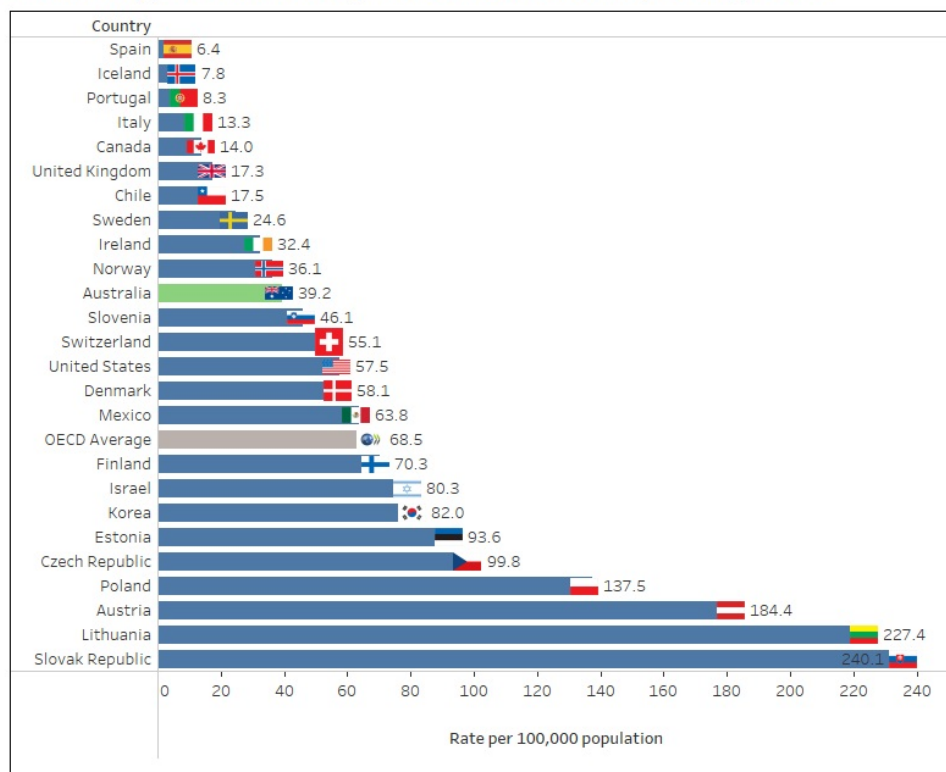
Australia's rate was lower than the OECD average of 69 per 100,000 population. Spain and Iceland had the lowest rates (6.4 and 7.8 per 100,000 population, respectively).

Cardiac procedure codes were required for the calculation of the hypertension hospital admission 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 are unknown.

Interactive AA4.1 below compares OECD countries that submitted data for 2018 for this indicator, while AA4.2 presents Australia's 10-year trend for this indicator where data are available.

AA4.1 presents OECD countries with data published for hypertension hospital admission rate in 2018, which shows Australia had a lower rate than the OECD average. AA4.2 presents Australia's 10-year trend for this indicator, which shows an overall increase over time.

AA4.1: Hypertension hospital admission rates, OECD, 2018

Country	Rate per 100,000 population
Spain	6.4
Iceland	7.8
Portugal	8.3
Italy	13.3
Canada	14.0
United Kingdom	17.3
Chile	17.5
Sweden	24.6
Ireland	32.4
Norway	36.1
Australia	39.2
Slovenia	46.1
Switzerland	55.1
United States	57.5
Denmark	58.1
Mexico	63.8
OECD Average	68.5
Finland	70.3
Israel	80.3
Korea	82.0
Estonia	93.6
Czech Republic	99.8
Poland	137.5
Austria	184.4
Lithuania	227.4
Slovak Republic	240.1

Notes:

1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.

Source: OECD.Stat database

https://www.aihw.gov.au

Refer to the data tables for more information.

Diabetes hospital admission rate

Diabetes is a chronic condition marked by high levels of glucose in the blood. Effective management of diabetes aims to maintain healthy blood glucose levels to prevent both short- and long-term complications, such as heart disease, kidney disease, blindness and lower limb amputation.

In Australia, the diabetes hospital admission rate reported for people aged 15 and over was 153 per 100,000 population in 2018, an increase from 136 per 100,000 population in 2013. The rate for males was higher than that for females (197 admissions and 118.5 admissions per 100,000 population respectively).
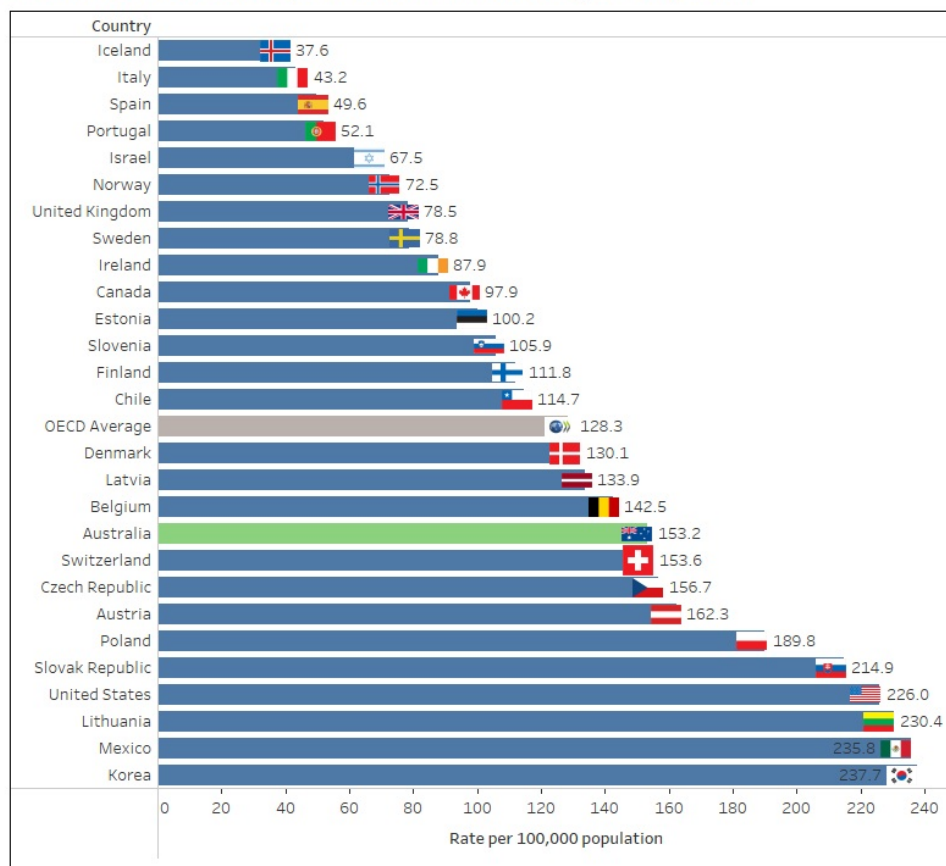
Australia's rate was higher than the OECD average of 128 per 100,000 population. Iceland and Italy had the lowest rates (38 and 43 per 100,000 population).

It should be noted that changes to the Australian Coding Standards between 2009 and 2013 have affected the comparability of data reported over time for diabetes (NCCH 2008, NCCH 2010, NCCH 2013). The AIHW considers there is a break in series between 2009–10 and 2010–11 and therefore 2010 data are not presented. The AIHW also recommends that some caution should be taken when comparing data from before and after 2012 due to further changes in the coding standards relating to diabetes from 1 July 2012.

Interactive AA5.1 below compares OECD countries that submitted data for 2018 for this indicator, while AA5.2 presents Australia's 10-year trend for this indicator where data are available.

AA5.1 presents OECD countries with data published for diabetes hospital admission rate in 2018, which shows Australia had a higher rate than the OECD average. AA5.2 presents Australia's 10-year trend for this indicator, which shows a gradual increase since 2013.

AA5.1: Diabetes hospital admission rates, OECD, 2018

Country	Rate per 100,000 population
Iceland	37.6
Italy	43.2
Spain	49.6
Portugal	52.1
Israel	67.5
Norway	72.5
United Kingdom	78.5
Sweden	78.8
Ireland	87.9
Canada	97.9
Estonia	100.2
Slovenia	105.9
Finland	111.8
Chile	114.7
OECD Average	128.3
Denmark	130.1
Latvia	133.9
Belgium	142.5
Australia	153.2
Switzerland	153.6
Czech Republic	156.7
Austria	162.3
Poland	189.8
Slovak Republic	214.9
United States	226.0
Lithuania	230.4
Mexico	235.8
Korea	237.7

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

Diabetes lower extremity amputation rate

Individuals with diabetes have a higher risk of lower limb amputation than people without diabetes (Narres et al. 2017).

In Australia, the rate for diabetes-related lower extremity amputation was 4.0 per 100,000 population in 2018. This rate has remained relatively stable since 2015. The rate for males was more than 3 times higher than that for females (6.2 and 2.0 per 100,000 population, respectively).
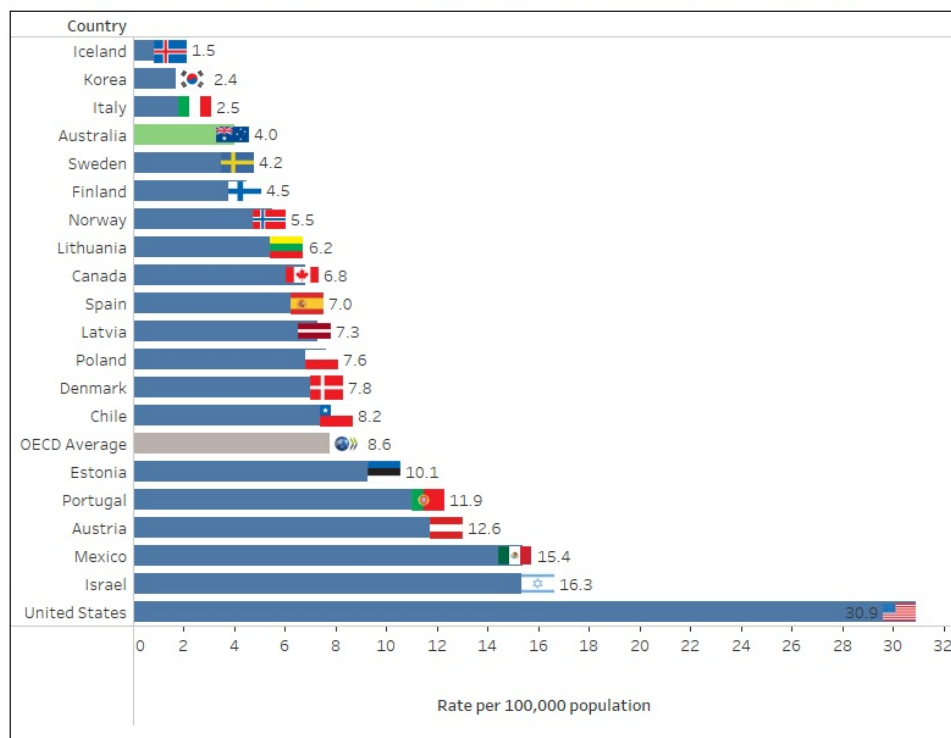
Australia's rate was lower than the OECD average of 8.6 per 100,000 population. Iceland, Korea and Italy had the lowest rates (1.5, 2.4 and 2.5 per 100,000 population, respectively).

As outlined in the *Diabetes hospital admission* section, 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.

Interactive AA6.1 below compares OECD countries that submitted data for 2018 for this indicator, while AA6.2 presents Australia's 10-year trend for this indicator where data are available.

AA6.1 presents OECD countries with data published for diabetes lower extremity amputation rate in 2018, which shows Australia had a lower rate than the OECD average. AA6.2 presents Australia's 10-year trend for this indicator, which shows a stable trend since 2015.

AA6.1: Diabetes lower extremity amputation rate, OECD, 2018

Country	Rate per 100,000 population
Iceland	1.5
Korea	2.4
Italy	2.5
Australia	4.0
Sweden	4.2
Finland	4.5
Norway	5.5
Lithuania	6.2
Canada	6.8
Spain	7.0
Latvia	7.3
Poland	7.6
Denmark	7.8
Chile	8.2
OECD Average	8.6
Estonia	10.1
Portugal	11.9
Austria	12.6
Mexico	15.4
Israel	16.3
United States	30.9

Rate per 100,000 population

Notes:
1. OECD average is the average 5-year net survival rate for the participating countries; the rate does not have confidence intervals (CI).
2. Please refer to Data Sources for further detail regarding Australian data sources.
Source: OECD.Stat database
https://www.aihw.gov.au

Refer to the data tables for more information.

References

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NCCH 2010. Australian Coding Standards for ICD-10-AM and ACHI, seventh edition. Sydney: NCCH.

NCCH 2012. Australian Coding Standards for ICD-10-AM and ACHI, eighth edition. Sydney: NCCH.

OECD 2021. Health at a glance 2021: OECD indicators. Paris: OECD

Technical notes

Abbreviations

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
HCQO	Health Care Quality and Outcomes
ICD-9-CM	International Statistical Classification of Diseases, 9th Revision, Clinical Modification
NHMD	National Hospital Morbidity Database
OECD	Organisation for Economic Co-operation and Development
PE	Pulmonary embolism

Symbols

. .	Not applicable

Technical notes

CONCORD

CONCORD is a program for international surveillance of trends in cancer survival led by the London School of Hygiene and Tropical Medicine. The program is endorsed by 40 national and international agencies, such as the OECD and the World Bank.

Data from the third cycle of the program, CONCORD-3, has been used to supply data to the OECD for the 2021 HCQO collection and has in turn been used in this report. supply data to the OECD for the 20121 HCQO collection and has in turn been used in this report. The data includes patients diagnosed up to 2014 in more than 70 countries and covers 18 of the most common cancers.

Further information about CONCORD-3.

National Hospital Morbidity Database

The National Hospital Morbidity Database (NHMD) is a collection of records from admitted patient data collection systems in Australian hospitals. The data supplied to the Australian Institute of Health and Welfare in the NHMD are based on the National Minimum Data Set (NMDS) for Admitted patient care and include demographic and administrative data, as well as data on the diagnoses of 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.

As noted, the statistical unit for the NHMD is an episode of care, which can be a total hospital stay from admission to discharge, transfer or death, or a portion of a hospital stay beginning or ending in a change of type of care for example, from acute to rehabilitation. The data are collated and reported at the end of the episode of care (i.e. at *separation*). The OECD indicators are, however, specified in terms of 'admissions' and 'discharges'. In the analyses presented here using data from the NHMD, all calculations are done on the episodes of care using the separations data. These are broadly equivalent to (but not exactly the same as) admissions/discharges.

Further information about the National Hospitals Data Collection.

Pharmaceutical Benefits Scheme (PBS) data collection

The Australian Government subsidises the cost of prescription medicines through two schemes, the Pharmaceutical Benefits Scheme (PBS) and the Repatriation Pharmaceutical Benefits Scheme (RPBS) for eligible war veterans and their dependants.

Services Australia processes information about all prescriptions dispensed under the PBS and RPBS and provides these data to the Department of Health. The PBS data collection holds information on the medication prescribed, the prescribing practitioner and the characteristics of the person who was prescribed the medicine.

PBS/RPBS data does not include information about the following:

- private prescriptions, i.e. the medicine is not listed in the PBS Schedule of Pharmaceutical Benefits
- over the counter medicines
- medicines supplied to public hospital inpatients.

Further information about the Pharmaceutical Benefits Scheme data collection.

Patient Experience Survey

The Patient Experience Survey is conducted annually by the Australian Bureau of Statistics (ABS) and collects data from a nationally representative sample of people on access and barriers to a range of health care services.

The survey collects data from people aged 15 years and over who accessed health services in the last 12 months, as well as from those who did not, and enables analysis of health service information in relation to particular population groups. Data are also collected on aspects of communication between patients and health professionals.

The 2019-20 Patient Experience Survey collected information from around 28,800 people across Australia.

Further information about the Patient Experience Survey.

Technical notes

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

Older adults: People aged 65 and over

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.

Data

Report editions

This release

OECD Health Care Quality and Outcomes Indicators, Australia 2021 | 21 Apr 2022

Previous releases

- OECD health-care quality indicators for Australia 2015 |
  Publication | 27 Jul 2016
- OECD health-care quality indicators for Australia 2011-12 |
  Publication | 12 May 2014

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