

# Indigenous Better Cardiac Care measure: 6.2- Mortality due to cardiac conditions, 2016

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# Indigenous Better Cardiac Care measure: 6.2-Mortality due to cardiac conditions, 2016

## Identifying and definitional attributes

<b>Metadata item type:</b>	Indicator
<b>Indicator type:</b>	Indicator
<b>Short name:</b>	6.2-Mortality due to cardiac conditions
<b>METEOR identifier:</b>	657115
<b>Registration status:</b>	<a href="#">Health!</a> , Standard 17/08/2017
<b>Description:</b>	Rates of: <ul style="list-style-type: none"><li>• cardiac mortality, by Indigenous status (measure 6.2.1)</li><li>• in-hospital mortality for patients admitted with cardiac conditions, by Indigenous status (measure 6.2.2).</li></ul>

**Rationale:** In addition to the 5 priority areas, the Better Cardiac Care project also includes 2 summary measures designed to monitor hospitalisations from cardiac conditions ([measure 6.1](#)) and mortality from cardiac conditions (measure 6.2—that is, this measure).

These measures, which provide a population-wide perspective on the impact of cardiac conditions over time, are broad indicators of the effectiveness of early risk assessment and preventative care.

**Indicator set:** [Better Cardiac Care measures for Aboriginal and Torres Strait Islander people \(2016\)](#)  
[Health!](#), Standard 17/08/2017

## Collection and usage attributes

**Computation description:** Measure 6.2.1:

The number of deaths due to cardiac conditions, divided by the estimated population, and multiplied by 100,000.

Data are presented as deaths per 100,000 population.

Crude rates are calculated for Indigenous Australians.

Age-standardised rates are calculated for comparisons between Indigenous and non-Indigenous Australians, and for analysis of change over time.

Data are based on calendar years.

Measure 6.2.2:

The number of hospitalisations for cardiac conditions where the person died in hospital, divided by the estimated population, and multiplied by 100,000.

Data are presented as in-hospital deaths per 100,000 population.

Crude rates are calculated for Indigenous Australians.

Age-standardised rates are calculated for comparisons between Indigenous and non-Indigenous Australians, and for analysis of change over time.

Data are based on financial years.

Definitions:

*Hospitalisation (separation)*—an episode of care for an admitted patient that 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 care type (for example, from acute care to palliative care).

*Cardiac condition (measure 6.2.1)*—identified as those deaths with an underlying cause of death of ICD-10 (2013 version) codes I00–I52, which includes acute rheumatic fever, chronic rheumatic heart diseases, hypertensive diseases, ischaemic heart diseases, pulmonary heart disease and diseases of pulmonary circulation, and other forms of heart disease.

*Cardiac condition (measure 6.2.2)*—identified as those separations with a principal diagnosis of ICD-10-AM (8th edn.) codes I00–I52, which includes acute rheumatic fever, chronic rheumatic heart diseases, hypertensive diseases, ischaemic heart diseases, pulmonary heart disease and diseases of pulmonary circulation, and other forms of heart disease.

**Computation:**

Crude rate:  $(\text{Numerator} \div \text{Denominator}) \times 100,000$

Age-standardised rate: calculated using the direct method, and the Australian standard population as at 30 June 2001.

**Numerator:**

Measure 6.2.1:

Number of deaths in the calendar year where a cardiac condition is the underlying cause of death (based on reference year).

Measure 6.2.2:

Number of admitted patient separations in the financial year with a principal diagnosis of a cardiac condition and a care type not equal to 'newborn—unqualified days only' and a separation mode equal to 'died'.

**Numerator data elements:**

**Data Element / Data Set**

Person—underlying cause of death (ICD-10)

**Data Source**

[AIHW National Mortality Database](#)

**Guide for use**

Data source type: Administrative by-product data.

**Data Element / Data Set**

[Episode of admitted patient care—separation mode, code N](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Data source type: Administrative by-product data.

**Data Element / Data Set**

[Hospital service—care type, code N\[N\]](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Data source type: Administrative by-product data.

**Data Element / Data Set**

[Episode of care—principal diagnosis, code \(ICD-10-AM 8th edn\) ANN{,N\[N\]}](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Data source type: Administrative by-product data.

**Denominator:**

Measure 6.2.1:

Estimated population at the middle of the reference period. Where numerator data pertain to a single calendar year, the denominator is the estimated population as at 30 June. Where numerator data are summed across multiple years, the denominator is calculated by summing the mid-point population data for the relevant years.

**Denominator data elements:****Data Element / Data Set**

Person—estimated resident population of Australia

**Data Source**[ABS Estimated resident population \(2011 Census-based\)](#)**Guide for use**

Used to derive population estimates for the non-Indigenous population, by subtracting estimates for the Indigenous population from the total Australian estimated resident population (ERP).

Data source type: Census-based plus administrative by-product data

**Data Element / Data Set**

Person—estimated and projected Indigenous resident population

**Data Source**[ABS Indigenous estimates and projections \(2011 Census-based\)](#)**Guide for use**

Data source type: Census-based plus administrative by-product data

**Disaggregation:**

Measure 6.2.1:

Current period (2009–2013), New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, by:

- Indigenous status
- Indigenous status, sex and age group (0–34, 35–44, 45–54, 55–64, 65+)
- 

Time series (1998 to 2013), New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, by:

- Indigenous status.

Measure 6.2.2:

Current period (2009–14), New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, by:

- Indigenous status
- Indigenous status, sex and age group (0–34, 35–44, 45–54, 55–64, 65+).

Time series (2005–08, 2008–11 and 2011–14), New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined by:

- Indigenous status.

**Disaggregation data elements:**

**Data Element / Data Set**

Person—age group

**Data Source**

[AIHW National Mortality Database](#)

**Guide for use**

Data source type: Administrative by-product data

**Data Element / Data Set**

Person—Indigenous status

**Data Source**

[AIHW National Mortality Database](#)

**Guide for use**

Data source type: Administrative by-product data

**Data Element / Data Set**

Person—sex

**Data Source**

[AIHW National Mortality Database](#)

**Guide for use**

Data source type: Administrative by-product data

**Data Element / Data Set**

[Episode of admitted patient care—admission date, DDMMYYYY](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Data source type: Administrative by-product data.

**Data Element / Data Set**

[Person—date of birth, DDMMYYYY](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Used together with date of admission for calculation of age.

Data source type: Administrative by-product data

**Data Element / Data Set**

[Person—sex, code N](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Data source type: Administrative by-product data

**Data Element / Data Set**

[Person—Indigenous status, code N](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Data source type: Administrative by-product data

**Data Element / Data Set**

[Person—area of usual residence, statistical area level 2 \(SA2\) code \(ASGS 2011\) N\(9\)](#)

**Data Source**

[National Hospital Morbidity Database \(NHMD\)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2013-14](#)

**Guide for use**

Used for disaggregation by state/territory.

Data source type: Administrative by-product data.

## Data Element / Data Set

[Person—area of usual residence, statistical area level 2 \(SA2\) code \(ASGS 2011\) N\(9\)](#)

### Data Source

[AIHW National Mortality Database](#)

### Guide for use

Measure 6.2.1:

Data source type: Administrative by-product data

### General

## Comments:

The numerator data for this measure are drawn from the Australian Institute of Health and Welfare (AIHW) National Mortality Database (NMD). The cause of death data in the NMD are sourced from the Registrars of Births, Deaths and Marriages in each state and territory, as well as the National Coronial Information System, and compiled and coded by the Australian Bureau of Statistics (ABS).

For 2016 reporting, the most recent data are for 2013. Due to the relatively small number of Indigenous deaths from cardiac conditions each year, mortality data for the current period are reported for the 5-year period 2009–2013 to enable disaggregation of the data by the variables of interest. Single-year data are reported for the time trend analysis.

For this measure, deaths are based on year of registration of death (referred to as 'reference year' from 2007 onwards).

For this measure, data on deaths registered in:

- 2011 and earlier are based on the final version of cause of death data
- 2012 and 2013 are based on revised and preliminary versions, respectively, and are subject to further revision by the ABS.

Data for 2010 have been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010—see ABS 2012 for further details.

The denominator data used in the calculation of rates for the Indigenous population are ABS estimates and projections (Series B) based on the 2011 Census. Estimates for the non-Indigenous population were derived by subtracting the Indigenous estimated population from the total Australian ERP.

The Indigenous status of a deceased person is identified through the death registration process. There is some degree of under-identification of Indigenous Australians in mortality data because some deceased Indigenous Australians are not reported as Indigenous by the family, health worker or funeral director during the death registration process. Mortality data presented for this measure have not been adjusted for under-identification, so are likely to underestimate the true level of Indigenous mortality.

Data for this measure are reported for 5 jurisdictions—New South Wales, Queensland, Western Australia, South Australia and the Northern Territory—based on the state or territory of usual residence. Although the identification of Indigenous Australians in deaths data is incomplete to varying degrees in all state and territory registration systems, these 5 jurisdictions have been assessed by the ABS and the AIHW as having adequate identification. The AIHW considers the quality of Indigenous identification in mortality data for the 5 jurisdictions to be adequate from 1998, so trend data are presented for that year onwards.

Measure 6.2.2:

### General

The numerator data for this measure are drawn from the AIHW National Hospital Morbidity Database (NHMD). For 2016 reporting, the most recent data available are for 2013–14. With the exception of time trends, data are reported for the 5-year period 2009–14 to enable disaggregation of the data by the variables of interest. For the time trend analysis, data are reported for three 3-year periods (that is, 2005–08, 2008–11 and 2011–14). For 2016 reporting, data are presented for



6 jurisdictions for which the quality of Indigenous identification is considered adequate for the years reported—for details, see the ‘Indigenous identification’ section that follows.

A principal diagnosis is reported for each hospitalisation and recorded in the NHMD. For measure 6.2.2, data are based on principal diagnosis only. The principal diagnosis recorded is not necessarily the cause of death—that is, some patients with a principal diagnosis of a cardiac condition might have died as the result of another cause.

The denominator data used in the calculation of rates for the Indigenous population are ABS estimates and projections (Series B) based on the 2011 Census. Estimates for the non-Indigenous population were derived by subtracting the estimated Indigenous population from the total Australian ERP.

In-hospital death rates might be affected by different approaches to pre- and post-hospital care (for example, more deaths occurring before reaching the hospital, or more deaths following discharge from hospital); thus the findings should be interpreted in the context of overall cardiac mortality.

#### *Indigenous identification*

While there is some under-identification of Indigenous Australians in the NHMD, data for all states and territories are considered to have adequate Indigenous identification from 2010–11 onwards (AIHW 2013). For 2016 reporting, the analysis for measure 6.2.2 includes data for years before 2010–11. As such, analysis for this measure is limited to the 6 jurisdictions that were assessed by the AIHW as having adequate identification of Indigenous Australians from 2004–05 onwards—namely, New South Wales, Victoria, Queensland, Western Australia, South Australia and public hospitals in the Northern Territory (AIHW 2010). About 95% of the Australian Indigenous population live in these 6 jurisdictions (AIHW 2015b).

With the exception of data from hospitals in Western Australia, hospitalisations where the person’s Indigenous status was not stated were excluded from analyses that compare Indigenous and non-Indigenous rates. For hospitals in Western Australia, records with an unknown Indigenous status are reported as non-Indigenous, so are included in the ‘non-Indigenous’ data in these analyses.

#### *Comparisons by jurisdiction*

Some jurisdictions record deaths in emergency departments as in-hospital deaths for admitted patients, while others do not. As well, as mentioned above, in-hospital death rates may be affected by different approaches to pre- and post-hospital care.

## Representational attributes

<b>Representation class:</b>	Rate
<b>Data type:</b>	Real
<b>Unit of measure:</b>	Person
<b>Format:</b>	N[NNN].N

## Data source attributes

**Data sources:**

**Data Source**  
[ABS Estimated resident population \(2011 Census-based\)](#)  
**Frequency**  
Quarterly  
**Data custodian**  
Australian Bureau of Statistics

**Data Source**  
[AIHW National Mortality Database](#)  
**Frequency**  
Annual  
**Data custodian**  
Australian Institute of Health and Welfare

**Data Source**  
[ABS Indigenous estimates and projections \(2011 Census-based\)](#)  
**Frequency**  
Periodic  
**Data custodian**  
Australian Bureau of Statistics

**Data Source**  
[National Hospital Morbidity Database \(NHMD\)](#)  
**Frequency**  
Annual  
**Data custodian**  
Australian Institute of Health and Welfare

**Accountability attributes**

**Reporting requirements:** Annual reporting by the Australian Institute of Health and Welfare (AIHW 2015a, 2016).

**Organisation responsible for providing data:** Australian Institute of Health and Welfare

**Source and reference attributes**

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

**Origin:** AIHW 2016. Better Cardiac Care measures for Aboriginal and Torres Strait Islander people: second national report 2016. Cat. no. IHW 169. Canberra: AIHW.

**Reference documents:** ABS (Australian Bureau of Statistics) 2012. Causes of death, Australia, 2010. Technical note 3: retrospective deaths by causes of death, Queensland, 2010. ABS cat. no. 3303.0. Canberra: ABS. Viewed 28 January 2016, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/3303.0/Technical%20Note32010?opendocument&tabname=Notes&/prodno=3303.0/&issue=2010&num=&view>.

ACCD (Australian Consortium for Classification Development) 2013. The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian modification (ICD-10-AM). 10th edn. Adelaide: Independent Hospital Pricing Authority, Lane Publishing.

AIHW (Australian Institute of Health and Welfare) 2010. Indigenous identification in hospital separations data: quality report. Health services series no. 35. Cat. no. HSE 85. Canberra: AIHW.

AIHW 2015a. Better Cardiac Care measures for Aboriginal and Torres Strait Islander people: first national report 2015. Cat. no. IHW 156. Canberra: AIHW.

AIHW 2015b. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2015. Cat. no. IHW 147. Canberra: AIHW.

## Relational attributes

**Related metadata references:** See also [Indigenous Better Cardiac Care measure: 6.1-Rates of hospitalisation for cardiac conditions, 2016](#)  
[Health!](#), Standard 17/08/2017