# National Indigenous Reform Agreement: PI 06-Under five mortality rate by leading cause, 2020; Quality Statement



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## Identifying and definitional attributes

Metadata item type: Data Quality Statement

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## **Data quality**

**Institutional environment:** The Causes of Death and Perinatal Deaths collections are conducted under the

Census and Statistics Act 1905. For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of

ABS operations, see ABS Institutional Environment.

**Timeliness:** Causes of death and perinatal deaths data are published on an annual basis.

Death records, including perinatal deaths, are provided electronically to the ABS by individual Registrars on a monthly basis for compilation into aggregate statistics on a quarterly and annual basis. One dimension of timeliness in death registrations data is the interval between the occurrence and registration of a death. As a result, a small number of deaths occurring in one year are not registered until the following

year or later.

Causes of Death data are published annually 9 months after the end of the reference period. The 2015 causes of death dataset was released approximately six months earlier than usual, allowing more timely access to Australian mortality data. For more information on process changes see <u>A more timely annual collection: changes to ABS processes (Technical Note)</u> in Causes of Death Australia, 2015 (Cat. no. 3303.0).

There is a focus on fitness for purpose when causes of death statistics are released. To meet user requirements for accurate causes of death data it is necessary to obtain information from other administrative sources before all information for the reference period is available. This specifically applies to coroner certified deaths, where extra information relating to the death is provided through police, toxicology, autopsy and coronial finding reports. A balance therefore needs to be maintained between accuracy (completeness) of data and timeliness. ABS provides the data in a timely manner, ensuring that all coding possible can be undertaken with accuracy prior to publication.

As coroner certified deaths can have ill-defined causes of death until a case is closed within the coronial system, a revisions process was introduced to enhance the cause of death output for open coroner cases. This process enables the use of additional information relating to coroner certified deaths either 12 or 24 months after initial processing. See Explanatory Notes 59-62 and the Causes of Death Revisions, 2015 Final Data Technical Note in Causes of Death, Australia, 2017(Cat. no. 3303.0), for further information on the revision process.

Causes of Death, Australia, 2018 (Cat. no. 3303.0), does not include revised data for the 2017 or 2018 reference periods. The ABS remains committed to the revision of coroner-referred deaths and will release revised data for 2017 reference year in early 2020. 2018 reference year data will be released in early 2021.

Births records are provided electronically to the ABS by individual Registrars on a monthly basis for compilation into aggregate statistics on a quarterly and annual basis. One dimension of timeliness in birth registrations data is the interval between the occurrence and registration of a birth. As a result, some births occurring in one year are not registered until the following year or even later. This can be caused by either a delay by the parent(s) in submitting a completed form to the registry, or a delay by the registry in processing the birth (for example, due to

follow up activity due to missing information on the form, or resource limitations).

Preliminary estimated resident population (ERP) data are compiled and published quarterly and are generally made available five to six months after the end of each reference quarter. Every year, the 30 June ERP is further disaggregated by sex and single year of age. Commencing with data for September quarter 2006, revised estimates are released annually and made available 21 months after the end of the reference period for the previous financial year, once more accurate births, deaths and net overseas migration data becomes available. In the case of births and deaths, the revised data is compiled on a date of occurrence basis. In the case of net overseas migration, final data is based on actual traveller behaviour. Final estimates are made available every 5 years after a Census and revisions are made to the previous inter-censal period.

Aboriginal and Torres Strait Islander population data are based on Series B population projections released in Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031 (Cat. no. 3238.0), which have backcast estimates of the Aboriginal and Torres Strait Islander and non-Indigenous population for the period 30 June 2006 to 30 June 2016. These estimates have been derived on the 2016 Census data. When comparison rates are produced for non-Indigenous persons, the denominator is derived by subtracting the Aboriginal and Torres Strait Islander population estimates/projections from the relevant total persons ERP.

Generally ERP data are not changed once they have been finalised unless there are compelling reasons to do so, as in June 2013 when data from September 1991 to June 2006 was revised (for more information on this recasting process, see the feature article titled Recasting 20 years of ERP in the December quarter 2012 issue of Australian Demographic Statistics (Cat. no. 3101.0).

For further information on ABS ERP, see the relevant Data Quality Statement.

Causes of death data are available in a variety of formats on the ABS website under the 3303.0 product family. Perinatal deaths are currently available in 3303.0. Deaths data are available in a variety of formats on the ABS website under the 3302.0 product family. Births data are available in a variety of formats on the ABS website under the 3301.0 product family. ERP and Estimated Indigenous Population data are available in a variety of formats on the ABS website under the 3101.0 and 3238.0 product families. Further information on deaths and mortality may be available on request. The ABS observes strict confidentiality protocols as required by the Census and Statistics Act (1905). This may restrict access to data at a very detailed level.

In 2014, the ABS implemented Iris, a new automated coding software product for assisting in the processing of cause of death data. This software has been used to code the 2013, 2014, 2015, 2016, 2017 and 2018 causes of death data provided in this supply. With the introduction of new coding software, the ABS also implemented the most up to date versions of the ICD-10 when coding 2013 and (2014, 2015, 2016 and 2017) and 2018 data (using the 2013 and 2015 and 2016 versions, respectively), and improved a number of coding practices to realign with international best practice. Please see Technical Note 1, ABS Implementation of the Iris Software: Understanding Coding and Process Improvements, in Causes of Death, Australia, 2013 (Cat. no. 3303.0) for further details. The 2018 reference year cause of death data presented in this publication was coded using version 5.4.0 of Iris software. This system replaced Iris version 4.4.1 which was used to code the 2013-2017 cause of death data. Version 5.4.0 of the Iris software applied the WHO ICD updates (2016 version) which have resulted in changes to output. For more information see Technical Note <u>Updates to Iris coding software: Implementing</u> WHO updates and improvements in coding processes, in the Causes of Death, Australia, 2018 (Cat. no. 3303.0) publication.

As part of the update process, the ABS reviewed its method of coding perinatal deaths which, for the 2013 and 2014 data published in this supply, has meant a change to the method used for assigning an underlying cause of death to neonatal deaths. Please see Technical Note 1, Changes to Perinatal Death Coding in Causes of Death, Australia, 2014 (Cat. no. 3303.0) for further details.

Data for this indicator have been presented as crude rates, either per 1,000 all births, per 1,000 live births or per 100,000 estimated resident population.

Accessibility:

Interpretability:

#### Relevance:

The ABS Causes of Death and Perinatal Deaths collections include all deaths that occurred and were registered in Australia, including deaths of persons whose usual residence is overseas. Deaths of Australian residents that occurred outside Australia may be registered by individual Registrars, but are not included in ABS deaths or causes of death statistics.

Data in the Causes of Death and Perinatal Deaths collections include demographic items, as well as causes of death information, which is coded according to the *International Statistical Classification of Diseases and Related Health Problems* (ICD). ICD is the international standard classification for epidemiological purposes and is designed to promote international comparability in the collection, processing, classification, and presentation of cause of death statistics. The classification is used to classify diseases and causes of disease or injury as recorded on many types of medical records as well as death records. The ICD has been revised periodically to incorporate changes in the medical field. The 10th revision of ICD (ICD-10) has been used by the ABS to code cause of death since 1997.

The ABS Births collection includes all births that are live born and have not been previously registered, births to temporary visitors to Australia, births occurring within Australian Territorial waters, births occurring in Australian Antarctic Territories and other external territories, births occurring in transit (i.e. on ships or planes) if registered in the state or territory of "next port of call", births to Australian nationals employed overseas at Australian legations and consular offices and births that occurred in earlier years that have not been previously registered (late registrations). Births data exclude fetal deaths, adoptions, sex changes, legitimations and corrections, and births to foreign diplomatic staff. Up until 1 July 2016, births and deaths of Norfolk Island residents were counted in 'External Territories' and therefore not included in Australian birth counts. However, from 2016 births of Norfolk Island residents are counted in 'Other Territories' and therefore will be included in Australian birth statistics.

For further information on the relevant ABS collections, see the ABS Data Quality Statements for the:

- <u>Causes of Death</u> collection
- Perinatal Deaths collection
- Births collection.

Accuracy:

Information on causes of death and perinatal deaths is obtained from a complete enumeration of deaths registered during a specified period and are not subject to sampling error. However, causes of death and perinatal deaths data sources are subject to non-sampling error which can arise from inaccuracies in collecting, recording and processing the data.

Concerns have been raised with the accuracy of the NSW births counts in recent years. In response to these concerns the ABS, in conjunction with the NSW Registry of Births, Deaths and Marriages, has undertaken an investigation which has led to the identification of an ABS systems processing error. The ABS acknowledges that this has resulted in previous undercounts of births in NSW. Data for NSW and Australia have been revised to include previously unprocessed NSW birth registrations for the period 2005 to 2011.

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

The ABS Death Registrations collection identifies a death as Aboriginal and Torres Strait Islander where the deceased is recorded as Aboriginal, Torres Strait islander, or both on the Death Registration Form (DRF). The Indigenous status is also derived from the Medical Certificate of Cause of Death (MCCD) for South Australia, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory. For 2015 data, the Queensland Registry of Births, Deaths and Marriages also used MCCD information for the first time to derive Indigenous status. This resulted in a noticeable decrease in the number of deaths for which the Indigenous status was 'not stated' and an increase in the number of deaths

identified as Aboriginal and Torres Strait Islander in Queensland.

Causes of death statistics are released with a view to ensuring that they are fit for purpose when released. Supporting documentation for causes of death statistics are published and should be considered when interpreting the data to enable the user to make informed decisions on the relevance and accuracy of the data for the purpose the user is going to use those statistics. To meet user requirements for timely data it is often necessary to obtain information from the administrative source before all information for the reference period is available (e.g. finalisation of coronial proceedings). A balance needs to be maintained between accuracy (completeness) of data and timeliness, taking account of the different needs of users.

All coroner certified deaths registered after 1 January 2006 are now subject to a revisions process. In this round of Council of Australian Governments (COAG) reporting, 2014 and 2015 data are final, 2016 data are revised and 2017 and 2018 data are preliminary. Data for 2016, 2017 and 2018 are subject to further revisions. Prior to 2006 all ABS processing of causes of death data for a particular reference period was finalised approximately 13 months after the end of the reference period. Where insufficient information was available to code a cause of death (e.g. a coroner certified death was yet to be finalised by the Coroner), less specific ICD codes were assigned as required by the ICD coding rules. The revision process enables the use of additional information relating to coroner certified deaths, as it becomes available over time. This results in increased specificity of the assigned ICD-10 codes.

Revisions will only impact on coroner certified deaths, as further information becomes available to the ABS about the causes of these deaths. See Technical Note: Causes of Death Revisions 2015 Final Data in Causes of Death, Australia, 2017 (Cat. no. 3303.0). The ABS remains committed to revisions of coroner-referred deaths, including the revision of the 2016 and 2017 reference periods. Releases of revised data for these periods will occur in early 2020.

All ERP data sources are subject to non-sampling error. Non-sampling error can arise from inaccuracies in collecting, recording and processing the data. In the case of Census and Post Enumeration Survey (PES) data every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. The ABS does not have control over any non-sampling error associated with births, deaths and migration data. For more information see the <a href="Demography Working Paper 1998/2">Demography Working Paper 1998/2</a> - Quarterly birth and death estimates, 1998 (Cat. no. 3114.0) and <a href="Australian Demographic Statistics">Australian Demographic Statistics</a>, Mar 2019 (Cat. no. 3101.0).

Non-Indigenous estimates are available for census years only. In the intervening years, Indigenous population projections are based on assumptions about past and future levels of fertility, mortality and migration. In the absence of non-Indigenous population figures for these years, it is possible to derive denominators for calculating non-Indigenous rates by subtracting the projected Indigenous population from the total population. For the current round of COAG reporting, non-Indigenous population estimates have been derived by subtracting the 2016 Census-based Indigenous population estimates/projections from the 2016 Census-based total person ERP (Cat. no. 3101.0). Such figures have a degree of uncertainty and should be used with caution, particularly as the time from the base year of the projection series increases.

Non-Indigenous data from the Causes of Death collection and Perinatal collection do not include death registrations with a 'not stated' Indigenous status.

Some rates are unreliable due to small numbers of deaths over the reference period. Resultant rates could be misleading for example where the non-Indigenous mortality rate is higher than the Indigenous mortality rate for some causes. Age-specific death rates based on a very low death count have been deemed unpublishable. Some cells may also not be published to prevent back-calculation of these suppressed cells. Caution should be used when interpreting rates for this indicator.

New South Wales, Queensland and Northern Territory Births, Deaths and Marriages (RBDM) took a number of initiatives in recent years to improve processing systems and timeliness of registrations of births. These issues affected the birth counts of these jurisdictions. Care should therefore be taken when

interpreting changes in infant mortality rates for New South Wales, Queensland. Northern Territory and Australia. For more information, see <u>explanatory notes 25 to 34</u> of *Births, Australia, 2017* (Cat. no. 3301.0).

For more information, see the ABS Births Data Quality Statement.

**Coherence:** The methods used to construct the indicator are consistent and comparable with

other collections and with international practice.

## Source and reference attributes

**Submitting organisation:** Australian Bureau of Statistics.

Reference documents: ABS (Australian Bureau of Statistics) 2019a. Australian Demographic Statistics,

Mar 2019. ABS Cat. no. 3101.0. Canberra: ABS.

ABS 2019b. Births, Australia, 2017. ABS Cat. no. 3301.0. Canberra: ABS.

ABS 2019c. Causes of Death, Australia, 2018. ABS Cat. no. 3303.0. Canberra:

ABS.

ABS 2019d. Deaths, Australia, 2018. ABS Cat. no. 3302.0. Canberra: ABS.

ABS 2019e. Estimates and Projections, Aboriginal and Torres Strait Islander Australians. 2006-2031. ABS Cat. no. 3238.0. Canberra: ABS.

ABS 2019f. The Institutional Environment of the Australian Bureau of Statistics. Viewed 14 October 2019.

<a href="https://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564/10ca14cb967e5b83ca2573ae00197b65!OpenDocument">https://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564/10ca14cb967e5b83ca2573ae00197b65!OpenDocument</a>.

ABS 2018. Causes of Death, Australia, 2017. ABS Cat. no. 3303.0. Canberra: ABS.

ABS 2016a. Causes of Death Australia, 2015. ABS Cat. no. 3303.0. Canberra: ABS.

ABS 2016b. Causes of Death, Australia, 2014. ABS Cat. no. 3303.0. Canberra: ABS.

ABS 2015. Causes of Death, Australia, 2013. ABS Cat. no. 3303.0. Canberra: ABS.

ABS 2013. Australian Demographic Statistics, Dec 2012. ABS Cat. no. 3101.0. Canberra: ABS.

ABS 1999. Demography Working Paper 1998/2 - Quarterly birth and death estimates, 1998. ABS Cat. no. 3114.0. Canberra: ABS.

#### Relational attributes

Related metadata references:

Supersedes National Indigenous Reform Agreement: PI 06-Under five mortality

rate by leading cause, 2019; Quality Statement

Indigenous, Standard 07/02/2019

Indicators linked to this Data Quality statement:

National Indigenous Reform Agreement: PI 06-Under five mortality rate by leading

cause, 2020

Indigenous, Standard 17/11/2019