

# National Healthcare Agreement: PI 07-Infant and young child mortality rate, 2016 QS

## Identifying and definitional attributes

Metadata item type:	Quality Statement
METEOR identifier:	600082
Registration status:	<ul style="list-style-type: none"><li><a href="#">Health</a>, Superseded 31/01/2017</li></ul>

## Relational attributes

Indicators linked to this Quality statement:	<a href="#">National Healthcare Agreement: PI 07-Infant and young child mortality rate, 2016 Health</a> , Superseded 31/01/2017
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## Data quality

Institutional environment:	These collections are conducted under the <i>Census and Statistics Act 1905</i> . 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 <a href="#">ABS Institutional Environment</a> .
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**Timeliness:**

Death 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 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.

Quarterly estimates of deaths on a preliminary basis are published five to six months after the reference period in *Australian Demographic Statistics* (cat. no. 3101.0), and revised 21 months after the end of each financial year. Annual estimates on a year of registration basis are published within eleven months of the end of the reference year in *Deaths, Australia* (cat. no. 3302.0).

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. Quarterly estimates of births on a preliminary basis are published five to six months after the reference period in *Australian Demographic statistics* (cat. no. 3101.0), and revised 21 months after the end of each financial year. Annual estimates on a year of registration basis are published within ten months of the end of the reference year in *Births, Australia* (cat. no. 3301.0).

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 is compiled and published quarterly and is 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, and is made available five to six months after end of the reference quarter. Commencing with data for September quarter 2006, revised estimates are released 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 and is released 6–12 months after the reference period. In the case of net overseas migration, final data is based on actual traveller behaviour and is released 16–18 months after the reference period. Final estimates are made available every 5 years after a census and revisions are made to the previous inter-censal period. Generally ERP data is not changed once it has 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, please 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 Estimated Resident Population, see the relevant Data Quality Statement.

**Accessibility:**

Births data are available in a variety of formats on the ABS website under the 3301.0 product family. Deaths data are available in a variety of formats on the ABS website under the 3302.0 product family. ERP data is available in a variety of formats on the ABS website under the 3101.0 product family. 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.

**Interpretability:**

Births statistics are generally straightforward and easy to interpret. It should be noted, however, that changes in numbers of births over time can be due to two factors: changes in fertility, and changes in the number of women in childbearing ages. For this reason, births data need to be considered in relation to the size of the relevant population(s) through the use of fertility rates. Another aspect that may be overlooked is plurality, or the fact that each birth of a multiple birth is counted individually in births data.

Deaths statistics are generally straightforward and easy to interpret. It should be noted, however, that changes in numbers of deaths over time can be due a number of factors including changes in mortality and changes in the size and age/sex structure of the population. For this reason, deaths data needs to be considered in relation to the size of the relevant population(s) through the use of mortality rates.

Information of mortality rates, as well as data sources, terminology, classifications and other technical aspects associated with death statistics can be found in *Deaths Australia* (cat.no 3302.0) in the Explanatory Notes, Appendices and Glossary on the ABS website.

ERP is generally easy to interpret as the official measure of Australia's population (by state and territory) on a place of usual residence basis. However, there are still some common misconceptions. For example, a population estimate uses the term 'estimate' in a way which differs from the words' common use. Generally the term estimate is used to describe a guess, or approximation. Demographers mean that they apply the demographic balancing equation by adding births, subtracting deaths and adding the net of overseas and interstate migration to a base population. Each of the components of ERP is subject to error, but ERP itself is not in any way a guess. It is what the population would be if the components are measured well.

Population estimation is also very different to sample survey based estimation. This is because population estimation is largely based on a full enumeration of components. In the case of the population base, only the PES used sampled data to adjust for census net undercount. In the case of the components of population growth used to carry population estimates forward, Australia has a theoretically complete measure of each component.

Another example of a common misconception relates to the fact that the population projections are not predictions or forecasts. They are an assessment of what would happen to Australia's population if the assumed levels of different components of population change – births, deaths and migration – were to hold into the future.

**Relevance:**

Deaths data are published on an annual basis. The ABS Deaths collection includes any death which occurs in, or en route to Australia, including deaths of persons whose usual place of residence is overseas, and is registered with a state or territory Registry of Births, Deaths and Marriages. The ABS Deaths collection excludes still births/fetal deaths (these are accounted for in perinatal death statistics published in *Causes of Death, Australia*, cat. no. 3303.0) and deaths of Australian residents which occur outside Australia.

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, and births occurring on Norfolk Island.

Live births are products of conceptions, irrespective of duration of pregnancy, who, after being born, breathe or show any evidence of life such as a heartbeat.

For further information on the ABS Deaths and Births collections, see the relevant Data Quality Statements.

**Accuracy:**

Information on births and deaths is obtained from a complete enumeration of births and deaths registered during a specified period and are not subject to sampling error. However, births and deaths data sources are subject to non-sampling error

which can arise from inaccuracies in collecting, recording and processing the data. Sources of non-sampling error include completeness of an individual record at a given point in time, completeness of the dataset (e.g. impact of registration lags, processing lags and duplicate records), extent of coverage of the population (whilst all deaths are legally required to be registered, some cases may not be registered for an extended time, if at all) and lack of consistency in the application of questions or forms used by data providers, both through time and between different jurisdictions. Every effort is made to minimise error by working closely with data providers, the careful design of forms, training of processing staff, and efficient data processing procedures.

In June 2014, the New South Wales Registrar of Births, Deaths and Marriages (NSW Registry) transitioned to a new data processing system which resulted in temporary processing delays. These delays caused a number of birth records received by the NSW Registry in 2014 to be processed in 2015. As a result, the total number of births registered in New South Wales in 2014 (91 074) was 9388 (9.3 per cent) less than the number registered in 2013 (100 462).

The ABS, after discussions with the NSW Registry, is confident that the delayed registrations will be accounted for in 2015. For a more complete understanding of the births occurring in NSW for 2014 users should consult Table 13 in *Australian Demographic Statistics* (3301.0) which provides more up to date information about births in 2014 and 2015.

Analysis by the ABS showed that the distribution of important characteristics such as sex of child, age of mother, usual residence of mother and Indigenous status in 2014 data is similar to that in 2011-2013 data.

Concerns have previously 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, undertook an investigation which 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 were 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. Forms are often not subject to the same best practice design principles as statistical questionnaires, and respondent and/or interviewer understanding is rarely tested. Over-precise analysis of Indigenous deaths and mortality should be avoided.

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010. For further details see Technical Note: Registration of outstanding deaths, Queensland 2010, from *Deaths, Australia, 2010* (cat. no, 3302.0).

Investigation conducted by the WA Registrar of Births, Deaths and Marriages indicated that some deaths of non-Indigenous people were wrongly recorded as deaths of Indigenous people in WA for 2007, 2008 and 2009. The ABS discussed this issue with a range of key stakeholders and users of Aboriginal and Torres Strait Islander deaths statistics. Following this discussion, the ABS did not release WA Aboriginal and Torres Strait Islander deaths data for the years 2007, 2008 and

2009 in the 2010 issue of Deaths, Australia, or in the 2011 COAG data supply. The WA Registry corrected the data and resupplied the corrected data to the ABS. These corrected data were then released by the ABS in spreadsheets attached to Deaths, Australia, 2010 (cat. no. 3302.0) publication on 24 May 2012, and are included in this round of COAG reporting. In addition, 3 deaths in WA for 2009 which were wrongly coded as deaths of Indigenous people have been corrected as deaths of non-Indigenous people in this round of COAG reporting.

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 Demography Working Paper 1998/2 | Quarterly birth and death estimates, 1998 (cat. no. 3114.0) and *Australian Demographic Statistics* (cat. no. 3101.0). After each Census the ABS uses the Census population count to update the original series of published quarterly population estimates since the previous Census. For example, 2011 Census results were used to update quarterly population estimates between the 2006 and 2011 Census. The PES is conducted soon after the Census to estimate the number of residents not included in the Census. Factoring the PES results into determining the ERP is a critical step in arriving at the most accurate determination of ERP possible. For more information on rebasing see the feature article in the December quarter 2012 issue of *Australian Demographic Statistics* (cat. no. 3101.0).

Indigenous and non-Indigenous population 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 2011 Census-based Indigenous population estimates/projections from the 2011 Census-based total persons Estimated Resident Population (ERP). 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. Total population estimates for 2012, used in the calculation of non-Indigenous comparison rates, are preliminary estimates.

Non-Indigenous data from the Deaths 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. All rates in this indicator must be used with caution.

**Coherence:** The methods used to construct the indicator are consistent and comparable with other collections and with international practice.

The international standards and recommendations for the definition and scope of birth and deaths statistics in a vital statistics system are set out in the Principles and Recommendations for a Vital Statistics System Revision 2, published by the United Nations Statistical Division (UNSD). Consistent with the UNSD recommendations, the ABS defines:

- a birth as the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered liveborn.
- death as the permanent disappearance of all evidence of life at any time after live birth has taken place.

In addition, the UNSD recommends that the births and deaths to be counted include all deaths 'occurring in every geographic area and in every population group comprising the national area'. For the purposes of Australia, this includes all births and deaths occurring within Australia in 2012 as defined by the Australian Statistical Geography Standard (ASGS).

Registration of births and deaths is compulsory in Australia under relevant state/territory legislation. However, each state/territory Registrar has its own death registration form. Most data items are collected in all states and territories and therefore statistics at a national level are available for most characteristics. In some cases, different wording of questions asked on the registration form may result in different answers, which may affect final figures.

Use of the supporting documentation released with the statistics is important for assessing coherence within the dataset and when comparing the statistics with data from other sources. Changing business rules over time and/or across data sources can affect consistency and hence interpretability of statistical output.

Birth registrations data are not the only statistical series on births in Australia. The National Perinatal Data Collection (NPDC) is a national collection on pregnancy and childbirth, based on births reported to the Perinatal Data Collection in each state and territory in Australia. Midwives and other health professionals who attend births complete notification forms for each birth, using information obtained from mothers and hospital or other records. This information is compiled and published annually by the National Perinatal Statistics Unit (NPSU) of the Australian Institute of Health and Welfare (AIHW) in Australia's Mothers and Babies. As information from these two collections are from different sources, the statistics obtained vary. The number of births in the Perinatal Data Collection are generally greater, which may reflect the likelihood of parent(s) to delay or fail to register the birth of a child.

## Relational attributes

### Related metadata references:

Supersedes [National Healthcare Agreement: PI 07-Infant and young child mortality rate, 2015 QS](#)

- [Health](#), Superseded 08/07/2016

Has been superseded by [National Healthcare Agreement: PI 07-Infant and young child mortality rate, 2017 QS](#)

- [Health](#), Standard 31/01/2017