## Data quality information — Health sector overview E

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| Data quality information |
| Data quality information (DQI) provides information against the seven ABS data quality framework dimensions, for a selection of measures from performance indicators in the Health sector summary. DQI for additional indicators will be progressively introduced in future reports.  Where RoGS indicators align with National Agreement indicators, DQI has been sourced from the Steering Committee’s reports on National Agreements to the COAG Reform Council.  Technical DQI has been supplied or agreed by relevant data providers. Additional Steering Committee commentary does not necessarily reflect the views of data providers. |
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DQI are available for the following performance measures:

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### Babies born of low birthweight

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by AIHW) with additional Steering Committee comments.

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| **Indicator definition and description** | | | |
| **Indicator** | The incidence of low birthweight among liveborn babies of Aboriginal and Torres Strait Islander mothers and other mothers as a proportion of liveborn infants. | | |
| **Measure (computation)** | *Numerator*: Number of low birthweight live-born singleton infants born in a calendar year.  Low birthweight is defined as less than 2500 grams.  *Denominator*: Number of live-born singleton infants born in a calendar year.  Calculation: 100 × (Numerator ÷ Denominator)  Variability band: to be calculated using the standard method for estimating 95% confidence intervals as follows:  *Crude rate*  Where   n=number of live-born singleton infants.  CI = confidence interval  CR = crude rate (expressed as a percentage) | | |
| **Data source/s** | This indicator is calculated using data from the AIHW National Perinatal Data Collection (NPDC).  For data by socioeconomic status: calculated by AIHW using the ABS’ Socioeconomic Index for Areas (SEIFA) Index of Relative Socioeconomic Disadvantage (IRSD). Each Statistical Local Area in Australia is ranked and divided into quintiles in a population-based manner, such that each quintile has approximately 20 per cent of the population and each decile has approximately 10 per cent of the population.  For data by remoteness: ABS’ Australian Standard Geographical Classification. | | |
| **Data Quality Framework Dimensions** | | | |
| **Institutional environment** | | The National Perinatal Epidemiology and Statistics Unit (NPESU) calculated this indictor on behalf of the Australian Institute of Health and Welfare (AIHW).  The AIHW is an independent statutory authority within the Health and Ageing portfolio, which is accountable to the Parliament of Australia through the Minister for Health and Ageing. For further information see the AIHW website.  The State and Territory health authorities receive these data from patient administrative and clinical records. This information is usually collected by midwives or other birth attendants. States and territories use these data for service planning, monitoring and internal and public reporting. | |
| **Relevance** | | The National Perinatal Data Collection comprises data items as specified in the Perinatal NMDS plus additional items collected by the states and territories. The purpose of the Perinatal NMDS is to collect information at birth for monitoring pregnancy, childbirth and the neonatal period for both the mother and baby(s).  The Perinatal NMDS is a specification for data collected on all births in Australia in hospitals, birth centres and the community. It includes information for all live births and stillbirths of at least 400 grams birthweight or at least 20 weeks gestation, except in WA, where births are included if gestational age is 20 weeks or more, or if gestation unknown, if birthweight is at least 400 grams, and in Victoria where livebirths are included or any gestational age and stillbirths if gestational age is 20 weeks or more, or if gestation unknown, if birthweight is at least 400 grams. It includes data items relating to the mother, including demographic characteristics and factors relating to the pregnancy, labour and birth; and data items relating to the baby, including birth status (live or stillbirth), sex, gestational age at birth, birth weight, Apgar score and neonatal length of stay.  The NPDC includes all relevant data elements of interest for this indicator. Birthweight is a Perinatal NMDS item. In 2011, very few (0.02 per cent) records for live-born singleton babies were missing the data for birthweight.  While each jurisdiction has a unique perinatal form for collecting data on which the format of the Indigenous status question and recording categories varies slightly, all systems include the NMDS item on Indigenous status of mother.  No formal national assessment has been undertaken to determine completeness of the coverage of Indigenous mothers in the Perinatal NMDS. However, the proportion of Indigenous mothers for the period 2002–2011 has been consistent, at 3.6–3.9 per cent of women who gave birth. For maternal records where Indigenous status was not stated (0.2 per cent), data were excluded from Indigenous and non-Indigenous analyses.  The indicator is presented by Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Disadvantage (IRSD). The data supplied to the NPDC include a code for SLA from all states and territories. Reporting by remoteness is in accordance with the Australian Statistical Geography Standard (ASGS). | |
| **Timeliness** | | The reference period for the data is 2007 to 2011. Collection of data for the NPDC is annual. | |
| **Accuracy** | | Inaccurate responses may occur in all data provided to the AIHW. The AIHW does not have direct access to perinatal records to determine the accuracy of the data provided. However, the NPESU undertakes validation on receipt of data by the AIHW. Data received from states and territories are checked for completeness, validity and logical errors. Potential errors are queried with jurisdictions, and corrections and resubmissions are made in response to these edit queries. The NPESU does not adjust data to account for possible data errors.  Errors may occur during the processing of data by the states and territories or at the AIHW. Processing errors prior to data supply may be found through the validation checks applied by the NPESU. This indicator is calculated on data that has been reported to the AIHW. Prior to publication, these data are referred back to jurisdictions for checking and review. The NPESU does not adjust the data to correct for missing values. Note that because of data editing and subsequent updates of State/Territory databases, and because data are being reported by place of residence rather than place of birth the numbers reported for this indicator differ from those in reports published by the states and territories. The data are not rounded.  The data supplied for the 2011 Perinatal NMDS by Victoria to prepare this indicator was provisional and subject to vary with data quality activities. Further minor changes to the data are not forseen to produce any detectable change to the indicator.  The geographical location code for the area of usual residence of the mother is included in the Perinatal NMDS. Only 0.1 per cent of records were non-residents or could not be assigned to a state or territory of residence. There is no scope in the data element Area of usual residence of mother to discriminate temporary residence of mother for the purposes of accessing birthing services from usual residence. The former may differentially impact populations from remote and very remote areas, where services are not available locally.  Birthweight is nearly universally reported. Less than 0.05 per cent of records were missing overall. Data presented by Indigenous status are influenced by the quality and completeness of Indigenous identification of mothers which is likely to differ among jurisdictions. Approximately 0.2 per cent of mothers who gave birth in the reference period had missing Indigenous status information. No adjustments have been made for under-identification or missing Indigenous status information and thus jurisdictional comparisons of Indigenous data should not be made.  Disaggregated data by Indigenous status is reported by single year for time series and by three-year combined data for the current reporting period. Single year data by Indigenous status should be used with caution due to the small number of low birthweight infants born to Indigenous mothers each year. | |
| **Coherence** | | Data for this indicator are published annually in *Australia’s mothers and babies*; and biennially in reports such as the *Aboriginal and Torres Strait Islander Health Performance Framework* report, the *Health and Welfare of Australia’s Aboriginal and Torres Strait Islander Peoples*, and the *Overcoming Indigenous Disadvantage* report. The numbers presented in these publications will differ slightly from those presented here as this measure excludes multiple births and stillbirths.  Changing levels of Indigenous identification over time and across jurisdictions may also affect the accuracy of compiling a consistent time series in future years.  In 2011, the ABS updated the standard geography used in Australia for most data collections from the Australian Standard Geographical Classification (ASGC) to the Australian Statistical Geography Standard (ASGS). Also updated at this time were remoteness areas and the Socio-Economic Indices for Areas (SEIFA), based on the 2011 ABS Census of Population and Housing.  The new remoteness areas will be referred to as RA 2011, and the previous remoteness areas as RA 2006. The new SEIFA will be referred to as SEIFA 2011, and the previous SEIFA as SEIFA 2006.  Data for 2007 through to 2010 reported by remoteness are reported for RA 2006. Data for 2011 are reported for RA 2011. The AIHW considers the change from RA 2006 to RA 2011 to be a series break when applied to data supplied for this indicator, therefore remoteness data for 2010 and previous years are not comparable to remoteness data for 2011 and subsequent years.  Data for 2007 through to 2010 reported for SEIFA quintiles and deciles are reported using SEIFA 2006 at the Statistical Local Area (SLA) level. Data for 2011 are reported using SEIFA 2011 at the SLA level. The AIHW considers the change from SEIFA 2006 to SEIFA 2011 to be a series break when applied to data supplied for this indicator, therefore SEIFA data for 2011 are not directly comparable with SEIFA data from previous years. | |
| **Accessibility** | | The AIHW provides a variety of products that draw upon the NPDC. Published products available on the AIHW website are:   * *Australia’s mothers and babies annual report* * *Indigenous mothers and their babies, Australia 2001–2004* * *METeOR – online metadata repository* * *National health data dictionary*.   Ad-hoc data are also available on request (charges apply to recover costs). | |
| **Interpretability** | | Supporting information on the use and quality of the Perinatal NMDS are published annually in *Australia’s mothers and babies* (Chapter 1), available in hard copy or on the AIHW website. Comprehensive information on the quality of Perinatal NMDS elements are published in *Perinatal National Minimum Data Set compliance evaluation: 2006-2009*. Readers are advised to read caveat information to ensure appropriate interpretation of the performance indicator. More detailed information on the quality of Indigenous data that might affect interpretation of the indicator was published in *Indigenous mothers and their babies, Australia 2001–2004* (Chapter 1 and Chapter 5).  Metadata information for this indicator has been published in the AIHW’s online metadata repository, METeOR. Metadata information for the Perinatal NMDS are also published in METeOR, and in the *National health data dictionary*. | |
| **Data Gaps/Issues Analysis** | | | |
| **Key data gaps /issues** | | | The Steering Committee notes the following issues:   * Birthweight is included in the Perinatal National Minimum Data Set (NMDS) and data are complete for over 99.9 per cent of babies. * This measure only includes births of at least 20 weeks gestation or 400 grams birthweight. It excludes multiple births and stillbirths and the measure may therefore differ slightly from information presented in other publications on low birthweight. * The National Perinatal Data Collection (NPDC) includes information on the Indigenous status of the mother only. Since 2005, all jurisdictions have collected information on Indigenous status of the mother in accordance with the Perinatal NMDS. * No formal national assessment has been undertaken to determine completeness of the coverage or identification of Indigenous mothers in the NPDC. The current data have not been adjusted for under-identification of Indigenous status of the mother and thus jurisdictional comparisons of Indigenous data should not be made. * Remoteness data for 2010 and previous years are not directly comparable to remoteness data for 2011 and subsequent years. * SEIFA data for 2011 are not directly comparable with SEIFA data from previous years. |

### Prevalence of risk factors to the health of Australians

#### Prevalence of overweight and obesity

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by AIHW) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Prevalence of risk factors to the health of Australians — Proportion of adults and children who are overweight or obese. | |
| **Measure (computation)** | Numerator: Number of people aged 18 years and over with a Body Mass Index (BMI) greater than or equal to 25, and number of children aged 5–17 years exceeding age and sex specific BMI values for overweight and obesity.  Denominator: Number of people aged 18 years and over and number of children aged 5–17 years, for whom height and weight measurements were taken. | |
| **Data source/s** | For the 2014 reporting cycle, the denominator and numerator for this indicator, for the general and non-indigenous population, use data from the full sample or Core component of the general population component of the ABS Australian Health Survey (AHS) from approximately 32 000 people, which is weighted to benchmarks for the total AHS in-scope estimated resident population (ERP) at 31 October 2011.  This information replaces data supplied for the 2013 reporting cycle which was based on the National Health Survey (NHS) subset (20 500 people) of the full sample (32 000 people). The larger sample size (the full sample or core) supplied for the 2014 reporting cycle provides more accurate estimates and allows for analysis at a finer level of disaggregation. For more information on the structure of the AHS, see *Structure of the Australian Health Survey*.  For the 2014 reporting cycle, the denominator and numerator for the Aboriginal and Torres Strait Islander population use data from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) component of the 2012-13 Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS) from approximately 9300 people, which is weighted to benchmarks for the Aboriginal and Torres Strait Islander ERP at 30 June 2011. For the 2015 reporting cycle, data from the full sample or Core component of the AATSIHS of approximately 13 000 people will be used. For more information on the structure of the AATSIHS, see *Structure of the Australian Aboriginal and Torres Strait Islander Health Survey*.  Data reported for 2007-08 are from the ABS 2007-08 NHS. Data reported for 2004-05 are from the ABS 2004-05 NHS and the ABS 2004-05 NATSIHS. | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | The AHS and NATSIHS were collected, processed, and published by the Australian Bureau of Statistics (ABS). The ABS operates within a framework of the Census and Statistics Act 1905 and the Australian Bureau of Statistics Act 1975. These ensure the independence and impartiality from political influence of the ABS, and the confidentiality of respondents.  For more information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment on the ABS website, www.abs.gov.au. |
| **Relevance** | | The 2011–13 AHS and 2011-12 NATSIHS collected measured height and weight from persons aged 2 years and over. For the purposes of this indicator, Body Mass Index (BMI) values are derived from measured height and weight information using the formula: weight (kg) / height (m)2.  Despite some limitations, BMI is widely used internationally as a relatively straightforward way of measuring overweight and obesity. |
| **Timeliness** | | The AHS is conducted every three years over a 12 month period. Results from the Core component of the AHS were released in June 2013.  The AATSIHS is conducted over a 12 month period, approximately every 6 years. Results from the NATSIHS component of the AATSIHS were released in November 2013. The previous NATSIHS was conducted in 2004-05. |
| **Accuracy** | | The AHS was conducted in all States and Territories, excluding very remote areas. Non-private dwellings such as hotels, motels, hospitals, nursing homes and short-stay caravan parks were also not included in the survey. The exclusion of persons usually residing in very remote areas has a small impact on estimates, except for the NT, where such persons make up approximately 23 per cent of the population. The response rate for the 2011‑12 Core component was 82 per cent. Results are weighted to account for non-response.  The AATSIHS was conducted in all States and Territories, including very remote areas. Non-private dwellings such as hotels, motels, hospitals, nursing homes and short-stay caravan parks were excluded from the survey. The final response rate for the 2012-13 NATSIHS component was 80 per cent. Results are weighted to account for non-response.  As they are drawn from a sample survey, data for the indicator are subject to sampling error. Sampling error occurs because only a small proportion of the population is used to produce estimates that represent the whole population. Sampling error can be reliably estimated as it is calculated based on the scientific methods used to design surveys. Rates should be considered with reference to their Relative Standard Error (RSE). Estimates with RSEs between 25 per cent and 50 per cent should be used with caution. Estimates with RSEs greater than 50 per cent are generally considered too unreliable for general use.  The following comments apply to data for the general and non-Indigenous populations only.   * Data for overweight and obesity are not directly comparable to the 2004‑05 NHS due to the difference in collection methodology and possible erroneous estimation of respondent self-reported measurements in 2004‑05 * Data for the NT for 2011-12 are not comparable to previous years due to the increase in sample size. Data for the NT for 2007-08 should be used with caution due to large RSEs resulting from the small sample size. * RSEs for adult overweight and obesity rates by State/Territory and Remoteness Areas are generally within acceptable limits, except for remote areas in all jurisdictions and outer regional areas in Victoria where rates are considered too unreliable for general use. * The breakdown by State/Territory and SEIFA quintiles for adults in general has sampling error within acceptable limits, except quintile 5 in the NT which should be used with caution. For children, remoteness and SEIFA disaggregations by State/Territory should generally be used with caution. * Adult overweight and obesity rates by age and sex generally have acceptable levels of sampling error at the State/Territory level, though some of the rates for females in the NT should be used with caution. * Sampling errors for BMI data for adults by State/Territory are generally within acceptable limits, though rates of underweight for most States/Territories for both adults and children should be used with caution.   The following comments apply to data from the NATSIHS for the Aboriginal and Torres Strait Islander population only:   * Data for overweight and obesity are not directly comparable to the 2004‑05 NATSIHS due to the difference in collection methodology and possible erroneous estimation of respondent self-reported measurements in 2004‑05. * Data collected on measured height, weight and waist circumference in the 2012-13 NATSIHS used the same methodology and equipment as the 2011-12 NHS. Neither survey collected self-reported measurements so the two are directly comparable. |
| **Coherence** | | The methods used to construct the indicator are consistent and comparable with other collections and with international practise.  Most surveys, including Computer-Assisted Telephone Interviewing (CATI) health surveys conducted by the States and Territories, collect only self‑reported height and weight. There is a general tendency across the population for people to overestimate height and underestimate weight, which results in BMI scores based on self-reported height and weight to be lower than BMI scores based on measured height and weight. Therefore, NHS and NATSIHS data for 2004-05 are not comparable with 2011–13 data which are based on measured height and weight.  The age- and sex-specific cutoff points for BMI categories for children are from the work of Cole TJ, Bellizzi MC, Flegal KM & Dietz WH 2000, “Establishing a standard definition for child overweight and obesity worldwide: international survey”, BMJ 320:1240.  The AHS collected a range of other health-related information that can be analysed in conjunction with BMI. |
| **Accessibility** | | See *Australian Health Survey: First Results* (Cat. no. 4364.0.55.001) and *Australian Health Survey: Health Service Usage and Health Related Actions* (Cat. no. 4364.0.55.002) for an overview of results from the NHS component of the AHS. See: *Australian Health Survey: Updated Results* (Cat. no. 4364.0.55.003) for results from the Core component of AHS. Other information from this survey is also available on request.  The data for NATSIHS are available from the ABS website in the publication *Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13* (Cat. no. 4727.0.55.001). Other information from the survey is available on request. |
| **Interpretability** | | Information to aid interpretation of the data is available on the ABS website from the *Australian Health Survey: User Guide, 2011-13* (Cat. no. 4363.0.55.001) and the *Australian Aboriginal and Torres Strait Islander Health Survey: Users’ Guide, 2012-13* (Cat. no. 4727.0.55.002).  Many health-related issues are closely associated with age; therefore data for this indicator have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the States and Territories. Age standardised rates should be used to assess the relative differences between groups, not to infer the rates that actually exist in the population.  For information on how the results compare between the two samples, see Comparison of Results in Australian Health Survey: Updated Results (cat. No. 4364.0.55.003). |

#### Rates of current daily smokers

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by AIHW) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Prevalence of risk factors to the health of Australians — Rates of current daily smokers. | |
| **Measure (computation)** | Numerator: Number of persons aged 18 years or over who smoke tobacco every day.  Denominator: Population aged 18 years or over. | |
| **Data source/s** | For the 2014 reporting cycle, the denominator and numerator for this indicator, for the general and non-indigenous population, use data from the full sample or Core component of the general population component of the ABS Australian Health Survey (AHS) from approximately 32 000 people, which is weighted to benchmarks for the total AHS in-scope estimated resident population (ERP) at 31 October 2011.  This information replaces data supplied for the 2013 reporting cycle which was based on the National Health Survey (NHS) subset (20 500 people) of the full sample (32 000 people). The larger sample size (the full sample or core) supplied for the 2014 reporting cycle provides more accurate estimates and allows for analysis at a finer level of disaggregation. For more information on the structure of the AHS, see *Structure of the Australian Health Survey*.  For the 2014 reporting cycle, the denominator and numerator for the Aboriginal and Torres Strait Islander population use data from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) component of the 2012-13 Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS) from approximately 9300 people, which is weighted to benchmarks for the Aboriginal and Torres Strait Islander ERP at 30 June 2011. For the 2015 reporting cycle, data from the full sample or Core component of the AATSIHS of approximately 13 000 people will be used. For more information on the structure of the AATSIHS, see *Structure of the Australian Aboriginal and Torres Strait Islander Health Survey*.  Data reported for 2007-08 are from the ABS 2007-08 NHS and the ABS 2008 National Aboriginal and Torres Strait Islander Social Survey. | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | The AHS and NATSIHS were collected, processed, and published by the Australian Bureau of Statistics (ABS). The ABS operates within a framework of the Census and Statistics Act 1905 and the Australian Bureau of Statistics Act 1975. These ensure the independence and impartiality from political influence of the ABS, and the confidentiality of respondents.  For more information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment. |
| **Relevance** | | The AHS and NATSIHS collected self-reported information on smoker status from persons aged 15 years and over. This refers to the smoking of tobacco, including manufactured (packet) cigarettes, roll-your-own cigarettes, cigars and pipes, but excluding chewing tobacco and smoking of non-tobacco products. The ‘current daily smoker’ category includes respondents who reported at the time of interview that they regularly smoked one or more cigarettes, cigars or pipes per day. |
| **Timeliness** | | The AHS is conducted every three years over a 12 month period. Results from the 2011-12 Updated Results (Core) component of the AHS were released in June 2013.  The AATSIHS is conducted over a 12 month period, approximately every 6 years. Results from the NATSIHS component of the AATSIHS were released in November 2013. |
| **Accuracy** | | The AHS was conducted in all States and Territories, excluding very remote areas. Non-private dwellings such as hotels, motels, hospitals, nursing homes and short-stay caravan parks were also not included in the survey. The exclusion of persons usually residing in very remote areas has a small impact on estimates, except for the NT, where such persons make up approximately 23 per cent of the population. The response rate for the 2011‑12 Core component was 82 per cent. Results are weighted to account for non-response.  The AATSIHS was conducted in all States and Territories, including very remote areas. Non-private dwellings such as hotels, motels, hospitals, nursing homes and short-stay caravan parks were excluded from the survey. The final response rate for the 2012-13 NATSIHS component was 80 per cent. Results are weighted to account for non-response.  As they are drawn from a sample survey, data for the indicator are subject to sampling error. Sampling error occurs because only a small proportion of the population is used to produce estimates that represent the whole population. Sampling error can be reliably estimated as it is calculated based on the scientific methods used to design surveys. Rates should be considered with reference to their Relative Standard Error (RSE). Estimates with RSEs between 25 per cent and 50 per cent should be used with caution. Estimates with RSEs greater than 50 per cent are generally considered too unreliable for general use.  The following comments apply to data for the general and non-Indigenous populations only.   * Data for Northern Territory in 2011-12 is not comparable to previous years due to the increase in sample size. Data for the NT for 2007-08 should be used with caution due to large RSEs resulting from the small sample size. * This indicator generally has acceptable levels of sampling error for State/Territory by sex and age breakdown, for persons under the age of 65 years. For persons aged 65 years or over, rates for the ACT and the NT should be used with caution. * RSEs for adult smoking rates by State/Territory and remote areas are mostly greater than 25 per cent and should either be used with caution or are considered too unreliable for general use. * Adult smoking rates generally have acceptable levels of sampling error for State/Territory and SEIFA quintiles, though some rates for Victoria, Queensland, South Australia, Tasmania, Australian Capital Territory and Northern Territory should either be used with caution or are considered too unreliable for general use.   The following comments apply to data from the NATSIHS for the Indigenous population only:   * Smoking questions were changed in the 2012-13 NATSIHS to add questions about specific tobacco products (chewing tobacco, cigars, pipes, other), in order to account for potential high levels of chewing tobacco use among Aboriginal and Torres Strait islander people, which would elevate nicotine levels observed in biomedical data. This change in the questionnaire is minor and the data are considered to be comparable to the 2011-12 AHS data. * Overall, this indicator has an RSE of less than 25 per cent for all states and territories. Finer levels of disaggregation (e.g. by the inclusion of other cross- classifying variables) may result in higher levels of sampling error. |
| **Coherence** | | The methods used to construct the indicator are consistent and comparable with other collections and with international practice. The AHS collected a range of other health-related information that can be analysed in conjunction with smoker status.  Other non-ABS collections, such as the National Drug Strategy Household Survey (NDSHS), report estimates of smoker status. Results from the recent NDSHS in 2010 show slightly lower estimates for current daily smoking than in the 2011-13 AHS. These differences may be due to the greater potential for non-response bias in the NDSHS and the differences in collection methodology. |
| **Accessibility** | | See *Australian Health Survey: First Results* (Cat. no. 4364.0.55.001) and *Australian Health Survey: Health Service Usage and Health Related Actions* (Cat. no. 4364.0.55.002) for an overview of results from the NHS component of the AHS. See: *Australian Health Survey: Updated Results* (Cat. no. 4364.0.55.003) for results from the Core component of AHS. Other information from this survey is also available on request.  The data for NATSIHS are available from the ABS website in the publication *Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13* (Cat. no. 4727.0.55.001). Other information from the survey is available on request. |
| **Interpretability** | | Information to aid interpretation of the data is available on the ABS website from the *Australian Health Survey: User Guide, 2011-13* (Cat. no. 4363.0.55.001) and the *Australian Aboriginal and Torres Strait Islander Health Survey: Users’ Guide, 2012-13* (Cat. no. 4727.0.55.002).  Many health-related issues are closely associated with age; therefore data for this indicator have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the States and Territories. Age standardised rates should be used to assess the relative differences between groups, not to infer the rates that actually exist in the population. |

#### Levels of risky alcohol consumption

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by AIHW) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Prevalence of risk factors to the health of Australians — Levels of risky alcohol consumption. | |
| **Measure (computation)** | Numerator: Number of persons aged 18 years and over who reported an average of more than 2 standard drinks per day in the last week.  Denominator: Number of persons aged 18 years and over. | |
| **Data source/s** | The denominator and numerator for this indicator, for the general and non‑indigenous population, use data from the National Health Survey (NHS) component of the general population component of the ABS Australian Health Survey (AHS), which is weighted to benchmarks for the total AHS in-scope estimated resident population (ERP) at 31 October 2011. For information on scope and coverage, see the *Australian Health Survey: Users’ Guide* (Cat. no. 4363.0.55.001) on the ABS website, www.abs.gov.au.  For the 2014 reporting cycle, the denominator and numerator for the Aboriginal and Torres Strait Islander population use data from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) component of the 2012-13 Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS) from approximately 9300 people, which is weighted to benchmarks for the Aboriginal and Torres Strait Islander ERP at 30 June 2011. For more information on the structure of the AATSIHS, see *Structure of the Australian Aboriginal and Torres Strait Islander Health Survey*.  Data reported for 2007-08 are from the ABS 2007-08 NHS. Data reported for 2004-05 are from the ABS 2004-05 NHS and the ABS 2004-05 NATSIHS. | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | The AHS and NATSIHS were collected, processed, and published by the Australian Bureau of Statistics (ABS). The ABS operates within a framework of the Census and Statistics Act 1905 and the Australian Bureau of Statistics Act 1975. These ensure the independence and impartiality from political influence of the ABS, and the confidentiality of respondents.  For more information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment. |
| **Relevance** | | The 2011-12 NHS and 2012-13 NATSIHS collected self-reported information on alcohol consumption from persons aged 15 years and over. Respondents were asked to report the number of drinks of each type they had consumed, the size of the drinks, and, where possible, the brand name(s) of the drink(s) consumed on each of the most recent three days in the last week on which they had consumed alcohol.  Intake of alcohol refers to the quantity of alcohol contained in any drinks consumed, not the quantity of the drinks.  According to average daily alcohol intake over the 7 days of the reference week, persons who consumed more than 2 standard drinks on any day were at risk of long term health problems.  To measure against the 2009 guidelines, reported quantities of alcoholic drinks consumed were converted to millilitres (mls) of alcohol present in those drinks, using the formula:   * alcohol content of the type of drink consumed (%) x number of drinks (of that type) consumed x vessel size (in millilitres).   An average daily amount of alcohol consumed was calculated (i.e. an average over the 7 days of the reference week), using the formula:   * average consumption over the 3 days for which consumption details were recorded x number of days consumed alcohol / 7.   According to average daily alcohol intake over the 7 days of the reference week, persons who consumed more than 2 standard drinks on any day were at risk of long term health problems. |
| **Timeliness** | | The AHS is conducted every three years over a 12 month period. Results from the 2011-12 NHS component of the AHS were released in October 2012.  The AATSIHS is conducted over a 12 month period, approximately every 6 years. Results from the NATSIHS component of the AATSIHS were released in November 2013. The previous NATSIHS was conducted in 2004-05. |
| **Accuracy** | | The AHS was conducted in all States and Territories, excluding very remote areas. Non-private dwellings such as hotels, motels, hospitals, nursing homes and short-stay caravan parks were also not included in the survey. The exclusion of persons usually residing in very remote areas has a small impact on estimates, except for the Northern Territory, where such persons make up approximately 23 per cent of the population. The response rate for the 2011-12 NHS component was 85 per cent. Results are weighted to account for non-response.  The AATSIHS was conducted in all States and Territories, including very remote areas. Non-private dwellings such as hotels, motels, hospitals, nursing homes and short-stay caravan parks were excluded from the survey. The final response rate for the 2012-13 NATSIHS component was 80 per cent. Results are weighted to account for non-response.  As they are drawn from a sample survey, data for the indicator are subject to sampling error. Sampling error occurs because only a small proportion of the population is used to produce estimates that represent the whole population. Sampling error can be reliably estimated as it is calculated based on the scientific methods used to design surveys. Rates should be considered with reference to their Relative Standard Error (RSE). Estimates with RSEs between 25 per cent and 50 per cent should be used with caution. Estimates with RSEs greater than 50 per cent are generally considered too unreliable for general use.  The collection of accurate data on quantity of alcohol consumed is difficult, particularly where recall is concerned, given the nature and possible circumstances of consumption. The use of the one week reference period (with collection of data for the most recent three days in the last week on which the person drank) is considered to be short enough to minimise recall bias but long enough to obtain a reasonable indication of drinking behaviour. While the last week exact recall method may not always reflect the usual drinking behaviour of the respondent at the individual level, at the population level this is expected to largely average out.  The collection and coding of individual brands and container size ensures that no mental calculation is required of the respondent in reporting standard drinks, and is considered to eliminate potential for the underestimation bias which is known to occur when people convert drinks into standard drinks.  The following comments apply to data for the general and non-Indigenous populations only.   * Data for the NT in 2011-12 are not comparable to previous years due to the increase in sample size in 2011-12. Data for the NT for 2007-08 should be used with caution due to large RSEs resulting from the small sample size * This indicator generally has acceptable levels of sampling error for State/Territory and Remoteness Areas, except for remote areas where some rates are considered too unreliable for general use. The breakdown by State/Territory and SEIFA quintiles in general has sampling error within acceptable limits, except for the two lowest quintiles in the ACT which should either be used with caution or are considered too unreliable for general use. |
| **Coherence** | | The AHS and AATSIHS collected a range of other health-related information that can be analysed in conjunction with alcohol risk level. For more detailed information see the *Australian Health Survey: Users’ Guide* and the *Australian Aboriginal and Torres Strait Islander Health Survey: Users’ Guide*, available on the ABS website.  Aggregate levels of alcohol consumption implied by the AHS are somewhat less than the estimates of apparent consumption of alcohol based on the availability of alcoholic beverages in Australia from taxation and customs data, see *Apparent Consumption of Alcohol, 2010-11* (Cat. no. 4307.0.55.001). This suggests a tendency towards under-reporting of alcohol consumption in self-report surveys.  Other collections, such as the National Drug Strategy Household Survey (NDSHS), report against the same NHMRC guidelines. Results from the most recent NDSHS in 2010 show slightly lower estimates for long-term harm from alcohol than in the 2011-13 AHS. These differences may be due to the greater potential for non-response bias in the NDSHS and the differences in collection methodology. |
| **Accessibility** | | See *Australian Health Survey: First Results* (Cat. no. 4364.0.55.001) and *Australian Health Survey: Health Service Usage and Health Related Actions* (Cat. no. 4364.0.55.002) for an overview of results from the NHS component of the AHS. See: *Australian Health Survey: Updated Results* (Cat. no. 4364.0.55.003) for results from the Core component of AHS. Other information from this survey is also available on request.  The data for NATSIHS are available from the ABS website in the publication *Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13* (Cat. no. 4727.0.55.001). Other information from the survey is available on request. |
| **Interpretability** | | Information to aid interpretation of the data is available from the *Australian Health Survey: Users’ Guide* and the *Australian Aboriginal and Torres Strait Islander Health Survey: Users’ Guide* on the ABS website.  Many health-related issues are closely associated with age; therefore data for this indicator have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the States and Territories. Age standardised rates should be used to assess the relative differences between groups, not to infer the rates that actually exist in the population. |

### Selected potentially preventable diseases

#### Incidence of selected cancers

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by AIHW) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Selected potentially preventable diseases — Incidence of selected cancers | |
| **Measure (computation)** | The selected cancers of public health importance are bowel cancer, lung cancer, melanoma of the skin, breast cancer in females and cervical cancer.  For bowel cancer, lung cancer and melanoma, the numerator is the number of new cases occurring in the Australian population in the reported year. The denominator is the total Australian population for the same year.  For breast and cervical cancer the numerator is the number of new cases occurring in the Australian female population in the reported year. The denominator is the total Australian female population for the same year.  Calculation is 100 000 × (Numerator ÷ Denominator), calculated separately for each type of cancer, presented as a rate per 100 000 and age-standardised to the Australian population as at 30 June 2001. | |
| **Data source/s** | *Numerator:* Australian Cancer Database (ACD)  *Denominators:*  For bowel cancer, lung cancer and melanoma: Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP).  For breast and cervical cancer: ABS ERP for female population.  For data by Indigenous status: ABS Indigenous Experimental Estimates and Projections (Indigenous population) Series B.  For data by Remoteness area: ABS ERPs for Australian Standard Geographical Classifications (ASGC) Remoteness Areas.  For data by socioeconomic status: calculated by AIHW using the ABS’ 2006 Index of Relative Socio-economic Disadvantage (IRSD) and ERPs by Statistical Local Area (SLA). Each SLA in Australia is ranked by IRSD score and divided into quintiles and deciles in a population-based manner, such that each quintile has approximately 20 per cent of the population and each decile has approximately 10 per cent of the population. | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | The National Cancer Statistics Clearing House (NCSCH), housed at the AIHW, is a collaborative partnership between the AIHW and the Australasian Association of Cancer Registries (AACR).  Cancer incidence data are supplied to the AIHW by state and territory cancer registries. These data are compiled by AIHW to form the Australian Cancer Database (ACD). All jurisdictions have legislation requiring mandatory reporting of all cancer cases with the exception of basal cell carcinoma of the skin and squamous cell carcinoma of the skin. |
| **Relevance** | | The data used to calculate this indicator are accurate and of high quality. The mandatory reporting of cancers and the use of Estimated Resident Populations (ERPs) based on Census data for denominators provides the most comprehensive data coverage possible. The data are appropriate for this indicator. |
| **Timeliness** | | Data available for the 2014 Report are based on cancers diagnosed in 2010, noting that cancers for NSW and ACT are based on estimates. |
| **Accuracy** | | 2010 incidence data for NSW and ACT were not available for inclusion in the 2010 version of the ACD. The development of the new NSW Cancer Registries system has resulted in a delay in processing incidence data for 2010 onwards. Details of the expected time-line for processing of 2010 cancer incidence data for NSW and ACT are available at www.cancerinstitute.org.au/data-and-statistics/accessing-our-data/availability-of-nsw-central-cancer-registry-data#incidence-when-2009. Therefore 2010 incidence data for NSW and ACT were estimated by the AIHW. Although the estimation procedure has been shown to be reasonably accurate for estimating overall cancer incidence, its accuracy with respect to individual cancers will vary.  As NSW and ACT make up about a third of Australia’s population, the national incidence data for 2010 is likely to be somewhat inaccurate for some individual cancers; which cancers these are is not predictable. Until the actual 2010 cancer data are available from these jurisdictions caution should be exercised when comparing the 2010 NSW, ACT and Australian data with data from previous years. The estimates of 2010 incidence in NSW and ACT cannot be disaggregated by Indigenous status, remoteness area or socioeconomic status. The Australian totals for these tables do not include NSW and ACT.  It is anticipated that the 2011 version of the ACD will include the real 2010 incidence data for NSW and ACT.  2009 incidence data for NSW and ACT include estimates of so-called ‘death certificate only’ (DCO) cases. An extended delay in the provision of 2009 mortality data from the Council of Australian Registrars has meant that NSW and ACT have not been able to register cases of cancer that are recorded on a death certificate but which were not notified to the cancer registry by any other means. The number of such cases in 2009 for each cancer, sex and age group has been estimated by the AIHW based on the numbers observed for 2004–2008. Overall for the five cancers covered in the Indicator, about 1.2 per cent of NSW cases and 1.4 per cent of ACT cases are estimated DCO cases. The percentage varies by cancer type.  For Indigenous status, the numerator for ‘Indigenous’ is the number of people who self-reported that they were Indigenous at the time of diagnosis. ‘Other’ includes those who self-reported that they were not Indigenous at the time of diagnosis and those who chose not to identify as either Indigenous or non-Indigenous.  Caution is required when examining differences across Indigenous status as Vic, SA, Tas and ACT do not have adequate data quality for this indicator. NSW, Qld, WA and NT have indicated that their Indigenous data quality is sufficient for reporting; however, 2010 incidence data for NSW is estimated and Indigenous status for these estimates is not available. Therefore, in 2010, Qld, WA and NT are the only jurisdictions with adequate Indigenous data quality.  Socioeconomic status rankings (by Index of Relative Socio-Economic Disadvantage (IRSD) score) are calculated by SLA using a population-based method at the Australia-wide level. That is, the quintiles are national quintiles, not state and territory quintiles.  An SLA-to-remoteness-area concordance and SLA-to-socioeconomic-status concordance were used to allocate remoteness area and socioeconomic status to each record on the ACD based on the person’s SLA of residence at time of diagnosis.  Caution is required when examining differences across remoteness area and socioeconomic status categories. The SLA of a person is computed by the cancer registry based on the address provided by the person. Some people may supply an address other than that where they normally reside or the details the person provides may not correspond to a valid address meaning that their cancer record cannot be allocated to a remoteness area or socioeconomic status category at all. Such records are excluded from the tables and this may affect some remoteness area and socioeconomic categories more than others. Also, because the concordances are based on the 2006 census, SLA boundaries may have changed over time which creates inaccuracies.  Due to the very small number of diagnoses involved, disaggregation by Indigenous status, or remoteness area, or socioeconomic status by state and territory is not necessarily robust. For example, some SLAs cover a large and heterogeneous geographical area including towns and very remote areas, yet all people in a given SLA are assigned the same socioeconomic status.  Variability bands have been provided to indicate the extent to which conclusions can be drawn about differences in incidence rates between population subgroups. The bands are calculated as 95  per cent confidence intervals around the age-standardised rate, based on the assumption that the number of cancers diagnosed within each category is a Poisson random variable. Although this is a standard assumption in cancer incidence calculations around the world it is important to note that it is not possible to prove or disprove this assumption.  This indicator only counts one year of incidence data. For jurisdictions that record relatively small numbers of cancers, rates may fluctuate widely from year to year; these changes should be interpreted with caution.  Due to Health Department policy in the ACT and NT, incidence rates based on counts of between 1 and 4 persons have been suppressed because of statistical unreliability.  This indicator is calculated on data that have been supplied to the AIHW and undergone extensive checks at both the source cancer registry and the AIHW. The state and territory cancer registries have checked the tables and given their approval for the AIHW to supply them to the Productivity Commission. |
| **Coherence** | | These data are published annually by the AIHW. While there are sometimes changes to coding for particular cancers, it is possible to map coding changes to make meaningful comparisons over time.  Not all Australian State and Territory cancer registries use the same ICD‑10 code groupings to classify certain cancers. Further, the national cancer data presented here may use different code groupings to some jurisdictions. This may mean that data presented here are different to that reported by individual jurisdictional cancer registries, for certain cancers.  The AIHW define the PI4 cancers by the following ICD 10 codes:   * Cancer ICD10 codes * Bowel C18–C20 * Lung C34 * Melanoma C43 * Female breast C50 * Cervical C53   Some State and Territory jurisdictions may use different methodologies for particular subgroups (for example, some may use an imputation method for determining Indigenous cancers). This may lead to differences in rates between this Indicator and those shown in jurisdictional cancer incidence reports.  The incidence rate in Indigenous Australians may fluctuate considerably from year to year due to the behaviour of rare events in small populations. |
| **Accessibility** | | The NCSCH provides summary cancer incidence and mortality data annually via the AIHW website where they can be downloaded free of charge. A biennial report, *Cancer in Australia*, is published and is also available on the AIHW website where it can be downloaded without charge. More specialised data can be requested via the AIHW website. |
| **Interpretability** | | While numbers of new cancers are easy to interpret, calculation of age-standardised rates is more complex and the concept may be confusing to some readers. Information on how and why age-standardised rates have been calculated and how to interpret them is available in all AIHW cancer publications presenting data in this format, for example, *Cancer in Australia: an overview, 2012*. Information about the Australian Cancer Database is available on the AIHW website. |
| **Data Gaps/Issues Analysis** | | |
| **Key data gaps /issues** | | The Steering Committee notes the following issues:   * 2010 incidence data for NSW and ACT were not available for inclusion in the 2010 version of the Australian Cancer Database (ACD). The development of the new NSW Cancer Registries system has resulted in a delay in processing incidence data for 2010 onwards. Details of the expected time-line for processing of 2010 cancer incidence data for NSW and ACT are available at: www.cancerinstitute.org.au/data-and-statistics/accessing-our-data/availability-of-nsw-central-cancer-registry-data#incidence-when-2009. Therefore 2010 incidence data for NSW and ACT were estimated by the Australian Institute of Health and Welfare (AIHW). Although the estimation procedure has been shown to be reasonably accurate for estimating overall cancer incidence, its accuracy with respect to individual cancers will vary. Until the actual 2010 cancer data are available from these jurisdictions caution should be exercised when comparing the 2010 NSW, ACT and Australian data with data from previous years. The estimates of 2010 incidence in NSW and ACT cannot be disaggregated by Indigenous status, remoteness area or socioeconomic status. The Australian totals for these tables do not include NSW and ACT. * This indicator only counts one year of incidence data. For jurisdictions that record relatively small numbers of cancers, rates may fluctuate widely from year to year; these changes should be interpreted with caution. * The quality of Indigenous identification in cancer registry data varies between jurisdictions. National disaggregation by Indigenous status is based on jurisdictions with adequate data quality (NSW, Qld, WA and NT). Indigenous data for other jurisdictions should be interpreted with caution. Even with adequate data quality, the small numbers behind many disaggregations means certain Indigenous data are not robust enough for meaningful comparisons. Information on adequacy of Indigenous identification in cancer registry data is provided to AIHW by each jurisdictional cancer registry. * Some jurisdictions may use an imputation method to impute missing Indigenous status for reporting purposes. This may lead to an underreporting of rates in this Indicator compared to those shown in jurisdictional cancer incidence reports. * The incidence rate in Indigenous Australians may fluctuate considerably from year to year due to the behaviour of rare events in small populations. * Remoteness area and socioeconomic status are based on Statistical Local Area (SLA) of residential address at the time of diagnosis. * Due to Health Department policy in the ACT and NT, incidence rates based on counts of between 1 and 4 persons have been suppressed because of statistical unreliability. |

#### Incidence of heart attacks

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by AIHW) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Selected potentially preventable diseases — Incidence of heart attacks | |
| **Measure (computation)** | Count (a) number of deaths where ‘acute coronary heart disease’ (ICD-10 codes I20–I24) is the underlying cause of death in each calendar year (based on year of registration of death). For ages 25 years or over.  Count (b) number of non-fatal hospitalisations where ‘acute myocardial infarction’ (ICD-10-AM I21) or ‘unstable angina’ (ICD-10-AM I20.0) are the principal diagnosis, and separation mode is not equal to ‘died’ or ‘transferred to another acute hospital’, and care type is not equal to ‘newborn-unqualified days only’ or ‘organ procurement – posthumous’ or ‘hospital border’ in each calendar year (based on discharge date from hospital). For ages 25 years or over.  The number of acute coronary events is estimated by: (a) + (b):  *Numerator*  Number of deaths recorded with an underlying cause of acute coronary heart disease (a) plus the number of non-fatal hospitalisations with a principal diagnosis of acute myocardial infarction or unstable angina that do not end in a transfer to another acute hospital (b).  For ages 25 years or over.  *Denominator*  Total population aged 25 years or over for year in question.  *Rates*  100,000 x (numerator ÷ denominator).  Age specific rates are presented for each 10 year age group from 25 years, by sex.  Total rates are directly age-standardised to the 2001 Australian population using 10 year age groups.  *Indigenous*  National incidence estimates for Indigenous and Other Australians are calculated based on data from NSW, Qld, SA, WA and NT only.  Indigenous rates are directly age-standardised to the 2001 Australian population using 10 year age groups capped at 75 years or over.  The estimates for Indigenous and Other Australians are derived using only data from the five jurisdictions where the quality of identification is considered reasonable in both the NHMD and the NMD (NSW, Qld, WA, SA and NT). | |
| **Data source/s** | *Numerator*  Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database (NHMD), AIHW National Mortality Database (NMD)  *Denominator*  For total population: Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at 30 June (2007 to 2011).  For data by Indigenous status: ABS Indigenous Experimental Estimates and Projections (Indigenous population) Series B. | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | The Australian Institute of Health and Welfare (AIHW) has calculated this indicator using data extracted from the AIHW NHMD, the NMD and Australian Bureau of Statistics (ABS) population data.  The AIHW is a national agency set up by the Australian Government under the Australian *Institute of Health and Welfare Act 1987* to provide reliable, regular and relevant information and statistics on Australia’s health and welfare. It is an independent statutory authority established in 1987, governed by a management board, and accountable to the Australian Parliament through the Health portfolio.  The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure, hospitals, disease and injury, and mental health, to ageing, homelessness, disability and child protection.  The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with governments and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.  One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national datasets based on data from each jurisdiction, to analyse these datasets and disseminate information and statistics.  The *Australian Institute of Health and Welfare Act 1987*, in conjunction with compliance to the *Privacy Act 1988 (Commonwealth),* ensures that the data collections managed by the AIHW are kept securely and under the strictest conditions with respect to privacy and confidentiality.  For further information see the AIHW website www.aihw.gov.au. |
| **Relevance** | | The data provide an estimate of the incidence of acute coronary events in Australia, based on administrative data currently available. Non-fatal events are estimated from the National Hospital Morbidity Database (NHMD) and fatal events from the National Mortality Database (NMD).  It is an estimate of ‘events’, not individuals. It should be noted that an individual may have multiple events in the one year or in different years. Each would be counted.  The method of estimation has been developed based on an analysis of current hospital and deaths data (AIHW 2011, *Monitoring acute coronary syndrome using national hospital data: an information paper on trends and issues*. Cat. no. CVD 57. Canberra). This method has not yet been validated and should therefore be considered interim. The AIHW is currently undertaking work to validate the algorithm.  The accuracy of the estimates rely on the accuracy of coding of the principal diagnosis (as either AMI or UA) in the NHMD and of the underlying cause of death (as acute coronary heart disease) in the NMD. It also relies on the accuracy of coding of transfers to another acute hospital and of death in hospital.  One acute coronary event may involve multiple hospitalisations, due to transfers for treatment and on-going care. In the NHMD these are recorded as multiple unlinked hospital episodes. Therefore, to estimate the number of non-fatal events only those episodes that did not end in a transfer to another acute hospital or end in a death in hospital are counted.  The coding of principal diagnosis and the coding of death in hospital in the NHMD are likely to be of reasonable quality. However, the coding of transfers may vary across hospitals and jurisdictions.  It is possible that the method underestimates the number of fatal acute coronary deaths by only counting those deaths coded as ICD-10 I20-I24. This excludes chronic coronary heart disease (I25). It is possible that some deaths from heart attacks are coded as chronic heart disease, especially in older people. However, the extent of this is unknown until validation is undertaken.  The year in which the event occurred is determined from the separation date for hospitalisations, and from the year of registration of death.  Data are reported by the state or territory of residence of the person at the time of hospitalisation or death.  Variations in key variables (particularly in transfer rates) across jurisdictions indicate that the method of estimation may lead to an under-estimate of incidence in some jurisdictions and an over-estimate in others. This variation may be due to differences in treatment patterns but could also be due to differences in coding practices. As the extent of this cannot be measured until the algorithm is validated estimates are not reported at a jurisdictional level.  Estimates for Indigenous and Other Australians, are based on data from those jurisdictions where the quality of identification is considered reasonable in both the NHMD and the NMD. Only NSW, Qld, WA, SA and the NT are included in the national estimates reported by Indigenous status. Estimates for Other Australians are calculated by subtracting Indigenous estimates from total estimates for the five jurisdictions and divided by the population of Other Australians in those jurisdictions. Other Australians therefore includes non-Indigenous people and people whose Indigenous status was not stated or inadequately described. |
| **Timeliness** | | This indicator reports the latest information available (for years 2007 to 2011). |
| **Accuracy** | | The method of estimation has not yet been validated and possible errors are not able to be calculated at this time. Estimates should be treated with caution until the method is validated. This work will inform future reporting of data at a jurisdictional level.  The accuracy of the estimates will depend on the accuracy of coding in the NHMD and the NMD (see data sources for DQS for each data source). In particular the accuracy of coding of principal diagnosis, hospital transfers, deaths in hospital and underlying cause of death are central to the accuracy of the estimates.  The accuracy of Indigenous estimates is also reliant on the appropriate identification of Indigenous people in the NHMD and the NMD. Only five jurisdictions are considered to have reasonable quality Indigenous identification in both datasets required to estimate this indicator (the NHMD and the NMD). The five jurisdictions are NSW, QLD, WA, SA and the NT. Indigenous counts for the NT exclude acute coronary events treated in the private hospital in the NT. All non-fatal events treated in the private hospital in the NT are therefore included in the incidence counts for Other Australians.  The computation method for age-standardisation of data reported by Indigenous status has been refined since the previous reporting cycle.  Deaths occurring between 1992 and 2006 but registered in 2010 by the Queensland Registry of Births, Deaths and Marriages are excluded from the estimates for Indigenous and Other Australians.  NMD data for 2009 and 2010 has been revised since the previous reporting cycle. NMD data for 2010 and 2011 may be subject to further revisions. |
| **Coherence** | | This is the second year in which this indicator has been reported. The method should be considered as interim until validation is complete. |
| **Accessibility** | | The AIHW provide a variety of products that draw upon the NMD and NHMD including online data cubes and reports.  These products may be accessed on the AIHW website:  www.aihw.gov.au/hospitals-data/  www.aihw.gov.au/deaths/. |
| **Interpretability** | | NHMD  The NHMD data were supplied to the AIHW by state and territory health authorities. The state and territory health authorities received these data from public and private hospitals. States and territories use these data for service planning, monitoring, and internal and public reporting. Hospitals may be required to provide data to states and territories through administrative arrangements, contractual requirements or legislation.  The scope of the NHMD is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included.  The hospital separations data do not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.  States and territories supplied these data to the AIHW under the terms of the *National Health Information Agreement*.  The data quality statement for the AIHW National Hospital  Morbidity Database can be found in Appendix 1 of *Australian hospital statistics 2011‑12* or at www.aihw.gov.au/WorkArea/DownloadAsset .aspx?id=60129543822  Year specific data quality statements for the National Hospital Morbidity Database 2010-11 and 2011-12 can be found at: meteor.aihw.gov.au/ content/index.phtml/itemId/511338 and meteor.aihw.gov.au/content/ index.phtml/itemId/529483  NMD  The AIHW NMD contains cause of death information for all deaths registered in Australia. Information is provided to the AIHW by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS).  The data quality statements for the AIHW National Mortality Database can be found in the following ABS publications:  *ABS Quality declaration summary for Causes of death, Australia, 2011* (Cat. no. 3303.0) www.abs.gov.au/Ausstats/abs@.nsf/0/D4A300EE1E04AA43 CA2576E800156A24?OpenDocument and  *ABS Quality declaration summary for Deaths, Australia, 2011* (Cat. no. 3302.0) www.abs.gov.au/Ausstats/abs@.nsf/0/9FD0E6AAA0BB3388CA 25750B000E3CF5?OpenDocument |
| **Data Gaps/Issues Analysis** | | |
| **Key data gaps /issues** | | The Steering Committee notes the following issues:   * This indicator estimates the incidence of acute coronary events from the National Hospital Morbidity Database (NHMD) and the National Mortality Database (NMD). * It is an interim indicator while validation work is underway. * The accuracy of the estimates is reliant on the accuracy and consistency of coding of the principal diagnosis and underlying cause of death in each jurisdiction. It also relies on the accuracy of coding of transfers to another acute hospital and of death in hospital. * Variations in key variables (particularly in transfer rates in hospitals) across jurisdictions indicate that the method of estimation may lead to an under-estimate of incidence in some jurisdictions and an over-estimate in others. The extent of this cannot be measured until the algorithm is validated. As a result, State and Territory estimates are not presented. * The estimates shown in Table EA.29 for Indigenous and Other Australians are derived using only data from the five jurisdictions where the quality of identification is considered reasonable in both the NHMD and the NMD (NSW, Qld, WA, SA and NT). The estimates provided in table EA.30, by sex, are derived using data from all jurisdictions. |

#### Prevalence of type 2 diabetes

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by ABS) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Selected potentially preventable diseases — Prevalence of type 2 diabetes | |
| **Measure (computation)** | Numerator: Number of persons aged 18 years or over with known diabetes (type 2) or newly diagnosed diabetes as determined by a fasting plasma glucose test.  For the supplementary measure: number of persons aged 25 years and over with known diabetes (Type 2) or newly diagnosed diabetes as determined by a fasting plasma glucose test.  Denominator: Number of persons aged 18 years and over.  For the supplementary measure: number of persons aged 25 years and over. | |
| **Data source/s** | For the 2014 reporting cycle, the denominator and numerator for this indicator for the general population uses data from the 2011‑12 National Health Measures Survey (NHMS) component of the Australian Bureau Statistics (ABS) Australian Health Survey (AHS) (approximately 9500 people aged 18 years or over), which is weighted to benchmarks for the total AHS in-scope population derived from the Estimated Resident Population (ERP).  For information on scope and coverage, see the Australian Health Survey: Users’ Guide (cat. no. 4363.0.55.001) on the ABS website, www.abs.gov.au.  For the 2015 reporting cycle, the denominator and numerator for this indicator for the Aboriginal and Torres Strait Islander population will use data from the National Aboriginal and Torres Strait Islander Health Measures Survey (NATSIHMS) component of the 2012-13 Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS). | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | The 2011‑12 NHMS was collected, processed, and published by the Australian Bureau of Statistics (ABS). The ABS operates within a framework of the Census and Statistics Act 1905 and the Australian Bureau of Statistics Act 1975. These ensure the independence and impartiality from political influence of the ABS, and the confidentiality of respondents.  The interview components of the AHS were conducted under the Census and Statistics Act 1905. Ethics approval was sought and gained (for the NHMS component only) from the Australian Government Department of Health and Ageing’s Departmental Ethics Committee.  For more information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment on the ABS website, www.abs.gov.au. |
| **Relevance** | | The 2011‑12 NHMS uses a combination of blood test results for fasting plasma glucose and self-reported information on diabetes diagnosis and medication use to measure prevalence of Type 2 diabetes.  A respondent to the survey is considered to have known diabetes (type 2) if they had ever been told by a doctor or nurse that they have Type 2 diabetes and:   * They were taking diabetes medication (either insulin or tablets); **or** * Their blood test result for fasting plasma glucose was greater than or equal to 7.0 mmol/L.   A respondent to the survey is considered to have newly diagnosed diabetes if they reported no prior diagnosis of diabetes, but had a fasting plasma glucose value greater than or equal to 7.0 mmol/L.  Note: The type of diabetes for newly diagnosed cases cannot be determined from a fasting plasma glucose test alone. However, as it is assumed that the vast majority of newly diagnosed cases would be Type 2, all newly diagnosed cases of diabetes have been included in this measure.  The estimates exclude persons who did not fast for 8 hours or more prior to their blood test. Excludes women with gestational diabetes.  The same definition for diabetes will be used in the NATSIHMS. |
| **Timeliness** | | The NHMS was conducted for the first time in 2011–13. Results from the 2011-12 NHMS were released in August 2013. Results from the NATSIHMS will be released in 2014. |
| **Accuracy** | | The AHS was conducted in all States and Territories, excluding very remote areas. Non-private dwellings such as hotels, motels, hospitals, nursing homes and short-stay caravan parks were also not included in the survey. The exclusion of persons usually residing in very remote areas has a small impact on estimates, except for the Northern Territory, where such persons make up approximately 23 per cent of the population. The final response rate for the ‘core’ component of the AHS was 82 per cent.  All selected persons aged 5 years and over were invited to participate in the voluntary NHMS. Of all of those who took part in the AHS, 38 per cent went on to complete the biomedical component.  Analysis of the sample showed that the characteristics of persons who participated in the NHMS were similar with those for the AHS overall. The only significant difference was for smoking, where the NHMS sample had a lower rate of current smokers than the AHS sample (12.0 per cent compared with 17.6 per cent). For more information, see the Explanatory Notes in *Australian Health Survey: Biomedical Results for Chronic Disease* (Cat. no. 4364.0.55.005).  In order to get an accurate reading for the fasting plasma glucose test, participants were asked to fast for 8 hours before their test. The results presented for this indicator refer only to those people who did fast (approximately 79 per cent of adults who participated in the NHMS). Analysis of the characteristics of people who fasted compared with those who did not fast showed no difference between fasters and non-fasters.  As they are drawn from a sample survey, data for the indicator are subject to sampling error. Sampling error occurs because only a small proportion of the population is used to produce estimates that represent the whole population. Sampling error can be reliably estimated as it is calculated based on the scientific methods used to design surveys. Rates should be considered with reference to their Relative Standard Error (RSE). Estimates with RSEs between 25 per cent and 50 per cent should be used with caution. Estimates with RSEs greater than 50 per cent are generally considered too unreliable for general use.  This indicator, and the supplementary indicator, generally have acceptable levels of sampling error for State/Territory by sex breakdown. However, rates by sex for the Northern Territory should be used with caution.  Likewise, the RSEs for Remote Australia are both greater than 25 per cent and should be used with caution. |
| **Coherence** | | The methods used to construct the indicator are consistent and comparable with other collections. The AHS collected a range of other health-related information that can be analysed in conjunction with diabetes status.  Other non-ABS collections, such as the 1999–2000 Australian Diabetes, Obesity and Lifestyle Study (AusDiab) and the 2009-10 Victorian Health Monitor (VHM) have reported estimates of diabetes prevalence based on biomedical measures and self-reported diagnosis and medication use .  Results from the recent VHM were very similar to those from the NHMS. Results from AusDiab showed higher estimates of diabetes than the NHMS, however this difference is most likely due to the difference in test used to measure diabetes (AusDiab used an Oral Glucose Tolerance test, which is a more comprehensive test for diabetes than fasting plasma glucose).  For information on how these studies compare, see *Australian Health Survey: Biomedical Results for Chronic Disease* (cat. no. 4364.0.55.005). |
| **Accessibility** | | See *Australian Health Survey: Biomedical Results for Chronic Disease* (cat. no. 4364.0.55.005). Other information from this survey is also available on request. |
| **Interpretability** | | Information to aid interpretation of the data is available from the Australian Health Survey: Users’ Guide on the ABS website.  Many health-related issues are closely associated with age; therefore data for this indicator have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the States and Territories. Age standardised rates should be used to assess the relative differences between groups, not to infer the rates that actually exist in the population. |

### Potentially avoidable deaths

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by ABS) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Potentially avoidable deaths | |
| **Measure (computation)** | Numerator: death registrations for 2007–2011 (5 year aggregate), and 2007 to 2011 (single years) provided by state and territory Registrars of Births, Deaths and Marriages which have an ICD-10 code which has been further classified as preventable or treatable as per the NHA Technical Manual.  Denominator: Estimated Resident Population, Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, Population Projections, Australia | |
| **Data source/s** | Numerator – ABS Causes of Death collection (3303.0)  Denominator - ABS Estimated Resident Population (3101.0); Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, August 2009 (cat. no. 3238), Series B.  For the non-Indigenous population, the projected Indigenous population (3238.0, Series B) is subtracted from the 2006-Census-based Estimated Resident Population. | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | These collections are conducted under the Census and Statistics Act 1905. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, see ABS Institutional Environment. |
| **Relevance** | | The ABS Causes of Death collection includes 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 collection 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 causes 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.  For further information on the ABS Causes of Death collection, see the relevant Data Quality Statement. |
| **Timeliness** | | Causes of death data is published on an annual basis. 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.  Preliminary 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 the end of the reference quarter. 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. 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. |
| **Accuracy** | | Information on causes of death is obtained from a complete enumeration of deaths registered during a specified period and is not subject to sampling error. However, deaths data sources are subject to non-sampling error which can arise from inaccuracies in collecting, recording and processing the data.  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.  All coroner certified deaths registered after 1 January 2006 are now subject to a revisions process. In this round of COAG reporting, 2007, 2008 and 2009 data is final, 2010 data is revised and 2011 data is preliminary. Data for 2010 and 2011 is 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 2009 and 2010 in Causes of Death, Australia, 2011 (cat.no. 3303.0).  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. Please note that there are differences between data output in the Causes of Death, Australia, 2010 publication (cat. no. 3303.0) and 2010 data reported for COAG, as this adjustment was not applied in the publication.For further details see Technical Note: Registration of outstanding deaths, Queensland 2010, from the Deaths, Australia, 2010 publication (cat. no, 3302.0) and Explanatory Note 103 in the Causes of Death, Australia, 2010 publication (cat. no. 3303.0).  Investigation conducted by the WA Registrar of Births, Deaths and Marriages indicated that some deaths of non-Indigenous people were wrongly identified 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* publication, 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.  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).  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, in the absence of 2011 Census-based Indigenous population projections, the non-Indigenous population denominator has been calculated by subtracting the 2006 Census-based Indigenous projections (see Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, August 2009, cat. no. 3238.0) from the 2006 Census-based Estimated Resident Population (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 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. Age-standardised death rates based on a very low death count have been deemed unpublishable. Some cells have also not been published to prevent back-calculation of these suppressed cells. Caution should be used when interpreting rates for this indicator. |
| **Coherence** | | The methods used to construct the indicator are consistent and comparable with other collections and with international practice. |
| **Accessibility** | | Causes of death data are available in a variety of formats on the ABS website under the 3303.0 product family. ERP data is available in a variety of formats on the ABS website under the 3101.0 and 3201.0 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. |
| **Interpretability** | | Data for this indicator have been age-standardised, using the direct method, to ‘under 75 years’ of age. Direct age-standardisation to the 2001 total Australian population was used (see Data Cube: Standard Population for Use in Age-Standardisation Table in Australian Demographic Statistics, Dec 2012 (cat. no. 3101.0)). Age-standardised results provide a measure of relative difference only between populations. |

### Mortality and life expectancy

#### Life expectancy

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by ABS) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Element** | Outcome | |
| **Indicator** | Mortality and life expectancy — Life expectancy | |
| **Measure (computation)** | Direct estimation of life tables for Indigenous and non-Indigenous Australians, from which life expectancy at birth is obtained. Age/sex-specific death rates used in the construction of the life tables are calculated as:  Numerator: death registrations for 2010–2012 provided by State and Territory Registrars of Births, Deaths and Marriages. For Indigenous Australians, deaths registrations were adjusted using factors obtained from the 2011 Census Data Enhancement Indigenous Mortality Study to account for under-identification of Indigenous deaths.  Denominator: 30 June 2011 estimated resident Australian Indigenous and non-Indigenous populations. | |
| **Data source/s** | *Life Tables, States, Territories and Australia, 2010-2012* (Cat. no. 3302.0.55.001); *Life Tables for Aboriginal and Torres Strait Islander Australians, 2010-2012* (Cat. no. 3302.0.55.003). | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.  Death statistics are sourced from death registrations systems administered by the various State and Territory Registrars of Births, Deaths and Marriages. It is a legal requirement of each State and Territory that all deaths are registered. 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. As part of the registration process, information on the cause of death is either supplied by the medical practitioner certifying the death on a Medical Certificate of Cause of Death, or supplied as a result of a coronial investigation. | |
| **Relevance** | Life tables based on assumed improvements in mortality are produced by the ABS using assumptions on future life expectancy at birth, based on recent trends in life expectancy. These life tables are not published by the ABS, they are used as inputs into ABS population projections.  The life tables are current or period life tables, based on death rates for a short period of time during which mortality has remained much the same. Mortality rates for the Australian and state and territory life tables are based on death registrations and estimated resident population for the period  2010–2012. The life tables do not take into account future assumed improvements in mortality.  Life tables are presented separately for males and females. The life table depicts the mortality experience of a hypothetical group of newborn babies throughout their entire lifetime. It is based on the assumption that this group is subject to the age-specific mortality rates of the reference period. Typically this hypothetical group is 100 000 in size.  Life tables for Indigenous Australians from which life expectancy at birth estimates were sourced were produced to enable the compilation of ABS estimates and projections of the Indigenous population of Australia for the period 2001 to 2026.  Estimates of life expectancy at birth for Indigenous Australians are commonly used as a measure for assessing Indigenous population health and disadvantage. | |
| **Timeliness** | ABS estimates of all Australian life expectancy at birth are calculated for a 3‑year period and published on an annual basis.  ABS estimates of life expectancy for Indigenous Australians are calculated for a 3-year period and reported every 5 years, with 2010–2012 estimates released in November 2013. Comparable 2005-2007 life expectancy estimates for Indigenous Australians were also released in November 2013. | |
| **Accuracy** | Compilation of life tables requires complete and accurate data on deaths that occur in a period, and reliable estimates of the population exposed to the risk of dying during that period. These data are required by age and sex so as to calculate age-sex specific death rates.  Information on deaths is obtained from a complete enumeration of deaths registered during a specified period and are not subject to sampling error. However, deaths data sources are subject to non-sampling error which can arise from inaccuracies in collecting, recording and processing the data.  Sources of non-sample error include:   * completeness of an individual record at a given point in time; * completeness of the dataset (eg 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.   In November 2010, the Queensland Registry of Births, Deaths and Marriages registered 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). The ABS life tables are based on deaths by year of occurrence, and are therefore unaffected by this late registration of deaths.  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.  ERP is based on Census counts by place of usual residence, adjusted for net Census undercount and the number of Australian residents temporarily overseas on Census night, and backdated from the Census date to 30 June. For post-censal years, ERP is obtained by adding postcensal births, deaths and migrations to the Census ERP.  In the case of life tables for the Indigenous population, registrations of Indigenous deaths and Indigenous population estimates present particular methodological challenges. For example, there are a number of factors which may contribute to under-identification of Indigenous deaths in death registrations records. In addition, there are quality issues associated with Indigenous population estimates, such as undercount of the Indigenous population in the Census, and non-response to the Indigenous status question on the Census form. Due to the inherent uncertainties in these data, care should be exercised when interpreting Aboriginal and Torres Strait Islander life expectancy estimates.  An improvement has been made to the method of calculating Indigenous life tables at the Australia level for the period 2010-2012 (these data are labelled ‘headline estimates for Australia’). The method now takes age-specific identification rates into account when calculating the under‑identification adjustment.  Comparable 2005-2007 ‘headline life expectancy estimates for Australia’, specifically factoring in the statistical impact of this methodological refinement and the improved collection of Indigenous status in the Post Enumeration Survey, were also computed for Indigenous Australians.  This method could not be used for state and territory life tables due to insufficient sample from the Post Enumeration Survey to accurately calculate age-specific identification rates. The estimates for New South Wales, Queensland, Western Australia and the Northern Territory were therefore calculated without an age-specific adjustment, and followed the same methodology that was used for the 2005–2007 life tables. Due to the different methodologies, life expectancy estimates for these states and one territory are not comparable with the headline estimates for Australia, which used an age-specific adjustment. Comparable, non age-adjusted Australia level life tables are provided to enable national and state and territory comparisons (labelled ‘Australia — for comparison’). | |
| **Coherence** | The methods used to construct the indicator are consistent and comparable with other collections and with international practice.  Due to the improvements made to the method of compiling the 2010-2012 Indigenous life tables at the Australia level, a comparable set of 2005-2007 life tables was released by the ABS in Life Tables for Aboriginal and Torres Strait Islander Australians, 2010-2012 (cat. no. 3302.0.55.003). | |
| **Accessibility** | ABS life expectancy estimates are published on the ABS website www.abs.gov.au (see *Life Tables, States, Territories and Australia,  2010–2012* (Cat. no. 3302.0.55.001).  Indigenous life expectancy estimates are also published on the ABS website, (see *Life Tables for Aboriginal and Torres Strait Islander Australians, Australia, 2010–2012* (Cat. no. 3302.0.55.003). | |
| **Interpretability** | Please view Explanatory Notes and Glossary that provide information on the data sources, terminology, classifications and other technical aspects associated with these statistics. | |
| **Data Gaps/Issues Analysis** | | |
| **Key data gaps /issues** | | The Steering Committee notes the following issues:   * A large number of unregistered deaths in Queensland dating back to 1992 were identified and registered in 2010. Care should be taken when interpreting Indigenous death data for Queensland for 2010. * An improved method for calculating Indigenous life tables at the Australia level, which takes age-specific Indigenous identification rates into account for calculating under‑identification adjustment, was used  to provide additional stand-alone Australian total data for both 2010–2012 and 2005–2007. The method could not be applied at state/territory level as robust age‑specific identification rates were not available. State and Territory life expectancy estimates for 2010–2012 were produced using a similar methodology to that used for the 2005–2007 estimates. * Data by Indigenous status are not available for Victoria, SA, Tasmania or the ACT due to the small number of Indigenous deaths reported in these jurisdictions (although data are included in national totals). Further work is required to improve the quality of data by Indigenous status, to enable reporting for all states and territories. However, for some jurisdictions, it may not be possible to derive life expectancy estimates due to the small number of Indigenous deaths. * Data by Indigenous status are available every five years. The most recent available data are for 2012 and were published in November 2013. * Data are not available by socioeconomic status (SES). Disaggregation of this indicator by SES is a priority. * The measure for this indicator is based on a three year average. Multiple year averages may not be able to determine trends over time as each reporting year incorporates the two previous years. Further work is required to determine what level of disaggregation is reliable for single year data. |

#### Mortality rates — Infant and child

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by ABS) with additional Steering Committee comments.

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| **Indicator definition and description** | | |
| **Indicator** | Mortality rates — Infant and child | |
| **Measure (computation)** | Numerator: death registrations for the period 2007-2012 (single years) provided by state and territory Registrars of Births, Deaths and Marriages.   * Infant: Number of deaths among children aged under 1 year * Child 0-4: Number of deaths among children aged 0 to 4 years * Child 1-4: Number of deaths among children aged 1 to 4 years   Denominator:   * Infant: Number of live births in the period * Child 0-4: Population aged 0 to 4 years * Child 1-4: Population aged 1 to 4 years | |
| **Data source/s** | Numerator – ABS Deaths Collection (3302.0)  Denominator - ABS Births Collection, ABS Estimated Residential Population (3101.0)  Infant: ABS Births Collection (3301.0)  Child 0-4: ABS Population Projections (2006 Census based), (3222.0)  Child 1-4: ABS Population Projections (2006 Census based), (3222.0)  Indigenous: ABS Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians (2006 Census based), (3238.0) | |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | These collections are conducted under the Census and Statistics Act 1905. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, see ABS Institutional Environment. |
| **Relevance** | | Deaths data are published on an annual basis. The ABS Deaths collection includes 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.  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.  For further information on the ABS Deaths and Births collections, see the relevant Data Quality Statements. |
| **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.  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 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 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. 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. |
| **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.  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. 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.  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* publication, 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.  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).  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, in the absence of 2011 Census-based Indigenous population projections, the non-Indigenous population denominator has been calculated by subtracting the 2006 Census-based Indigenous projections (see Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, August 2009, cat. no. 3238.0) from the 2006 Census-based ERP for total population (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 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. |
| **Accessibility** | | 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 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** | | Data for this indicator have been presented as crude rates, either per 1,000 live births or 1000 estimated resident population. |

#### Mortality rates by major cause of death

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by ABS) with additional Steering Committee comments.

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| **Indicator definition and description** | |
| **Indicator** | Age standardised mortality by major cause of death |
| **Measure (computation)** | Numerator: death registrations by major cause of death.  Denominator: Estimated Resident Population, Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, Population Projections, Australia |
| **Data source/s** | Numerator –  ABS Causes of death statistics are sourced from death registrations administered by the various state and territory Registrars of Births, Deaths and Marriages. It is a legal requirement of each state and territory, that all deaths are registered. 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. As part of the registration process, information on the causes of death is either supplied by the medical practitioner certifying the death on a *Medical Certificate of Cause of Death*, or supplied as a result of a coronial investigation.  Death records are provided electronically to the ABS by individual Registrars, on a monthly basis. Each death record contains both demographic data and medical information from the *Medical Certificate of Cause of Death*, where available. Information from coronial investigations are provided to the ABS through the National Coroners Information System (NCIS)  Denominator - ABS Estimated Resident Population (3101.0); Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, August 2009 (cat. no. 3238), Series B.  For the non-Indigenous population, the projected Indigenous population (3238.0, Series B) is subtracted from the 2006-Census-based Estimated Resident Population. |
| **Data Quality Framework Dimensions** | |
| **Institutional environment** | These collections are conducted under the Census and Statistics Act 1905. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, see ABS Institutional Environment. |
| **Relevance** | The ABS Causes of Death collection includes 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.  From the 2006 reference year, the scope of the collection is:   * all deaths registered in Australia for the reference year and which are received by the ABS by the end of the March quarter of the subsequent year; and * deaths registered prior to the reference year but not previously received from the Registrar, nor included in any statistics reported for an earlier period.   For example, records received by the ABS during the March quarter of 2011 which were initially registered in 2010 or prior (but not forwarded to the ABS until 2011) are assigned to the 2010 reference year. Any registrations relating to 2010 which are received by the ABS after the end of the March quarter are assigned to the 2011 reference year.  Data in the Causes of Death collection 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). The ICD is the international standard classification for epidemiological purposes and is designed to promote international comparability in the collection, processing, classification, and presentation of causes 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.  See Causes of Death, Australia, 2011 (cat.no. 3303.0) for further detail on scope and coverage of the collection. |
| **Timeliness** | Death records are provided electronically to the ABS by individual Registrars and the National Coroners Information System (NCIS) on a monthly basis, for compilation into aggregate statistics on an annual basis. One dimension of timeliness in causes of 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, following the publication of Deaths, Australia (ABS cat 3302.0) in November of each year.  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 (e.g. information from finalisation of coronial proceedings to code an accurate cause of death). A balance therefore needs to be maintained between accuracy (completeness) of data and timeliness. The ABS provides the data in a timely manner, ensuring that all coding possible can be undertaken with accuracy prior to publication.  In addition, to address the issues which arise through the publication of causes of death data for open coroners’ cases, these data are now subject to a revisions process. This process enables the use of additional information relating to coroner certified deaths either 12 or 24 months after initial processing. For further information on the revisions process see Causes of Death, Australia, 2011 (cat.no. 3303.0) Explanatory Notes and Causes of Death Revisions 2009 and 2010 (Technical Note). See also Causes of Death Revisions 2006 (Technical Note) in Causes of Death, Australia, 2010 (cat. No. 3303.0). |
| **Accuracy** | Information on causes of death is obtained from a complete enumeration of deaths registered during a specified period, so is not subject to sampling error. However, causes of death data sources are subject to non-sampling error which can arise from inaccuracies in collecting, recording and processing the data. The most significant of these errors are: mis-reporting of data items; deficiencies in coverage; incomplete records; and processing errors. Every effort is made to minimise non-sample error by working closely with data providers, running quality checks throughout the data processing cycle, training of processing staff, and efficient data processing procedures.  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.  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 COAG reporting, 2007, 2008 and 2009 data is final, 2010 data is revised and 2011 data is preliminary. Data for 2010 and 2011 is 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 2009 and 2010 and in Causes of Death, Australia, 2011 (cat.no. 3303.0).  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. Please note that there are differences between data output in the Causes of Death, Australia, 2010 publication (cat. No. 3303.0) and 2010 data reported for COAG, as this adjustment was not applied in the publication. For further details see Technical Note: Registration of outstanding deaths, Queensland 2010, from the Deaths, Australia, 2010 publication (cat. no. 3302.0) and Explanatory Note 103 in the Causes of Death, Australia, 2010 publication (cat. no. 3303.0).  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* publication, 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* (ABS, 2011) publication on 24 May 2012, and are included in this round of COAG reporting. |
| **Coherence** | The international standards and recommendations for the definition and scope of causes of deaths statistic 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 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 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 deaths occurring within Australia as defined by the **Australian Statistical Geography Standard (ASGS)** that applies at the time.  Registration of 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. The Explanatory Notes in each issue contains information pertinent to this particular release which may impact on comparison over time |
| **Accessibility** | Causes of death data are available in a variety of formats on the ABS website under the 3303.0 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** | Information on data sources, terminology, classifications and other technical aspects associated with death statistics can be found in Causes of Death, Australia, (cat.no 3303.0) in the Explanatory Notes, Appendices and Glossary on the ABS website. |

### Profile of employed health workforce

Data quality information for this indicator has been sourced from the Steering Committee’s report to the COAG Reform Council on the National Health Agreement (data supplied by ABS) with additional Steering Committee comments.

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| Indicator definition and description | | |
| **Indicator** | | Profile of employed health workforce |
| **Measure (computation)** | | Full time equivalent employed health practitioners per 1000 population (by age group).  Workforce sustainability reports aged profiles for nurse and midwife, medical practitioner, dental practitioner and allied health practitioner workforces. It shows the numbers of each of these registered professions in ten year age brackets, both by jurisdiction and by region. |
| **Data source/s** | | National Health Workforce Data Set: medical practitioners 2010, 2011 and 2012.  National Health Workforce Data Set: nurses and midwives 2011 and 2012. |
| **Data Quality Framework Dimensions** | | |
| **Institutional environment** | | The Australian Institute of Health and Welfare (AIHW) has calculated this indicator using estimates derived from the National Health Workforce Data Set (NHWDS). The NHWDS is developed through the collaboration of three agencies.  The Australian Health Practitioner Regulation Agency (AHPRA) is the organisation responsible for the implementation of the National Registration and Accreditation Scheme (NRAS) across Australia, including collecting registration data and administering the workforce surveys.  Health Workforce Australia is responsible for the development of the health workforce surveys.  The AIHW receives registration and survey data from the AHPRA. The registration and workforce survey data are combined, cleansed and adjusted for non-response to form NHWDS, and the findings reported by profession. AIHW is the data custodian of the NHWDS. These data are used for workforce planning, monitoring and reporting.  The AIHW is an independent statutory authority within the Health portfolio, which is accountable to the Parliament of Australia through the Minister. For further information see the AIHW website. |
| **Relevance** | | Medical practitioners, dental practitioners, nurses/midwives and allied health practitioners are required by law to be registered with their relevant national board to practise in Australia. All medical practitioners, dental practitioners, nurses/midwives and nominated allied health practitioners must complete the formal registration renewal form(s) to practise in Australia. This is the compulsory component of the renewal process. The exception is Aboriginal and Torres Strait Islander health practitioners in the allied health workforce; where those who are not required by their employer to use the title 'Aboriginal and Torres Strait Islander health practitioner', 'Aboriginal health practitioner' or 'Torres Strait Islander health practitioner' are not required to be registered, and can continue to work using their current titles (e.g. 'Aboriginal health worker', 'drug and alcohol worker' and 'mental health worker').  The health workforce surveys for each of these professions is voluntary and only practitioners who renew their registration receive a questionnaire for completion. New registrants will not receive a survey form until they renew their registration the following year, during the registration renewal period. Practitioners with limited registration are due for renewal on the anniversary of their first registration and can thus renew and complete a survey at any time through the year.  National Health Workforce Data Set: medical practitioners 2010, 2011 and 2012  The NHWDS: medical practitioners 2010, 2011 and 2012 contain registration details of all registered medical practitioners in Australia, at 30 September on the annual renewal date. Data were extracted from the AHPRA database at the end of November of the same year. The NHWDS also contains workforce data of respondents whose principal state of practice was not Queensland or Western Australia, obtained from the Medical Workforce Survey 2010. These states were excluded from the survey because not all registrations in these states expired prior to the national registration deadline. In 2011 and 2012, the NHWDS contains workforce data obtained from the Medical Workforce Survey for all states and territories.  National Health Workforce Data Set: dental practitioners 2011 and 2012  The NHWDS: dental practitioners 2011 and 2012 contain registration details of all registered dental practitioners in Australia, at 30 November on the annual renewal date. Data were extracted from the AHPRA database at the end of January the following year. In 2011 and 2012, the NHWDS contains workforce data obtained from the Dental Workforce Survey.  National Health Workforce Data Set: nurses and midwives 2011 and 2012  The NHWDS: nurses and midwives 2011 and 2012 contain registration details of all registered nurses/midwives in Australia at 31 May on the annual renewal date. Data were extracted from the AHPRA database at the end of November of the same year. In 2011 and 2012, the NHWDS contains workforce data obtained from the Nursing and Midwifery Workforce Survey.  National Health Workforce Data Set: allied health practitioners 2011 and 2012.  The NHWDS: allied health practitioners 2011 and 2012 contain registration details of all registered allied health practitioners in Australia, at 30 November on the annual renewal date. Data were extracted from the AHPRA database at the end of January the following year. The NHWDS also contains workforce data obtained from each profession-specific health workforce survey.  Indicator data for allied health practitioners are not comparable between 2011 and 2012 due to four additional professions joining the NRAS in 2012. For 2011, data was collected for seven professions: chiropractors, optometrists, osteopaths, pharmacists, physiotherapists, psychologists and podiatrists. For 2012, in addition to the seven in 2011, data was collected for Aboriginal and Torres Strait Islander health practitioners, Chinese medicine practitioners, medical radiation practitioners and occupational therapists.  Due to transitional arrangements with the migration of data from state and territory-based systems to NRAS, in 2012, many medical radiation practitioners in Queensland, Western Australia and Tasmania were not required to renew their registrations and, as a result did not complete a workforce survey. As a consequence, data for Queensland, Western Australia and Tasmania for this profession are excluded from the indicator data for allied health practitioners.  For the same reason, occupational therapists in Queensland, Western Australia and South Australia are excluded from the indicator data for allied health practitioners in 2012. |
| **Timeliness** | | National Health Workforce Data Set:  The NHWDS for each of the registered professions will be produced annually during the national registration renewal process. Each profession will also be administered a Workforce Survey as part of the registration renewal process.  *—Medical practitioners 2010, 2011 and 2012*  The NHWDS: medical practitioners is produced annually from information collected by the national registration renewal process, conducted between 1 July and 30 September each year, including the collection of the Medical Workforce Survey. The period for the 2010 renewal process was extended to the end of January 2011. Despite this extension, there were still Queensland and Western Australia registrants with expiry dates after January. Therefore data from these states were not included in the 2010 data set.  *—Nurses and midwives 2011 and 2012*  The NHWDS: nurses and midwives is produced annually from information collected by the national registration renewal process, conducted between 1 April and 31 May each year, including the collection of the Nursing and Midwifery Workforce Survey. The period for the 2011 renewal process was extended to the end of June 2011 for Queensland and end of December 2011 for Western Australia registrants. |
| **Accuracy** | | Data manipulation and estimation processes  The registration and workforce survey data for each health profession are combined, cleansed and adjusted for non-response to form the National Health Workforce Data Set (NHWDS). The cleaning and editing procedures included range and logic checks, clerical scrutiny at unit record level, and validation of unit record and aggregate data.  The data have undergone imputation for item non response and are weighted to the total number of registered practitioners to adjust for population non response. It should be noted that both of these kinds of non-response is likely to introduce some bias in the estimates and any bias is likely to become more pronounced when response rates are low or when estimates are based on a small number of records. Care should be taken when drawing conclusions about the size of the differences between estimates.  As a result of the estimation method to adjust for non-response, numbers of medical practitioners, dental practitioners, nurses/midwives or allied health practitioners may have been in fractions, but have been rounded to whole numbers for this indicator. The full-time equivalent (FTE) rate calculations are based on rounded numbers.  Registration data from the National Registration and Accreditation Scheme (NRAS)  Registration details were migrated from the respective state and territory professional board (or council) for practitioners with registrations expiring after the official AHPRA closing date for their profession.  Some data items previously collected by the AIHW Labour Force Surveys are now collected by the NRAS. However, some data quality issues due to migrated data items from the respective state and territory health profession boards may have affected the weighting method.  Medical practitioners, dental practitioners, nurses/midwives and allied health practitioners who reside overseas have been included with practitioners whose state or territory of principal practice and state or territory of main job, respectively, could not be determined.  Health Workforce Survey  The online survey questionnaire does not include electronic sequencing of questions to automatically guide the respondent to the next appropriate question based on previous responses to questions. This resulted in a number of inconsistent responses.  The order of the response categories for some questions may have also impacted on the accuracy of the information captured. In addition, there was variation in some responses between the online and paper surveys.  NHWDS data by profession  The following should be noted when comparing state and territory indicator data:   * The data include employed professionals who did not state or adequately describe their state of principal practice and employed professionals who reside overseas. The national estimates include this group.   *National Health Workforce Data Set: medical practitioners 2010, 2011 and 2012*   * The overall response rate for 2010 (excluding Queensland and Western Australia) was 76.6 per cent. * The overall response rate for 2011 was 85.3 per cent. * The overall response rate for 2012 was 90.1 per cent.   *National Health Workforce Data Set: nurses and midwives 2011 and 2012*   * The overall response rate for 2011 was 85.1 per cent.   The overall response rate for 2012 was 93.3 per cent. |
| **Coherence** | | Health Workforce Survey—coherence with previous surveys  Labour force data published by the AIHW before the NRAS was established in July 2010, were the result of collated jurisdiction-level occupation-specific surveys. The current Health Workforce Survey gathers similar information from each professional group through a separate questionnaire, tailored slightly to take account of profession-specific responses to certain questions, e.g. work setting of main job.  For this indicator, the workforce surveys for medical practitioners, dental practitioners, nurses/midwives and allied health practitioners collect similar data items, but the methodology differs from previous years. The AHPRA is now the single source of registered practitioner data instead of eight state and territories bodies for each profession, and there is greater consistency between jurisdictions and years in the scope of registration information.  The scope and coverage of the Health Workforce Survey is also different from that of the previous series of AIHW Labour Force Surveys as not all jurisdictions surveyed all types of registered health practitioners.  If the location of principal practice recorded in the registration data was different from the corresponding details of their main job self-reported by practitioners in the survey, the location was derived hierarchically based on main job information and then on principal practice location then place of residence.  Date of birth is one of many data items previously collected by the AIHW Labour Force Surveys, which is now collected by the NRAS.  The three employment-related questions in the new survey are now nationally consistent, but vary from the previous AIHW Labour Force Survey. Due to the differences in data collection (including survey design and questionnaire), processing and estimation methods, it is recommended that comparisons between workforce data from the NHWDS and the previous AIHW Labour Force Survey be made with caution.  AIHW Published Numbers  For this indicator, the rates are based on practitioners employed in the medical, allied health and nursing and midwifery workforces, which is consistent with data published in AIHW's workforce reports. Except dental practitioner data are restricted to persons employed in the public sector and are thus not comparable to figures published elsewhere by the AIHW.  Registration data from the NRAS—coherence with published AHPRA/Board data  The NHWDS comprises the registration data extracted at a point in time from the NRAS, while the AHPRA/Board numbers include people registered in the previous 12 months, thereby including registrants whose registration terminated during that period (including short term registrants).  For 2011, the only source of published statistics about registered health professionals is the 2010–11 AHPRA annual report. From March 2012, each Board publishes the data on a quarterly basis.  *Medical practitioners in 2010, 2011 and 2012*.  The NHWDS numbers of registered medical practitioners for 2010 and 2011 are similar to data reported in the 2010–11 AHPRA annual report. For 2010, there were 84,516 registered practitioners for 2010, compared with 88,293 registered practitioners at 30 June 2011 in the AHPRA annual report.  For 2011, there were 87,790 registered medical practitioners in the NHWDS. Furthermore, the Medical Board of Australia in their quarterly data tables reported 91,354 for March 2012 and 91,645 for June 2012.  For 2012, there were 91,504 registered medical practitioners in the NHWDS, compared with 91,745 reported at December 2012 in the AHPRA quarterly data tables.  *Nurses/midwives in 2011 and 2012*  The NHWDS number of registered nurses and midwives for 2011 is similar to data reported in the 2010–11 AHPRA annual report, with 330,680 registered nurses and midwives in the NHWDS, compared with 332,185 registered nurses and midwives at 30 June 2011 in the AHPRA annual report. The Nursing and Midwifery Board of Australia in their quarterly data tables reported 341,189 for March 2012.  For 2012, there were 334,078 registered nurses and midwives in the NHWDS, compared with 343,703 reported at June 2012 in the 2011–12 AHPRA annual report. |
| **Accessibility** | | Published products available on the AIHW website include workforce reports, survey questionnaires, user guides to the data sets and supplementary detailed tables. |
| **Interpretability** | | Explanatory information for the Medical Workforce Survey, Dental Workforce Survey and the Nursing and Midwifery Workforce Survey is contained in the published reports, supplementary detailed tables and data quality statements to the data set for each. For individual allied health professions, information about their workforce surveys is available in the *Allied health workforce 2012* report and data quality statement. This includes collection method, scope and coverage, survey response, imputation and weighting procedures, and assessment of data quality (including comparison with other data sources).  These are available via the AIHW website and readers are advised to read caveat information to ensure appropriate interpretation of the performance indicator. |
| **Data Gaps/Issues Analysis** | | |
| **Key data gaps /issues** | The Steering Committee notes the following issues:   * The rates have been calculated per 100,000 population for this indicator to assist with interpretation. * Due to the differences in data collection, processing and estimation methods, including survey design and questionnaire, it is recommended that comparisons between workforce data from the National Health Workforce Data Set (NHWDS) and the previous Australian Institute of Health and Welfare (AIHW) Labour Force Survey be made with caution. * Results for the indicator are estimates because the survey data have undergone imputation and weighting to adjust for non-response. It should be noted that any of these adjustments may have introduced some bias in the estimates and any bias is likely to become more pronounced when response rates are low or when estimates are based on a small number of survey records. Care should be taken when drawing conclusions about the size of the differences between estimates. * The 2011 and 2012 allied health workforce indicator data exclude provisional registrants. * The 2012 dental, medical and nursing and midwifery workforce indicator data exclude provisional registrants. * Data have been revised since the publication of *Medical workforce 2010*, *Medical workforce 2011* and *Nursing and midwifery workforce 2011*, so these data will not match data previously published. * The 2011 data for osteopaths in the allied health workforce has been revised since the publication of *Allied health workforce 2012*, so the data will not match data previously published. | |