

# Social Health Atlas of Australia

Notes on the data

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### Geographical structures

For information regarding the geographies available, refer to the [geographical structures](#) information.

### Statistical information

Except where otherwise stated, all age-standardised rates and ratios presented in the maps, data or graphs are indirectly standardised rates, based on the Australian standard. For further information on the statistics presented, refer to the [statistical information](#) available from the PHIDU website.

### Modelled estimates

In the absence of data from administrative data sets, estimates were produced for selected health risk factors from the 2014–15 National Health Survey (NHS) and the 2014 General Social Survey, conducted by the Australian Bureau of Statistics (ABS). Further details on the production of these estimates (referred to as modelled estimates) and caveats, follow.

**Users of these modelled estimates should note that they do not represent data collected in administrative or other data sets. As such, they should be used with caution, and treated as indicative of the likely social dimensions present in an area with these demographic and socioeconomic characteristics.**

The numbers are estimates for an area, not measured events as are, for example, death statistics. As such, they should be viewed as a tool that, when used in conjunction with local area knowledge and taking into consideration the prediction reliability, can provide useful information that can assist with decision making for small geographic regions. Of particular note is that the true value of the published estimates is also likely to vary within a range of values as shown by the upper and lower limits published in the data (xls) and viewable in the bar chart in the single map atlases.

What the modelled estimates do achieve, however, is to summarise the various demographic, socioeconomic and administrative information available for an area in a way that indicates the expected level of each health indicator for an area with those characteristics. In the absence of accurate, localised information about the health indicator, such predictions can usefully contribute to policy and program development, service planning and other decision-making processes that require an indication of the geographic distribution of the health indicator.

The response rate of around 85% provides a high level of coverage across the population; however, the response rate among some groups is lower than among other groups, e.g., those living in the most disadvantaged areas have a lower response rate than those living in less disadvantaged areas. Although the sample includes the majority of people living in households in private dwellings, it excludes those living in the most remote areas of Australia; whereas these areas comprise less than 3% of the total population, Aboriginal people comprise up to one third of the population in these areas. This and other limitations of the method mean that estimates have not been published for PHAs with populations under 1,000, or with a high proportion of their population in:

- 1) non-private dwellings (hospitals, gaols, nursing homes - and also excludes members of the armed forces);
- 2) in Very Remote areas;
- 3) in discrete Aboriginal communities; and
- 4) where the relative root mean square errors (RRMSEs) on the estimates was 1 or more (estimate replaced with ≠)

NB: Estimates with RRMSEs from 0.25 and to 0.50 have been marked (–) to indicate that they should be used with caution; and those greater than 0.50 but less than 1 are marked (––) to indicate that the estimate is considered too unreliable for general use.

For the Primary Health Network (PHN) data, differences between the PHN totals and the sum of LGAs within PHNs result from the use of different concordances.

Source: Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014–15 Australian Health Survey/ 2014 General Social Survey, ABS Survey TableBuilder.

## Notes on the Data: Indicators and Data sources

### Introductory information

The geographical structure acronyms are defined as follows:

**'PHAs' - Population Health Areas, 'LGAs' - Local Government Areas, 'PHNs' - Primary Health Networks, 'Quintiles' - Quintiles of Socioeconomic Disadvantage of Area; 'Remoteness' - Remoteness Areas of Australia; and 'GCCSA' - Greater Capital Cities Statistical Areas**

The indicator information and data sources are presented below in the general order used by PHIDU in their products by the themes of [Demographic and social indicators](#), [Health status, disability and deaths](#) and [Use and provision of health and welfare services](#).

## Demographic and social indicators

### Age distribution, various years

Note: Two measures are presented for the age distribution of the total population. One is for the usual resident population, as produced from the 2016 Census. The other is the estimated resident population, based on the 2016 Census and other data.

### Estimated Resident Population, 2018

- Male/female/total usual resident population by 5 year age groups: 0-4 years to 85+ years and broad age groups: 0-14, 15-24, 25-44, 45-64, 65+, 70+, 75+, 85+ years, 2016  
– by PHA, LGA, PHN, Remoteness (broad age groups only)

**Indicator detail:** The data presented are the age and sex group total as a percentage of the total male/female/total population, as appropriate.

**Source:** Compiled by PHIDU based on ABS 3235.0 Population by Age and Sex, Regions of Australia, 30 June 2018.

### Aboriginal usual resident population, 2016

- Male/female/total usual resident population by 5 year age groups: 0-4 years to 85+ years or broad age groups: 0-14, 15-24, 25-44, 45-64, 65+, 70+, 75+, 85+ years, 2016  
– by PHA, LGA, PHN, Remoteness (broad age groups only)

**Indicator detail:** The data presented are the age and sex group total as a percentage of the total Aboriginal male/female/total population, as appropriate.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

### Indigenous status, 2016

- Aboriginal population as a percentage of the total estimated resident population (ERP), 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data presented are the Aboriginal population as a percentage of the total population.

**Source:** Compiled by PHIDU based on the ABS Estimates of Aboriginal and Torres Strait Islander Australians, June 2016.

- Aboriginal population as a percentage of the total usual resident population by 5 year age groups: 0-4 years to 65+ years, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data presented are the Aboriginal population as a percentage of the total population within each age group.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

### Birthplace & non-English speaking residents, 2016

- Australian-born population, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness
- People born (overseas) in predominantly English speaking countries, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness
- People born in predominantly non-English speaking (NES) countries, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness
- People born in NES countries resident in Australia for five years or more, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness
- People born in NES countries resident in Australia for less than five years, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The following countries are designated as 'predominantly ES': Canada, Ireland, New Zealand, South Africa, United Kingdom and the United States of America; the remaining countries are designated as 'predominantly NES'.

**Resident in Australia for five years or more:** Data comprise NES residents arriving before 2012.

**Resident in Australia for less than five years:** Data comprise NES residents arriving from 2012 to 2016. The year 2016 is the period 1 January 2016 to 9 August 2016 (Census Night), therefore, the data presented represent a total time of approximately 4 years and 7 months.

The data exclude the 5.6% of the population who did not state their country of birth. In addition, the 'Resident in Australia for five years or more/ less than five years' data exclude the 4.5% of people born overseas who did not state their year of arrival. (The proportions excluded were calculated based on the Australian data.)

- [People aged 5 years and over who were born overseas and reported poor proficiency in English, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise people born overseas who reported speaking English 'not well' or 'not at all'. The numerator excludes the 0.8% of the population aged five years and over born overseas who did not state their language (other than English) spoken, or their proficiency in English: however, these records are included in the denominator.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Top ten birthplaces of people born in non-English speaking countries, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise residents of Australia who were born overseas in one of the predominantly non-English speaking countries which are in the top ten for Australia in terms of high numbers of migrants. These are, from highest to lowest: China (excluding Special Administrative Regions of Hong Kong & Macau, and Taiwan), India, Philippines, Vietnam, Italy, Malaysia, Sri Lanka, Germany, Korea, Republic of (South), and Greece.

The numerator excludes the 6.9% of the population who did not state their country of birth: however, these records are included in the denominator.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

## Non-English speaking countries of birth, 2016

- [Top ten birthplaces of people born in non-English speaking countries, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise residents of Australia who were born overseas in one of the predominantly non-English speaking countries which are in the top ten for Australia in terms of high numbers of migrants. These are, from highest to lowest: China (excluding Special Administrative Regions of Hong Kong & Macau, and Taiwan), India, Italy, Vietnam, Philippines, Malaysia, Germany, Greece, Sri Lanka and Lebanon.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

## Migration program and humanitarian program, 2016

- [Humanitarian Program, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise residents of Australia who arrived under the Humanitarian Program between 2000 and 9<sup>th</sup> August 2016; 2000 and 2006; 2007 and 2011; 2012 and 9<sup>th</sup> August 2016.

**Source:** Compiled by PHIDU based on the ABS Census and Migrants Integrated Dataset, August 2016.

- [Family stream, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise residents of Australia who arrived under the family stream of the Migration Program between 2000 and 9<sup>th</sup> August 2016; 2000 and 2006; 2007 and 2011; 2012 and 9<sup>th</sup> August 2016. The family stream is designed for the migration of immediate family members of Australian citizens, permanent residents or New Zealand citizens.

**Source:** Compiled by PHIDU based on the ABS Census and Migrants Integrated Dataset, August 2016.

- [Skill stream, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise residents of Australia who arrived under the skill stream of the Migration Program between 2000 and 9<sup>th</sup> August 2016; 2000 and 2006; 2007 and 2011; 2012 and 9<sup>th</sup> August 2016. This includes both primary and secondary applicants (i.e. dependents of the primary applicant).

**Source:** Compiled by PHIDU based on the ABS Census and Migrants Integrated Dataset, August 2016.

## Total fertility rate, 2013 to 2015

- [Total fertility rate, 2013 to 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Total fertility rates are not shown for areas recording fewer than 5 births.

**Source:** Compiled by PHIDU based on the ABS data in *Table 2: Births, Australia 2015: [Births, Australia, 2015](#)*.

## Education, various years

- [Children aged 4 years old, 5 years old, and 4 and 5 years old enrolled in a preschool program, 2018](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise children aged 4 years old, 5 years old, and 4 and 5 years old enrolled in and attending a preschool program.



**Note:** These data are generally not published as percentages, as the age at which children commence preschool and leave preschool to enter primary school varies between jurisdictions and includes children at age three and age six. Calculating the percentage of children at age four in preschool against the percentage of children in the population at this age results in some proportions of over 100%. This also occurs with those aged five. However, in order to provide an understanding of variations between geographic areas, we have calculated percentages. More information can be found at <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4240.0Explanatory%20Notes12018?OpenDocument>, accessed 27 September 2019.

**Source:** Compiled by PHIDU based on the ABS Preschool Education, Australia, 2018; data extracted from Survey TableBuilder.

- **People who left school at Year 10 or below, or did not go to school, 2016**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise people who left school at Year 10 or below, or did not go to school, expressed as an indirectly standardised rate per 100 people aged 15 years and over (usual resident population), based on the Australian standard.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- **Full-time participation in secondary school education at age 16, 2016**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** As data covering all sectors (government, non-government, Catholic and independent) are not available at the small area level from State and Territory education authorities, the data used in this analysis are from the 2016 ABS Population Census. As such they are not official estimates of participation at age 16 in full-time secondary education. However, they are useful in showing the extent of variations between areas, by socioeconomic status and by remoteness.

The numerator excludes 5.0% of the population aged 16 whose participation in secondary school education, or full-time/part-time status, was not stated: however, these records are included in the denominator. Secondary school comprises either Government, Catholic, or other Non-Government schools.

Percentages may be more than 100% due to the ABS' randomisation of both the numerator and denominator for confidentiality purposes.

Note that the extent to which those who have left school at this age to enter the labour force is not accounted for in these data - see *Learning or Earning at ages 15 to 19*.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- **Participation in vocational education and training, 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Vocational education and training (VET) data include all VET activity delivered in Australia to Australian residents by government providers (TAFE institutes, Universities and other government providers), community education providers, enterprise providers, private training providers and schools.

Note that student counts may be inflated as it is possible for students to attend multiple training providers within one collection period.

#### **Details of data presented**

Separate data are presented for:

- Aboriginal population participation in VET
- Non-Indigenous population participation in VET
- Total population participation in VET

The difference between the total population figures and the sum of Aboriginal and non-Indigenous figures arises from unknown Indigenous status and data compilation issues.

**Aboriginal and non-Indigenous population source:** Compiled by PHIDU based on data from the National Centre for Vocational Education Research Ltd., 2017; and the Aboriginal estimated resident population as at 30 June 2016, developed by PHIDU based on the ABS Estimates of Aboriginal and Torres Strait Islander Australians, June 2016.

**Total population source:** Compiled by PHIDU based on data from the National Centre for Vocational Education Research Ltd., 2017; and the ABS Estimated Resident Population, 30 June 2016.

- **Load Pass Rates of vocational education and training subjects, 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Vocational education and training (VET) data include all VET activity delivered in Australia to Australian residents by government providers (TAFE institutes, Universities and other government providers), community education providers, enterprise providers, private training providers and schools.

#### **Definitions**

Funding source

Vet activity is reported as government-funded if the activity received Commonwealth and state funding, and privately funded if domestic fee-for-service. Funding source is attributed irrespective of VET provider.

## Load Pass Rate

The load pass rate (LPR) is the ratio of hours, or full-year training equivalents (FYTEs), attributed to students who gain competencies/passed assessment in an assessable module or unit of competency to all students who were assessed and either passed, failed or withdrew. The calculation is based on the annual hours (or FYTEs) for each assessable module or unit of competency and includes competencies achieved/units passed through recognition of prior learning (RPL).

The calculation for LPR is as follows:

Competency achieved passed + RPL granted, as a proportion of

Competency achieved passed + Competency not achieved failed + Withdrawn discontinued + RPL granted.

### Details of data presented

Separate data are presented for:

- LPR of VET subjects, government-funded hours
- LPR of VET subjects, private-funded hours
- Aboriginal LPR of VET subjects
- Non-Indigenous LPR of VET subjects
- Total LPR of VET subjects

The difference between the total population figures and the sum of Aboriginal and non-Indigenous figures arises from unknown Indigenous status and data compilation issues.

**Source:** Compiled by PHIDU based on data from the National Centre for Vocational Education Research Ltd., 2017.

- [School leavers enrolled in higher education, 2018](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise school leavers who are identified as enrolled at an Australian university at 31 March 2018. 'School leavers' are students who attained a Year 12 qualification in 2017 in any State/ Territory through the completion of one or more Year 12 courses; may include (unless noted otherwise below) adult students, part time students and students doing one or more subjects to improve their overall score (repeating students).

The Estimated Resident Population is based on the number of 17 year olds in 2017, as this is the age of the majority of Year 12 students at 30 June 2018.

Data have been provided by individual State and Territory tertiary admission centres. As these data were collected from each State and Territory, they may exclude people who live in one State/Territory and were enrolled in another.

### Variations in data between States:

Definitions vary across the States; however, the impact of any differences is considered to be small.

- South Australian data represent the number of school leavers that have received and accepted an offer to a university in South Australia and the Northern Territory; however, this is not necessarily indicative of the enrolment status as they may not have enrolled at the institution by 31 March 2018.
- Data for 2018 tertiary enrolments in Victoria are not yet available.

For more information, please consult the relevant admissions centre as listed in the **Source** below.

**Source:** Compiled by PHIDU based on data from the:

- 1) Universities Admissions Centre (NSW & ACT), South Australian Tertiary Admission Centre (SA & NT), Tertiary Institutions Service Centre (WA), The University of Notre Dame Australia (WA & NSW), and the University of Tasmania.; and
- 2) ABS Estimated Resident Population, 30 June 2017.

## Early childhood development: Australian Early Development Census, 2015

- [Developmentally vulnerable on one or more domains, 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Developmentally vulnerable on two or more domains, 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Physical health and wellbeing domain - developmentally vulnerable/ at risk/ on track, 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Social competence domain - developmentally vulnerable/ at risk/ on track, 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Emotional maturity domain - developmentally vulnerable/ at risk/ on track, 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Language and cognitive \(school based\) domain - developmentally vulnerable/ at risk/ on track, 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Communication skills and general knowledge domain - developmentally vulnerable/ at risk/ on track, 2015](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The AEDC results report on the number of children scoring in the following percentile ranges: 0 to 10th percentile (developmentally vulnerable), 11th to 25th percentile (developmentally at risk) and above the 25th percentile (developmentally on track).

The PHIDU data are presented for children who were:

- Developmentally vulnerable (0 to 10th percentile) on one or more domains
- Developmentally vulnerable (0 to 10th percentile) on two or more domains

and who were assessed as being developmentally vulnerable (0 to 10th percentile), at risk (11th to 25th percentile), and on track (above the 25th percentile) in the following domains:

- Physical health and wellbeing domain
- Social competence domain
- Emotional maturity domain
- Language and cognitive skills (school-based) domain
- Communication skills and general knowledge domain

Data were extracted from the AEDC data available online at the SA2 and LGA level. This method of data collection introduced a potential for error in the data through the employment of a concordance transforming the data from 'AEDC communities' back into their component SA2s ahead of concordance to larger geographic areas.

Furthermore, some data had been suppressed according to the confidentiality rules detailed below. As a result, numbers for within-state/territory geographical areas will not add up to state/territory totals in many cases and proportions for vulnerable and at risk children are liable to be under-reported in areas with small populations.

Data are not shown for areas where one or more of the following have been met:

- three or fewer children had been assessed;
- less than fifteen children had valid AEDC scores;
- less than two teachers had completed the AEDC instrument for children in that location;
- the AEDC instrument was completed for less than 80% of all non-special needs children; and
- the number of vulnerable or at risk children represented at least 90% of valid AEDC scores.

Additional minor suppressions not further specified have occurred where necessary to preserve confidentiality of related suppressed cells.

**Source:** Compiled by PHIDU based on data from the 2015 Australian Early Development Census (an Australian Government Initiative) at <http://www.aedc.gov.au/resources/2015-aedc-results>.

## Learning or Earning, 2016

- [Learning or Earning at ages 15 to 24, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise the number of 15 to 24 year old people who were engaged in school, work or further education/ training, expressed as a proportion of all those aged 15 to 24 years. Note that the data published by PHIDU for this indicator from the 2011 Census was for the 15 to 19 year age group.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

## Families, 2016

- [Single parent families with children aged less than 15 years, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Single parent families with children under 15 years, as a proportion of all families with children under 15.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Jobless families with children aged less than 15 years, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Families with children under 15 years in which no parent is employed, as a proportion of all families with children under 15.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Children aged less than 15 years in jobless families, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Children aged under 15 years in families in which no parent is employed, as a proportion of all children under 15.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016 (unpublished) data.

- [Children in families where the mother has low educational attainment, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data presented are of children aged less than 15 years living in families where the female parent's highest level of schooling was year 10 or below, or where the female parent did not attend school, expressed as a proportion of all children aged less than 15 years.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016 (unpublished) data.

## Child care: unpaid, 2016

- Child care to own child/children (unpaid), provided by people aged 15 years and over, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Child care to other child/children (unpaid), provided by people aged 15 years and over, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Total (unpaid) child care, provided by people aged 15 years and over, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data include unpaid child care provided by people aged 15 years and over who, in the two weeks prior to Census Night, spent time caring for a child/children (under 15 years).

The indicators presented are:

- Unpaid child care provided by people aged 15 years and over to their own child/ children (aged under 15 years)
- Unpaid child care provided by people aged 15 years and over to other child/ children (aged under 15 years); and
- Total (unpaid) child care provided by people aged 15 years and over – this includes the categories of people caring for a) their own child/ children only; b) other child/ children only; and c) both their own child/ children and other/ children combined (the data for this final group c) are not shown separately) (children aged under 15 years).

The data exclude the 7.8% of people aged 15 years and over whose engagement in unpaid child care was not stated (the proportion excluded was calculated based on the Australian data).

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

## Housing/ Transport, various years

- Households in dwellings receiving rent assistance from the Australian Government, June 2017  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The Australian Government rent assistance data are provided for individual recipients, and there may be multiple individual recipients in a household: to the extent that this occurs, the proportion will be understated. However, dwellings are the most appropriate denominator available for this dataset. In addition, some recipients live in non-private dwellings, which are not included in the denominator: to the extent that this occurs, the proportion will be overstated.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Census: Dwellings, 2016.

- Aboriginal households in dwellings receiving rent assistance from the Australian Government, June 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The rent assistance data are based on income unit receiving Commonwealth Rent Assistance with Indigenous identifier. An income unit comprises a single person (with or without dependent children) or a couple (with or without dependent children). Single social security recipients living together in the same household are regarded as separate income units. An income unit is classified as Indigenous if at least one partner in the unit has indicated to Centrelink that he/she identifies as an Aboriginal or Torres Strait Islander. It is optional for individuals to identify as Indigenous. These data may therefore represent an undercount. However, dwellings are the most appropriate denominator available for this dataset. In addition, some recipients live in non-private dwellings, which are not included in the Denominator: to the extent that this occurs, the proportion will be overstated. Note: The denominator - private dwellings - is based on the 2016 Census.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2016; and the ABS Census: Dwellings, 2016.

- Persons living in rented social housing dwellings, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Social housing (rented) dwellings, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Social housing is defined as occupied private dwellings rented from the government housing authority, a housing co-operative, community or a church group. The data include households in private dwellings only. A private dwelling can be a house, flat or even a room. It can also be a caravan, houseboat, tent or a house attached to an office or rooms above a shop. The numerator excludes 2.7% of dwellings or 2.2% of persons for which tenure type was not stated: however, these records are included in the denominator.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- Persons living in privately rented dwellings, 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

- [Privately rented dwellings, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data include households in private dwellings only. A private dwelling can be a house, flat or even a room. It can also be a caravan, houseboat, tent or a house attached to an office or rooms above a shop. The numerator excludes 2.7% of dwellings or 2.2% of persons for which tenure type was not stated: however, these records are included in the denominator.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Low income households with mortgage stress, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise households in the bottom 40% of income distribution (those with less than 80% of median equivalised income), spending more than 30% of income on mortgage repayments, as a proportion of mortgaged private dwellings.

Income is equivalised; equivalised household income per week can be viewed as an indicator of the economic resources available to a standardised household. For a lone person household, it is equal to household income. For a household comprising more than one person, it is an indicator of the household income that would be needed by a lone person household to enjoy the same level of economic wellbeing.

Income varies by State/ Territory: NSW, \$721; Vic, \$705; Qld, \$704; SA, \$631; WA, \$785; Tas, \$589; NT, \$1,004; ACT, \$1,093.

The data exclude the population in the 10.3% of private dwellings for which mortgage stress data was not recorded (the proportion excluded was calculated based on the Australian data).

**Note:** For additional information regarding equivalised income see <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2901.0Chapter31502016>

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016 (unpublished) data.

- [Low income households with rental stress, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise households in the bottom 40% of the income distribution (those with less than 80% of median equivalised income), spending more than 30% of their income on rent, as a proportion of rented private dwellings.

Income is equivalised; equivalised household income per week can be viewed as an indicator of the economic resources available to a standardised household. For a lone person household it is equal to household income. For a household comprising more than one person, it is an indicator of the household income that would be needed by a lone person household to enjoy the same level of economic wellbeing.

Income varies by State/ Territory: NSW, \$721; Vic, \$705; Qld, \$704; SA, \$631; WA, \$785; Tas, \$589; NT, \$1,004; ACT, \$1,093.

The data exclude the population in the 8.9% of private dwellings for which rental stress data was not recorded (the proportion excluded was calculated based on the Australian data).

**Note:** For additional information regarding equivalised income see <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2901.0Chapter31502016>

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016 (unpublished) data.

- [Low income households under financial stress from mortgage or rent, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise households in the bottom 40% of the income distribution (those with less than 80% of median equivalised income), spending more than 30% of their income on rent mortgage repayments or rent, as a proportion of low income households (those with less than 80% of median equivalised income).

Refer to the notes on the above two indicators for the specific income levels and other information.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016 (unpublished) data

- [Low income households, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise low income households (as defined above) as a proportion of all households. Refer to the notes above for the specific income levels and other information.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016 (unpublished) data

- [Housing suitability, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The criteria used to derive the variable are based on the Canadian National Occupancy Standard for housing appropriateness and are sensitive to both household size and composition. The measure assesses the bedroom requirements of a household by specifying that:

- there should be no more than two persons per bedroom;
- children less than five years of age of different sexes may reasonably share a bedroom;
- children less than 18 years of age and of the same sex may reasonably share a bedroom;

- single household members 18 years and over should have a separate bedroom, as should parents or couples; and
- a lone person household may reasonably occupy a bed-sitter.

The numerator excludes the 6.0% of dwellings for which the indicator could not be calculated, or was not stated: however, these records are included in the denominator.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Private dwellings with no motor vehicle, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data exclude the population in the 3.0% of dwellings for which the number of motor vehicles was not stated (the proportion excluded was calculated based on the Australian data).

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Persons living in crowded dwellings, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Persons living in private dwellings assessed as crowded according to the Canadian National Occupancy Standard. The measure assesses the bedroom requirements of a household, accounting for both household size and composition, specifying that:

- there should be no more than two persons per bedroom;
- children less than five years of age of different sexes may reasonably share a bedroom;
- children less than 18 years of age and of the same sex may reasonably share a bedroom;
- single household members 18 years and over should have a separate bedroom, as should parents or couples; and
- a lone person household may reasonably occupy a bed-sitter.

A private dwelling can be a house, flat or even a room. It can also be a caravan, houseboat, tent or a house attached to an office or rooms above a shop.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Persons living in severely crowded dwellings, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Persons living in private dwellings assessed as needing four or more additional bedrooms to accommodate all persons currently living in the household, according to the Canadian National Occupancy Standard (see Persons living in crowded dwellings above).

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Aboriginal persons living in crowded dwellings, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Aboriginal persons living in private dwellings assessed as crowded according to the Canadian National Occupancy Standard. The measure assesses the bedroom requirements of a household, accounting for both household size and composition, specifying that:

- there should be no more than two persons per bedroom;
- children less than five years of age of different sexes may reasonably share a bedroom;
- children less than 18 years of age and of the same sex may reasonably share a bedroom;
- single household members 18 years and over should have a separate bedroom, as should parents or couples; and
- a lone person household may reasonably occupy a bed-sitter.

A private dwelling can be a house, flat or even a room. It can also be a caravan, houseboat, tent or a house attached to an office or rooms above a shop

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

- [Aboriginal persons living in severely crowded dwellings, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Aboriginal persons living in private dwellings assessed as needing four or more additional bedrooms to accommodate all persons currently living in the household, according to the Canadian National Occupancy Standard (see Aboriginal persons living in crowded dwellings above).

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

## Income support recipients, June 2017

- [Age pensioners, June 2017](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The Age Pension is available from Centrelink for people who have reached Age Pension age. The Age Pension age depends on a person's date of birth, as follows:

- If born before 1/7/52, Age Pension age is 65
- If born between 1/7/52 and 31/12/53, Age Pension age is 65.5
- If born between 1/1/54 and 30/6/55, Age Pension age is 66
- If born between 1/7/55 and 31/12/56, Age Pension age is 66.5
- If born from 1/1/57 or later, Age Pension age is 67.

The Department of Veterans' Affairs (DVA) provides a Service Pension (Age) to eligible people who have reached 60 years.

*Additional notes:*

The data show a number of areas as having proportions in excess of 100%: these are clearly not accurate. The reason for this is not clear, although it may be the result of the address of the pension recipient data being a postcode which is not allocated to the correct small geographical area by the correspondence files available; it may also reflect inaccuracies in the denominator (the population of pensionable age), as population estimates at the small area level for age groups can be unreliable, in particular where the populations are small. It also indicates that it is possible that percentages of less than 100% may also be overstated.

The Centrelink data were provided at the Population Health Area (PHA) and Local Government Area (LGA) levels and data cells with less than 20 counts were removed (confidentialised). Due to the confidentialisation of data cells, there may be undercounting of some of the final numbers presented, where the final data are based on combining two indicator sub-sets, which may include the aggregation of confidentialised and non-confidentialised cells.

The 'Unknown' data are calculated from the difference between the sum of the PHA or LGA data to the State/Territory totals and include the sum of these confidentialised data.

PHA data may be the sum of freely available SA2 data if the publication of PHA data could reveal the value of confidentialised cells at the SA2 level. For these indicators, the number of people receiving this payment may be undercounted by up to four persons or either persons if two indicators are added together such as total unemployment which is the sum of Newstart and Youth allowance.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

- **Disability support pensioners, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** People eligible for a Disability Support Pension (DSP) paid by Centrelink, must be aged 16 years or over and have not reached age-pensionable age; be permanently blind or have a physical, intellectual or psychiatric impairment level of 20% or more and a continuing inability to work for at least 15 hours per week.

PHA data may be the sum of freely available SA2 data if the publication of PHA data could reveal the value of confidentialised cells at the SA2 level. For these indicators, the number of people receiving this payment may be undercounted by up to four persons or either persons if two indicators are added together such as total unemployment which is the sum of Newstart and Youth allowance.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

- **Female sole parent pensioners, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** People eligible for a Parenting Payment (single) paid by Centrelink comprise female and male sole parents with at least one child under 16 years of age (who meet certain qualifications, or whose child attracts a child disability allowance). Only female sole parent pensioners have been included because females comprise the majority of sole parent pensioners.

Single parent payment female data may also not be published even if it is over 5 if it can reveal confidential data from total persons single parent payment data available from DSS at the SA2 or LGA levels

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and ABS Estimated Resident Population, 30 June 2017.

- **People receiving an unemployment benefit, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Errata - Incorrect data were identified for this indicator in the previous release. The data have now been updated in this edition.

People receiving an 'unemployment benefit' – which includes the Newstart Allowance or Youth Allowance (other)<sup>1</sup> paid by Centrelink – are shown as the proportion of the eligible population (of people aged 16 to 64 years).

For total unemployment, this is the maximum of either youth allowance (other) plus Newstart allowance or Newstart allowance (180 days)/youth allowance (other) (<180 days) plus Newstart allowance (180 days plus)/youth allowance (other) (<180 days plus)

Note that these figures can be undercounted by up to 4 people if one of the cells is confidentialised.

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<sup>1</sup> Youth Allowance (other) is largely comprised of unemployed people aged 16 to 21 looking for full-time work or undertaking approved activities, such as part-time study or training. It excludes Youth Allowance customers who are full-time students or undertaking an apprenticeship/ traineeship.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

- **People receiving an unemployment benefit short-term and long-term, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** People receiving an 'unemployment benefit' – which includes the Newstart Allowance or Youth Allowance (other) paid by Centrelink – for more less than 183 days and more than 183 days (approximately 6 months) are shown as the proportion of the eligible population (of people aged 16 to 64 years).

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

- **Young people aged 16 to 24 receiving an unemployment benefit, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Young people receiving an 'unemployment benefit' – which includes the Newstart Allowance (people aged 16 to 24 years) or Youth Allowance (other) paid by Centrelink – are shown as the proportion of the population aged 16 to 24 years.

PHA data may be the sum of freely available SA2 data if the publication of PHA data could reveal the value of confidentialised cells at the SA2 level. For these indicators, the number of people receiving this payment may be undercounted by up to four persons or either persons if two indicators are added together such as total unemployment which is the sum of Newstart and Youth allowance.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

- **Low income, welfare-dependent families (with children), June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

- **Children in low income, welfare-dependent families, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** For 2016, a) families included are those with children under 16 years; or b) children under 16 years in families – with incomes under \$37,378 p.a. in receipt of the Family Tax Benefit (A) (whether receiving income support payments or not). These families would all receive the Family Tax Benefit (A) at the maximum level.

The level of income used for these data was based on the *Poverty Lines: Australia, June Quarter 2016, which contains a weekly income for a single parent with two children, including housing costs*. *Poverty Lines: Australia* is a quarterly newsletter that updates the Henderson Poverty Line as defined in the 1973 Commonwealth Commission of Inquiry into Poverty. Poverty lines are presented for a range of family sizes, in order to avoid the situation of poverty. The updated Poverty Lines take into account changes in the average income level of all Australians, reflecting the idea that poverty is relative.

[For further information, see: *Poverty Lines: Australia* (ISSN 1448-0530), Melbourne Institute of Applied Economic and Social Research, available from: <http://melbourneinstitute.com/miaesr/publications/indicators/poverty-lines-australia.html>]

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the Estimated Resident Population 30 June 2017.

- **Health Care Card holders, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** People eligible for a Health Care Card (HCC) issued by Centrelink are those aged 0 to 64 years who do not hold a Pensioner Concession Card and receive one of the following Centrelink payments: Carer Allowance; Carer Payment (child) (short term or episodic); Exceptional Circumstances Relief Payment; Family Tax Benefit A (maximum rate only); Mobility Allowance (if not receiving a Disability Support Pension); Newstart Allowance; Parenting Payment (partnered); Partner Allowance; Special benefit; Widow Allowance; and Youth Allowance (job seekers only). People may also be eligible for a HCC if they are a foster carer; ex-holder of a Carer Allowance (child) Health Care Card; or are a low income earner.

PHA data may be the sum of freely available SA2 data if the publication of PHA data could reveal the value of confidentialised cells at the SA2 level. For these indicators, the number of people receiving this payment may be undercounted by up to four persons or either persons if two indicators are added together such as total unemployment which is the sum of Newstart and Youth allowance.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

- **Pensioner Concession Card holders, June 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** People eligible for a Pensioner Concession Card issued by Centrelink comprise people aged 15 years and over who receive one of the following Centrelink payments: Age Pension; Bereavement Allowance; Carer Payment (adult); Carer Payment (child); Disability Support Pension; Newstart Allowance and Youth Allowance (job seeker) if single and caring for a dependent child; and Parenting Payment (single). People aged over 60 years may receive a Pensioner concession card if they have been receiving income support payments for more than nine months and receive: Newstart Allowance; Parenting Payment (partnered); Partner Allowance; Sickness Allowance; Special Benefit; and Widow Allowance.



People may also be eligible for a Pensioner Concession Card if they have a partial capacity to work and are receiving any of the following payments: Newstart Allowance; Parenting Payment (partnered); and Youth Allowance (job seeker).

PHA data may be the sum of freely available SA2 data if the publication of PHA data could reveal the value of confidentialised cells at the SA2 level. For these indicators, the number of people receiving this payment may be undercounted by up to four persons or either persons if two indicators are added together such as total unemployment which is the sum of Newstart and Youth allowance.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

- [Seniors Health Card holders, June 2017](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The Seniors Health Card gives older Australians access to cheaper prescription medicines, Australian government funded medical services, and other government concessions. People eligible for a Seniors Health Card must have reached Age Pension age but do not qualify for a payment by the Department of Human Services or the Department of Veterans' Affairs.

PHA data may be the sum of freely available SA2 data if the publication of PHA data could reveal the value of confidentialised cells at the SA2 level. For these indicators, the number of people receiving this payment may be undercounted by up to four persons or either persons if two indicators are added together such as total unemployment which is the sum of Newstart and Youth allowance.

**Source:** Compiled by PHIDU based on data from the Department of Social Services, June 2017; and the ABS Estimated Resident Population, 30 June 2017.

## Internet access at home, 2016

- [Private dwellings with no Internet connection, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Total private dwellings with an Internet connection, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - [Private dwellings with a Broadband Internet connection, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - [Private dwellings with a Dial-up Internet connection, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - [Private dwellings with an 'other' Internet connection, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data include Internet access at private dwellings only; the data for the population in the 3.5% of dwellings for which Internet access was not stated are excluded (the proportion excluded was calculated based on the Australian data).

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

## Labour force, various years

- [Unemployment, June 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** These estimates, from the Department of Employment's *Small Area Labour Markets – Australia* data series, are based on the Structure Preserving Estimation (SPREE) methodology which enables the generation of small area unemployment, unemployment rate and labour force estimates. They differ from the figures for people receiving an unemployment benefit as different rules are applied to eligibility for a welfare payment and being considered as unemployed in the DoE data. The estimates presented are derived from three primary data sources:

1. Centrelink data on people in receipt of Newstart or Youth Allowance (other) by Statistical Areas Level 2 (SA2);
2. Australian Bureau of Statistics (ABS) Labour Force Survey data by Statistical Areas Level 4; and
3. 2011 Census of Population and Housing participation rate data at the SA2 level.

The unemployment/ labour force estimates presented are based on the 'smoothed' data series, where the data have been averaged over four quarters to minimise the variability inherent in the small area estimates.

**Source:** Compiled by PHIDU based on the *Small Area Labour Markets - Australia*, Department of Employment, June Quarter 2016.

- [Labour force participation, June 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** See **Indicator detail** for Unemployment, above.

**Source:** Compiled by PHIDU based on the *Small Area Labour Markets - Australia*, Department of Employment, June Quarter 2016; and the ABS Estimated Resident Population, 30 June 2015.

- [Female labour force participation, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** This indicator is based on data in the ABS Population Census. As it is based on self-reported information, and not subject to the criteria for labour force participation applied by the ABS in the Labour Force Survey and used in the DoE estimates (above), it will not necessarily be consistent with the official estimates labour force participation published by the ABS.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

## Summary measure of disadvantage, 2016

- [Index of Relative Socio-economic Disadvantage \(IRSD\), 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The Index has a base of 1000 for Australia: scores above 1000 indicate relative lack of disadvantage and those below 1000 indicate relatively greater disadvantage.

For further information see the information provided by the Australian Bureau of Statistics (ABS) at:

<http://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa>

or download the ABS *Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2011* (Cat. no. 2033.0.55.001) technical paper at: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001>.

**Source:** Compiled by PHIDU based on ABS Socio-economic Indexes for Areas (SEIFA), 2016 data. Note: The LGA data were re-produced from the ABS originals. Data for other geographic levels were constructed using population weighted averages, based on the published ABS SA2 data.

## Community strengths, personal and financial stressors and barriers to accessing transport and healthcare services

### Community strengths, various years

#### ABS Census data, 2016

- [Voluntary work for an organisation or group - people aged 15 years and over, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The variable 'Voluntary work for an organisation or group' records people who spent time doing unpaid voluntary work through an organisation or group in the twelve months prior to Census night.

The numerator excludes the 8.2% of the population aged 15 years and over whose participation in voluntary work was not stated: however, these records are included in the denominator.

**Source:** Compiled by PHIDU based on the ABS Census of Population and Housing, August 2016.

#### Modelled estimates

The GSS survey was conducted by personal interview and collected information about personal and household characteristics for people aged 15 years and over resident in private dwellings across Australia (excluding very remote and people living in discrete Aboriginal and Torres Strait Islander communities), from March to June 2014.

The main purpose of the survey was to provide an understanding of the multi-dimensional nature of relative advantage and disadvantage across the population, and to facilitate reporting on and monitoring of people's opportunities to participate fully in society. For further information on the survey see

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4159.02014?OpenDocument>.

Through the use of synthetic estimation techniques, it is possible to produce estimates from survey data at the small area level. Synthetic estimation predicts a value for an area with a small population based on modelled survey data and known characteristics of the area. These modelled estimates can be interpreted as the likely value for a 'typical' area with those characteristics. The model used for predicting small area data is determined by analysing data at a higher geographic level, in this case Australia. The relationship observed at the higher geographic level between the characteristic of interest and known characteristics is assumed to also hold at the small area level. The estimates are made by applying the model to data on the known characteristics that can be reliably estimated at the small area level. This modelling technique can be considered as a sophisticated prorating of Australian estimates to the small area level.

The ABS has used various methods to produce small area predictions from a number of surveys. The methods are described in the *Small Area Estimates Manual version 1.0* which was released in May 2006 and is available on the National Statistical Service website at:

<http://www.nss.gov.au/nss/home.NSF/pages/Small+Areas+Estimates?OpenDocument>

The published GSS data and these small area estimates differ in scope. The 2014 GSS covered people living in private dwellings in urban and rural areas and excluded people in very remote areas and people living in discrete Aboriginal and Torres Strait Islander communities. As such estimates were not produced for PHAs with more than 50% of their populations residing in Very Remote CDs. Due to the exclusion of people living in CDs in Very Remote areas of Australia, survey estimates for the majority of PHAs in the Northern Territory are unreliable.

**Note:** Estimates with RRMSEs from 0.25 and to 0.50 have been marked (~) to indicate that they should be used with caution; and those greater than 0.50 but less than 1 are marked (~~) to indicate that the prediction is considered too unreliable for general use.

- Estimated number of people aged 18 years and over who did unpaid voluntary work in the last 12 months through an organisation (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over who are able to get support in times of crisis from people outside the household (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over (or their partner) who provide support to other relatives living outside the household (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over who disagree/strongly disagree with acceptance of other cultures (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over who, in the past 12 months, felt that they had experienced discrimination or have been treated unfairly by others (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS from the 2014 General Social Survey; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014 General Social Survey, ABS Survey TableBuilder.

### Personal and financial stressors (modelled estimates), 2014

- Estimated number of people aged 18 years and over whose household could raise \$2,000 within a week (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over who had government support as their main source of income in the last 2 years (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over who had government support as their main source of income, for 13 months or more, within the past 24 months (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS from the 2014 General Social Survey; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014 General Social Survey, ABS Survey TableBuilder.

### Barriers to accessing transport and healthcare services (modelled estimates), 2014

- Estimated number of people aged 18 years and over who often have a difficulty or cannot get to places needed with transport, including housebound (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over who experienced a barrier to accessing healthcare when needed it in the last 12 months, with main reason being cost of service (modelled estimates), 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS from the 2014 General Social Survey; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014 General Social Survey, ABS Survey TableBuilder.

## Health status, disease prevention, disability and deaths

### Mothers and babies, 2012 to 2014 and 2014–15

- Low birth weight babies, 2012 to 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise all babies (live born) weighing less than 2500 grams at birth, expressed as a proportion of all live births (data over 3 years).

Data are not shown for areas where there were fewer than 20 births.

The data previously published were for non-Indigenous low birth weight babies. The data shown here now include all low birth weight babies.

As these data were collected from each State and Territory health agency, they may exclude people who live in one State/Territory and used a service in another. Hence, the Australian total excludes a small number of births that were recorded in a different State/ Territory as their usual residence. All ACT published figures are of non-Indigenous people. As such the Australian total will only include non-Indigenous people for ACT.

**Source:** Compiled by PHIDU based on data from: the NSW Department of Health; Victorian Perinatal Data Collection; Perinatal Data Collection, Department of Health, Queensland; SA Health; WA Department of Health; the Tasmanian Perinatal Database; NT Department of Health and Families and Health Directorate, ACT Government.

- **Smoking during pregnancy, 2012 to 2014**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise the women who reported that they smoked during a pregnancy, expressed as a proportion of the number of pregnancies. Note that the data may include women who were pregnant more than once during the time period (3 years).

The data previously published were for non-Indigenous women who smoked during their pregnancy. The data shown here now include all women who smoked during their pregnancy.

As these data were collected from each State and Territory health agency, they may exclude people who live in one State/Territory and used a service in another. Hence, the Australian total excludes a small number of pregnancies that were recorded in a different State/ Territory as their usual residence. All ACT published figures are of non-Indigenous people. As such the Australian total will only include non-Indigenous people for ACT.

**Source:** Compiled by PHIDU based on data from: the NSW Department of Health; Victorian Perinatal Data Collection; Perinatal Data Collection, Department of Health, Queensland; SA Health; WA Department of Health; the Tasmanian Perinatal Database; NT Department of Health and Families and Health Directorate, ACT Government.

- **Breastfeeding (modelled estimates), 2014–15**

In the absence of data from administrative data sets, estimates have been produced for breastfeeding from the 2014–15 National Health Survey (NHS), conducted by the ABS. For further details on the production of these estimates (referred to as modelled estimates) and caveats, see [Modelled estimates](#), above.

**Note:** The modelled estimates for the following indicators are based on models containing a small number of predictor variables than available for other modelled estimates. The ABS advise that reasons for this may include a low sample count for the outcome variable and/or small variation/similar characteristics within the sample for the outcome variable. Caution should be applied when interpreting the modelled estimates for these outcome variables, as it is possible that the sample is not representative of the total population with these characteristics of interest.

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

- **Fully breastfed babies at 3 months, 2014–15**  
– by PHA, LGA, PHN

**Indicator detail:** The data comprise the estimated number of children aged 3 to 24 months who were fully breastfed at 3 months of age.

- **Fully breastfed babies at 6 months, 2014–15**  
– by PHA, LGA, PHN

**Indicator detail:** The data comprise the estimated number of children aged 3 to 24 months or under who were fully breastfed at 6 months of age.

- **Children who first ate soft, semi-solid or solid food before 4 months of age, 2014-15**  
– by PHA, LGA, PHN

**Indicator detail:** The data comprise the estimated number of children aged 3 years or under who first ate soft, semi-solid or solid food before 4 months of age.

**Estimates for this indicator differ from estimates presented on the ABS website which comprise children who first ate soft, semi-solid or solid food before 5 months of age.**

## Child and youth health, 2011 to 2015, 2017 and 2018

- **Children fully immunised at 1 year of age, 2 years of age and 5 years of age, 2018**  
– by PHA, LGA (see note below), PHN, Quintiles, Remoteness

**Indicator detail:** The data presented are of registered\* children fully immunised at 1 year of age, 2 years of age and 5 years of age.

For the purposes of reporting the data, fully immunised means a child receives the vaccinations due at or immediately prior to the age at which the measurement occurs. It is assumed that all previous vaccinations were received.

The definitions of fully immunised are:

- **Children aged 1 year:** Fully immunised at 1 year means that a child aged 12 months to less than 15 months received three doses of a diphtheria, tetanus and whooping cough-containing vaccine, three doses of polio vaccine, two or three doses of Haemophilus influenzae type b vaccine (dependent of the type of vaccine used), three doses of hepatitis B vaccine, and three doses pneumococcal vaccine, all prior to the age of 1 year.
- **Children aged 2 years:** Fully immunised at 2 years means that a child aged 24 to less than 27 months received three doses of a diphtheria, tetanus and whooping cough-containing vaccine, three doses of polio vaccine, three or four doses of Haemophilus influenzae type b vaccine (dependent of the type of vaccine used), three doses of hepatitis B vaccine, one dose of a measles, mumps and rubella-containing vaccine, one dose of meningococcal C vaccine, and one dose of varicella (chicken pox) vaccine, all prior to the age of 2 years.
- **Children aged 5 years:** Fully immunised at 5 years means that a child aged 60 to less than 63 months received four doses of a diphtheria, tetanus and whooping cough-containing vaccine, four doses of polio vaccine, and two doses of a measles, mumps and rubella-containing vaccine, all prior to the age of 5 years.

Data are not shown for areas where there were fewer than 10 registered children or fewer than 10 children immunised.

**Note:** In this edition, the data for the APY Lands (in the PHA and PHN atlases) and Anangu Pitjantjatjara (AC) (in the LGA atlas) have been shown as 'n.a.' (not available), due to concerns as to the reliability of the data. In addition, the LGA data for this indicator are estimated, refer to the [Caveat on LGA data quality](#) for more information.

\*Registered on the Australian Childhood Immunisation Register (ACIR). The ACIR is a national register that records vaccinations given to children under seven years old. It also provides immunisation history statements to parents or guardians.

**Source:** Compiled by PHIDU based on data provided by the Australian Childhood Immunisation Register, Medicare Australia, 2018 calendar year.

- [HPV vaccine coverage: females aged 15 years in mid-2017, who received Dose 3 of the vaccine by 2018 – by PHA, LGA, PHN, Quintiles, Remoteness](#)
- [HPV vaccine coverage: males aged 15 years in mid-2017, who received Dose 3 of the vaccine by 2018 – by PHA, LGA, PHN, Quintiles, Remoteness](#)

**Indicator detail:** The data presented are for females and males who were aged 15 years as at 30 June 2017, and who received three doses of the HPV vaccination and reported to the HPV Register by 3 October 2018. Females and males receiving all three doses represent those fully vaccinated.

Where there were fewer than ten participants in an area, the data are not shown; same level of confidentialisation applied to all geographies

Information held by the National HPV Vaccination Program Register is provided to the Register from immunisation providers. The accuracy of the information is dependent on the quality and timeliness of the data provided. Every effort is made to ensure that the information recorded on the Register is up to date and correct.

There are a number of instances in which percentages calculated for an area show as greater than 100% in the data. These may occur as a result of the numerator (the number of females vaccinated) being inaccurate where:

- the limited size of populations in some geographical areas;
- the estimated nature of the denominator populations used; or
- an inaccurate numerator due to the data having not been geo-coded. The geographic area at which the data are available is the postcode; postcode data are allocated to a PHA on the basis of the proportion of the postcode which falls into a PHA, which can result in allocation to the wrong PHA; the conversion is undertaken using approximate allocations of postcode populations (based on the best fit of Census Collection Districts (CDs) to postcode areas) to LGAs, derived from data at the previous Census. In many instances this conversion represents a crude allocation of the population of any LGA. For example, in many cases the boundaries of CDs do not match the boundaries of postcodes, and whole CDs are allocated to the postcode into which the population largely falls.

**Source:** Compiled by PHIDU using data from the National HPV Vaccination Program Register (NHVPR), November 2018; and the ABS Census Estimated Resident Population (ERP) 2017.

- [Infant deaths, 2011 to 2015 – by PHA, LGA, PHN, Quintiles, Remoteness](#)

**Indicator detail:** The data presented are of deaths that occurred before 12 months of age.

Data are not shown for areas where there were fewer than 20 births.

For deaths data released since 2007, the ABS has applied a staged approach to the coding of cause of death which affects the number of records available for release at any date. This release is comprised of preliminary data for 2015, revised data for 2014 and final data for 2011, 2012 and 2013. For further information about the ABS revisions process, see the following and related sites:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3303.0Explanatory%20Notes12015?OpenDocument>.

**Source:** Data compiled by PHIDU from deaths data based on the 2011 to 2015 Cause of Death Unit Record Files supplied by the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System. The births data for 2010 to 2014 were compiled from the [ABS National Regional Profile, 2010-14 \(ABS Cat. no. 1379.0.55.001\)](#).

- **Child mortality: Deaths of children aged 1 to 4 years, 2011 to 2015**  
– by PHN, Quintiles, Remoteness

**Indicator detail:** The data presented are of deaths between 1 and 4 years of age. These data have not been mapped at finer geographies as the numbers are relatively small.

**Source:** Data compiled by PHIDU from deaths data based on the 2011 to 2015 Cause of Death Unit Record Files supplied by the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System. The population at the small area level is the ABS Estimated Resident Population (ERP), 30 June 2011 to 30 June 2015, Statistical Areas Level 2; the population standard is the ABS ERP for Australia, 30 June 2011 to 30 June 2015.

- **Youth mortality: Deaths of persons aged 15 to 24 years, 2011 to 2015**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data presented are the average annual indirectly age-standardised rates per 100,000 population (aged 15 to 24 years); and/or indirectly age-standardised ratios, based on the Australian standard.

For deaths data released since 2007, the ABS has applied a staged approach to the coding of cause of death which affects the number of records available for release at any date. This release is comprised of preliminary data for 2015, revised data for 2014 and final data for 2011, 2012 and 2013. For further information about the ABS revisions process, see the following and related sites:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3303.0Explanatory%20Notes12015?OpenDocument>.

**Source:** Data compiled by PHIDU from deaths data based on the 2011 to 2015 Cause of Death Unit Record Files supplied by the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System. The population at the small area level is the ABS Estimated Resident Population (ERP), 30 June 2011 to 30 June 2015, Statistical Areas Level 2; the population standard is the ABS ERP for Australia, 30 June 2011 to 30 June 2015.

## Screening programs: 2013 and 2014, 2016 and 2017

### Bowel screening, 2016 and 2017

**Conditions of Use for all *Bowel screening* data:** Users of the National Bowel Cancer Screening Program (NBCSP) data must acknowledge the Department of Health as the original source of the data and include the following disclaimer:

1. *Formal publication and reporting of the NBCSP data is undertaken by the Australian Institute of Health and Welfare on behalf of the Department of Health. NBCSP data included in this report provided by the Department of Health are not part of the formal publication and reporting process for NBCSP data.*
2. *Cautionary note about small numbers - Due to a larger degree of statistical fluctuation in small numbers, great care should be taken when assessing apparent differences involving small numbers and measures based on small numbers.*

**Source:** Compiled by PHIDU based on data provided by the Department of Health from the National Bowel Cancer Screening Program, 2016 and 2017.

- **Total males who participated in the National Bowel Cancer Screening Program, 2016 and 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness
- **Total females who participated in the National Bowel Cancer Screening Program, 2016 and 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness
- **Total people who participated in the National Bowel Cancer Screening Program, 2016 and 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data comprise the number of males/ females/ people aged 50-74 years who participated in the National Bowel Cancer Screening Program between 1 January 2016 and 31 December 2017, expressed as a proportion of the number of males/ females/ people aged 50-74 years who were invited to participate in the National Bowel Cancer Screening Program between 1 January 2016 and 31 December 2017.

Where there are fewer than six events (invitees, participants) in an area, the data is suppressed to protect confidentiality. In addition, the current NBCSP data is presented over two calendar years - 2016 and 2017, hence it is not comparable with the previous release for 2014/15 (one financial year).

- **National Bowel Cancer Screening Program: positive test result, males, 2016 and 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness
- **National Bowel Cancer Screening Program: positive test result, females, 2016 and 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness
- **National Bowel Cancer Screening Program: positive test result, people, 2016 and 2017**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The outcome indicator presented is referred to as a 'positive test result'; a positive FOBT result indicates that blood has been found in the sample provided.

The data comprise the number of males/ females/ people aged 50-74 years who received a positive test result from the Faecal Occult Blood Test (FOBT) in the National Bowel Cancer Screening Program between 1 January 2016 and 31 December 2017, expressed as a proportion of the number of males/ females/ people aged 50-74 years who participated in the National Bowel Cancer Screening Program between 1 January 2016 and 31 December 2017.

Where there are fewer than six events (invitees, participants) in an area, the data is suppressed to protect confidentiality. In addition, the current NBCSP data is presented over two calendar years - 2016 and 2017, hence it is not comparable with the previous release for 2014/15 (one financial year).

## Breast screening, 2013 and 2014

- **Breast screening participation, females aged 50 to 69 years, 2013 and 2014 (NSW, Vic, SA & ACT)**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The participation rate for the 24-month period to the end of each calendar year is based on the actual number of women screened as a percentage of the average of the ABS Estimated Resident Population for the two corresponding calendar years. If a woman has attended more than once in the 24 months, she is counted once only, and the age is taken from the first visit.

The data do not include women who undergo private screening; the impact of such services is estimated to be quite small – see: Department of Health and Ageing (2009) *BreastScreen Australia evaluation: Medicare Benefits Schedule (MBS) Mammography Analysis Project*. Screening monograph no. 11/2009. Canberra: Commonwealth of Australia.

Data are not available for Queensland, Western Australia, Tasmania or the Northern Territory. Archived data from 2010 and 2011 are available for Queensland and Western Australia at <http://phidu.torrens.edu.au/social-health-atlases/data-archive>

As these data were collected from each State and Territory health agency, they may exclude people who live in one State/Territory and used a service in another. The main occurrences are for people living near State/Territory borders such as in Albury (NSW) and Wodonga (Vic), Tweed (NSW) and Gold Coast (Qld) and from the APY Lands (SA) using services in Alice Springs (NT).

**Source:** Compiled by PHIDU based on data from:

- 1) BreastScreen NSW, BreastScreen Vic, BreastScreen SA, and BreastScreen ACT; and
- 2) average of the ABS Estimated Resident Population, 30 June 2013 and 30 June 2014.

- **Breast screening outcomes - cancer, females aged 50 to 69 years, 2013 and 2014 (NSW, Vic, SA & ACT)**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The breast screening outcomes for the 24-month period to the end of each calendar year are based on the actual number of women diagnosed with breast cancer as an age-standardised rate of the actual number of women screened for the two corresponding calendar years. If a woman has attended more than once in the 24 months, she is counted once only, and the age is taken from the first visit.

Breast cancers include both invasive and ductal carcinoma in situ (DCIS).

The indirectly age-standardised rate per 10,000 women screened is based on the standard population of each respective jurisdiction.

The data do not include women who undergo private screening; the impact of such services is estimated to be quite small – for reference, see **Breast screening participation** note above.

Data are not available for Queensland, Western Australia, Tasmania or the Northern Territory. Archived data from 2010 and 2011 are available for Queensland and Western Australia at <http://phidu.torrens.edu.au/social-health-atlases/data-archive>

As these data were collected from each State and Territory health agency, they may exclude people who live in one State/Territory and used a service in another. The main occurrences are for people living near State/Territory borders such as in Albury (NSW) and Wodonga (Vic) and Tweed (NSW) and Gold Coast (Qld).

**Source:** Compiled by PHIDU based on data from BreastScreen NSW, BreastScreen Vic, BreastScreen WA and BreastScreen ACT.

## Cervical screening, 2013 and 2014

- **Cervical screening participation, females aged 20 to 69 years, 2013 and 2014 (NSW, Vic, SA, WA & ACT)**  
– by PHA, PHN, LGA, Quintiles, Remoteness

**Indicator detail:** The participation rate for the 24-month period to the end of each calendar year is based on the actual number of women screened as a percentage of the average of the ABS Estimated Resident Population for the two corresponding calendar years, excluding an estimate of those who had undergone a full hysterectomy. If a woman has attended more than once in the 24 months, she is counted once only, and the age is taken from the first visit.

In some instances, percentages are calculated at greater than 100%; this may be the result of:

- the address data being a postcode which is not allocated to the correct geographical area by the concordances available; or
- the address of the facility where the consultation is held or the service is provided being used, rather than the address of the client/ patient.

In time, with more reliable recording of address details, these occurrences should be reduced.

ACT totals include all of postcode 2618, although approximately 50% of the population in this postcode reside in NSW.

Cervical screening participation numbers within geographic areas along the Victorian and New South Wales borders, specifically the Murray PHN and the Albury Local Government Authority, may be under estimated because women screened in Victoria but who reside in New South Wales may not be fully allocated to the New South Wales geographic area.

Data are not available for Queensland (to be available later in 2017), Tasmania or the Northern Territory.

**Source:** Compiled by PHIDU based on data from the:

1) NSW Department of Health and NSW Central Cancer Registry, 2013 and 2014; Victorian Cervical Cytology Registry, 2013 and 2014; SA Cervix Screening Program, 2013 and 2014; Western Australia Cervical Cytology Register, 2013 and 2014; and ACT Cytology Register, 2013 and 2014; and  
2) the average of the ABS Estimated Resident Population, 30 June 2013 and 30 June 2014 (NSW, Vic, WA, SA and ACT); with hysterectomy fraction data derived from the AIHW analysis of the National Hospital Morbidity Database. Available at Australian Institute of Health and Welfare 2016. Cervical screening in Australia 2013-14. Cancer series no. 97. Cat. no. CAN 95. Canberra: AIHW. Appendix C.

- Cervical screening outcomes: low grade abnormality, females aged 20 to 69 years, 2013 and 2014 (NSW, Vic, SA, WA & ACT)  
– by PHA, PHN, LGA, Quintiles, Remoteness
- Cervical screening outcomes: high grade abnormality, females aged 20 to 69 years, 2013 and 2014 (NSW, Vic, SA, WA & ACT)  
– by PHA, PHN, LGA, Quintiles, Remoteness

**Indicator detail:** Cervical screening outcomes for the 24-month period to the end of each calendar year are based on the number of women with an abnormal pap smear as an age-standardised rate of the number of women screened in the corresponding calendar years. If a woman has attended more than once in the 24 months with both low and high grade abnormality results, she is counted once only in the high-grade abnormality category, being the most serious result.

Low grade abnormalities are cytology test results S2, S3 and E2 according to the national cytology coding schedule.

High grade abnormalities are cytology test results S4, S5, S6, E3, E4 and E5 according to the national cytology coding schedule.

ACT totals include all of postcode 2618, although approximately 50% of the population in this postcode resides in NSW. Rates of low and high grade abnormality within geographic areas along the Victorian and New South Wales borders, specifically the Murray PHN and the Albury Local Government Authority, may be under estimated because women tested in Victoria but who reside in New South Wales may not be fully allocated to the New South Wales geographic area.

The indirectly age-standardised rate per 1,000 women screened is based on the standard population of women screened in each respective jurisdiction.

Data are not available for Tasmania, Queensland and the Northern Territory.

**Source:** Compiled by PHIDU based on data from the NSW Department of Health and NSW Central Cancer Registry, 2013 and 2014; Victorian Cervical Cytology Registry, 2013 and 2014; SA Cervix Screening Program, 2013 and 2014; Western Australia Cervical Cytology Register, 2013 and 2014; and ACT Cytology Register, 2013 and 2014.

## Cancer incidence, 2006 to 2010

### Males

- Prostate cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Colorectal cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Melanoma of the skin incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Lung cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Head and neck cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Lymphoma cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Leukaemia cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Bladder cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Kidney cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Pancreatic cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- Stomach cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- All other cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- All cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness



## Females

- Breast cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Colorectal cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Melanoma of the skin incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Lung cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Uterine cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Lymphoma cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Thyroid cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- Leukaemia cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- Ovarian cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- Pancreatic cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- All other cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- All cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness

## Persons

- All cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- Colorectal cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Melanoma of the skin incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Lung cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Lymphoma cancer incidence, 2006 to 2010 – by PHA, LGA, PHN, Quintiles, Remoteness
- Leukaemia cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness
- Pancreatic cancer incidence, 2006 to 2010 – by PHN, Quintiles, Remoteness

**Indicator detail:** Due to errors in geographical coding, additional cells have been suppressed for PHA and LGA in Queensland data, and Remoteness and Quintiles are not presented for Queensland and Australia.

The data exclude all cases of basal cell carcinoma of the skin and squamous cell carcinoma of the skin.

Calculation of standardised rates of cancer incidence used age group data from the Australian Cancer Database (ACD) 2012, maintained by the Australian Institute of Health and Welfare (AIHW). The following data were not available in time for inclusion in the 2012 ACD: (1) 2009 provisional death-certificate-only (DCO) data for NSW and ACT; (2) 2010 provisional DCO data for ACT. In order to be able to present national data for these years the AIHW calculated estimates for these missing data. For details, see the data quality statement at <http://meteor.aihw.gov.au/content/index.phtml/itemId/624388>

The standardised rates presented will differ from those available on the AIHW website. The AIHW calculated directly age-standardised rates using the 2001 Australian Standard Population, compared to the indirectly age-standardised rates herein that were calculated using the Estimated Resident Population for 2006 through 2010. This is of particular relevance for rates for Primary Health Networks and the 'all cancer' rates for Population Health Areas.

To protect confidentiality, the following data have been suppressed:

- all data where there are fewer than five events in an area; however, where there were no cases, zero is shown
- rates/ratios where there are from five to nine events in an area, though the number itself is shown

Additional data about these and other cancers are available from the Australian Institute of Health and Welfare website, including at <http://www.aihw.gov.au/acim-books/>

**Detail of analysis:** Indirectly age-standardised rate per 100,000 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Compiled by PHIDU from an analysis by the Australian Institute of Health and Welfare (AIHW) of the Australian Cancer Database (ACD) 2012. The ACD is compiled at the AIHW from cancer data provided by state and territory cancer registries: for further information on the ACD see <http://www.aihw.gov.au/australian-cancer-database/>.

## Self-assessed health (modelled estimates), 2014–15

In the absence of data from administrative data sets, estimates were produced for selected health risk factors from the 2014–15 National Health Survey (NHS), conducted by the Australian Bureau of Statistics (ABS). For further details on the production of these estimates (referred to as modelled estimates) and caveats, see [Modelled estimates](#), above.

- Estimated number of people aged 15 years and over, who reported their self-assessed health as fair or poor, 2014–15– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data on which the estimates are based are self-reported responses, reported to interviewers in the 2014–15 NHS. Respondents aged 15 years and over were asked to assess their health on a scale from 'poor' to 'excellent' (the scale was 'poor', 'fair', 'good', 'very good', or 'excellent'). The data reported are the sum of responses categorised as 'poor' or 'fair'.

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014–15 Australian Health Survey, ABS Survey TableBuilder.

## Prevalence of selected chronic diseases and conditions (estimates), 2011–12 and 2014–15

In the absence of data from administrative data sets, estimates are provided for certain chronic diseases and conditions from the 2011–12 Australian Health Survey and the 2014–15 NHS, conducted by the Australian Bureau of Statistics (ABS). For further details on the production of these estimates (referred to as modelled estimates) and caveats, see [Modelled estimates](#), above.

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014–15 National Health Survey (NHS), Survey TableBuilder or the 2011–12 Australian Health Survey (AHS), ABS Survey TableBuilder.

### Type 2 diabetes mellitus (modelled estimates), 2014–15

- Estimated population with type 2 diabetes mellitus, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** These data refers to persons who self-reported having been told by a doctor or nurse that they had type 2 diabetes mellitus, irrespective of whether the person considered their diabetes to be current or long-term.

### High blood cholesterol (modelled estimates), 2011–12

- Estimated population aged 18 years and over with high blood cholesterol, 2011–12  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Total cholesterol results were obtained for selected people aged 12 years and over, who agreed to participate in the NHMS component of the AHS and provided a blood sample. The total cholesterol test measures the combined amount of lipid (fat) components circulating in the blood at the time of the test. Fasting was not required. In the NHMS, the following definition for high serum total cholesterol was used: abnormal total cholesterol indicated by levels  $\geq 5.5$  mmol/L. This was based on epidemiological data and publications of major clinical trials, and advice from the National Heart Foundation Australia and the Cardiac Society of Australia and New Zealand. The data therefore refer to people with a total blood cholesterol level  $\geq 5.5$  mmol/L.

### Mental and behavioural problems (modelled estimates), 2014–15

- Estimated number of males, females and persons with mental and behavioural problems, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Mental health and behavioural problems were identified through self-reported information on long-term conditions as part of the NHS. When respondents aged 15 years and over reported a long-term mental or behavioural problem, the conditions were treated in a similar manner to other long-term conditions, such as diabetes and asthma. Some possible conditions were behavioural or emotional disorders; dependence on drugs or alcohol; feeling anxious or nervous; and depression and feeling depressed. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more.

In the 2014-15 NHS, a module specifically dedicated to mental and behavioural conditions was included to collect information on cognitive, organic and behavioural conditions. Previously mental and behavioural conditions were collected in a module that included a wide range of long-term health conditions. The number of persons who reported having a mental and behavioural condition in 2014-15 has increased since the 2011-12 NHS, potentially due to the greater prominence of mental and behavioural conditions in the new module. Data on mental and behavioural conditions for 2014-15 are therefore not comparable with data in previous National Health Surveys. For more information refer to the [NHS: First Results, 2014-15](#).

- Estimated number of males, females and persons with mood (affective) problems, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Mood (affective) disorders were identified through self-reported information that respondents reported ever being told by a doctor or nurse that they had one or more mood (affective) disorders such as depression/ feeling depressed and that it was current and long-term at the time of the interview. A current and long-term condition is defined as a medical condition that has lasted or expected to last six months or more and was current at the time of the interview. Mood disorders include depression and other mood (affective) disorders. In the 2014-15 NHS, a module specifically dedicated to mental and behavioural conditions was included to collect information on cognitive, organic and behavioural conditions. Previously mental and behavioural conditions were collected in a module that included a wide range of long-term health conditions. The number of persons who reported having a mental and behavioural condition in 2014-15 has increased since the 2011-12 NHS, potentially due to the greater prominence of mental and behavioural conditions in the new module. Data on mental and behavioural conditions for 2014-15 are therefore not comparable with data in previous National Health Surveys. For more information refer to the [NHS: First Results, 2014-15](#).

## Circulatory system diseases (modelled estimates), 2011–12 and 2014–15

- [Estimated population with circulatory system diseases, 2014–15](#)  
– by PHA, LGA, PHN

**Indicator detail:** In the NHS, respondents were asked if they had ever been told by a doctor or nurse that they had one or more circulatory system conditions and whether it was considered current and long-term at the time of the interview. In 2014–15, the circulatory system diseases module was redefined to include people reported having ischaemic heart diseases and cerebrovascular diseases that was not current but was long-term. The following circulatory system diseases were included regardless if their condition was considered current at the time of the interview:

- angina;
- heart attack;
- other ischaemic heart diseases;
- stroke;
- other cerebrovascular diseases.

A long-term condition is defined as a condition that has lasted, or is expected to last, for 6 months or more. It is also worth noting that a transient ischaemic attack or "mini-stroke" was included on the interviewer's prompt card in the 2014–15 NHS and coded to 'other cerebrovascular diseases'. This has seen an increased number of 'other cerebrovascular diseases' from 4,900 people in 2011–12 to 171,200 people in 2014–15 and a decrease in the number of people in 'stroke' from 240,000 in 2011–12 to 172,300 people in 2014–15. For more information, refer to the [NHS: First Results, 2014-15](#).

- [Estimated population aged 2 years and over with circulatory system diseases, 2011–12](#)  
– by Quintiles, Remoteness

**Indicator detail:** As part of the AHS, respondents aged two years and over were asked if they had ever been told by a doctor or nurse that they had one or more heart or other circulatory system conditions and if they considered they currently have one or more such conditions. The following conditions, however, were assumed to be current long-term conditions:

- rheumatic heart disease;
- heart attack;
- heart failure;
- stroke;
- angina.

A long-term condition is defined as a condition that has lasted, or is expected to last, for 6 months or more.

- [Estimated population with heart, stroke and vascular disease, 2014–15](#)  
– by PHA, LGA, PHN

**Indicator detail:** In the NHS, respondents were asked if they had ever been told by a doctor or nurse that they had one or more of the following heart, stroke and vascular diseases (also referred to as cardiovascular disease) and it was current and long-term at the time of the interview:

- angina, heart attack and other ischaemic heart diseases;
- stroke and other cerebrovascular diseases;
- oedema;
- heart failure;
- diseases of the arteries, arterioles and capillaries.

A current and long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more. For the first time in 2014–15, persons who reported having ischaemic heart diseases and cerebrovascular diseases that were not current and long-term at the time of interview were also included. It is also worth noting that a transient ischaemic attack or "mini-stroke" was included on the interviewer's prompt card in the 2014–15 NHS and coded to 'other cerebrovascular diseases'. This has seen an increased number of 'other cerebrovascular diseases' from 4,900 people in 2011–12 to 171,200 people in 2014–15 and a decrease in the number of people in 'stroke' from 240,000 in 2011–12 to 172,300 people in 2014–15. For more information, refer to the ABS [NHS: First Results, 2014-15](#).

## Respiratory system diseases (modelled estimates), 2014–15

- [Estimated population with respiratory system diseases, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** In the NHS, these data refer to respondents ever having been told by a doctor or nurse that they have asthma, bronchitis, emphysema or other respiratory system disease; or not diagnosed but who consider their condition to be current and long-term. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more.

- [Estimated population with asthma, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** These data refer to respondents ever having been told by a doctor or nurse that they have asthma, and whose asthma is current and long-term. Whether a person's asthma is current or not was determined by whether they had had any symptoms of asthma or taken treatment for asthma in the last 12 months. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more.

- [Estimated population with chronic obstructive pulmonary disease, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** These data refer to respondents ever having been told by a doctor or nurse that they have bronchitis or emphysema (chronic obstructive pulmonary disease [COPD]); or not diagnosed but who consider their condition to be current and long-term. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more.

## Musculoskeletal system diseases (modelled estimates), 2014–15

- [Estimated population with musculoskeletal system diseases, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** In the NHS, these data refer to respondents ever having been told by a doctor or nurse that they have a disease of the musculoskeletal system and connective tissue; or not diagnosed but who consider their condition to be current and long-term. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more.

- [Estimated population with arthritis, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** These data refer to respondents who were asked whether they have, or had ever had:

- gout;
- rheumatism;
- arthritis;
- osteoarthritis;
- rheumatoid arthritis;
- other types of arthritis.

If respondents reported either gout or rheumatism, they were then asked whether their condition was expected to last for six months or more. If they identified an arthritis condition, other than gout or rheumatism, they were asked whether they had ever been told by a doctor or nurse that they have the condition. Only persons whose arthritis was current and long-term were recorded as having arthritis. Persons who reported having arthritis, which was not current and long-term, were recorded as not having arthritis. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more. Arthritis is defined as osteoarthritis, rheumatoid arthritis and other arthritis or type unknown, that is current and long-term.

The 2014-15 NHS differs from the 2011-12 AHS in that respondents were not immediately asked, in the first question of the module, whether they had ever been told by a doctor or nurse they have arthritis. For more information refer to the [NHS Users' Guide, 2014-15](#).

- [Estimated population with rheumatoid arthritis, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** These data refer to persons ever been told by a doctor or nurse that they have rheumatoid arthritis and consider their condition to be current and long-term. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more. For further information about arthritis estimates, refer to the [arthritis indicator detail](#) above.

- [Estimated population with osteoarthritis, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** These data refer to persons ever been told by a doctor or nurse that they have osteoarthritis and consider their condition to be current and long-term. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more. For further information about arthritis estimates, refer to the [arthritis indicator detail](#) above.

## Prevalence of selected health risk factors for adults (modelled estimates), 2014–15

In the absence of data from administrative data sets, estimates have been produced for selected health risk factors from the 2014–15 National Health Survey (NHS), conducted by the Australian Bureau of Statistics (ABS). For further details on the production of these estimates (referred to as modelled estimates) and caveats, see [Modelled estimates](#), above.

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014–15 Australian Health Survey, ABS Survey TableBuilder.

## Psychological distress (modelled estimates), 2014–15

- [Estimated number of people aged 18 years and over with high or very high psychological distress based on the Kessler 10 Scale \(K10\), 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Information was collected from respondents aged 18 years and over using the Kessler Psychological Distress Scale-10 (K10). This ten-item questionnaire yields a measure of psychological distress based on questions about negative emotional states (with different degrees of severity) experienced in the four weeks prior to interview. For each question, there is a five-level response scale based on the amount of time that a respondent experienced those particular feelings. The response options are ‘none of the time’; ‘a little of the time’; ‘some of the time’; ‘most of the time’; or ‘all of the time’. Each of the items are scored from 1 for ‘none’ to 5 for ‘all of the time’. Scores for the ten items are summed, yielding a minimum possible score of 10 and a maximum possible score of 50, with low scores indicating low levels of psychological distress and high scores indicating high levels of psychological distress.

K10 results are commonly grouped for output. Results are grouped into the following four levels of psychological distress: ‘low’ (scores of 10-15, indicating little or no psychological distress); ‘moderate’ (scores of 16-21); ‘high’ (scores of 22-29); and ‘very high’ (scores of 30-50). Based on research from other population studies, a ‘very high’ level of psychological distress shown by the K10 may indicate a need for professional help. For the indicator in this atlas, data are for respondents aged 18 years and over who scored in the ‘high’ and ‘very high’ levels of psychological distress.

## Blood pressure (modelled estimates), 2014–15

- [Estimated number of people aged 18 years and over who had high blood pressure, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The modelled estimates are based on details of people in the sample who had their blood pressure measured in the 2014–15 NHS. High blood pressure is defined as measured systolic BP of 140 mmHg or more or diastolic BP of 90 mmHg or more, irrespective of the use of BP medication.

## Overweight, obesity and waist measurement (modelled estimates), 2014–15

- [Estimated number of males aged 18 years and over who were overweight \(but not obese\), 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Estimated number of males aged 18 years and over who were obese, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Estimated number of females aged 18 years and over who were overweight \(but not obese\), 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Estimated number of females aged 18 years and over who were obese, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Estimated number of people aged 18 years and over who were overweight \(but not obese\), 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [Estimated number of people aged 18 years and over who were obese, 2014–15](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The Body Mass Index (BMI) (or Quetelet's index) is a measure of relative weight based on an individual's mass and height. The height (cm) and weight (kg) of respondents, as measured during the NHS interview, were used to calculate the BMI as follows:

- Overweight (but not obesity) was determined where a person's BMI was between 25 and less than 30.
- Obesity was determined where a person's BMI was 30 or greater.

The BMI is a useful tool at a population level for measuring trends in body weight, and helping to define population groups who are at higher risk of becoming obese, and therefore developing long-term medical conditions associated with a high BMI, such as type 2 diabetes and cardiovascular disease.

Note that the modelled estimates are based on the 73.2% of adults in the sample who had their height and weight measured.

- Estimated number of males aged 18 years and over with a waist measurement indicating an increased/substantially increased risk of developing chronic diseases, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of females aged 18 years and over with a waist measurement indicating an increased/substantially increased risk of developing chronic diseases, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over with a waist measurement indicating an increased/substantially increased risk of developing chronic diseases, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Waist circumference is a commonly used measure of whether a person is of a healthy weight or not. In particular, it provides a good estimate of body fat, and can indicate a person's potential risk of developing chronic diseases such as heart disease and Type 2 diabetes.

A waist measurement of 94cm or more for men or 80cm or more for women indicates that a person is at increased risk of developing chronic disease; see World Health Organisation, 2000, Obesity: preventing and managing the global epidemic. Report of a WHO Consultation, 2000, <[http://libdoc.who.int/trs/WHO\\_TRS\\_894.pdf](http://libdoc.who.int/trs/WHO_TRS_894.pdf)>; last accessed 30 January 2017

Note that the modelled estimates are based on the 71.2% of adults in the sample who had their waist circumference measured.

## Smoking (modelled estimates), 2014–15

- Estimated number of males aged 18 years and over who were current smokers, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of females aged 18 years and over who were current smokers, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Estimated number of people aged 18 years and over who were current smokers, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data on which the estimates are based are self-reported responses, reported to interviewers in the 2014–15 NHS. A current smoker is an adult who reported at the time of interview that they smoked manufactured (packet) cigarettes, roll-your-own cigarettes, cigars, and/or pipes at least once per week.

It excludes chewing tobacco and smoking of non-tobacco products. As part of the AHS, respondents aged 18 years and over were asked to describe their smoking status at the time of interview as:

1. current smokers: daily, weekly, other;
2. ex-smokers;
3. never smoked (those who had never smoked 100 cigarettes, nor pipes, cigars or other tobacco products at least 20 times, in their lifetime).

For the indicator in this atlas, data are for respondents aged 18 years and over who responded that they were “a current, daily or at least once weekly smoker”.

## Alcohol: lifetime risky drinking (modelled estimates), 2014–15

- Estimated number of people aged 15 years and over who consumed more than two standard alcoholic drinks per day on average, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data on which the estimates are based are self-reported responses, reported to interviewers in the 2014–15 NHS. The National Health and Medical Research Council guidelines for lifetime risk state that, for healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.

## Fruit consumption (modelled estimates), 2014–15

- Estimated number of adults aged 18 years and over with adequate fruit intake, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Adequate fruit consumption as shown here is equivalent to the minimum number of serves recommended in the 2013 NHMRC Australian Dietary Guidelines, of 2 serves for people aged 18 years and over. The data on which the estimates are based are self-reported responses, reported to interviewers in the 2014–15 NHS.

## Exercise (modelled estimates), 2014–15

- Estimated number of people aged 18 years and over who undertook no or low exercise in the week prior to the survey, 2014–15

– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data on which the estimates were based are self-reported responses, reported to interviewers in the 2014–15 NHS. The modelled estimates were based on data for exercise undertaken for fitness, sport or recreation in the week prior to being interviewed. Exercise level was calculated 'Duration of exercise (minutes) x Intensity factor (walking for fitness = 3.5, moderate = 5, vigorous = 7.5): low exercise refers to scores of less than 800.

## Prevalence of selected health risk factors for children (modelled estimates), 2014–15

In the absence of data from administrative data sets, estimates have been produced for selected health risk factors from the 2014–15 National Health Survey (NHS), conducted by the Australian Bureau of Statistics (ABS). For further details on the production of these estimates (referred to as modelled estimates) and caveats, see [Modelled estimates](#), above.

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

## Overweight and obesity (children) (modelled estimates), 2014–15

- Estimated number of male children aged 2-17 years who were overweight (but not obese), 2014–15  
– by PHA, LGA, PHN
- Estimated number of male children aged 2-17 years who were obese, 2014–15  
– by PHA, LGA, PHN
- Estimated number of female children aged 2-17 years who were overweight (but not obese), 2014–15  
– by PHA, LGA, PHN
- Estimated number of female children aged 2-17 years who were obese, 2014–15  
– by PHA, LGA, PHN
- Estimated number of children aged 2-17 years who were overweight (but not obese), 2014–15  
– by PHA, LGA, PHN
- Estimated number of children aged 2-17 years who were obese, 2014–15  
– by PHA, LGA, PHN

**Indicator detail:** The estimated number of boys and of girls assessed as being obese on the basis of their measured height and weight (Body Mass Index) as a proportion of all four year old boys and girls assessed. Body Mass Index (BMI) (or Quetelet's index) is a measure of relative weight based on an individual's mass and height. The height (cm) and weight (kg) of respondents, as measured during the NHS interview, were used to calculate the BMI – details at

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4363.0.55.001Appendix402011-13?opendocument&tabname=Notes&prodno=4363.0.55.001&issue=2011-13&num=&view=>

Note that the modelled estimates are based on the 62.3% of children in the sample who had their height and weight measured. For respondents who did not have their height and weight measured, imputation was used to obtain height, weight and BMI scores. For more information see Appendix 2: Physical measurements in the National Health Survey in the ABS publication National Health Survey First Results, 2014-15 (Cat. No. 4364.0.55.001).

## Fruit consumption (children) (modelled estimates), 2014–15

- Estimated number of children aged 4-17 years with adequate fruit intake, 2014–15  
– by PHA, LGA, PHN

**Indicator detail:** Adequate fruit consumption as shown here is equivalent to the minimum number of serves recommended in the 2013 NHMRC Australian Dietary Guidelines, of 1.5 serves for children aged 4 to 8 years and 2 for children aged 9 to 17 years. The data on which the estimates are based are self-reported responses, reported to interviewers in the 2014–15 NHS.

## Selected composite indicators (modelled estimates), 2014–15

In the absence of data from administrative data sets, estimates are provided for certain chronic diseases and conditions from the 2014–15 NHS, conducted by the Australian Bureau of Statistics (ABS). For further details on the production of these estimates (referred to as modelled estimates) and caveats, see [Modelled estimates](#), above.

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014–15 National Health Survey (NHS), Survey TableBuilder

- **Estimated number of males, females and persons aged 18 years and over with at least one of four risk factors (current smokers, high risk alcohol, obese, no or low exercise in the previous week), 2014–15**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The four risk factors are: current smokers; consuming alcohol at levels considered to be a high risk to health over their lifetime; obese from measured height and weight; and no or low exercise in the week prior to interview. See each indicator for definitions.

- **Estimated population, aged 18 years and over, who were overweight (but not obese) and had type 2 diabetes, 2014–15**  
– by PHA, LGA, PHN, Quintiles, Remoteness

- **Estimated population, aged 18 years and over, who were obese and had type 2 diabetes mellitus, 2014–15**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The Body Mass Index (BMI) (or Quetelet's index) is a measure of relative weight based on an individual's mass and height. The height (cm) and weight (kg) of respondents, as measured during the AHS interview, were used to calculate the BMI, and overweight (but not obesity) was determined where a person's BMI was between 25 and less than 30. Adults with a BMI equalling 30 or over were classified as obese. The BMI is a useful tool at a population level for measuring trends in body weight, and helping to define population groups who are at higher risk of becoming obese, and therefore developing long-term medical conditions associated with a high BMI, such as type 2 diabetes and cardiovascular disease. Note that the modelled estimates are based on the 84.3% of persons 18 years and over in the sample who had their height and weight measured.

Persons with type 2 diabetes refers to respondents who self-reported having been told by a doctor or nurse that they had type 2 diabetes mellitus, irrespective of whether the person considered their diabetes to be current or long-term.

- **Estimated population, aged 18 years and over, who were current smokers and had asthma and/or chronic obstructive pulmonary disease, 2014–15**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** A current smoker is defined as an adult aged 18 years and over who reported at the time of interview that they smoked manufactured (packet) cigarettes, roll-your-own cigarettes, cigars, and/or pipes at least once per week. It excludes chewing tobacco and smoking of non-tobacco products.

Asthma refers to persons ever told by a doctor or nurse that they have asthma, and whose asthma is current or long term. Whether a person's asthma is current or not was determined by whether they had had any symptoms of asthma or taken treatment for asthma in the last 12 months. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more.

Chronic obstructive pulmonary disease (COPD) refers to persons ever told by a doctor or nurse that they have bronchitis or emphysema; or not diagnosed but who consider their condition to be current and long-term.

- **Estimated population, aged 18 years and over, with mental and behavioural problems and type 2 diabetes mellitus, 2014–15**  
– by PHA, LGA, PHN

**Indicator detail:** Persons with type 2 diabetes refers to respondents who self-reported having been told by a doctor or nurse that they had type 2 diabetes mellitus, irrespective of whether the person considered their diabetes to be current or long-term.

Mental and behavioural problems data refer to persons aged 18 years and over who self-reported ever being told by a doctor or nurse that they had one or more of the following mental and behavioural problems, that were considered current and long-term:

- anxiety-related conditions (such as anxiety disorders/ feeling anxious, nervous or tense);
- mood (affective) disorders (such as depression/ feeling depressed);
- alcohol and drug problems;
- problems of psychological development;
- behavioural, cognitive and emotional problems with usual onset in childhood/adolescence;
- other mental and behavioural problems.



In the 2014–15 National Health Survey, a module specifically dedicated to mental and behavioural conditions was included to collect information on cognitive, organic and behavioural conditions. Previously mental and behavioural conditions were collected in a module that included a wide range of long-term health conditions. The number of persons who reported having a mental and behavioural condition in 2014–15 has increased since the 2011–12 NHS, potentially due to the greater prominence of mental and behavioural conditions in the new module. Data on mental and behavioural conditions for 2014–15 are therefore not comparable with data in previous National Health Surveys. For more information refer to the [NHS: First Results, 2014-15](#).

- **Estimated population, aged 18 years and over, with mental and behavioural problems and heart, stroke and vascular disease, 2014–15**

– by PHA, LGA, PHN

**Indicator detail:** In the NHS, respondents aged 18 years and over were asked if they had ever been told by a doctor or nurse that they had one or more of the following heart, stroke and vascular diseases (also referred to as cardiovascular disease) and it was current and long-term at the time of the interview:

- angina, heart attack and other ischaemic heart diseases;
- stroke and other cerebrovascular diseases;
- oedema;
- heart failure;
- diseases of the arteries, arterioles and capillaries.

A current and long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more and was current at the time of the interview. For the first time in 2014–15, persons who reported having ischaemic heart diseases and cerebrovascular diseases that were not current and long-term at the time of interview were also included. It is also worth noting that a transient ischaemic attack or "mini-stroke" was included on the interviewer's prompt card in the 2014–15 NHS and coded to 'other cerebrovascular diseases'. This has seen an increased number of 'other cerebrovascular diseases' from 4,900 people in 2011–12 to 171,200 people in 2014–15 and a decrease in the number of people in 'stroke' from 240,000 in 2011–12 to 172,300 people in 2014–15.

Mental and behavioural problems data refer to persons aged 18 years and over who self-reported ever being told by a doctor or nurse that they had one or more of the following mental and behavioural problems, that were considered current and long-term:

- anxiety-related conditions (such as anxiety disorders/ feeling anxious, nervous or tense);
- mood (affective) disorders (such as depression/ feeling depressed);
- alcohol and drug problems;
- problems of psychological development;
- behavioural, cognitive and emotional problems with usual onset in childhood/adolescence;
- other mental and behavioural problems.

In the 2014–15 National Health Survey, a module specifically dedicated to mental and behavioural conditions was included to collect information on cognitive, organic and behavioural conditions. Previously mental and behavioural conditions were collected in a module that included a wide range of long-term health conditions. The number of persons who reported having a mental and behavioural condition in 2014–15 has increased since the 2011–12 NHS, potentially due to the greater prominence of mental and behavioural conditions in the new module. Data on mental and behavioural conditions for 2014–15 are therefore not comparable with data in previous National Health Surveys. For more information refer to the [NHS: First Results, 2014-15](#).

- **Estimated population, aged 18 years and over, with mental and behavioural problems and chronic obstructive pulmonary disease, 2014–15**

– by PHA, LGA, PHN

**Indicator detail:** These data refer to persons ever told by a doctor or nurse that they have bronchitis or emphysema (chronic obstructive pulmonary disease [COPD]); or not diagnosed but who consider their condition to be current and long-term. A long-term condition is defined as a condition that is current and has lasted, or is expected to last, for 6 months or more.

Mental and behavioural problems data refer to persons aged 18 years and over who self-reported ever being told by a doctor or nurse that they had one or more of the following mental and behavioural problems, that were considered current and long-term:

- anxiety-related conditions (such as anxiety disorders/ feeling anxious, nervous or tense);
- mood (affective) disorders (such as depression/ feeling depressed);
- alcohol and drug problems;
- problems of psychological development;
- behavioural, cognitive and emotional problems with usual onset in childhood/adolescence;
- other mental and behavioural problems.

In the 2014–15 National Health Survey, a module specifically dedicated to mental and behavioural conditions was included to collect information on cognitive, organic and behavioural conditions. Previously mental and behavioural conditions were collected in a module that included a wide range of long-term health conditions. The number of persons who reported having a mental and behavioural condition in 2014–15 has increased since the 2011–12 NHS, potentially due to the greater prominence of mental and behavioural conditions in the new module. Data on mental and behavioural conditions for 2014–15 are therefore not comparable with data in previous National Health Surveys. For more information refer to the [NHS: First Results, 2014-15](#).

- [Estimated population, aged 16 to 64 years, with mental and behavioural problems who were in employment, 2014–15](#)

– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Employed persons data were persons aged 16 to 64 years who reported working in the previous week or was absent from a job during that week. These data exclude:

- unpaid volunteers;
- people who usually work less than 1 hour per week;
- people who were away from work on workers compensation; and
- people who were not, or were unsure, if they were returning to work for their employer.

Mental and behavioural problems data refer to persons aged 16 to 64 years who self-reported ever being told by a doctor or nurse that they had one or more of the following mental and behavioural problems, that were considered current and long:

- anxiety-related conditions (such as anxiety disorders/ feeling anxious, nervous or tense);
- mood (affective) disorders (such as depression/ feeling depressed);
- alcohol and drug problems;
- problems of psychological development;
- behavioural, cognitive and emotional problems with usual onset in childhood/adolescence;
- other mental and behavioural problems.

A current and long-term condition is defined as a medical condition that has lasted or expected to last six months or more and was current at the time of the interview. In the 2014–15 National Health Survey, a module specifically dedicated to mental and behavioural conditions was included to collect information on cognitive, organic and behavioural conditions. Previously mental and behavioural conditions were collected in a module that included a wide range of long-term health conditions. The number of persons who reported having a mental and behavioural condition in 2014–15 has increased since the 2011–12 NHS, potentially due to the greater prominence of mental and behavioural conditions in the new module. Data on mental and behavioural conditions for 2014–15 are therefore not comparable with data in previous National Health Surveys. For more information refer to the [NHS: First Results, 2014-15](#).

## Disability, 2016

- [Assistance to people with a disability \(unpaid\), 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The 'Assistance to persons with a disability (unpaid)' variable records people who, in the two weeks prior to Census Night, spent time providing unpaid care, help or assistance to family members or others because of a disability, a long-term illness (lasting six months or more) and/or problems related to older age.

The data exclude the 8.5% of people aged 15 years and over whose unpaid assistance to people with a disability was not stated (the proportion excluded was calculated based on the Australian data).

**Source:** Compiled by PHIDU based on ABS Census 2016 data.

- [People with a profound or severe disability \(includes people in long-term accommodation\), All ages, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [People with a profound or severe disability and living in the community, All ages, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [People with a profound or severe disability \(includes people in long-term accommodation\), 0 to 64 years, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [People with a profound or severe disability and living in the community, 0 to 64 years, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [People with a profound or severe disability \(includes people in long-term accommodation\), 65 years and over, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness
- [People with a profound or severe disability and living in the community, 65 years and over, 2016](#)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The 'Core Activity Need for Assistance' variable was developed by the Australian Bureau of Statistics (ABS) for use in the five-yearly population Census to measure the number of people with a profound or severe disability, and to show their geographic distribution. A person with profound or severe limitation needs help or supervision always (profound) or sometimes (severe) to perform activities that most people undertake at least daily, that is, the core activities of self-care, mobility and/or communication, as the result of a disability, long-term health condition (lasting six months or more), and/or older age. Fewer people are reported under this measure as having a profound or severe disability as are measured in the ABS Survey of Disability, Ageing and Carers (SDAC). The reasons for this are definitional (the SDAC approach, which uses a filtering approach to determine whether the respondent has a disability, and the severity) as compared to the self-report approach in the Census; and the large not-stated category in the Census data, with more people not responding to this set of questions than are reported as having a profound or severe disability. While the SDAC figures should be used as the measure for this concept, the Census data are appropriate for getting an understanding of the geographic distribution of this population group. The ABS published figures are of people – of all ages/ aged 0 to 64 years/ aged 65 years and over, as appropriate – including those living in long-term residential accommodation in nursing homes, accommodation for the retired or aged (not self-contained), hostels for the disabled and psychiatric hospitals: the 'total' figure in this atlas includes people living in these accommodation types, whereas the figure for 'living in the community' excludes them. Details of the total number of people with a disability – including those with a moderate or mild disability – are not available.

**Source:** Compiled by PHIDU based on the ABS Census 2016 (unpublished) data.

## Median age at death, 2010 to 2014

- Median age at death of males, 2010 to 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Median age at death of females, 2010 to 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Median age at death of persons, 2010 to 2014  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** For deaths data released since 2007, the ABS has applied a staged approach to the coding of cause of death which affects the number of records available for release at any date, with data being released as preliminary, revised, or final. This release is comprised of preliminary data for 2014, revised data for 2013 and final data for 2010, 2011 and 2012. For further information about the ABS revisions process, see the following and related sites: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/3303.0Explanatory+Notes12012>.

**LGA data only:** The Local Government Area (LGA) data are based on a concordance allocating deaths coded to Statistical Areas Level 2 (SA2). However, where an SA2 is split across multiple LGAs, the data for the whole SA2 have been assigned to the LGA with the largest proportion of the SA2s population. As a result, some LGAs were not allocated any deaths; where this occurred, these LGAs were assigned the median age at death of the SA2 from which the LGA was split. A check of the median age at death for a majority of these cases has shown that there is little difference in the end result.

**Source:** Data compiled by PHIDU from deaths data based on the 2010 to 2014 Cause of Death Unit Record Files supplied by the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System.

## Premature mortality by sex, 2011 to 2015

- Deaths of males aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Deaths of females aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Total deaths, 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** The data presented are the average annual indirectly age-standardised rates per 100,000 males/ females/ population (aged 0 to 74 years); and/or indirectly age-standardised ratios, based on the Australian standard.

For deaths data released since 2007, the ABS has applied a staged approach to the coding of cause of death which affects the number of records available for release at any date, with data being released as preliminary, revised, or final. This release is comprised of preliminary data for 2015 revised data for 2014 and final data for 2011, 2012 and 2013. For further information about the ABS revisions process, see the following and related sites:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3303.0Explanatory%20Notes12015?OpenDocument>.

**Source:** Data compiled by PHIDU from deaths data based on the 2011 to 2015 Cause of Death Unit Record Files supplied by the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System. The population at the small area level is the ABS Estimated Resident Population (ERP), 30 June 2011 to 30 June 2015, Statistical Areas Level 2; the population standard is the ABS ERP for Australia, 30 June 2011 to 30 June 2015.

## Premature mortality by selected cause, 2011 to 2015

- Deaths from cancer, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** C00-D48
  - Deaths from colorectal cancer, persons aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** C18-C20
  - Deaths from lung cancer, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** C33, C34
  - Deaths from breast cancer, females aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** C50
- Deaths from diabetes, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** E10-E14
- Deaths from circulatory system diseases, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** I00-I99
  - Deaths from ischaemic heart disease, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** I20-25
  - Deaths from cerebrovascular disease, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** I60-I69
- Deaths from respiratory system diseases, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** J00-J99
  - Deaths from chronic obstructive pulmonary disease, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** J40-J44
- Deaths from external causes, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** V01-Y98
  - Deaths from road traffic injuries, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** V00-V06.[1], V09.2, V09.3, V10-V18.[4,5,9], V19.[4,5,6,9], V20-V28.[4,5,9], V29.[4,5,6,9], V30-V38.[5,6,7,9], V39.[4,5,6,9], V40-V48.[5,6,7,9], V49.[4,5,6,9], V50-V48.[5,6,7,9], V59.[4,5,6,9], V60-V68.[5,6,7,9], V69.[4,5,6,9], V70-V78.[5,6,7,9], V79.[4,5,6,9], V81.1, V82.1, V82.9, V83-V86.[0,1,2,3], V87, V89.2, V89.3
  - Deaths from suicide and self-inflicted injuries, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10 codes:** X60-X84, Y87.0

**Indicator detail:** For all indicators, the data presented are the average annual indirectly age-standardised rates per 100,000 total population (aged 0 to 74 years); and/or indirectly age-standardised ratios, based on the Australian standard. The exception is for 'Deaths from breast cancer (females)', where the rates are limited to the female population.

For deaths data released since 2007, the ABS has applied a staged approach to the coding of cause of death which affects the number of records available for release at any date, with data being released as preliminary, revised, or final. This release is comprised of preliminary data for 2015 revised data for 2014 and final data for 2011, 2012 and 2013. For further information about the ABS revisions process, see the following and related sites:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3303.0Explanatory%20Notes12015?OpenDocument>.

**Source:** Data compiled by PHIDU from deaths data based on the 2011 to 2015 Cause of Death Unit Record Files supplied by the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System. The population at the small area level is the ABS Estimated Resident Population (ERP), 30 June 2011 to 30 June 2015, Statistical Areas Level 2; the population standard is the ABS ERP for Australia, 30 June 2011 to 30 June 2015.

## Avoidable mortality, 2011 to 2015

**Background:** In 2010, the National Healthcare Agreement (NHA) included a performance indicator called Potentially Avoidable Deaths (PI-20). The specification for this indicator was endorsed by the Australian Health Ministers' Advisory Council in 2009 based on advice from the National Health Information Standards and Statistics Committee (NHISSC).

On 4 December 2013, NHISSC agreed to the re-establishment of the Potentially Preventable Hospitalisations/Potentially Avoidable Deaths (PPH/PAD) Working Group to finalise specification of this performance indicator for the 2015 NHA report. Throughout 2014, work was done by the PPH/PAD Working Group, with further revisions by the Australian Institute of Health and Welfare (AIHW) and including additional NHISSC comments from several states. It also included an examination of the international work in avoidable mortality.

As a result of this work, the [National Healthcare Agreement \(NHA\) \(2015\)](#) Health, Standard 14/01/2015 now includes the [PI-16 Potentially avoidable deaths, 2015](#), and these are presented in this dataset. Further revisions of this NHA Potentially avoidable deaths standard are proposed.

**Indicator detail:** Deaths are defined as avoidable in the context of the present health system, based on the [PI-16 Potentially avoidable deaths, 2015](#).

The data presented are the average annual indirectly age-standardised rates per 100,000 males/ females/ people (aged 0 to 74 years); and/or indirectly age-standardised ratios, based on the Australian standard.

Not all of the causes of avoidable mortality are shown in this atlas as some have too few cases to be reliable indicators at the small area level.

For deaths data released since 2007, the ABS has applied a staged approach to the coding of cause of death which affects the number of records available for release at any date, with data being released as preliminary, revised, or final. This release is comprised of preliminary data for 2015 revised data for 2014 and final data for 2011, 2012 and 2013. For further information about the ABS revisions process, see the following and related sites:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3303.0Explanatory%20Notes12015?OpenDocument>.

**Additional note for all Avoidable mortality data:** Some of the selected avoidable mortality indicators may comprise the same condition(s)/ ICD codes as the selected premature mortality indicators presented in the data/ maps.

**Source:** Data compiled by PHIDU from deaths data based on the 2011 to 2015 Cause of Death Unit Record Files supplied by the Australian Coordinating Registry and the Victorian Department of Justice, on behalf of the Registries of Births, Deaths and Marriages and the National Coronial Information System. The population at the small area level is the ABS Estimated Resident Population (ERP), 30 June 2011 to 30 June 2015, Statistical Areas Level 2; the population standard is the ABS ERP for Australia, 30 June 2011 to 30 June 2015.

### Avoidable mortality by sex, 2011 to 2015

- Deaths from all avoidable causes, males aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Deaths from all avoidable causes, females aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Deaths from all avoidable causes, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness

### Avoidable mortality by selected cause, 2011 to 2015

- Avoidable deaths from cancer, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - Avoidable deaths from colorectal cancer, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - Avoidable deaths from breast cancer, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Avoidable deaths from diabetes, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Avoidable deaths from circulatory system diseases, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - Avoidable deaths from ischaemic heart disease, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - Avoidable deaths from cerebrovascular diseases, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Avoidable deaths from respiratory system diseases, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
  - Avoidable deaths from chronic obstructive pulmonary disease, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Avoidable deaths from selected external causes of mortality (Falls; fires, burns; Suicide and self-inflicted injuries; etc.), people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness

- Avoidable deaths from suicide and self-inflicted injuries, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Avoidable deaths from other external causes of mortality (Transport accidents; Accidental drowning and submersion; etc.), people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Avoidable deaths from transport accidents, people aged 0 to 74 years, 2011 to 2015  
– by PHA, LGA, PHN, Quintiles, Remoteness

## Use and provision of health and welfare services

### Aged care places, June 2016

**Indicator detail:** These data exclude residents in state-funded facilities (also known as *Long Stay or Nursing Home Type Patients*) in country areas.

This data includes: Multi-Purpose Services; National Aboriginal and Torres Strait Islander Aged Care Program; and Consumer Directed Care.

Data for the Transition Care Program (TCP), which provides short-term support and active management for older people after a hospital stay in either a residential or community aged care setting, are not included here.

The data show a number of areas as having rates that are very high: these are areas with relatively high proportions of Indigenous population. As ageing and disability affect Aboriginal and Torres Strait Islander people earlier than they do non-Indigenous Australians, planning for services is based on the number of people aged 50 years and over, instead of 70 years and over as used for the rest of the population.

**Source:** Compiled by PHIDU based on data from the Department of Health and Ageing, 30 June 2016; and the ABS Estimated Resident Population, 30 June 2015.

- Residential aged care – low-level care places, June 2016  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Low-level care is hostel accommodation, offering a greater quality of life for people who benefit significantly from supportive services, companionship and activities, and for whom living without assistance is difficult. Independence is encouraged in maintaining daily living skills. Services provided may include showering, dressing, bed making, room cleaning, supervision of medication, provision of all meals and laundry.

This data includes: Multi-Purpose Services; National Aboriginal and Torres Strait Islander Aged Care Program; and Consumer Directed Care.

### Home and Community Care Program, 2014/15

**Source:** Compiled by PHIDU using data from the Australian Institute of Health and Welfare, 2014/15; and the average of the ABS Estimated Resident Population, 30 June 2014 and 30 June 2015 (for the indicator 'Indigenous clients per Indigenous population', the population used is the average of the estimated resident populations (non-ABS) at 30 June 2014 and 2015, developed by Prometheus Information Pty Ltd, under a contract with the Australian Government Department of Health).

- Home and Community Care Program: Clients living alone  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Clients whose status is recorded as living alone at the date of most recent assessment.

- Home and Community Care Program: Clients with carer  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Clients whose status is recorded as having a carer at the date of most recent assessment. The carer may be living with the client or not.

- Home and Community Care Program: Clients with co-resident carer  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Clients whose status is recorded as having a carer a carer living with them at the date of most recent assessment.

- Home and Community Care Program: Indigenous clients (as a proportion of total clients)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Clients whose status is recorded as Indigenous at the date of most recent assessment.

- Home and Community Care Program: Indigenous clients (as a proportion of the Indigenous population)  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Clients whose status is recorded as Indigenous at the date of most recent assessment.

- Home and Community Care Program: Non-English speaking clients  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Clients whose main language spoken at home at the date of most recent assessment is not English.

- Home and Community Care Program: Total clients  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** All clients who recorded at least one instance of assistance for the time period.
- Home and Community Care Program: Allied health care instances at home  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Includes physiotherapy, occupational therapy, podiatry, advice from a dietician or nutritionist, or speech therapy - provided in the client's home.
- Home and Community Care Program: Allied health care instances at centre  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Includes physiotherapy, occupational therapy, podiatry, advice from a dietician or nutritionist, or speech therapy - provided from a community centre.
- Home and Community Care Program: Care received in support instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Counselling received by client. Includes assistance with understanding and managing situations, behaviours and relationships associated with the person's need for care.
- Home and Community Care Program: Case management instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** The active assistance received by a client from a formally identified agency worker who coordinates the planning and delivery of a suite of services to the individual clients.  
**Note:** Western Australian data for 'Case management instances' are not available as case management services are not funded in Western Australia.
- Home and Community Care Program: Centre based day care instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Attendance/participation in structured group activities designed to develop, maintain or support the capacity for independent living and social interaction which are conducted in a centre-based setting. It includes group excursions/activities conducted by centre staff but held away from the centre.
- Home and Community Care Program: Client care coordination instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Assistance which focuses on facilitating access to HACC services and includes implementing, monitoring and reviewing the care plan, liaison with service providers and advocacy to ensure the client has access to the range of services required.
- Home and Community Care Program: Domestic assistance instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** House cleaning, washing and ironing, help with shopping, transport to and from banks and appointments et cetera, and general household support.  
**Note:** The reporting of Victorian data for 'Domestic assistance instances' and 'Meals at centre plus meals at home instances' differ from other States and Territories in that instances of meals at home are reported in the 'Domestic assistance instances' category.
- Home and Community Care Program: Home maintenance and modification instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Assistance with the maintenance and repair of the client's home, garden or yard to keep their home in a safe and habitable condition. This also includes minor modifications such as grab rails, hand rails, ramps, and shower rails to reduce the impact of disability on the activities of daily living.
- Home and Community Care Program: Meals at centre plus meals at home instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Provision of meals prepared and delivered to the client's home or provided in a community centre.  
**Note:** The reporting of Victorian data for 'Domestic assistance instances' and 'Meals at centre plus meals at home instances' differ from other States and Territories in that instances of meals at home are reported in the 'Domestic assistance instances' category.
- Home and Community Care Program: Nursing care at centre plus nursing care at home instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** Health care provided to a client by a registered or enrolled nurse. This care can be provided from a community centre or in the client's home.
- Home and Community Care Program: Personal care instances  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**Indicator detail:** May include help with bathing, toilet use, eating, dressing and personal grooming.
- Home and Community Care Program: Respite care instances  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Assistance to carers by provision of a substitute carer. Can include centre-based, in-home, host family and peer support respite care.

- **Home and Community Care Program: Social support instances**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Assistance provided by a companion either within the home or while accessing community services, whose primary purpose is to meet the person's need for social contact and/or accompaniment in order to participate in community life. This includes friendly visiting.

**Note:** The reporting of Victorian data for 'Transport instances' and the 'Social support instances' differs from other States and Territories in that assistance to provide or coordinate individual or group transport services is reported as part of the 'Social support instances' category.

- **Home and Community Care Program: Transport instances**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Assistance to provide or coordinate individual or group transport services.

**Note:** The reporting of Victorian data for 'Transport instances' and the 'Social support instances' differs from other States and Territories in that assistance to provide or coordinate individual or group transport services is reported as part of the 'Social support instances' category.

- **Home and Community Care Program: Total instances of assistance**  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Includes all the above types of support plus:

- other food services
- provisions of goods and equipment such as self-care and support and mobility aids, and
- formal linen service

## Hospital admissions, 2016/17

**Indicator detail:** The data presented are of the number of separations, or completions of the episode of care of a patient in hospital, where the completion can be the discharge, death or transfer of the patient, or a change in the type of care (e.g., from acute to rehabilitation). In this atlas the term 'admission' is used in place of the more technically correct term of 'separation'. As these data relate to short-term episodes of care, and not to long-stay episodes, the number of admissions is similar to the number of separations in any year.

Note that the data are based on the count of all admissions. As such, repeat admissions for one person are counted as separate admissions. In addition, patients admitted to one hospital and transferred to another hospital are also counted as separate admissions. The impact of these hospital transfers is likely to result in a higher rate of admissions of people living in regional areas compared to the capital cities, as well as for certain conditions which are more likely to result in transfers. For details of data quality see the *National Healthcare Agreement: PI 18-Selected potentially preventable hospitalisations, 2016 QS* ([METeOR ID: 600098](#))

**Exclusions:** The national data published by the Australian Institute of Health and Welfare exclude well babies (i.e., babies not admitted for acute care) who are nine days older or less, other than the second or subsequent live born infant of a multiple birth whose mother is currently an admitted patient. (For further information see Australian Institute of Health and Welfare. Admitted patient care 2016-17: Australian hospital statistics. Health services series no. 84. (Cat. no. HSE 201) Canberra: AIHW; 2018.)

Same-day admissions for dialysis for kidney disease have also been excluded from the data in this atlas for the categories of admissions for males, females and total people, and admissions by hospital sector, as they represent many repeat visits by a relatively small number of patients, who may have multiple admissions in a week: their inclusion can dramatically alter the geographic distribution of other categories of admissions (see the separate note for Same-day admissions for dialysis for renal dialysis, below, for further details); these data are presented separately. All other same-day admissions are included.

Admissions where the address was unknown are included in the Australian total and are not shown by State/Territory.

**Confidentiality of data:** Counts of less than five admissions have been suppressed.

Data were not provided to PHIDU by sector (i.e., separate data for public hospitals and private hospitals) in Queensland, Tasmania, the Northern Territory or the Australian Capital Territory. As a result, where data are published for 'public' and 'all hospitals' for other jurisdictions, only the 'all hospitals' data are available for these jurisdictions. The 'all hospitals' data in other jurisdictions have been confidentialised where publication of public and all hospitals data would allow identification of private hospital data due to small cell sizes. The decision was made to confidentialise the 'all hospitals' rather than the 'public hospitals' figures as admissions to public hospitals, which comprise the majority of admissions, both overall and from the most disadvantaged areas, were considered to be the most relevant in the context of this atlas.

**Note:** Given the above, remoteness/ quintile data for both private hospitals and all hospitals are also not published for these areas or for the whole of Australia.

**Detail of analysis:** Indirectly age-standardised rate per 100,000 (respective population); and/or indirectly age-standardised ratio, based on the Australian standard.

Note the following indicators are expressed as a rate per 100 live births;

- Admissions for certain conditions originating in the perinatal period, Persons - Public hospitals, All hospitals
- Admissions for a Caesarean section, females aged 15 to 44 years - Public hospitals, All hospitals



A standardised ratio (SR) provides a comparison to the Australian rate which is assigned a value of 100. Ratios below 100 are proportionally less than the national rate, while ratios above 100 are proportionally higher than the national rate. The SR is the ratio of the observed value to the expected value (the expected value is age-standardised).

**Source:** Compiled by PHIDU using data from the Australian Institute of Health and Welfare, supplied on behalf of State and Territory health departments for 2016/17; and the ABS Estimated Resident Population, 30 June 2016.

## Admissions by hospital type and sex, 2016/17

- Total admissions (excluding dialysis) - Public hospitals/ Private/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Male total admissions (excluding dialysis) - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Female total admissions (excluding extracorporeal dialysis) - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness

## Hospital admissions by principal diagnosis and sex, 2016/17

- Admissions for infectious and parasitic diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** A00-B99
- Admissions for all cancers, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** C00-D48
- Admissions for blood and blood-forming organs diseases and certain disorders involving the immune mechanism, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** D50-D89
- Admissions for endocrine, nutritional and metabolic diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** E00-E90
  - Admissions for diabetes, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** E10-E14.9
- Admissions for mental health related conditions, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** F00-F99
  - Admissions for mood affective disorders, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** F30-F39
- Admissions for nervous system diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** G00-G99
- Admissions for eye and adnexa diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** H00-H59
- Admissions for ear and mastoid process diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** H60-H95
- Admissions for circulatory system diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** I00-I99
  - Admissions for ischaemic heart disease, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** I20-I25
  - Admissions for heart failure, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** I50

- Admissions for stroke, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** I60-I64

- Admissions for respiratory system diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** J00-J99

- Admissions for asthma, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** J45-J46

- Admissions for Chronic Obstructive Pulmonary Disease (COPD), males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** J40-J44

- Admissions for digestive system diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** K00-K93

- Admissions for skin and subcutaneous tissue diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** L00-L99

- Admissions for musculoskeletal system and connective tissue diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** M00-M99

- Admissions for genitourinary system diseases, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** N00-N99

- Admissions for chronic kidney disease, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** 49.0, E10.2, E11.2, E13.2, E14.2, I12, I13, I15.0, I15.1, N00-N07, N08, N11, N12, N14, N15, N16, N18, N19, N25-N28, N39.1, N39.2, E85.1, D59.3, B52.0, Q60-Q63, T82.4, T86.1

- Admissions for certain conditions originating in the perinatal period, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** P00-P96

- Admissions for congenital malformations, deformations and chromosomal abnormalities, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** Q00-Q99

- Admissions for pregnancy, childbirth and the puerperium, females - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** O00-O99

- Admissions for injury, poisoning and other external causes, males/ females/ persons - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** S00-T98

## Hospital admissions by procedure, 2016/17

- Admissions for a tonsillectomy, all ages - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** 41789-00, 41789-01, 41787-01 and/or 41786-01

- Admissions for a myringotomy, 0 to 9 years - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** 41632-00 and/or 41632-00

- Admissions for a hysterectomy, females aged 30 to 59 years - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, *Quintiles*, *Remoteness*

**ICD-10-AM codes:** Block 12688 or 1269 or a reported procedure code of 90450-00, 90450-01 and/or 90450-02

- Admissions for a Caesarean section, females aged 15 to 44 years - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** Block 1340
- Admissions for a birth with an outcome of delivery, females aged 15 to 44 years - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for a coronary artery bypass graft - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** 38497-04, 38497-05, 38497-06, 38497-07, 38500-04, 38503-04, 90201-00, 90201-01, 90201-02, 90201-03, 38497-00, 38500-02, 38500-03, 38497-01, 38503-02, 38503-03, 38497-02, 38497-03, 38500-00, 38500-01, 38503-00, 38503-01, 38500-05 and/or 38503-05
- Admissions for a coronary angioplasty - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** 38505-00, 38306-00, 38306-01, 38306-02, 38306-03, 38306-04, 38306-05, 38300-00, 38303-00, 38300-01, 38303-01, 38309-00, 38312-00, 38312-01, 38315-00, 38318-00 and/or 38318-01
- Admissions for a cardiac catheterisation - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** 38200-00, 38218-01, 38203-00, 38218-00, 38206-00 and/or 38218-02
- Admissions for a hip fracture - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** M84.45, S72.00-S72.05, S72.08, S72.10-S72.11, S72.2
- Admissions for a knee replacement - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** 49527-00, 49554-00, 49530-00, 49533-00, 49530-01, 49517-00, 49518-00, 49519-00, 49534-01, 49521-00, 49521-01, 49521-02, 49521-03, 49524-00 and/or 49524-01
- Admissions for a knee arthroscopy - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** 49557-00, 49503-00, 49560-03, 49562-01, 49561-01 and/or 49557-02
- Admissions for fibre optic colonoscopy - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** 32090-00, 32084-00, 32084-02 and/or 32090-02
- Admissions for fibre optic colonoscopy with excision - Public hospitals/ Private hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness  
**ICD-10-AM codes:** 32090-01, 32093-00, 32087-00 and/or 32084-01

## Same-day admissions for renal dialysis, 2016/17

- Same-day admissions for dialysis for kidney disease - Public hospitals/ All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Same-day admissions for dialysis for kidney disease - All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Additional indicator detail:** The data presented are of the number of same-day admissions for dialysis for kidney disease, including both haemodialysis and peritoneal dialysis, International Classification of Disease (ICD-10-AM) codes Z49.1 and Z49.2. There are two main types of dialysis: peritoneal, which occurs inside the body and can be performed almost anywhere, usually in the home setting; and haemodialysis, which occurs outside the body and is most often conducted in a hospital or satellite setting. The reason for presenting these data separately from overnight admissions is that they represent many repeat visits by a relatively small number of patients, who may have multiple admissions in a week. Their inclusion with other (overnight) admissions can dramatically alter the geographic distribution of these other categories of admissions. This is particularly evident in regional and remote areas, where dialysis facilities are located, and where those using them may have moved to live to be near the facility.

**Confidentiality of data:** Counts of fewer than five admissions have been suppressed.

Data were not available for private dialysis units in Queensland, Tasmania, the Northern Territory or the Australian Capital Territory, to protect the confidentiality of the small number of private facilities in these jurisdictions. As a result, where data are published for public dialysis units and all dialysis units, the 'all units' data for these jurisdictions have also been confidentialised, as their publication would allow identification of the confidentialised private dialysis units. The 'all units' data in other jurisdictions have also been confidentialised where publication of public and all units data would allow identification of private hospital data confidentialised due to small cell sizes. The decision was made to confidentialise the 'all units' rather than the 'public' figure as admissions to public dialysis units comprise the majority of admissions, both overall and from the most disadvantaged areas.

**Detail of analysis:** Indirectly age-standardised rate per 100,000 population; and/or indirectly age-standardised ratio, based on the Australian standard. A standardised ratio (SR) provides a comparison to the Australian rate which is assigned a value of 100. Ratios below 100 are proportionally less than the national rate, while ratios above 100 are proportionally higher than the national rate. The SR is the ratio of the observed value to the expected value (the expected value is age-standardised).

**Source:** Compiled by PHIDU using data from the Australian Institute of Health and Welfare, supplied on behalf of State and Territory health departments for 2016/17; and the ABS Estimated Resident Population, 30 June 2016.

## Potentially preventable hospitalisations, 2016/17

**Additional indicator detail:** Data definitions for potentially preventable hospitalisations are in *the National Healthcare Agreement: PI 18-Selected potentially preventable hospitalisations, 2016* available through METeOR ([METeOR ID: 598746](#)). Please refer to the [National Healthcare Agreement: PI 18-Selected potentially preventable hospitalisations, 2016 QS](#) ([METeOR ID: 600098](#)) for further information on data quality.

**Confidentiality of data:** Counts of fewer than five admissions have been suppressed.

Data were not available for private hospitals in Queensland, Tasmania, the Northern Territory or the Australian Capital Territory, to protect the confidentiality of the small number of private hospitals in these jurisdictions. As a result, where data are published for public and all hospitals, the 'public hospitals' data for these jurisdictions have also been confidentialised, as their publication would allow identification of the private hospital data. The 'all hospitals' data in other jurisdictions have been confidentialised where publication of public and all hospitals data would allow identification of private hospital data confidentialised due to small cell sizes. The decision was made to confidentialise the 'all hospitals' rather than the 'public hospitals' figures as admissions to public hospitals, which comprise the majority of admissions, both overall and from the most disadvantaged areas, were considered to be the most relevant in the context of this atlas.

Note: Given the above, remoteness/ quintile data for both private hospitals and all hospitals are also not published for these areas or for the whole of Australia.

**Detail of analysis:** Indirectly age-standardised rate per 100,000 population; and/or indirectly age-standardised ratio, based on the Australian standard. A standardised ratio (SR) provides a comparison to the Australian rate which is assigned a value of 100. Ratios below 100 are proportionally less than the national rate, while ratios above 100 are proportionally higher than the national rate. The SR is the ratio of the observed value to the expected value (the expected value is age-standardised).

**Source:** Compiled by PHIDU using data from the Australian Institute of Health and Welfare, supplied on behalf of State and Territory health departments for 2016/17; and the ABS Estimated Resident Population, 30 June 2016.

## All potentially preventable hospitalisations - Vaccine-preventable, Acute and Chronic conditions, 2016/17

- Admissions for potentially preventable conditions - Public hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for potentially preventable conditions - All hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness

## Potentially preventable hospitalisations - Vaccine-preventable, 2016/17

- Admissions for vaccine preventable conditions - pneumonia and influenza - Public hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for vaccine preventable conditions - pneumonia and influenza - All hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for vaccine preventable conditions - other - Public hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for vaccine preventable conditions - other - All hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for total vaccine preventable conditions - Public hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for total vaccine preventable conditions - All hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness

## Potentially preventable hospitalisations – Acute conditions, 2016/17

- Admissions for acute cellulitis - Public hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for acute cellulitis - All hospitals
  - by PHA, LGA, PHN, Quintiles, Remoteness

- Admissions for acute convulsions and epilepsy - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for acute convulsions and epilepsy - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for acute dental conditions - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for acute dental conditions - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for acute ear, nose and throat infections - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for acute ear, nose and throat infections - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for acute urinary tract infections, including pyelonephritis - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for acute urinary tract infections, including pyelonephritis - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for other acute conditions - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for other acute conditions - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for total acute conditions - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for total acute conditions - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*

### **Potentially preventable hospitalisations – Chronic conditions, 2016/17**

- Admissions for chronic angina - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic angina - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic asthma - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic asthma - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic congestive cardiac failure - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic congestive cardiac failure - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for Chronic Obstructive Pulmonary Disease (COPD) - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for Chronic Obstructive Pulmonary Disease (COPD) - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic diabetes complications - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic diabetes complications - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic iron deficiency anaemia - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for chronic iron deficiency anaemia - All hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*
- Admissions for other chronic conditions - Public hospitals  
– by PHA, LGA, PHN, *Quintiles, Remoteness*

- Admissions for other chronic conditions - All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for total chronic conditions - Public hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness
- Admissions for total chronic conditions - All hospitals  
– by PHA, LGA, PHN, Quintiles, Remoteness

### Emergency department presentations, 2012/13

- Emergency department presentations, 2012/13  
– by PHA, LGA, PHN, Quintiles, Remoteness

**Indicator detail:** Counts of fewer than ten admissions have been suppressed to meet data confidentiality requirements.

**Source:** Compiled by PHIDU using data from the Australian Institute of Health and Welfare, supplied on behalf of State and Territory health departments for 2012/13; and the average of the ABS Estimated Resident Population, 30 June 2012 and 2013.

### Private health insurance hospital cover (modelled estimates), 2014–15

- Estimated number of people, aged 18 years and over, with private health insurance hospital cover, 2014–15  
– by PHA, LGA, PHN, Quintiles, Remoteness

In the absence of private health insurance data from administrative data sets, estimates have been produced from the 2014–15 National Health Survey (NHS), conducted by the Australian Bureau of Statistics (ABS). These data are based on self-reported responses, reported to interviewers in the 2014–15 NHS. For further details on the production of these estimates (referred to as modelled estimates) and caveats, see [Modelled estimates](#), above.

**Indicator detail:** Private health insurance is additional health cover to that provided under Medicare, to reimburse all or part of the cost of hospital and/or ancillary services incurred by an individual. In the 2014–15 NHS, respondents were asked if they had private health insurance, and whether the insurance provided hospital cover (with or without ancillary cover); it is this population with hospital cover that is reflected in these data. Health cover provided or arranged through employers was included. Ambulance only cover, and cover arranged under Veterans' Affairs or other government health benefits cards, were excluded.

**Detail of analysis:** Indirectly age-standardised rate per 100 population; or indirectly age-standardised ratio, based on the Australian standard.

**Source:** Estimates for Population Health Areas (PHAs) are modelled estimates and were produced by the ABS; estimates at the LGA and PHN level were derived from the PHA estimates.

Estimates for Quintiles and Remoteness Areas were compiled by PHIDU based on direct estimates from the 2014–15 Australian Health Survey, ABS Survey TableBuilder.