

Section 4

Indicators of health and wellbeing for Priority Areas

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Introduction

Information is presented in this section to describe key health and wellbeing outcomes for children, young people and adults in Australia, at a geographic level. In particular, the aim is to identify inequalities that exist in these outcomes between different population groups, including Aboriginal and Torres Strait Islander Australians, in capital cities and regional and remote Australia.

In the absence of individual-level data on social background, the approach often taken to describe the association between the health and wellbeing of the population, their socioeconomic status and aspects of social inclusion employs an area-based measure of socioeconomic disadvantage (see Section 6 for further details).

The information, presented as a series of indicators, highlights these inequalities and draws attention to the influence of social, economic and environmental factors on health outcomes, and the influence of these factors on wellbeing. The ensuing picture is one of significant differences across the population, both in health and wellbeing, and in geographic location, and the social inclusion or exclusion of sub-population groups.

In brief, the indicators included in this atlas aim to describe variations across Australia for:

- vulnerable populations represented by the Priority Areas at risk of social exclusion; and
- a set of indicators more specifically related to health and wellbeing.

More detail as to the particular indicators that we were able to represent geographically, and to the selection of the set in this atlas, is provided under the heading 'Selection of Indicators', below.

The value of indicators

One way to gauge the impact of social, economic and environmental factors on the wellbeing of the population is through the use of indicators, both at a point in time, and by tracking their movement over time. Indicators are summary measures of chosen events (for example, the percentage of children under 15 years of age living in families where no parent has a job) derived from data collections that record all cases, or a representative sample, of the events in a population.

Describing the geographic variation in indicators of inequality provides information which can be used to support progress towards reducing inequalities.

Terminology

Information is presented in maps, charts and tables to describe inequalities in health and other outcomes.

In referring to the charts in Section 5, we use the terminology 'highest and lowest socioeconomic status areas', which refers to the way areas have been grouped, using the Australian Bureau of Statistics' Index of Relative Socio-economic Disadvantage (IRSD).³

The term 'socioeconomic' refers to the social and economic aspects of the population, where 'social' includes information about the population and their health, education, welfare, housing, transport etc.

It is not used in the context of 'social' as in 'social skills', 'social capital', 'social ability' or 'social behaviour' of community members. Therefore, an area described as having 'a high level of socioeconomic disadvantage' does not imply that the area has low cohesion or lacks strength as a community; rather it identifies a relative lack of resources or opportunities that are available to a greater extent in more advantaged communities.

The indicators included in this atlas are also those for which reliable data are available which can be mapped to show variations, by area, across the capital cities and rural areas of Australia.

Selection of indicators

As noted above, the indicators presented in this section aim to highlight inequalities and draw attention to the influence of social, economic and environmental factors on health outcomes, and the influence of these factors on wellbeing and social inclusion.

There are two sets of indicators. The first set draws on the available data to describe the following vulnerable populations:

- jobless families with children;
- children at greatest risk of long-term disadvantage;
- people affected by homelessness;
- people living with disability or mental illness and their carers;
- Aboriginal and Torres Strait Islander Australians; and
- those living in entrenched and multiple disadvantage in particular neighbourhoods.

The approach is to present the available geographically-referenced data which seem most appropriate to illustrate the indicators, thereby describing facets of the socioeconomic status and health and wellbeing of the population. The

indicators developed from the available data are listed in Table 1.

The second set adds an additional number of indicators specifically describing the health and wellbeing of the population. These are chronic disease (circulatory system disorders and diabetes); risk factors (smoking and obesity, both by sex) and premature mortality (total, and suicides). Information on screening for breast cancer is also included. This set is in a sub-section titled 'Indicators of health status, risk factors, outcomes and use of services'.

In order to keep this atlas to a manageable size, a limited number of the indicators are included in this atlas (these are shown in bold typeface in Table 1); the remainder, together with the specific health-related and many other indicators, are available on the PHIDU website at www.adelaide.edu.au/phidu/.

Caveats, data sources and notes on data

Each indicator presented here is accompanied by a brief definition and any notes considered critical to interpretation. More extensive notes are provided in Appendices A and B. The majority of the indicators will be updated on the PHIDU website as more recent data become available.

As noted in Section 1, the majority of data sourced from the Population Census conducted by the Australian Bureau of Statistics is from the 2011 Census. The exceptions are the data for homeless people, for whom the 2011 Census data were not coded to the level of geography mapped here (the Statistical Local Area – see below for details of this area).

See the note below (under *Areas mapped*, on page 45), about the particular geographical level mapped in this atlas.

Table 1: Selected indicators

Priority Area	Indicators: bolding indicates inclusion in this report – other indicators are online at www.adelaide.edu.au/phidu/					
Jobless families with children	Jobless families with dependent children under 15 years of age	Children under 15 years of age living in jobless families	Long-term unemployment			
Children at greatest risk of long-term disadvantage	Children in low income, welfare-dependent families	Children in families where the mother has low educational attainment	AEDI: children assessed as being developmentally vulnerable on one or more domains	Women smoking during pregnancy	Low birth weight babies	Total Fertility Rate
People who are affected by homelessness	Homelessness	Dwellings rented from the government housing authority				
People living with disability or mental illness, and their carers	People aged 0 to 64 years and living in the community who have a profound or severe disability	People aged 15 to 59 years and living in the community who have a profound or severe disability and are not employed	People who provide assistance to people with a disability	People with long-term mental health problems who are unemployed	Prevalence of psychological distress	
Aboriginal and Torres Strait Islander Australians	Indigenous population: number	Indigenous population: % of total population	Indigenous participation in secondary education	Indigenous women smoking during pregnancy	Indigenous median age at death	Non-Indigenous median age at death
Entrenched and multiple disadvantage in particular neighbourhoods	See Section 6					

How to use the maps and charts in this section

For each indicator, there is an introductory statement as to its relevance and a brief definition of the indicator. This is followed by:

- a table comparing the capital cities for the indicator (repeated for the non-metropolitan areas);
- a description of the distribution of the indicator within the capital cities (repeated for the non-metropolitan areas); and
- a description of the distribution of the indicator by remoteness.

The introductory statement for each indicator is necessarily brief, because of limited space. However, the notes appended to each indicator in the online mapping software may be more extensive, as is the information presented in the earlier sections of the Atlas.

The following notes provide an overview of how the atlas may be used. Additional details of the indicators, including definitions and data sources, are on the pages describing each indicator, as well as in Appendices A and B.

It is important to use not only the maps and graphs in the atlas, but also to access the online maps and datasheets, which show the number of events, or individuals represented by the rates, as well as the percentages and rates in the maps.

Geographic variation

Two pages of maps are shown for the majority of the variables in the atlas. The first page displays maps of the capital cities, generally at the Statistical Local Area (SLA) level, and the second shows the whole of Australia, with the capital cities depicted as a single area (not mapped by SLA). In brief, SLAs represent whole, or parts of Local Government Areas (LGAs), and also cover areas of Australia not incorporated into LGAs; as such they form one level in the statistical geography hierarchy under the Australian Standard Geographic Classification (ASGC).¹

As noted, the maps are generally at the SLA level. The exceptions are Brisbane, Gold Coast, Townsville, Canberra and Darwin, where SLAs are based on suburbs rather than LGAs. As such, many of the SLAs are very small, and frequently have too few cases to be mapped with reliability. For these capital cities and major urban centres, SLAs have been grouped together to provide more strength to the data. Details of the groupings are provided in Appendix C.

The rate or per cent for the other major urban centres of Newcastle, Wollongong, Geelong, Gold

Coast and Townsville are also shown on the capital cities' map page. The capital cities and other major urban centres are collectively referred to as 'major urban centres'.

The distribution by remoteness of each indicator is shown in a graph using the Australian Standard Geographic Classification - Remoteness Areas, a geographic classification system developed by the Australian Bureau of Statistics (ABS) as a statistical geography structure, which allows quantitative comparisons between 'city' and 'country' Australia (see box).^{1,2}

Remoteness Areas

The purpose of the structure is to classify data into broad geographical categories, called Remoteness Areas (RAs). The RA categories are defined in terms of 'remoteness' - the physical distance of a location from the nearest Urban Centre (access to goods and services) based on population size.

For each variable in the atlas, details were calculated of the average percentage or rate for each of five ASGC Remoteness classes, as follows:

- MC: Major Cities of Australia
- IR: Inner Regional Australia
- OR: Outer Regional Australia
- R: Remote
- VR: Very Remote

For example, for children in low income families, the average percentage of all such people in SLAs in remoteness class one (Major Cities) was calculated and shown in a graph, with the average percentage in each of the other four categories.

The ASGC Remoteness classification thereby provides a summary measure of the characteristics of the population, for each of the variables mapped, categorised by accessibility to the largest populated centres.^{1,2}

The second map is of the whole of Australia, again by SLA, but with each capital city mapped as a single area. This enables comparisons to be made of the percentages, rates etc. in these major urban centres overall, with those in the non-metropolitan areas of Australia. Here, the term 'non-metropolitan' is used to refer to the area in each State or Territory outside of the capital city (or capital city and other major urban centres, where the latter exist).

Key maps are located at the back of the report. They are at A3 size and show each major urban centre and non-metropolitan area, enabling the identification of the areas mapped for each indicator. It can also be helpful to refer to the online version of the atlas, where the areas are

able to be ranked in the data table by their rate or per cent, and highlighted in the table and on the map to assist in understanding variations in the data.

Readers should note that the maps reflect the distribution of the population for whom the particular event (e.g., death from a road traffic accident) is recorded, showing the location (at the SLA level) of their usual residence, as coded from the address information in the various statistical data collections. That is, the maps are not of the location of a road traffic accident death, or of a hospital to which a person was admitted.

In many cases, the ranges to which data are mapped in the capital cities and whole-of-Australia maps will vary, as they do between indicators, because of the different prevalence of conditions, or rates of death, etc. This should be taken into account when using the maps.

Areas mapped

The data are mapped to the 2006 version of the ASGC – that is, the boundaries are those in place at 1 July 2006. The reason for using these boundaries is that all of the data, other than the Census data, were coded to geographical areas before the 2011 boundaries were known. In addition, the data, maps and text were finalised before the 2011 Census results were available and the Census data included were from the 2006 Census. As approval for release had not been received when the 2011 Census results became available, these data were updated to reflect the 2011 Census results.

The major variations between the 2006 boundaries and 2011 boundaries are in Queensland and in the Northern Territory. For information on the changes, see *Australian Standard Geographical Classification (ASGC), Appendix 2, Changes to Geographical Areas 2006-2011, July 2011* (ABS Cat. no. 1216.0) at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailedPage/1216.0July%202011?OpenDocument>.

The latest interactive SLA atlas at www.adelaide.edu.au/phidu/ are, however, based on the 2011 boundaries. Data which had been coded to boundaries from earlier years have been converted to approximate the 2011 boundaries. Of note is that the online version includes data for later years than have been published in this atlas.

In addition, readers should refer to the spreadsheets available on the PHIDU website, as some areas with relatively high percentages or rates may have a relatively small number of cases

(e.g., deaths); and others with similar, but lower, rates may have substantially more cases.

Cautions

The comparisons made in the report are between SLAs. Readers should note that there are also variations, and sometimes substantial variations, within SLAs, both in capital cities and in the non-metropolitan areas of Australia. As such, the figures for an SLA represent the average of the different population groups within the SLA.

How best to read the data and maps

How can I best find out about the population in the area where I live or work? Some readers will want to identify a particular area to see how it compares with other areas across the indicators. The key maps at the end of the report fold out to allow a particular geographic area to be identified. Although the maps are small, the areas in the capital city maps are large enough to follow from page to page, noting the location and size of variations. However, many of the urban centres (towns) do not show up on the map as the towns cover very small geographic areas relative to the rural and remote SLAs. The latest spreadsheets and interactive atlas at www.adelaide.edu.au/phidu/ which include these data can be used to show these differences.

What are the predominant patterns across Australia?

Other readers will want an overview of the distribution of the population across all indicators, or across a particular range of indicators. Again, the key map at the end of the report will be useful.

Throughout the atlas, the geographic distribution at the SLA level in the capital cities and whole-of-Australia maps generally highlights, using the darker shades, areas with socioeconomically disadvantaged populations, or poorer outcomes.

Mapping data for some areas of Australia poses a number of challenges, mainly arising from the relatively small populations and, in the non-metropolitan areas, substantial numbers of large but sparsely settled SLAs. For example, areas in country Western Australia are often mapped in a grey shade, and footnoted to show why the data have been withheld.

In addition, the large size of some SLAs in remote areas can distort the message that the map is presenting. This is particularly so where an area is mapped in the darkest shade, thereby dominating the map – even though the number of events might be relatively small. Section 6

includes a discussion about using data at the SLA level to identify disadvantaged populations.

A summary of socioeconomic disadvantage across Australia

In order to provide a reference point for the maps in the following sub-sections, the Index of Relative Socio-economic Disadvantage (IRSD) is presented following this description. The IRSD is one of four Socio-economic Indexes for Areas developed by the Australian Bureau of Statistics following the 2011 Population Census. It is an area-based, summary measure of socioeconomic disadvantage and is calculated from variables characterising individuals and families, including those that relate to education, occupation and labour force participation. Note that although it is referred to as an 'area-based' measure, it is not a measure of the features of the area, but of the population living in the area, and of the dwellings in which they live.

The IRSD is expressed as a number with a base for Australia of 1000: scores above 1000 indicate relative lack of disadvantage and those below indicate relatively greater disadvantage.

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Index of Relative Socio-economic Disadvantage, capital cities

*The ABS Index of Relative Socio-economic Disadvantage (IRSD) is a powerful indicator of the socioeconomic disadvantage faced by numerous sub-population groups across Australia. It is based on the social and economic characteristics of the population in each area, and is a useful summary measure, reflecting the patterns of disadvantage seen in many individual indicators of social inequality.*³

Indicator definition: The IRSD is one of four socioeconomic indexes for areas compiled by the ABS, using data from the 2011 Census about the population and their characteristics. The index has a base of 1000 for Australia: scores above 1000 indicate relative lack of disadvantage and those below indicate relatively greater disadvantage.

Table 2: IRSD, by capital city, 2011

Index score								
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
1011	1020	1022	991	1036	983	1030	1076	1018

Capital cities

IRSD scores showed little variation between the capital cities, other than for the lowest scores in Hobart and Adelaide, and the highest score in Canberra. Although the ABS indicates comparison with previous indexes is not recommended, it is of note that there has been a marked increase in the index score for Darwin since the 2006 Census when it was 955, to a score of 1030 in 2011. A major change to the construction of the 2011 index was the exclusion of the variable relating to the proportion of people identifying as Indigenous in an area: this change may explain, at least in part, the movement discussed here.

The geographic distribution of the population in **Sydney** showed a strong socioeconomic pattern, with relatively high scores (least disadvantaged areas) in a number of SLAs on the north shore and in the eastern suburbs, and relatively low scores (most disadvantaged) to the west and south-west of the city, and in some outer northern areas. The lowest score was in Fairfield - East (805) and the highest in Ku-ring-gai (1121).

In **Melbourne**, scores of 1000 or higher were predominant in SLAs spanning a broad area from the city centre to the east, north-east and south-east. The most socioeconomically disadvantaged areas were clustered in locations to the west, north and outer south-east of the city, with the lowest score in Hume - Broadmeadows (860) and the highest in Manningham - East (1115).

A large number of the SLA groups across **Brisbane** had scores above the Australian score of 1000. The majority of SLAs with relatively low scores were located largely in the south and south west of the city (and including Stretton-Karawatha/Kingston, with the city's lowest score (843)), as well as in the outer north.

Adelaide's social geography was also clearly described by the IRSD, with the most

disadvantaged areas located in three main clusters – in the outer north, the north-west and the outer south, and including the three lowest of the capital city scores, in Playford - Elizabeth (748) and - West Central (809), and Port Adelaide Enfield - Park (847). SLAs to the east and south-east of the city centre had the highest socioeconomic status populations.

In **Perth**, inner and near-city SLAs comprised the bulk of the most advantaged areas, along with a small number of outer suburban SLAs. No areas had very low scores, with the lowest in Kwinana (968).

The range in **Hobart** was from a low of 867 index points in Brighton and 878 in Derwent Valley - Part A, to high scores of 1046 in the inner city of Hobart, 1042 in Hobart - Remainder and 1043 in Kingborough - Part A.

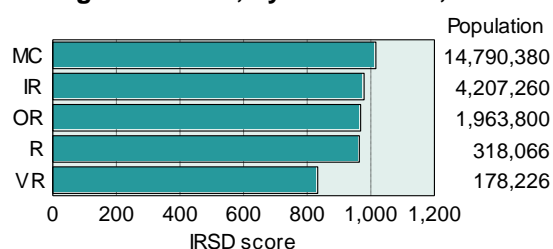
The SLAs in **Darwin** were grouped into six areas for mapping. The IRSD scores were all relatively high, ranging from 999 in Litchfield - Part A to 1063 in Darwin South West.

The small, suburb-based SLAs in **Canberra** were also grouped to larger areas. All but one area (Eastern Fringe, with a very small population and covering a number of SLAs) had scores well above the national average.

Remoteness

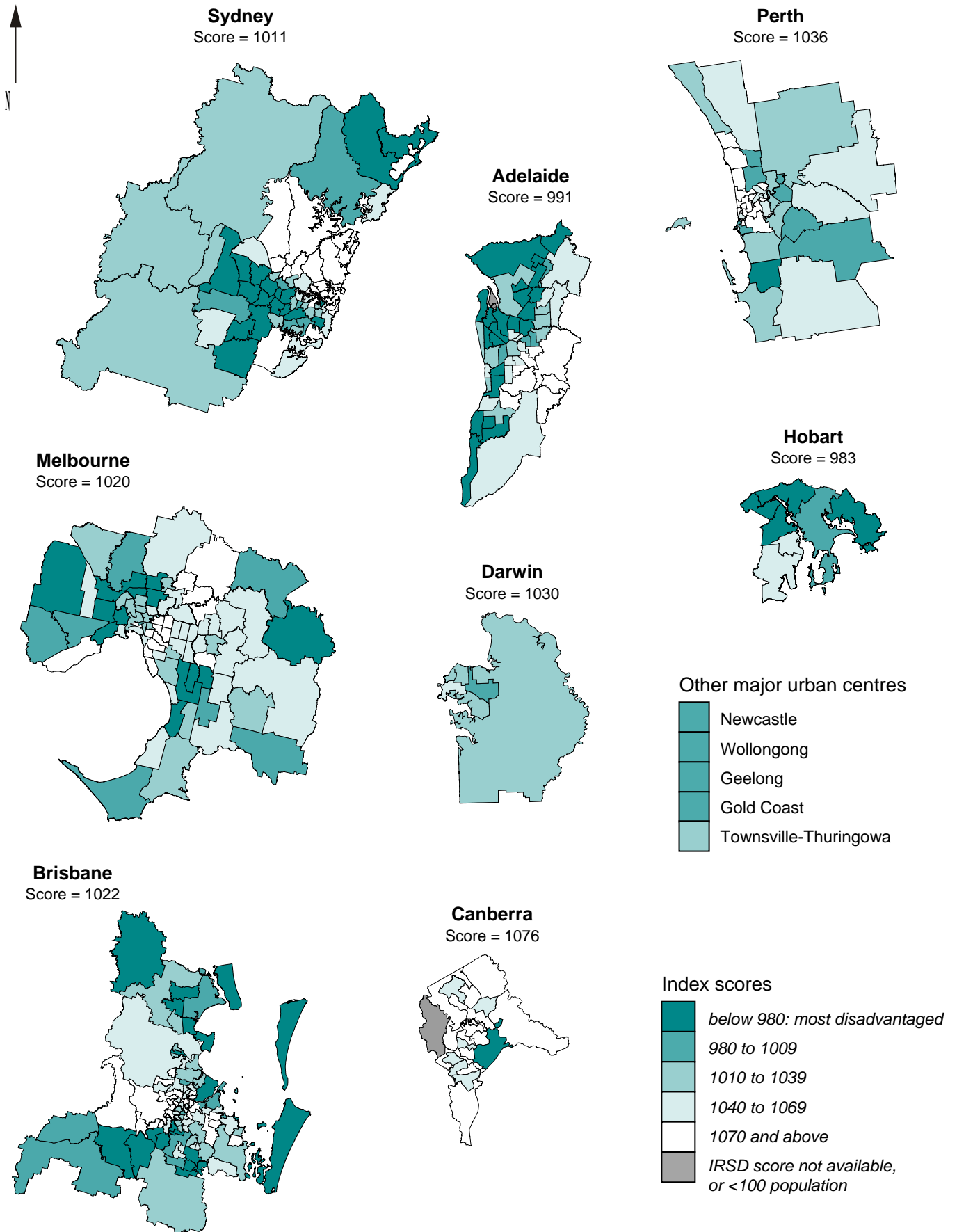
IRSD scores decreased with increasing remoteness, from a score of 1016 in the Major Cities areas to 964 in the Remote Areas, before a more substantial decline to a score of 833 in the Very Remote areas.

Figure 5: IRSD, by remoteness, 2011



Map 1: Index of Relative Socio-economic Disadvantage, major urban centres, 2011

Index scores by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS SEIFA, 2011 Census

Index of Relative Socio-economic Disadvantage, Australia

Notes: See comments on previous text page for details of this indicator. ‘Non-metropolitan’ refers to the area of the State or Territory outside of the capital city. ‘Total’ refers to the whole State or Territory.

Table 3: IRSD, by State/ Territory, Australia, 2011

Area	Index score								
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	969	980	983	962	982	945	786	..	973
Total	996	1010	1001	983	1022	961	926	1076	1000

Remainder of State/Territory

The IRSD scores in the non-metropolitan areas are relatively similar, other than for the very low score (relatively disadvantaged) for the Northern Territory. The index score in the Northern Territory is notably higher in 2011 (a score of 786) than in 2006 (753), with the second largest increase in Western Australia (963 in 2006, to 982 in 2011). As noted on the previous text page, a major change to the construction of the 2011 index was the exclusion of the variable relating to the proportion of people identifying as Indigenous in an area: this change may explain, at least in part, the movements discussed here. Scores in the non-metropolitan areas of the other States showed little variation.

Note that many of the low scores at the SLA level in the Northern Territory and Queensland relate to relatively small Aboriginal and Torres Strait Islander communities; for the most part, communities of this size are not separate SLAs in other jurisdictions. There are also often differences in scores between urban centres (towns) and surrounding rural areas; these differences do not show on the map as the towns cover small geographic areas.

Areas of relatively high socioeconomic disadvantage cover much of **New South Wales** (outside of Sydney), with the largest concentration of SLAs in large areas across the north of the State. The lowest index score was in Brewarrina (788), with low scores also in the adjacent SLA of Walgett (856), in Central Darling (824) and in the outer north-east in Richmond Valley - Casino (870). The majority of SLAs of least socioeconomic disadvantage were in the eastern part of the State, in particular inland and to the south of Sydney, through to and along the border with Victoria.

In non-metropolitan **Victoria**, index scores were lowest in Swan Hill - Robinvale (881) and Central Goldfields - Maryborough (882), and in Latrobe - Morwell and Greater Bendigo - Eaglehawk (both 885). The highest scores were recorded in Surf

Coast - East, Greater Bendigo - Strathfieldsaye and Macedon Ranges Balance.

A majority of the SLAs in **Queensland** (outside of Brisbane) had scores below 1000; and eleven of the 41 SLAs, with the lowest non-metropolitan scores (below 600) in Australia were in Queensland. These areas were almost exclusively located in the coastal regions and islands in the north of the State, with the exceptions being the SLAs of Cherbourg and Woorabinda. Yarrabah (441, the lowest index score in Australia), Cherbourg (452) and Aurukun (483) had the lowest index scores. SLAs with scores above 1000 were largely located in a group to the west and south of Mackay.

Low scores prevailed across much of **South Australia**, particularly in the north of the State. The lowest score was in Anangu Pitjantjatjara (593), with low scores also recorded for Unincorporated Whyalla (775) and Peterborough (798). Scores above the Australian average were recorded largely in three areas: one adjacent to, one on Eyre Peninsula, and another in the south-east of the State

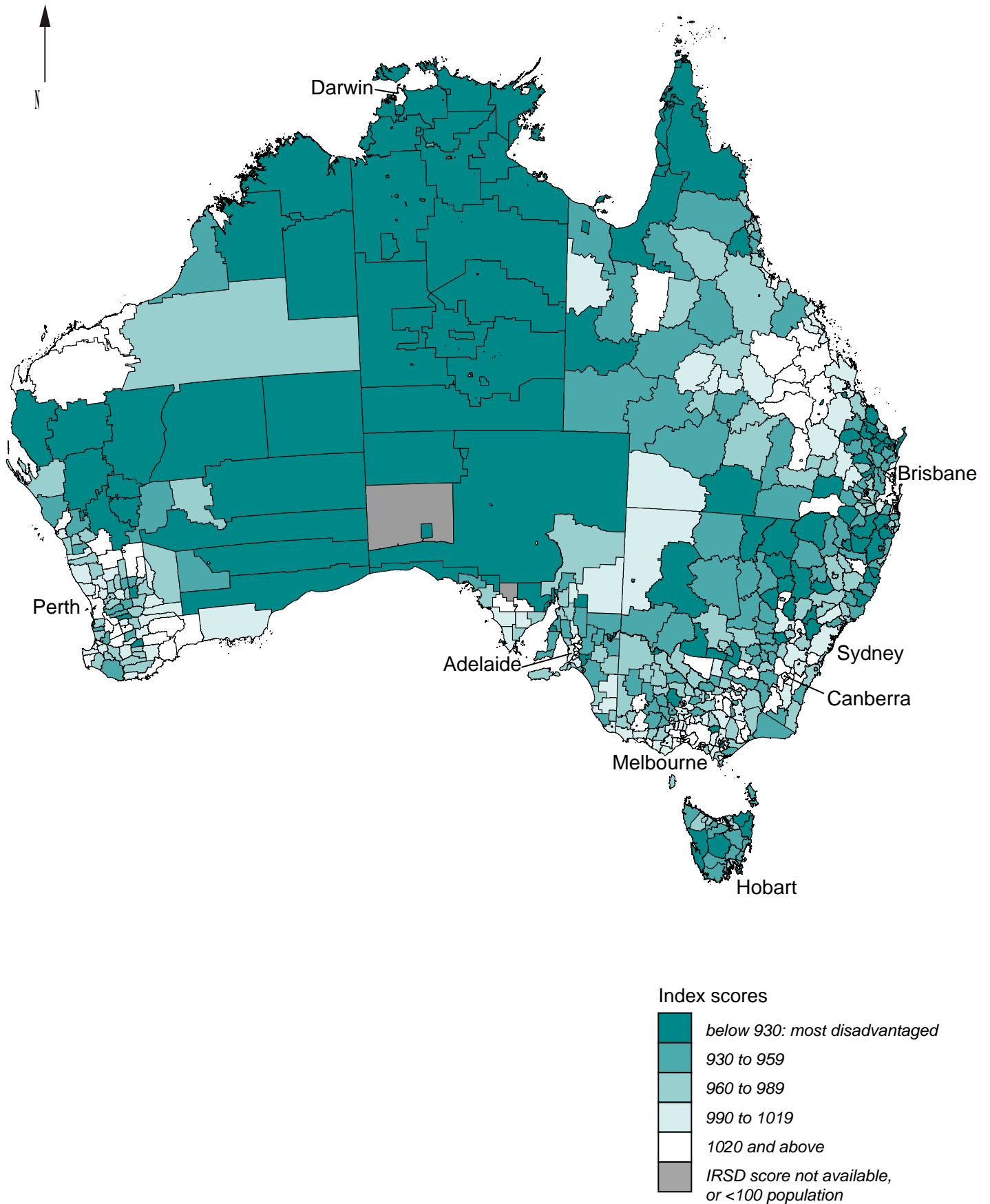
Much of the remote SLAs of **Western Australia**, had low scores, with those above the 1000 located closer to the coast, particularly to the north and south-east of Perth, and further north in Exmouth, Ashburton, Roebourne and Port Hedland. The lowest scores were in Ngaanyatjarraku and Halls Creek (both 607), Menzies (612) and Upper Gascoyne (717).

In **Tasmania**, the three lowest scores were in Georgetown - Part A (852) and Break O’Day (891) in the north, and in the Central Highlands (894). Index scores above the Australian average were in SLAs located around Hobart, and in Launceston and several areas to the west.

The lowest index score in the **Northern Territory** was recorded for Thamarrurr (460), with another 28 SLAs recording scores below 600; over half of this group are also small, remote Indigenous communities. The only areas with index scores above 1000 were in Nhulunbuy, the SLAs in Alice Springs, and in Jabiru.

Map 2: Index of Relative Socio-economic Disadvantage, Australia, 2011

Index scores by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS SEIFA, 2011 Census

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Jobless families with children

For jobless families, vocational and non-vocational barriers to employment may include inadequate education and skills; poor literacy and numeracy; poor physical and mental health; disability; substance use; family stress and violence; homelessness and insecure housing; financial management problems; social and/or cultural isolation; language difficulties; lived experiences of torture and trauma; and unresolved grief and loss of land and/or culture.⁴⁻¹¹

The impact of long-term parental joblessness on the wellbeing of families and children can be substantial.¹² A child's future development may depend significantly on access to economic and other resources during the first fifteen years of life; and long spells of parent joblessness can have consequences for children that extend well beyond childhood, with future income, social position and relative economic success being at risk of adverse effects.⁴ There can also be critical periods in a child's development when a lack of resources and the stress of parent joblessness are detrimental. Finally, protracted adult unemployment may lead to poor health, family violence and relationship breakdown, substance use and social exclusion.¹²

Such consequences of family unemployment can have important effects on other aspects of children's wellbeing. For example, parental ill health may be a barrier to social and workforce participation and, consequently, reduce resources for their children. Such difficulties represent stressors that can harm relationships, and inhibit or limit access to resources that are protective to children's wellbeing.¹³ Many adversities (e.g., parental unemployment resulting in financial hardship and family breakdown) occur together and can affect children's emotional health, as well as their families' experience of broader social exclusion.^{14,15} The effects of co-occurrence are often cumulative, leading to a more entrenched position of disadvantage and social exclusion.¹³

Governments recognise this and provide additional unemployment benefits for families with dependent children. However, jobless families' relative disadvantage across many life domains remains evident; and children in these families are more likely to enter a cycle of intergenerational disadvantage and welfare dependency than children living in working families.^{4,18} This underscores the importance of having macro-economic policies that limit or reduce the level of joblessness during economic downturns, and policies and services to minimise the potentially negative effects on children living in jobless families.^{16,20}

The indicators listed in bold type are included in this sub-section. The remaining indicators listed below and other indicators which are relevant can be found online at www.adelaide.edu.au/phidu/.

- Jobless families with dependent children under 15 years of age
- **Children under 15 years of age living in jobless families**
- **Long-term unemployment**

Children living in jobless families, capital cities

Families with no employed parent (“jobless families”) not only experience substantial economic disadvantage, but also reduced opportunities which may affect the wellbeing of their members.^{4,20} Children in jobless families are at risk of experiencing financial hardship and other disadvantages in the short to medium term. They may have no role model of employment to follow, and the joblessness of the parent(s) may mean that such children are more likely to be welfare-dependent in the longer term. The majority of children in these families live in lone-parent households with limited resources.^{17,18,20}

Indicator definition: Children aged less than 15 years living in families in which no parent is employed, as a proportion of all children aged less than 15 years.

Table 4: Children under 15 years of age living in jobless families, by capital city, 2011

Per cent								
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
13.4	11.8	12.6	15.2	10.8	16.9	10.5	7.5	12.6

Capital cities

The proportion of children under 15 years of age living in jobless families varied considerably between the capital cities, from 7.5% in Canberra, to 15.2% in Adelaide and 16.9% in Hobart. There is a very strong association at the SLA level with socioeconomic disadvantage (see Section 7).

The majority of SLAs in **Sydney** with the highest proportions of children in jobless families were in a cluster to the west and south-west of the city centre, with the highest proportions in Fairfield - East (35.0%), Parramatta - South (32.6%), Blacktown - South-West (29.7%) and Bankstown - North-East (28.3%). The lowest proportions were in a band of SLAs largely situated on the north shore.

In **Melbourne**, SLAs with a high proportion of children in jobless families were to the north, in Hume - Broadmeadows (with by far the highest proportion, of 35.7%), in the west in Brimbank - Sunshine (26.1%) and south-west of the city, in Dandenong (24.9%). Low proportions were evident in the east, north-east and inner south.

SLAs in the outer south and outer north of **Brisbane** comprised the majority of areas with high rates of children living in jobless families and included Redland Balance (41.3%), Stretton-Karawatha/Kingston (36.2%), and Darra-Sumner/Wacol (31.2%). Rates below the city average were generally in the inner and middle suburbs.

In **Adelaide**, very high proportions of children under 15 in jobless families were in a majority of outer northern SLAs, with Playford - Elizabeth (50.1%) and - West Central (41.4%), the two highest capital city rates; north-west in the SLAs of Port Adelaide Enfield - Inner (28.7%) and - Park (28.0%); and in the outer south. Most other SLAs had below-average proportions, with the lowest being to the east, north-east and south-east of the city centre.

No SLAs in **Perth** had SLAs with proportions of children in jobless families in the highest range mapped, with the largest proportions in Kwinana and Belmont (both 17.3%). A cluster of SLAs surrounding the city centre and extending along the coast to the north had the lowest scores.

There was a substantial difference in the distribution of children in jobless families in **Hobart**, with the highest proportion in Brighton (31.5%) being over three times that of the three SLAs with the lowest proportions (Hobart - Remainder and - Inner, and Kingborough - Part A).

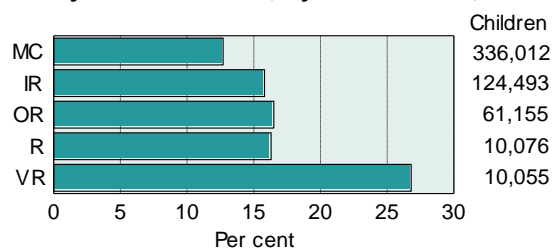
Four of the SLA groups in **Darwin** had proportions above the city average, with low proportions only in the city centre, and in the rural SLA of Litchfield - Part B.

There were relatively low proportions of children living in jobless families across **Canberra**, with all but two SLA groups with proportions in the two lowest ranges mapped.

Remoteness

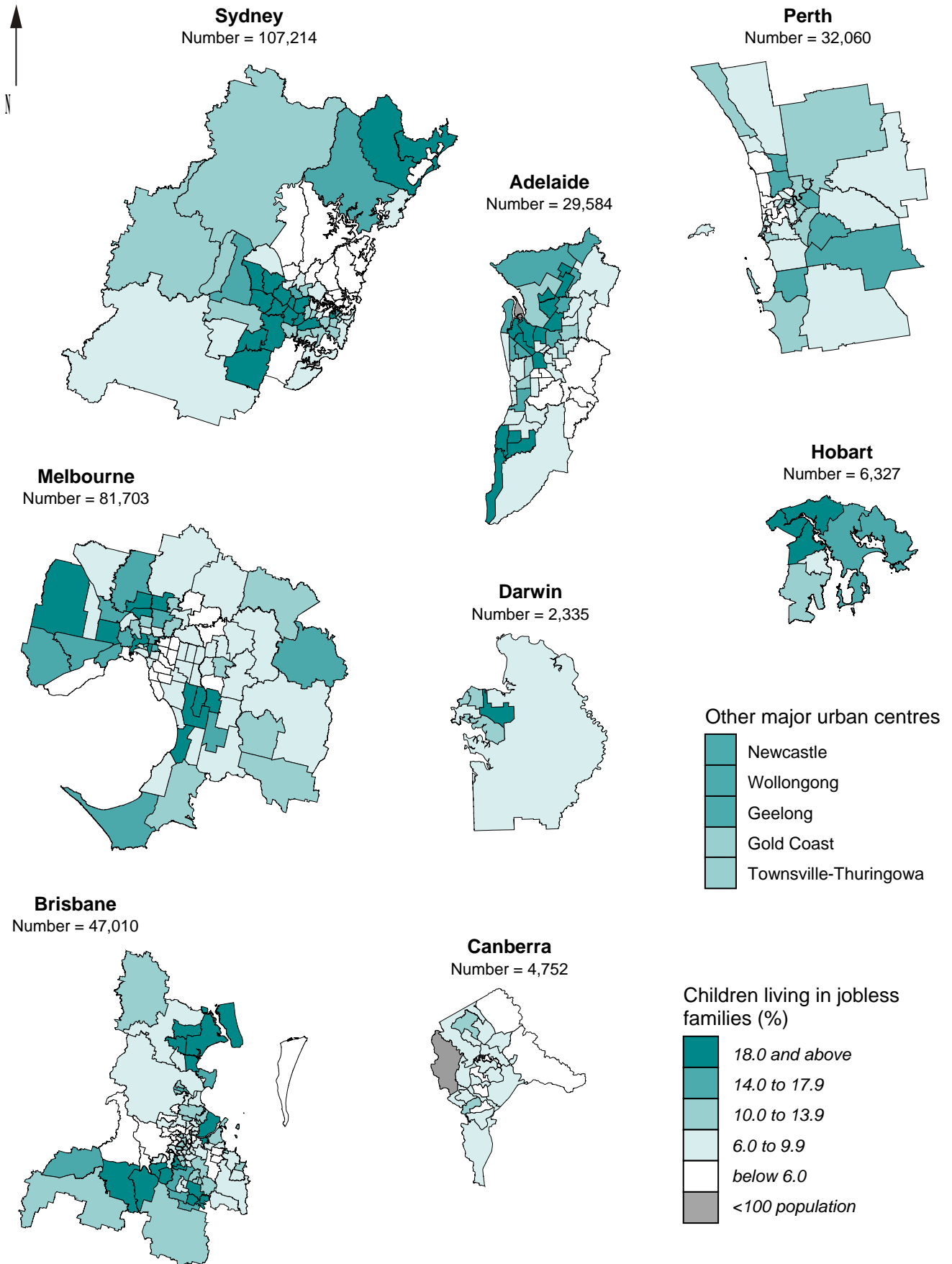
The majority (62.0%) of children living in jobless families were in the Major Cities remoteness class. However, by far the highest proportion of children in these families (26.8%) was in the Very Remote areas.

Figure 6: Children under 15 years of age living in jobless families, by remoteness, 2011



Map 3: Children under 15 years of age living in jobless families, major urban centres, 2011

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data from ABS 2011 Census

Children living in jobless families, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 5: Children under 15 years of age living in jobless families, by State/ Territory, Australia, 2011

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	17.0	14.8	15.6	15.2	14.6	19.5	31.2	..	16.2
Total	14.7	12.7	14.3	15.2	11.8	18.4	20.6	7.6	13.9

Non-metropolitan areas

Readers should note that people receiving wages under the Commonwealth Development Employment Program scheme (CDEP, the Indigenous unemployment scheme operating in remote areas of Australia, and commonly called a 'work-for-the-dole' scheme) were categorised by the ABS in the 2011 Census as being employed, and would not therefore be included as jobless. The result of this practice is to understate the number of children in jobless families in remote areas. Since 2009, new CDEP participants have been required to apply for income support payments.

By far the highest proportion of children living in jobless families in areas outside of the capital cities was recorded in the Northern Territory (31.2%). The lowest proportions were in the non-metropolitan areas of Western Australia (14.6%) and Victoria (14.8%).

SLAs with above average proportions of children under 15 years living in jobless families formed a band across much of the north and west of **New South Wales**, including many regional centres and towns. The highest proportion was recorded for Brewarrina (44.9%), with Coonamble, Clarence Valley Balance, Walgett, Kempsey and Central Darling all having approximately one third of their children in this category.

Above-average proportions of children in jobless families were generally found in central and western **Victoria**, in some SLAs along the State's northern border, and in the eastern part of the State; many regional centres and towns were included in this group. SLAs with the highest proportions of children under 15 in jobless families included Latrobe - Morwell (32.1%) and Moe (27.3%), Greater Bendigo - Eaglehawk (29.1%), Central Goldfields - Maryborough (26.3%) and Benalla - Benalla (25.9%).

In **Queensland** (outside of Brisbane), two groups of SLAs with high proportions of children in jobless families were evident: one covering an area from Brisbane to north of Bundaberg, and including Cherbourg (60.1%), Woorabinda

(51.1%) and Mount Morgan (45.8%); and the other in the far north, in coastal areas on Cape York Peninsula. Far northern areas in this category included Yarrabah (71.5%, the second highest proportion in Australia), Aurukun (58.0%), Doomadgee (57.6%), Napranum (54.3%), Lockhart River (45.5%) and Pormpuraaw (45.4%). Further south, Palm Island had a proportion of 47.2%, with a further seven SLAs in the non-metropolitan area having more than one third of their children in this category.

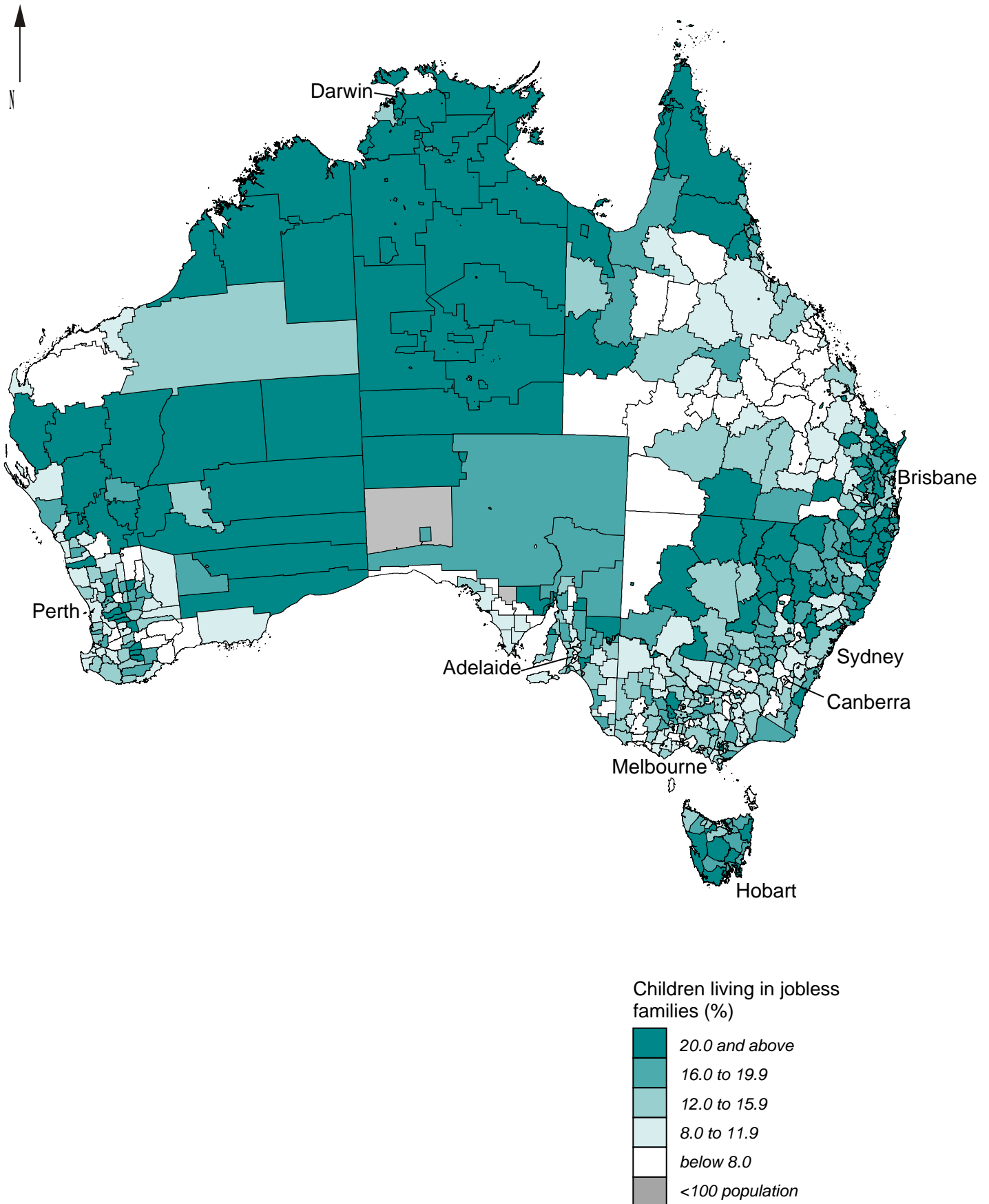
In **South Australia**, regional centres and country towns prevailed among the SLAs with above-average proportions of children living in jobless families. Other SLAs in this category were somewhat scattered, in the far north, mid-north, Riverland area and south-east of the State. Of SLAs with larger numbers of children, the highest proportions were recorded for Anangu Pitjantjatjara (41.6%) and Peterborough (40.5%).

Much of **Western Australia** was covered by SLAs with above-average proportions of children living in jobless families, including many in the populous south-west, such as Quairading (34.0%) and Trayning (33.8%); across central Western Australia, SLAs with larger numbers of children in this category included Wiluna (61.5%), Mount Magnet (53.8%), Upper Gascoyne (49.3%), Ngaanyatjarraku (42.5%) and Menzies (35.4%); and, in the far north, Halls Creek (57.8%). Only a handful of areas outside of the south-west had proportions below the State average.

SLAs in **Tasmania** (outside of Hobart) with proportions of children in jobless families above the State average included several of the regional centres, such as Launceston and Devonport, although a number of the highest proportions were in the smaller, coastal SLAs of George Town - Part A (34.7%) and Break O'Day (28.8%), and in the Central Highlands (26.2%).

A majority of SLAs in the **Northern Territory** had rates above the Territory average. Rates of 50% or higher of children in jobless families were recorded in Thamarrurr (63.9%), Belyuen (59.5%), and in Tennant Creek - Balance, Alpurrurulam, Tableland and Elliott District (all 53.5%).

Map 4: Children under 15 years of age living in jobless families, Australia, 2011
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data from ABS 2011 Census

Long-term unemployment, capital cities

People who are unemployed on a long-term basis are much more likely than those who are employed or short-term unemployed to have low education and skill levels, a chronic illness or disability, to live in a region of high unemployment, and to have an unstable employment history.^{17,18} Increasing casualisation of the work force and decreasing numbers of full time jobs for low skilled workers over recent years have contributed to the difficulties many face if they have been unemployed for longer than six months.¹⁸

Indicator definition: Recipients of a Newstart Allowance or Youth Allowance (other) from Centrelink for six months (182 or more days), as a proportion of the population aged 16 to 64 years – as a proxy for long-term unemployment. Further information is provided in Appendix A.

Table 6: Long-term unemployment, by capital city, June 2011

Per cent								
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
2.6	2.6	2.8	3.6	1.9	3.9	2.0	1.3	2.6

Capital cities

Among the capital cities, the highest rate of long-term unemployment at these ages was recorded in Hobart, and the lowest in Canberra. There is a very strong association at the SLA level with socioeconomic disadvantage (see Section 7).

Long-term unemployment rates within **Sydney** varied from 0.5% in Mosman to 6.9% in Fairfield - East. Other SLAs recording high levels of long-term unemployment were generally located to the west and south of the city centre, and included Blacktown - South-West (5.6%), Parramatta - South (5.4%), Bankstown - North-West and - North-East (both 4.9%); and in the north, the Wyong SLAs of - North-East (5.2%) and - South and West (4.8%). Most areas with low rates were on the north shore, extending up the coast and westwards.

High rates of long-term unemployment were largely concentrated in SLAs situated in the north, north-west, west and south-east of **Melbourne**, with the highest rates in Hume - Broadmeadows (6.6%), Greater Dandenong - Dandenong (5.7%) and Brimbank - Sunshine (5.5%). The lowest levels were to the east and south of the city and in the outer north-east, and included the SLAs of Melbourne - Southbank Docklands, Manningham - East, Bayside - Brighton and Nillumbik - South.

The distribution of the long-term unemployed population was generally concentrated in the outer northern and southern areas of **Brisbane** and in smaller clusters in inner areas south of the river. The highest rates were in Stretton-Karawatha/ Kingston (8.4%), Redland Balance (7.9%), Caboolture - Central (6.1%) and Rocklea (6.0%). Areas with low levels of long-term unemployment were mainly in the inner west, or scattered across the south and east of the city.

The long-term unemployment rate under this measure was well above average throughout the

outer northern and southern areas of **Adelaide**, and in the north-west. By far the highest rate was in Playford - Elizabeth, with a proportion of 11.3%. Rates were also high in Salisbury - Inner North (7.4%) and - Central (6.6%), Playford - West Central (7.3%) and - East Central (6.6%); and in Onkaparinga - North Coast (6.7%). A number of SLAs in the east recorded the lowest rates.

Long-term unemployment rates were relatively low across **Perth**, with Fremantle - Inner (4.2%), and Fremantle - Remainder and Armadale (both 3.1%) having the highest rates.

In **Hobart**, more than 5% of the population aged 16 to 64 years in the SLAs of Derwent Valley - Part A (6.9%), and Glenorchy and Brighton (both 5.8%) had been unemployed long-term. The lowest rate was in Kingborough - Part A (2.3%).

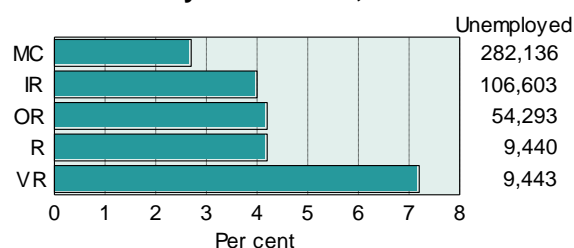
Long-term unemployment rates in **Darwin** were relatively low, and ranged from 1.7% in Darwin North East to 3.6% in Litchfield - Part B. Rates for the three remaining areas were below 2%.

All SLA groups in **Canberra**, apart from the Eastern Fringe (2.7%), had less than 2% of people at these ages who were unemployed long-term.

Remoteness

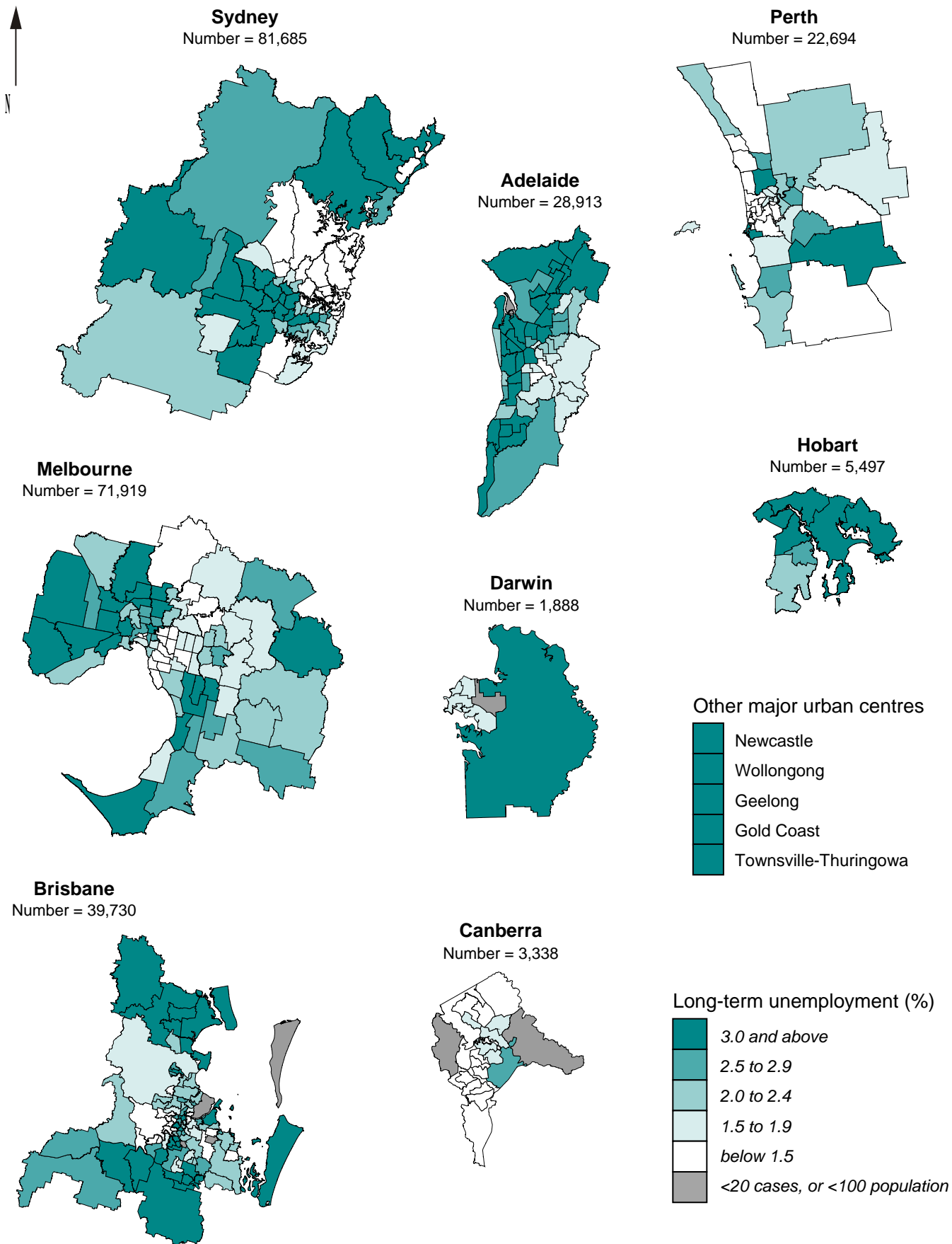
Long-term unemployment increased in a step-wise fashion with increasing remoteness, with rates ranging from 2.7% in the Major Cities areas to 4.0% to 4.2% in the middle remoteness classes, before rising to 7.2% in the Very Remote areas.

Figure 7: Long-term unemployment, by remoteness, 2011



Map 5: Long-term unemployment, major urban centres, June 2011

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by Centrelink

Long-term unemployment, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 7: Long-term unemployment, by State/ Territory, Australia, June 2011

Per cent

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	4.4	3.8	4.0	4.5	3.1	5.3	9.5	..	4.2
Total	3.2	2.9	3.4	3.9	2.2	4.7	5.3	1.3	3.1

Non-metropolitan areas

People living in remote areas who receive wages under the Commonwealth Development Employment Program scheme (CDEP, the Indigenous unemployment scheme, and more commonly called a 'work-for-the-dole' scheme) are not included in these data, as they are not in receipt of a Newstart or Youth Allowance from Centrelink. As a result, the extent of long-term unemployment, as measured by this indicator, is understated in remote areas.

In June 2011, long-term unemployment rates in the non-metropolitan areas of Australia ranged from 3.1% in Western Australia to 9.5% in the Northern Territory. In all States and the Northern Territory, rates were higher in the non-metropolitan areas than in the capital cities.

Walgett (10.6%), Brewarrina (10.5%), Central Darling (9.2%) and Bourke (8.4%), located in the far western and northern areas of **New South Wales**, recorded the highest long-term unemployment rates, with the northern and inner northern coastal areas of Nambucca (8.7%) and Kyogle (8.5%) recording similarly high rates. Rates below 2% were recorded in the south-eastern SLAs of Palerang - Part A, Yass Valley, Queanbeyan and Snowy River and, just north of Sydney, in Singleton.

The rates in **Victoria** were generally low, with the highest in the La Trobe SLAs of - Morwell (7.0%) and - Moe (6.3%). Other SLAs with long-term unemployment rates of 6% or above were in central Victoria in the Central Goldfields SLAs of Balance (6.6%) and - Maryborough (6.2%), and Loddon South (6.0%). Rates below 2% were recorded in Macedon Ranges Balance, Horsham Balance, Queenscliffe, Surf Coast - East, Towong - Part A and Golden Plains - South-East.

In 2011, 10% or more of the population aged 16 to 64 years were unemployed long-term in the **Queensland** non-metropolitan SLAs of Woorabinda (29.3%), Wujal Wujal (18.4%), Doomadgee (16.6%), Lockhart River (14.8%), Yarrabah (13.6%), Etheridge (13.4%), Mornington (13.3%), Hope Vale (12.4%), Kowanyama (12.3%), Cook (11.9%), Burke and Croydon (both 11.4%),

Pormpuraaw (11.3%), Murgon (11.1%), Mount Morgan and Aurukun (both 10.7%), New Mapoon (10.1%) and Cherbourg (10.0%). The next highest rates (of 7% or more) were recorded in Carpentaria, Kolan, Herberton, Injinoo, Cairns - Part B, Perry, Mareeba, Napranum, Hervey Bay - Part B, Townsville - Part B, Maryborough and Palm Island.

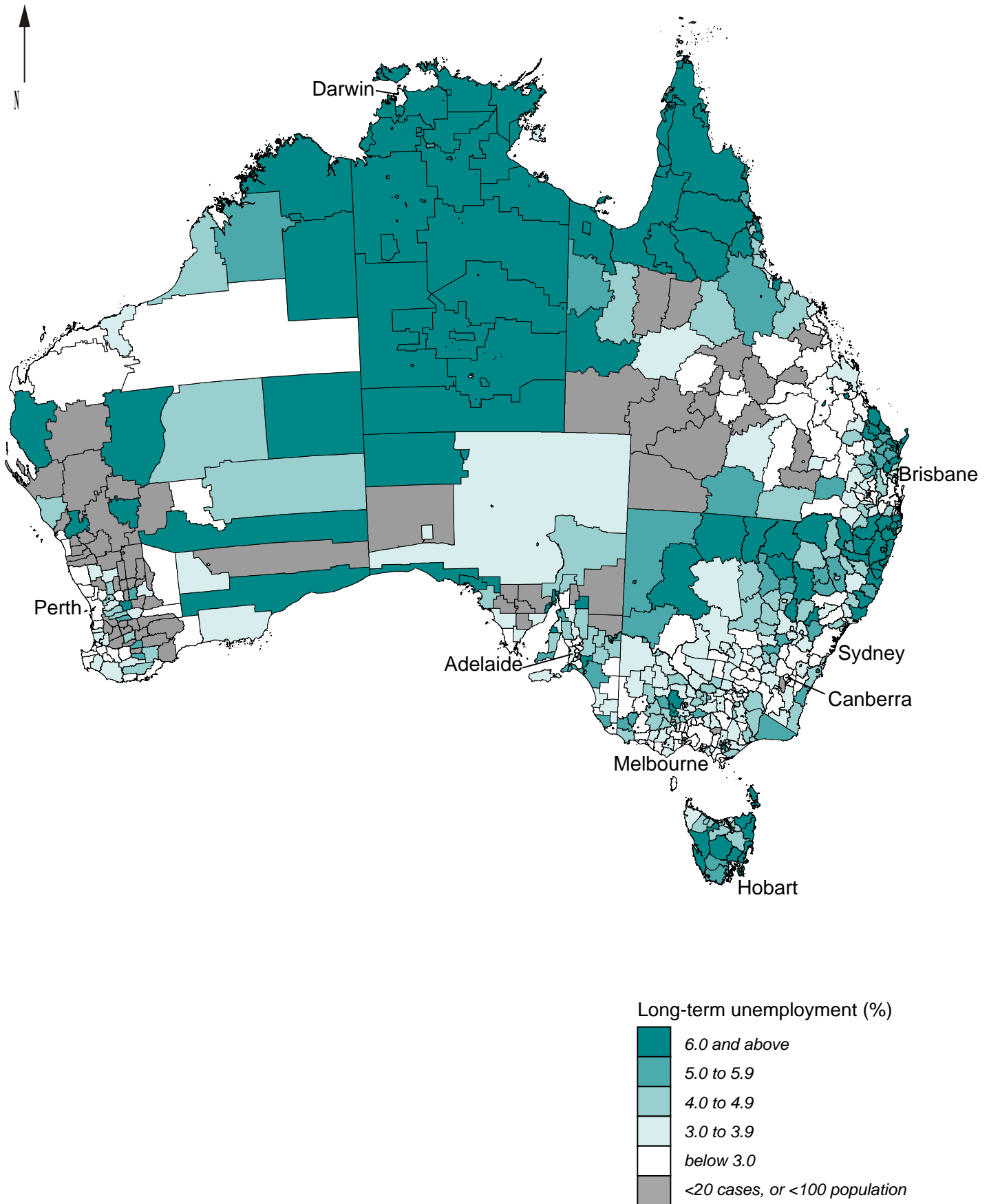
In **South Australia**, long-term unemployment rates were highest in the remote SLAs of Anangu Pitjantjatjara (12.7%), Coober Pedy (9.0%) and Ceduna (8.5%); and in Peterborough (8.0%). The lowest rates were in SLAs situated closest to the metropolitan area, and included Barossa - Tanunda, Adelaide Hills - North and Balance, and Mount Barker Balance.

The highest long-term unemployment rates in the non-metropolitan areas of **Western Australia** were largely in the more remote areas of the State, with the highest in Kalgoorlie/Boulder (16.5%), Ngaanyatjarraku (12.1%), Meekatharra (10.5%), Halls Creek (8.0%) and Mount Magnet (7.5%). Harvey - Part A and Capel - Part B in the south-west recorded the lowest long-term unemployment rates.

In the non-metropolitan areas of **Tasmania**, the highest levels of long-term unemployment in 2011 were recorded in the SLAs of Break O'Day (7.7%, located on the east coast) and George Town - Part A (6.8%, in the north). A majority of areas with the lowest levels of long-term unemployment were also in the north of the State, with King Island, Northern Midlands and Circular Head recording the lowest. Of the southern SLAs, Kingborough - Part A had the lowest rate.

The majority of SLAs in the **Northern Territory** were mapped in the highest range, with long-term unemployment rates of 5% or above. The highest rates were recorded in Watiyawanu (15.5%), Tapatjatjaka (15.5%), Thamarrurr (15.4%) and Tanami and Ltyentye Purte (both 15.2%). Only the SLA of Jabiru recorded a rate below 3%.

Map 6: Long-term unemployment, Australia, June 2011
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by Centrelink

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Children at greatest risk of long-term disadvantage

Children who are at greatest risk of long-term disadvantage include those living in poverty, especially in jobless families; those living with a disability or life-limiting chronic disease, and their siblings; those who identify as Indigenous; those who are subjected to neglect, abuse, family violence and other forms of trauma; those who are socially and/or geographically isolated; those with experience of the care and protection system; those who have a history of juvenile detention; those who suffer ongoing racism, discrimination and social exclusion; many young carers; and those who are refugees, including recently arrived, unaccompanied minors.^{19-21,136}

In Australia, it has been argued that 'poverty is the single greatest threat to child and community health and wellbeing'.²² There are many research studies on the issue of socioeconomic disadvantage, its long-term implications for the wellbeing of children and their families, and the eventual high costs to society.^{16,23,24,127,136} The relationship between significant disadvantage and health and wellbeing is particularly crucial for younger children as they are more developmentally vulnerable, and can experience deleterious circumstances that are beyond their control.^{25,26}

The short and long term consequences of poverty for children, and for society, are significant and well documented.^{22,26,27,70,127} Childhood poverty can impair physical growth, cognitive development and social and emotional functioning.^{16,23,26,28} At a population level, the incidence, duration and chronicity of childhood poverty may also have multiple negative effects on children's educational ability and attainment, social inclusion and later adult productivity (as measured by wage rates and hours worked), while increasing the likelihood of adult welfare dependency.^{23,25,26} Research also indicates that being born into a relatively disadvantaged family can increase the probability of accumulating risks associated with that disadvantage. Adversity experienced early in the life course (before age five or seven) has the strongest impact on the formation of individual resources in later life.^{26,29} Subsequent experiences of adversity then may add to the deterioration of already reduced resources.²⁸

However, this does not mean that all children whose parents are socioeconomically disadvantaged will experience these problems. Many children from disadvantaged backgrounds are able to learn and develop well, despite adverse circumstances.^{30,31} Such resilience is predicted by attributes of a child's disposition (e.g., temperament, cognitive abilities, self-belief), family characteristics (such as warmth, closeness and safety), and the availability and use of external support systems by family members.^{32,33} A complex relationship exists between the risk factors that contribute to poverty (such as low socioeconomic status, low income or occupational class), protective factors (such as positive role models and relationships), and the resulting implications for children and families.^{34,136} These inter-relationships are yet to be fully understood.

The indicators of poverty are numerous and are associated with factors such as infant and maternal mortality and morbidity, low birth weight and poor physical growth, developmental delay, discrimination and racism, disability, learning and behavioural problems, mental health issues, parental smoking habits and parental disability.^{20,21,136} They also include lack of parental education, lack of safety of the home environment, harsh or indifferent parenting, and difficulties with families' access to and use of services. An individual's chance of encountering multiple adverse health risks throughout life is influenced powerfully by social and economic position.^{34,35,136} Adult-disease risk factors do not emerge exclusively in mid-life, but can accumulate over decades. Investment early in educational and emotional development helps to strengthen prevention strategies relating to health behaviour, work-place environment, and income inequality.³⁰

The indicators listed in bold type are included in this sub-section. The remaining indicators listed below and other indicators can be found online at www.adelaide.edu.au/phidu/.

- **Children in low income, welfare-dependent families**
- **Children in families where the mother has low educational attainment**
- **AEDI: children assessed as being developmentally vulnerable on one or more domains**
- **Women smoking during pregnancy**
- Low birth weight babies
- Total Fertility Rate

Children in low income, welfare-dependent families, capital cities

Low income limits the opportunities parents can offer their children, and may cause significant stress on family relationships.^{19,136} Families with children living on disposable incomes, which are below the estimated Henderson Poverty Line (HPL), are considered to be living in poverty. The HPL is a relative measure of poverty, which rises as real incomes in the community rise (see Appendix A).³⁶

Indicator definition: Children aged less than 16 years living in families with incomes under \$31,786 p.a. in receipt of the Family Tax Benefit (A) (at the maximum level), as a proportion of all children aged less than 16 years.

Table 8: Children in low income, welfare-dependent families, by capital city, June 2011

Per cent									
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total	
20.3	19.3	19.3	23.0	16.7	25.4	17.9	11.5	19.5	

Capital cities

The proportion of children under 16 years of age living in low income, welfare-dependent families in June 2011 was highest in Hobart (25.4%) and Adelaide (23.0%), and lowest in Canberra (11.5%). There is a very strong association at the SLA level with socioeconomic disadvantage (see Section 7).

A large group of SLAs in **Sydney's** west and south-west had the highest proportions of children in these families. They include Fairfield - East (47.2%) and - West (33.4%), Bankstown - North-East (41.3%) and - North-West (39.2%), Parramatta - South (40.4%), Blacktown - South-West (39.4%), Auburn (35.0), Campbelltown - North (33.3%) and - South (33.2%).

The SLAs of Hume - Broadmeadows (50.0%), Whittlesea - South-West (40.3%), Brimbank - Sunshine (37.8%), Melton Balance (34.6%) and Melbourne - Remainder (33.1%), north and west of the city centre; and Greater Dandenong - Dandenong (35.6%) and Balance (32.9%), and Frankston - West (31.3%), in the south-east, recorded the highest proportions in **Melbourne**.

SLAs with the highest proportions of children in these low income families in **Brisbane** were in two main locations: one to the south (and south-west and south-east) of the Brisbane River, and the other in the outer north. The southern areas with the highest proportions included Redland Balance (52.7%), Stretton-Karawatha/Kingston (49.6%), Waterford West (35.2%), Loganlea (35.1%), Marsden (34.3%) and Inala/Richards (33.0%); those to the north were Deception Bay (39.4%), Caboolture - Central (34.5%) and - East (34.0%), and Bribie Island (33.0%).

In **Adelaide**, more than 50% of children under 16 years in Playford - Elizabeth (56.6%) were living in these families, with relatively high rates also in Playford - East Central (40.9%), - Hills (39.1%) and - West Central (36.5%); Salisbury - Central (40.8%) and - Inner North (37.5%); Port Adelaide Enfield - Park (39.5%), - Port (37.4%) and - Inner

(36.8%); and Onkaparinga - Hackham (37.4%) and - North Coast (37.3%).

Rates were lower in **Perth**, with no areas mapped in the highest range. Rates above 25% were recorded in Belmont (27.2%), Bassendean and Kwinana (both 27.0%), Stirling - Central (25.8%) and Armadale (25.1%). The inner city areas of Nedlands, Cottesloe, Cambridge and Claremont recorded the lowest rates.

In **Hobart**, the SLAs of Glenorchy (36.6%), Derwent Valley - Part A (36.3%) and Brighton (36.1%) recorded the highest proportions of children in low income families.

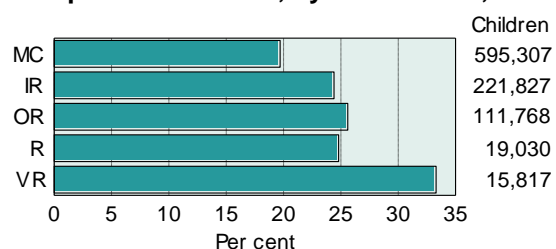
Children living in low income families in **Darwin** comprised 21.9% of children in Litchfield - Part B and 20.5% in Litchfield - Part A, with the lowest proportion, of 11.0%, in Darwin South West.

There were low proportions of children in these low income families across **Canberra**, with the highest rates in Belconnen West (17.3%), and Tuggeranong North West and Tuggeranong South East (both 15.0%), and the lowest in Woden North (6.2%) and Woden South (8.0%).

Remoteness

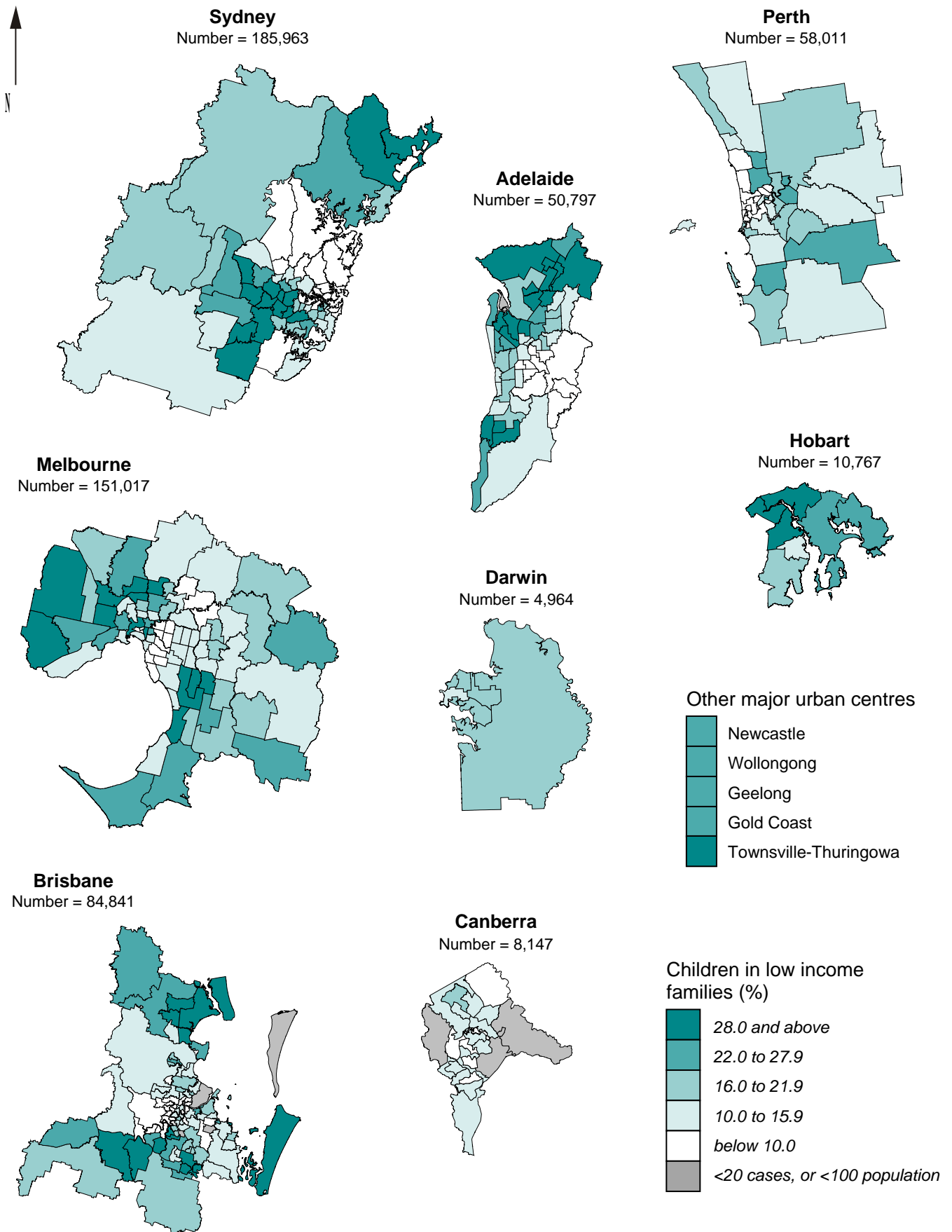
There is a clear gradient in the proportion of children in low income families when viewed by remoteness, increasing from 19.7% in the Major Cities to 24.0% to 26.0% in the middle remoteness classes, before increasing substantially, to 33.3%, in the Very Remote areas.

Figure 8: Children in low income, welfare-dependent families, by remoteness, 2011



Map 7: Children in low income, welfare-dependent families, major urban centres, June 2011

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by Centrelink

Children in low income, welfare-dependent families, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 9: Children in low income, welfare-dependent families, by State/ Territory, Australia, June 2011

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	26.1	24.2	23.8	23.9	23.2	27.0	34.9	..	24.9
Total	22.5	20.7	21.8	23.0	18.6	26.4	26.3	11.7	21.5

Non-metropolitan areas

By far the highest proportion of children in low income families was recorded in the non-metropolitan area of the Northern Territory (34.9%), with the next highest rates in Tasmania (27.0%) and New South Wales (26.1%). In all States and the Northern Territory, rates were higher in the non-metropolitan areas than in the capital cities.

In 2011, a number of SLAs across the north of **New South Wales** had above-average proportions of children in low income families; the highest of these were in Brewarrina (48.8%), Walgett (47.9%), Coonamble (47.7%), Kempsey (45.4%) and Wellington (43.0%). Central Darling (41.7%), Nambucca (41.1%) and Bourke (40.6%) had similarly high proportions. The SLAs of Palerang - Part A, Yass Valley, Queanbeyan and Snowy River, in the south east, and Kiama on the coast, recorded the lowest proportions, with fewer than 14% of children in this category.

The majority of areas across **Victoria** are mapped in the lowest three classes, with proportions below 30%. The highest proportions of children in low income families were recorded in the SLAs of Latrobe - Morwell (43.6%) and - Moe (36.1%), Yarra Ranges - Part B (42.5%), Central Goldfields - Maryborough (40.2%) and Balance (37.9%), Greater Bendigo - Eaglehawk (40.1%), Corio - Inner (35.0%), Loddon - South (34.9%), Greater Shepparton - Part A (33.5%) and Swan Hill - Robinvale (33.0%).

Some of the highest proportions of children in low income families were recorded in the non-metropolitan areas of **Queensland**, with more than half of the children in Burke (86.2%), Woorabinda (69.1%), Etheridge (66.3%), Mount Morgan (59.7%), New Mapoon (57.7%), Murgon (54.1%), Lockhart River (53.6%), Boigu (51.7%) and Cairns - City (50.6%) living in these families. A cluster of SLAs south-west of Mackay recorded proportions below 14%.

Coober Pedy (53.5%) and Peterborough (50.7%) recorded the highest rates of children in welfare-dependent, low income families in the non-metropolitan areas of **South Australia**. The next

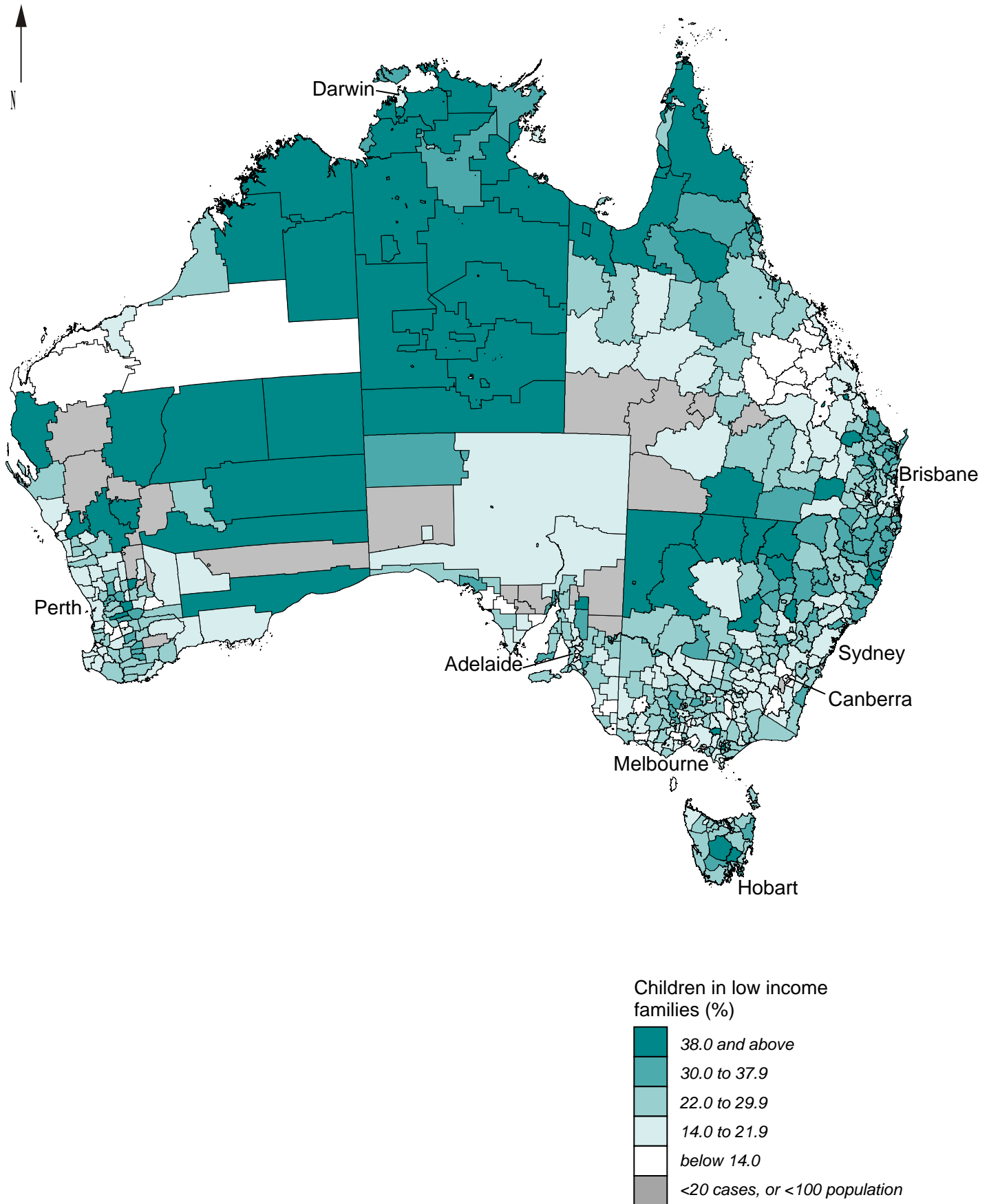
highest rates were in Whyalla (36.3%), Port Augusta (36.1%) and Port Pirie Central Districts - City (35.3%). Other than Murray Bridge (33.6%), other areas with rates of 30% or higher were largely in the north and far west of the State. Few children in Roxby Downs (4.4%) were living in families with low incomes, with rates below 14% also in a number of areas to the east of Adelaide, in the south-east and along the Eyre Peninsula.

Many of the more remote non-metropolitan areas of **Western Australia** recorded high proportions of children in low income families, with proportions of 50% or more recorded in the SLAs of Meekatharra (88.4%), Yalgoo (79.0%), Mount Magnet (61.7%), Mullewa (58.6%), and Halls Creek (50.0%). High rates were also recorded in Laverton (48.6%), Trayning (48.5%), Ngaanyatjarraku (47.2%), Derby-West Kimberley (45.6%), Menzies (44.6%), Wiluna (44.1%), Dundas (42.9%) and Wyndham-East Kimberley (40.1%). The lowest rate was recorded in Ashburton (8.6%), just north of Exmouth, with rates below 12% in Dardanup - Part B, Capel - Part A, Cuballing and Chapman Valley.

The SLAs of Central Highlands (48.6%), George Town - Part A (42.1%) and Southern Midlands (41.0%) recorded the highest proportions of children living in low income families in **Tasmania**. The SLAs of Tasman, Devonport, Burnie - Part A, Break O'Day and Derwent Valley - Part B were in the next highest grouping, with rates of 30% to 33%. The lowest rate was recorded in King Island (13.3%) followed by George Town - Part B (14.9%).

As suggested by the overall high proportion of children in low income, welfare-dependent families in the **Northern Territory**, the majority of SLAs were mapped in the highest range: the highest of these was in Coomalie (83.5%), Petermann-Simpson (76.5%), Cox Peninsula (71.4%), Ltyentye Purte, Watiyawanu and Tapatjatjaka (all 55.6%), Tanami (54.7%) and Sandover (51.3%), with another six SLAs having rates around 50%. The lowest rates were recorded in the SLAs of Groote Eylandt, Jabiru and Alice Springs - Larapinta.

Map 8: Children in low income, welfare-dependent families, Australia, June 2011
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by Centrelink

Children in families where the mother has low educational attainment, capital cities

Strong relationships between education and health outcomes exist in many countries, favouring the survival and health of children born to educated parents, especially mothers; but the pathways are culturally and historically complex and vary between and within countries.^{37-39, 136} A lack of successful educational experiences of parents may lead to low aspirations for their children; and may be related to parents' attitudes, their ability to manage the complex relationships which surround a child's health and education, and their capacity to control areas of their own lives.^{40-42,136}

Indicator definition: 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, as a proportion of all children aged less than 15 years.

Table 10: Children in families where the mother has low educational attainment, by capital city, 2011

Per cent								
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
22.8	15.2	21.2	17.1	21.9	30.9	23.3	14.4	19.8

Capital cities

In 2011, the proportion of children aged less than 15 years living in families where the mother had low educational attainment was highest in Hobart (30.9%) and lowest in Canberra (14.4%) and Melbourne (15.2%). Of note is the marked decline in these proportions since the 2006 Census, down by 16% in Darwin, 17% in Adelaide, and by 25% and over in the other capital cities. There is a strong to very strong association at the SLA level with socioeconomic disadvantage (see Section 7).

In **Sydney**, high proportions in this population group were recorded in the outer north, in Wyong - North-East (44.5%) and - South and West (39.9%), Hawkesbury (38.4%), and Gosford - West (34.6%); and in the west and south-west, in Fairfield - East (38.8%), Penrith - East (38.6%) and - West (34.6%), Wollondilly (37.7%), Campbelltown - South (36.6%) and - North (33.4%), Blacktown - South-West (35.1%) and Parramatta - South (33.6%). The lowest proportions were in inner areas.

In **Melbourne**, high rates for this population group were found in the SLAs of Hume - Broadmeadows (33.3%), Greater Dandenong Balance (30.8%) and - Dandenong (28.9%), Cardinia - South (29.4%), Brimbank - Sunshine (27.3%) and Melton Balance (27.1%). Several inner eastern areas had low proportions.

In **Brisbane**, the highest proportions were recorded east of the city, in Pinkenba-Eagle Farm (39.1%); in the outer north-east, in Caboolture - Central (37.6%), - Hinterland (35.1%) and - East (33.7%), Morayfield (37.1%) and Deception Bay (34.7%); and with high rates also in the south and south-west, in Ipswich - West (36.9%) and Central (33.1%), Stretton-Karawatha/Kingston (36.7%), and Redland Balance (35.8%).

In **Adelaide**, the highest proportions of this population group were recorded in the outer north, in Playford - Elizabeth (40.9%) and - West Central (36.3%). A large cluster of eastern and inner southern SLAs had low rates.

The highest proportions in Perth were recorded to the south, in Kwinana (34.1%) and Serpentine-Jarrahdale (32.8%). The lowest proportions were in a cluster of inner city SLAs.

In **Hobart**, proportions were high, with 47.9% in Derwent Valley - Part A, 45.2% in Brighton, 39.6% in Sorell - Part A and 39.4% in Glenorchy.

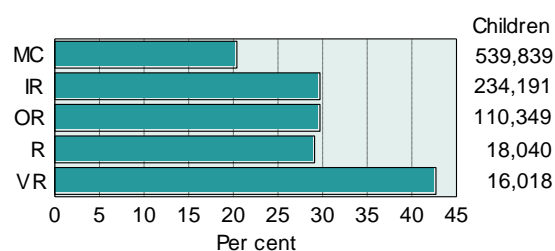
The proportion of children in families with mothers with low educational attainment in **Darwin** ranged from 17.2% in Darwin South West, to 27.9% in Litchfield - Part A.

Rates in **Canberra** were generally lower, with by far the highest rate recorded in the Eastern Fringe (33.3%). Rates were lowest in Woden North and Canberra Central.

Remoteness

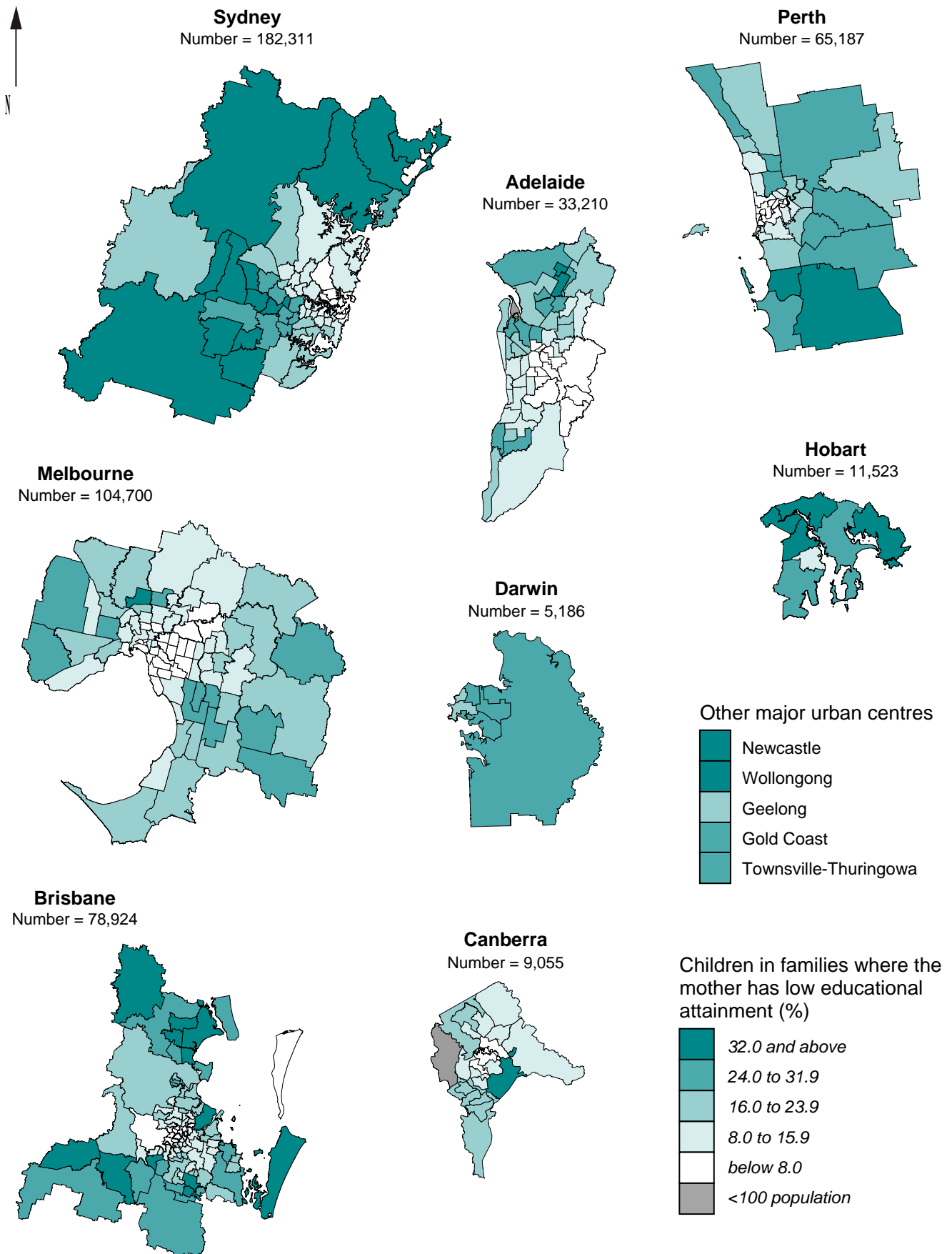
The highest proportion of children in these families (42.7%) was in the Very Remote areas, with proportions of around 30.0% in the Inner and Outer Regional, and Remote classes, and 20.4% in the Major Cities areas.

Figure 9: Children in families where the mother has low educational attainment, by remoteness, 2011



Map 9: Children in families where the mother has low educational attainment, major urban centres, 2011

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data from ABS 2011 Census

Children in families where the mother has low educational attainment, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 11: Children in families where the mother has low educational attainment, by State/ Territory, Australia, 2011

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	36.0	22.0	27.9	20.1	30.7	41.9	47.5	25.0	30.0
Total	27.6	17.0	24.9	17.9	24.3	37.3	35.1	..	23.5

Non-metropolitan areas

The highest proportions of children aged less than 15 years in families where the mother had low educational attainment were in the non-metropolitan areas of the Northern Territory (47.5%) and Tasmania (41.9%), with the lowest in South Australia (20.1%) and Victoria (22.0%). The proportions in the non-metropolitan areas were higher than those in the capital cities. Although the decline in these proportions since the 2006 Census is less than in the capital cities, it is still notable, ranging from 24% (Queensland) to 12% (South Australia).

In **New South Wales**, the highest proportions were in SLAs in the far west in Central Darling (55.2%), Brewarinna (53.4%) and Broken Hill (50.9%); to the north of Sydney, in Richmond Valley Casino (51.0%), Cessnock (49.5%), Greater Taree and Kempsey (both 45.7%), Clarence Valley Balance (44.8%) and Mid-Western Regional - Part B (44.3%) and Great Lakes (44.0%); and just west of Sydney, in Lithgow (45.0%). The lowest proportions were in SLAs in the south of the State, in Jerilderie, Palerang - Part A and Snowy River; and in the north, in Armidale Dumaresq Balance.

The rates in non-metropolitan **Victoria** were generally low, with the highest proportions of children in families where the mother had low educational attainment in the third highest map range. Areas with the highest proportions included Greater Bendigo - Eaglehawk (35.7%), Latrobe - Morwell (34.7%) and - Moe (32.7%), and Northern Grampians - St Arnaud (30.1%). The lowest proportions, of below 12%, were in the south and south coastal areas of Newtown, Queenscliffe, and Surf Coast - East; and just north of Melbourne, in Macedon Ranges Balance.

Children in these families in non-metropolitan **Queensland** were generally located in the far north and in other scattered areas across the State. SLAs with proportions above 50% included Doomadgee (76.0%), Pormpuraaw (74.5%), Aurukun (68.7%), Boulia (63.7%),

Cherbourg (63.2%), Woorabinda (60.9%), Lockhart River (57.0%), Palm Island (54.8%), Boigu (53.1%), Kowanyama (52.5%), Mornington (51.4%) and Yarrabah (50.2%). Proportions below 15% were recorded in Poruma, Diamantina, Hammond, Warraber and Tambo.

There were relatively few of these children in **South Australia**, and proportions at the SLA level were below 35%, except in Unincorporated Riverland (79.2%), Anangu Pitjantjatjara (73.3%) and Unincorporated Whyalla (63.2%), areas with relatively large Indigenous populations. Low proportions were recorded for many SLAs in the south-east, to the north and east of Adelaide, and on the Yorke and Eyre Peninsulas. Areas with the lowest proportions, of below 12%, included Robe, Kimba, Cleve, Tumbay Bay and Elliston.

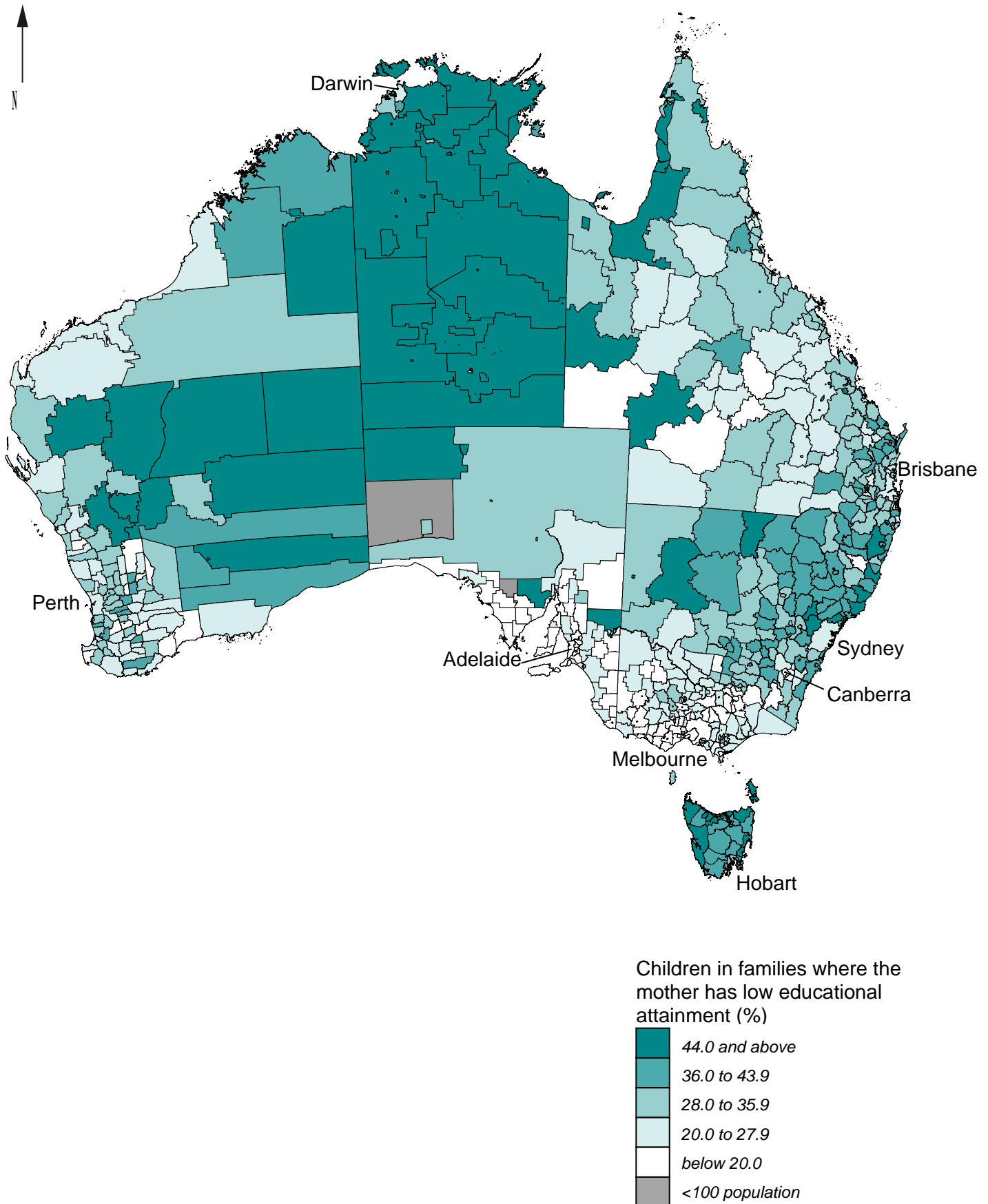
Non-metropolitan areas in **Western Australia** with the highest proportions of the population aged less than 15 years in families where the mother had low educational attainment were Sandstone (75.0%), Laverton (71.3%), Ngaanyatjarraku (66.3%), Upper Gascoyne (61.2%), Mount Magnet (50.4%) and Wiluna (50.0%), in central Western Australia; and Halls Creek (58.4%), in the far north. The lowest proportions were generally found in SLAs in the south-west of the State.

Proportions were high in **Tasmania**, with the highest being in the coastal areas of Burnie - Part B (51.2%), Glamorgan/Spring Bay (50.0), West Coast (48.8%), Kentish (48.1%), Latrobe - Part A (47.9%) and - Part B (47.6%), George Town - Part B (47.8%) and - Part A (46.3%), Dorset (47.3%) and Devonport (46.5%).

In the **Northern Territory**, proportions above 70.0% were recorded in Belyuen (83.3%), Alpurrurulam (72.3%); Tennant Creek - Balance, Tableland and Elliott District (all 72.3%); Tapatjatjaka, Ltyentye Purte and Watiyawanu (all 72.2%); Sandover (71.5% and Tanami (70.7%). The lowest proportions, of below 30.0%, were recorded in Nhulunbuy (the lowest, with 18.4%), all the Alice Springs SLAs and Jabiru.

Map 10: Children in families where the mother has low educational attainment, Australia, 2011

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data from ABS 2011 Census

The Australian Early Development Index, capital cities

The Australian Early Development Index (AEDI) program collects information on Australian children in their first year of full-time school, using a teacher-completed checklist. The results from the AEDI provide communities and schools with information about how local children are faring by the time they start school, across five areas of early childhood development: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school-based), and communication skills and general knowledge.⁴³

Indicator definition: AEDI results are presented in this report as the proportion of children assessed who are considered to be 'developmentally vulnerable' (score in the lowest 10%) on one or more domains.

Table 12: Children assessed as being developmentally vulnerable on one or more domains, by capital city, 2009

Per cent								
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
20.9	20.1	29.3	23.0	23.5	20.8	25.3	22.3	22.5

Capital cities

The proportion of children assessed as being developmentally vulnerable on one or more domains under the AEDI varied little between capital cities, other than Brisbane (29.3%) and Darwin (25.3%). With the exception of Canberra, where the association was weak, there is a strong to very strong association at the SLA level with socioeconomic disadvantage (see Section 7).

The distribution in **Sydney** of children with these characteristics was strongly associated with socioeconomic disadvantage, with above-average proportions in Sydney - Inner (32.8%) and in western SLAs, including Fairfield - East (31.9%), Blacktown - South-West (31.2%), Auburn (30.8%), Bankstown North-East (30.8%) and North-West (28.7%), Parramatta - Inner (29.6%), and Strathfield (29.4%). The lowest proportions were found in the SLAs on the north shore.

There was a similarly strong association with socioeconomic disadvantage in **Melbourne**, with high proportions in SLAs in the inner city and to the west, north and south-east of the city centre, including Hume - Broadmeadows (40.3%), Greater Dandenong - Dandenong (31.5%) and Balance (33.8%), and Casey - Cranbourne (31.8%) and - Hallam (30.9%).

A cluster of areas in the outer south of **Brisbane** recorded high proportions of children in this category, the highest being in Marsden (50.1%), Stretton-Karawatha/Kingston (48.8%), Logan Balance (46.2%), Rocklea (43.8%) and Inala/Richlands (42.4%), the four highest capital city rates.

In **Adelaide**, the distribution of children in this category showed a very strong socioeconomic pattern, with high proportions in the outer north, in Playford - Elizabeth (43.5%) and Salisbury - Inner North (37.3%); north-west, in Port Adelaide Enfield - Inner (39.1%); and the outer south, in Onkaparinga North - Coast (39.4%).

In **Perth**, the distribution was similar to that of the IRSD, with the highest proportions of children considered to be developmentally vulnerable on one or more domains under the AEDI in Kwinana (32.5%); Belmont (32.3%), Stirling - Central (31.8%), Armadale (30.9%) and Bassendean (30.7%). Areas surrounding the city centre recorded the lowest proportions.

Derwent Valley - Part A recorded the highest proportion (36.2%) of children in this category in **Hobart**. Rates below 20% were recorded in Hobart - Remainder, Kingborough - Part A, and Sorell - Part A.

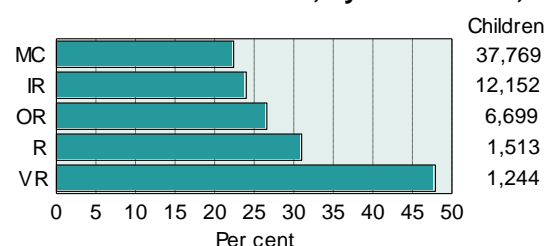
Darwin North West (30.6%), Darwin North East (30.4%) and Litchfield - Part B (29.5%) had the highest proportions of children in this category in **Darwin**. Darwin South West had the lowest (12.2%).

Woden Central (28.2%), Weston Creek (27.9%), Belconnen Balance (27.5%) and Tuggeranong North West (27.3%) recorded the highest proportions of children in this category in **Canberra**. The lowest proportions were recorded in the central areas of Canberra South, and Woden South and North.

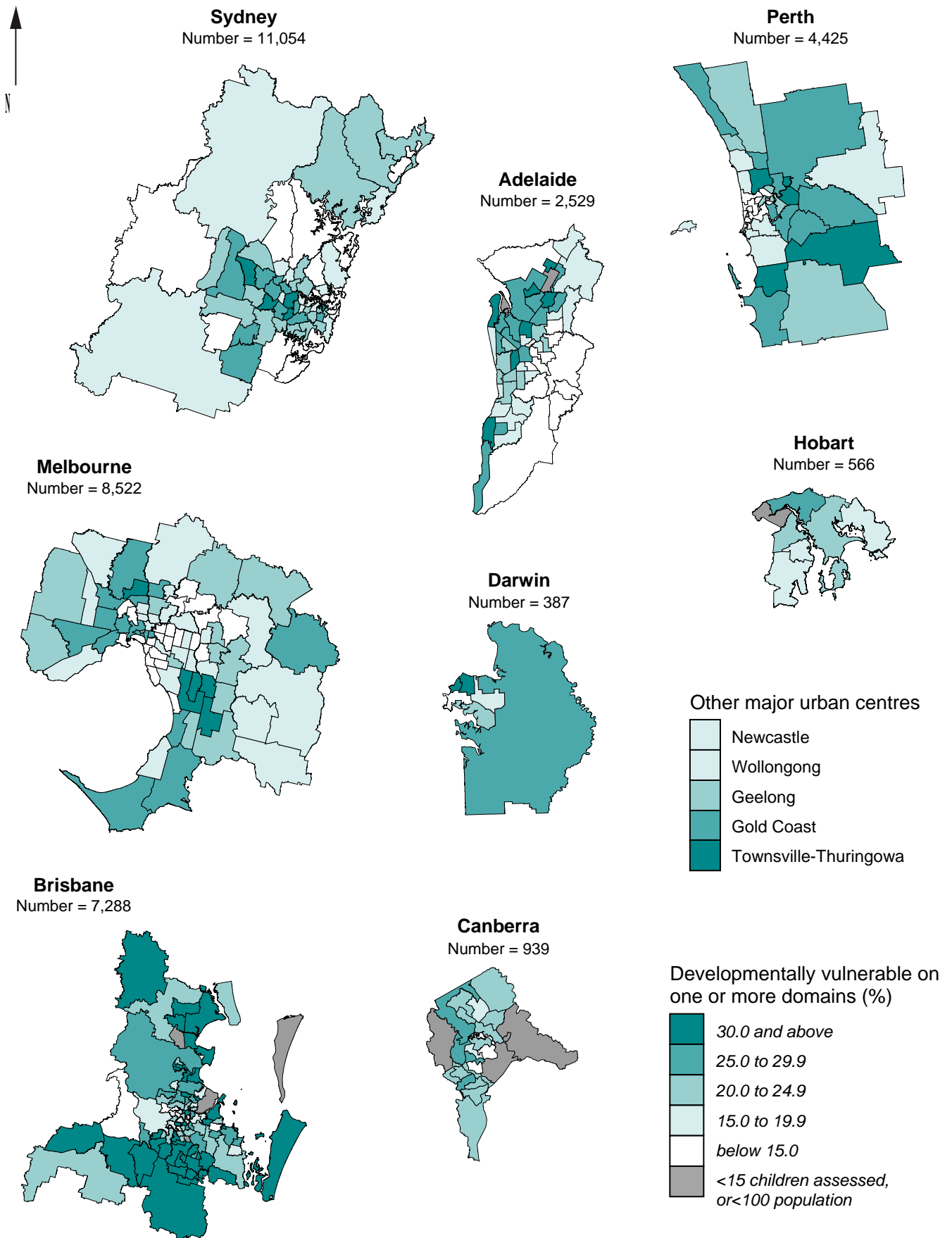
Remoteness

The proportion of children assessed as being developmentally vulnerable on one or more domains under the AEDI increases steadily over the first four remoteness classes, before increasing substantially in the Very Remote areas.

Figure 10: Children developmentally vulnerable on one or more domains, by remoteness, 2009



Map 11: The Australian Early Development Index - children assessed as being developmentally vulnerable on one or more domains, major urban centres, 2009 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by DEEWR/ RCH

The Australian Early Development Index, Australia

Notes: See comments on previous text page for details of this indicator. ‘Non-metropolitan’ refers to the area of the State or Territory outside of the capital city. ‘Total’ refers to the whole State or Territory.

Table 13: Children assessed as being developmentally vulnerable on one or more domains, by State/ Territory, Australia, 2009

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	22.1	20.8	30.1	22.6	27.7	22.7	56.8	..	25.4
Total	21.3	20.3	29.7	22.9	24.8	21.9	40.7	22.3	23.6

Non-metropolitan areas

Overall, one quarter of the children in the non-metropolitan areas of Australia assessed under the AEDI were considered to be developmentally vulnerable on one or more domains, with the highest proportion in the Northern Territory, where over half of the children were in this category (56.8%).

SLAs with high proportions of children developmentally vulnerable on one or more domains were scattered throughout inland areas of **New South Wales**, with more than 35% of children in Central Darling (61.1%), Wellington (43.3%), Dubbo - Part B (40.0%), Bourke (37.0%), Moree Plains (36.3%) and Parkes (35.1%) in this category. Areas with lower proportions were located throughout the State, in particular along the southern border.

There were two main concentrations of SLAs with high proportions of developmentally vulnerable children in **Victoria**, with low proportions predominant throughout much of the State. Proportions of 34% or above were recorded in the north-eastern area of Central Goldfields - Maryborough (39.8%), and in the north-western areas of Loddon - South (39.4%), Swan Hill - Robinvale (39.1%), Yarriambiack - South (34.6%), and Mildura - Part B (34.5%).

There was wide variation between SLAs in the non-metropolitan areas of **Queensland**, with proportions ranging from 100% in Injinoo to 4.8% in Flinders. More than three quarters of children assessed in Naparanum, Yarrabah, Boigu, Mornington, Palm Island, Lockhart River and Erub were considered developmentally vulnerable on one or more domains. Low proportions were recorded in SLAs near Brisbane, along the coast and in a block inland from Mackay.

A relatively large number of SLAs in the non-metropolitan areas of **South Australia** were not mapped due to the small numbers of children assessed. Of the areas mapped, those with the

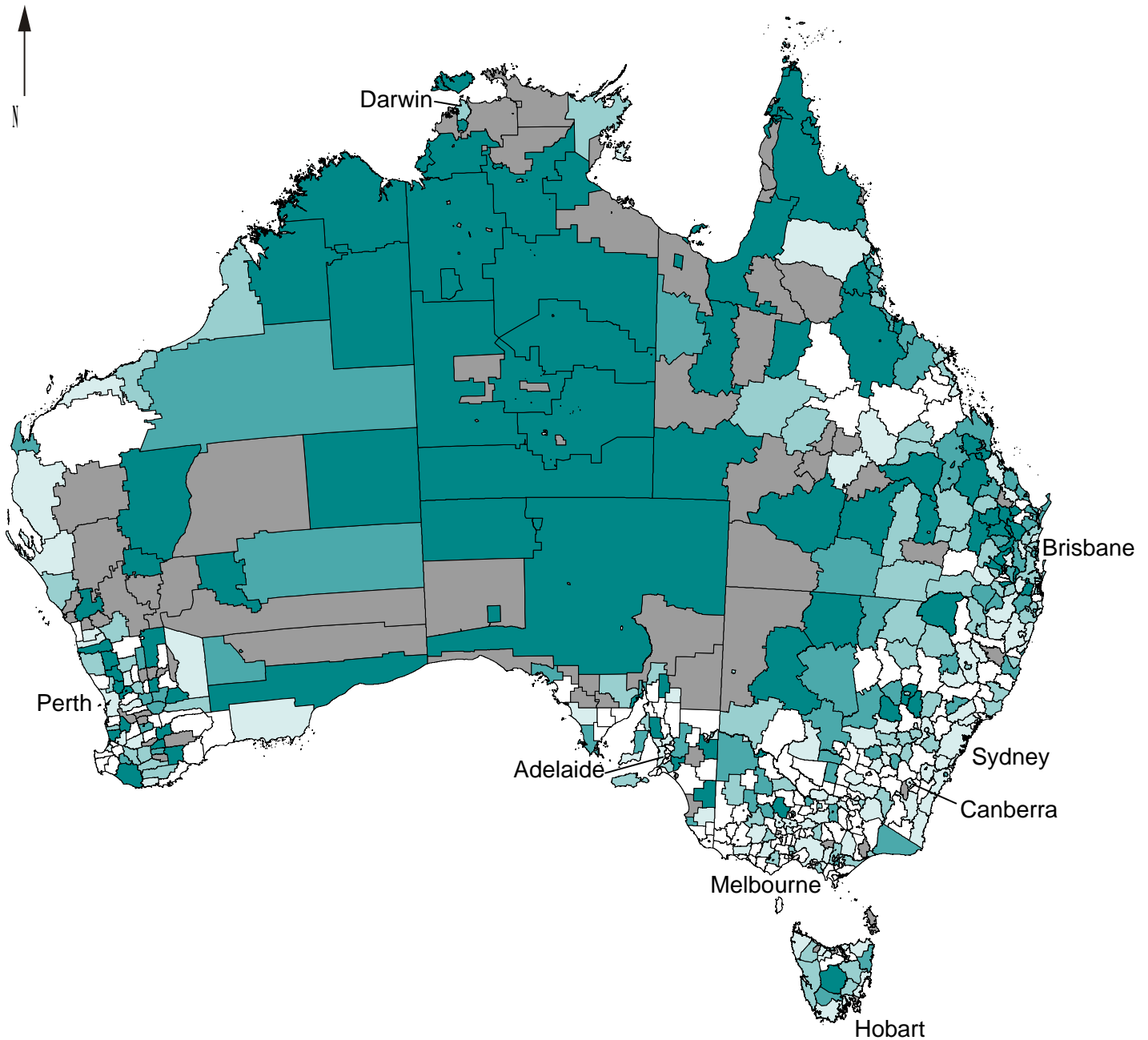
highest proportions of children considered to be developmentally vulnerable on one or more domains under the AEDI were recorded in the far northern areas of Anangu Pitjantjatjara (73.7%), Unincorporated Far North (38.3%); and in Orroroo/Carrieton (41.2%), Whyalla (40.2%) and Loxton Waikerie - East (40.0%). Roxby Downs recorded the lowest proportion of children in this category (5.6%).

In the non-metropolitan areas of **Western Australia**, many SLAs were also not mapped due to the small numbers of children assessed. At least half of the children assessed in Ngaanyatjarraku (78.3%), Meekatharra (68.4%), Mount Marshall (66.7%), Halls Creek (61.5%), Dumbleyung (57.9%), Toodyay (54.2%), Katanning (52.3%), Derby-West Kimberley (50.0%) and Boddington (50.0%) were considered developmentally vulnerable on one or more domains. SLAs with the lowest proportions were almost exclusively in the more populous south-west of the State.

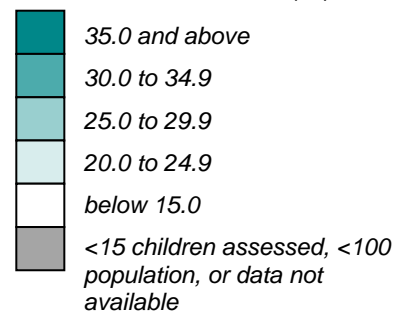
The highest proportions of children considered developmentally vulnerable on one or more domains under the AEDI in **Tasmania** were in the northern areas of George Town - Part A (40.0%), and Break O’Day (34.5%); and the central areas of Central Highlands (36.7%) and Derwent Valley - Part B (34.0%). Kingborough, Waratah/Wynyard - Part A, Launceston - Part C and Tasman had less than 15% of children in this category.

The majority of the small, community-based SLAs in the **Northern Territory** could not be mapped due to the small numbers of children assessed. However, more than 80% of the children assessed in Thamarrurr (92.3%), Tanami (91.7%), Tennant Creek - Balance (89.1%), Lajamanu (83.3%), and Hanson (82.1%), were considered vulnerable on one or more domains. The SLAs with proportions below the Territory’s average were Groote Eylandt and Alice Springs - Heavitree.

Map 12: The Australian Early Development Index - children assessed as being developmentally vulnerable on one or more domains, Australia, 2009
 per cent by Statistical Local Area/ Statistical Local Area group



Developmentally vulnerable on one or more domains (%)



Source: Compiled in PHIDU based on data supplied by DEEWR/ RCH

Women smoking during pregnancy, capital cities

Maternal smoking during pregnancy carries a higher risk of adverse outcomes for the baby before and after delivery, which include premature birth, miscarriage and perinatal death, poor intra-uterine growth and Sudden Infant Death Syndrome (SIDS).⁴⁴ Other problems include a higher risk of disability and developmental delay, decreased lung function, and increased respiratory illness, which may affect children through to adulthood.⁴⁵

Indicator definition: Women who reported that they smoked during a pregnancy, as a proportion of the number of pregnancies, over the time period (three years).

Table 14: Women smoking during pregnancy, by capital city, 2006 to 2008

Per cent									
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra*	Total [#]	
8.8	n.a.	n.a.	14.7	13.4	25.7	20.5	13.3	11.3	

* The figures for Canberra are for the years, 2005 to 2007.

[#] The 'Total' excludes data for Melbourne and Brisbane.

Capital cities

Over the period from 2006 to 2008, 11.3% of pregnant women living in the capital cities, for which data were available, reported smoking during pregnancy. Proportions varied greatly between the capital cities, from 8.8% in Sydney to 25.7% in Hobart.

The correlation analysis showed a strong association at the SLA level between women smoking during pregnancy and socioeconomic disadvantage in **Sydney**. SLAs with a high proportion of women smoking during pregnancy were located to the west and south-west of the city centre, in Campbelltown - North and - South, and Blacktown - South-West; high proportions were also evident in the outer north, in Wyong and Gosford. The lowest proportions were in a group of high SES areas, from Ku-ring-gai in the north, through the city and eastern suburbs, to Sutherland Shire - East in the south.

Data for **Melbourne** and **Brisbane** were not available.

The distribution in **Adelaide** of women smoking during pregnancy has a very strong association with socioeconomic disadvantage, with the highest proportions recorded in SLAs in the outer north (42.9% in Playford - Elizabeth and 42.0% in Playford - West Central, the second and third highest capital city rates) and south (Onkaparinga - North Coast, 30.3% and - Hackham, 28.7%). The lowest proportions were in the east, south and south-east.

The correlation analysis showed a strong association at the SLA level between women smoking during pregnancy and socioeconomic disadvantage in **Perth**. The highest proportions were recorded in the outer southern SLAs of Kwinana (28.5%) and Rockingham (21.8%), and the south-eastern SLAs of Armadale (24.9%) and Gosnells (21.6%). No women in Peppermint

Grove, Perth - Inner or Fremantle - Inner were recorded as smoking during their pregnancy.

Very high proportions of women smoking during pregnancy were recorded across much of Hobart, with the highest in Brighton (47.1%, the highest capital city rate), Derwent Valley (36.2%) and Glenorchy (33.2%) (the third and fourth highest).

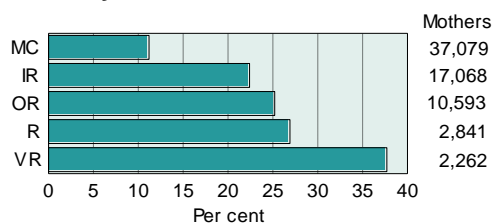
All but one area (Darwin South West) in **Darwin** had more than 18% of women smoking during pregnancy, with the highest proportion in Litchfield - Part B (23.5%).

In **Canberra**, with proportions of above 18% recorded in Tuggeranong South East and North West, Kambah and Eastern Fringe, the correlation analysis showed a moderate association at the SLA level between women smoking during pregnancy and socioeconomic disadvantage. The lowest proportions were found in Kowen and Majura, Weston Creek, Woden North and South, and Gungahlin.

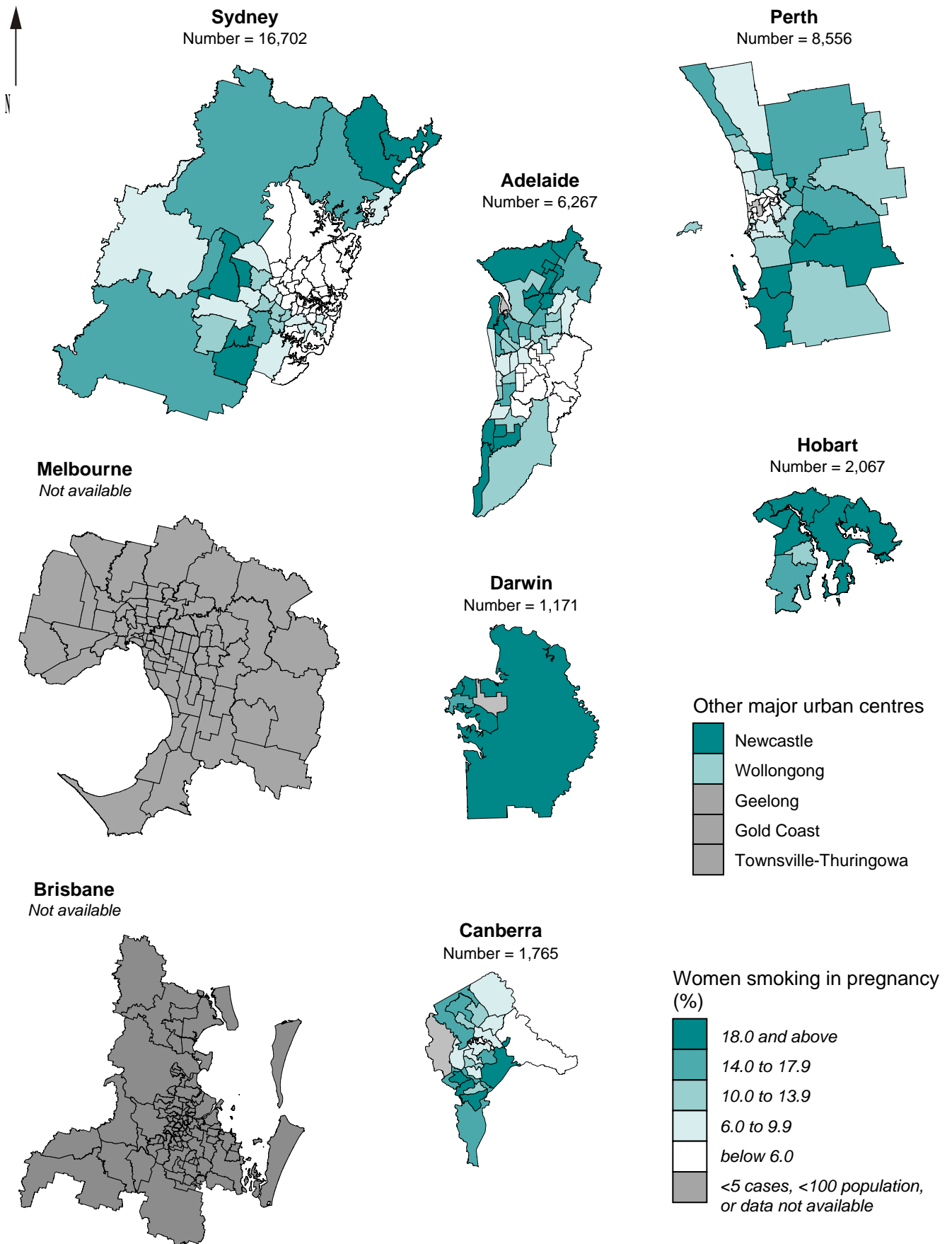
Remoteness

The proportion of women smoking during pregnancy increased substantially with increasing remoteness, from 11.2% in the Major Cities areas to 37.7% in the Very Remote class. The higher smoking rates reported by Indigenous women are reflected in these figures; data for Australia, excluding Victoria and Queensland, showed smoking rates among Indigenous women during their pregnancy were around 50.0%, compared with 13.4% for non-Indigenous women.

Figure 11: Women smoking during pregnancy, by remoteness, 2006 to 2008



Map 13: Women smoking during pregnancy, major urban centres, 2006 to 2008 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by State and Territory health authorities

Women smoking during pregnancy, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 15: Women smoking during pregnancy, by State/ Territory, Australia, 2006 to 2008

Per cent

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT*	Total#
Non-metropolitan	22.0	n.a.	n.a.	22.4	24.3	29.3	34.8	..	23.4
Total	13.0	n.a.	n.a.	16.8	16.4	27.7	27.3	13.3	15.0

* The figures for the Australian Capital Territory are for the years 2005 to 2007.

The 'Total' excludes data for Victoria and Queensland.

Non-metropolitan areas

In the non-metropolitan areas of Australia, almost a quarter of women smoked during pregnancy, with the highest proportions recorded in the Northern Territory (34.8%) and Tasmania (29.3%), and the lowest in New South Wales (22.0%) and South Australia (22.4%).

Note that, although the data are self-reported, the authors believe that data from this source, based on information collected by midwives, are among the most reliable, in particular for the Indigenous population. However, the accuracy of the data at the SLA and community level is less reliable, due to the extent of movement across the country by Aboriginal and Torres Strait Islander women to give birth.

In the non-metropolitan areas of **New South Wales**, high proportions of women smoking during pregnancy were distributed throughout much of the State, with the highest rates in the north, north-west and north-east (in Central Darling, 57.7% and Brewarrina, 47.6%). High proportions were also recorded in a number of towns, including Queanbeyan, Broken Hill, Grafton and Casino. The lowest proportions were largely recorded in southern SLAs, including Kiama, Snowy River, and Wagga Wagga - Part B. Balranald, Greater Hume Shire - Part A, Albury and Wentworth had no cases recorded over this period.

Data for **Victoria** and **Queensland** were not available.

The towns and areas in non-metropolitan **South Australia** with the highest proportions of women smoking during pregnancy were in the far west of the State, in Unincorporated West Coast (48.8%) and Ceduna (41.1%); and in the north, in Peterborough (42.3%), Port Augusta (41.0%), Coober Pedy (49.2%) and Anangu Pitjantjatjara (37.5%). Below average proportions were recorded in areas surrounding Adelaide, in Tanunda, and Adelaide Hills - North and Balance; on the Eyre Peninsula, in Le Hunte,

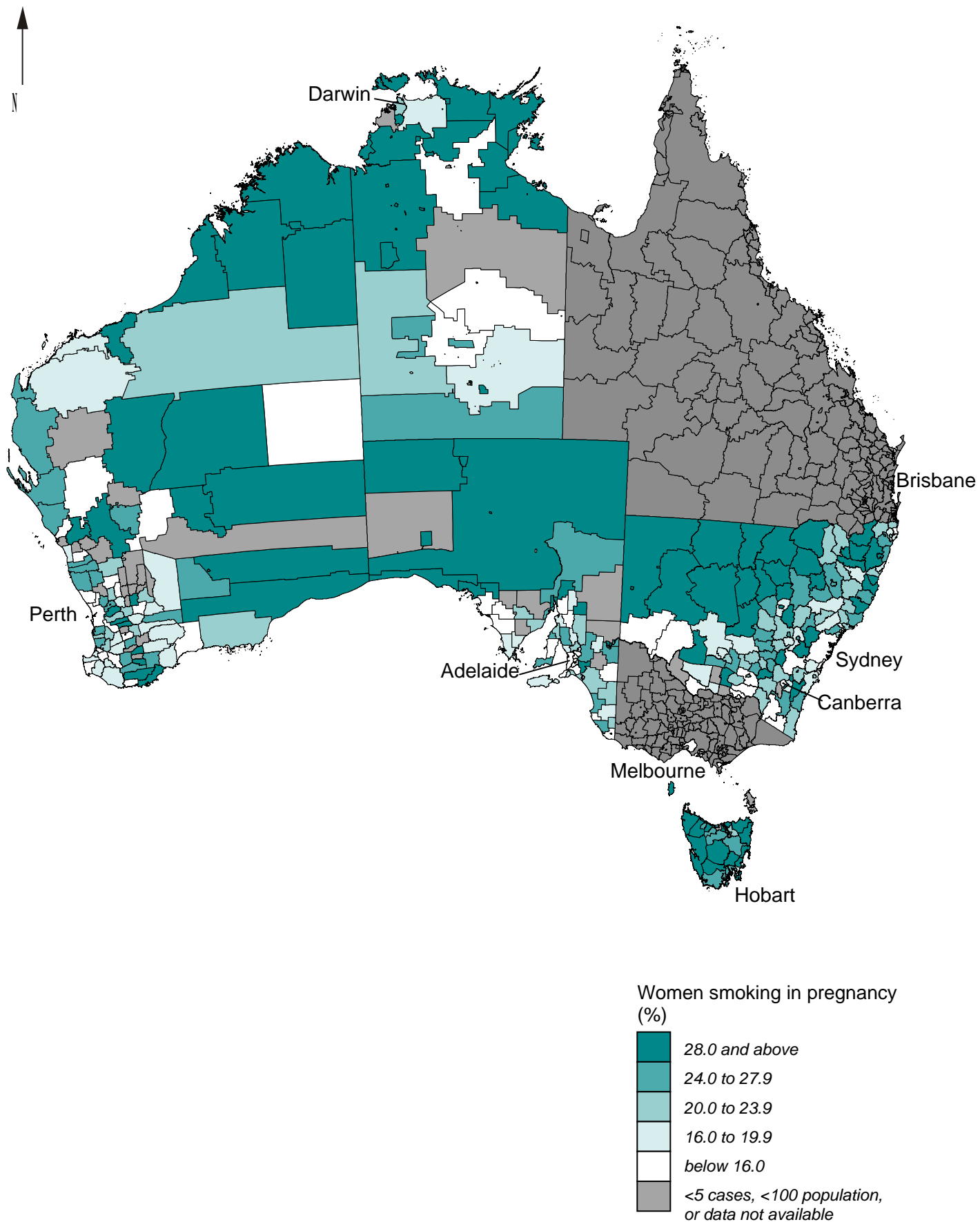
Streaky Bay, and Elliston; and in the mid-north, in Mount Remarkable and Northern Areas.

High proportions of women smoking during pregnancy were recorded in the more remote areas of **Western Australia**, with proportions of over 40% in Yalgoo (63.6%), Halls Creek (59.8%), Kalgoorlie/Boulder Part B (57.7%) and Derby-West Kimberley (57.0%), Wyndham-East Kimberley (44.7%), Wiluna (44.7%), Meekatharra (44.3%) and Albany Balance (42.3%). SLAs with the lowest proportions were generally in the south-west, including the SLAs of Ravensthorpe, Dowerin, and Augusta-Margaret River; and several areas had no women who reported smoking during their pregnancy over this period.

All but two SLAs in the non-metropolitan areas of **Tasmania** had 20% or more women who reported smoking during their pregnancy; these were Launceston - Inner (no cases) and Sorell - Part B (19.0%). SLAs with the highest proportions were West Coast (48.4%), George Town - Part A (42.0%), Derwent Valley - Part B (39.6%), and Central Highlands (38.4%), Glamorgan/Spring Bay (37.7%), George Town - Part B (37.5%) and Tasman (37.3%).

The highest rates of smoking during pregnancy were recorded in the north of the **Northern Territory**, while the lowest were generally in central areas, and near Darwin. Proportions of 50% or more were recorded in the SLAs of Marngarr (85.7%), Angurugu (80.0%), Timber Creek (73.9%), Gulf (68.2%), Nyirranggulung Mardrulk Ngadberre (67.1%), West Arnhem (59.3%), East Arnhem - Balance (52.3%), and Pine Creek (52.0%). Indigenous Australians make up relatively high proportions of the population in these areas. A further 28 areas had proportions over 20%, with proportions below that level in Tennant Creek - Balance, South Alligator, Sandover and Nhulunbuy. In addition, the SLAs of Tapatjatjaka, Hanson, Alpurrurulam, Watiyawanu, Alice Springs - Stuart, Elsey and Artarpilta had no cases recorded over this period.

Map 14: Women smoking during pregnancy, Australia, 2006 to 2008
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by State and Territory health authorities

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People affected by homelessness

The causes, pathways to and consequences of homelessness are complex and vary for different population groups: families, young people, women and children escaping domestic violence, Aboriginal people and Torres Strait Islanders, people with substance use problems, people with mental illness, older men, and so on. Structural factors include poverty, unemployment, lack of affordable housing, insufficient public housing, and gender-based violence.^{46,50-58} These structural issues can be compounded by co-existing, and often related, family and individual level factors such as substance abuse, disability, and financial and health problems.^{46,47}

The impact of homelessness on personal wellbeing is profound. People experiencing homelessness are more likely to suffer a number of health conditions, including respiratory and skin infections; accidents and injuries; sexual and reproductive health issues; mental illness including depression; poor nutrition; dental problems as a result of poor oral hygiene and diet; skin problems such as sunburn, abscesses and dermatitis; and chronic diseases such as diabetes, bronchitis, and hepatitis.⁵³ For some people, health issues such as mental illness or substance use precipitate their homelessness.^{47,55,57}

Families with children are the fastest growing group in the homeless population in Australia, and are estimated to make up approximately a third of the nation's homeless population.⁵⁶ Children and young people may become homeless through the breakdown of family relationships, or they may be homeless with their families.⁴⁸ There are many risks to their wellbeing: they are more likely to suffer health conditions such as asthma, low immunisation rates, vision problems, intellectual disability and developmental delay.^{48,56-58} They also commonly experience psychological problems including depression, anxiety and low self-esteem; and their mental and emotional wellbeing can be seriously affected by having lived in an environment of fear, uncertainty and insecurity over a protracted period.⁵⁶ Social difficulties include isolation as a result of losing social support, family, friends and stable schooling; and their growth and development can be severely hindered by homelessness, family breakdown and poverty.⁵⁸ Children and young people who experience homelessness are more likely to become homeless as adults and raise families who, in turn, may also become homeless; this is largely as a result of the disrupted education that many experience.¹²⁸

The impact on people of long-term homelessness is substantial; they almost always report traumatic childhoods, growing up in poverty and major, often repeated childhood trauma.¹²⁹ Most have limited economic resources, chronic ill health and drug and alcohol problems, and have experienced long-term unemployment and repeated physical assaults.¹²⁹ Such homelessness remains a strong indicator of entrenched disadvantage and social exclusion.

Homelessness, capital cities

Homelessness is strongly linked to disadvantage, with poverty and unstable housing resulting in a higher risk of poor health, social exclusion, interrupted education, and unemployment.^{49,50} Homelessness is associated with poor health and wellbeing through inadequate nutrition, hygiene issues, exposure to the elements, increased risk of injury and communicable diseases, social isolation, and stress.⁵³ People without stable housing are also at significantly higher risk of physical and sexual abuse, violence and emotional trauma.^{57,58} For homeless people, there are often barriers to accessing health care, including ongoing services for the prevention and treatment of ill health.⁵⁹ Further details are in Appendix A.

Indicator definition: Homeless people as defined here includes people who are in improvised dwellings, tents or sleeping out; and those staying temporarily with other households, mapped as a rate per 10,000 population.

Note: See note on the following text page regarding the 2011 homeless data.

Table 16: Estimated homeless people, by capital city, 2006

Number and rate per 10,000 population

Data	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
Number	3,372	2,590	2,327	1,070	1,732	247	706	360	12,404
Rate	8.2	7.2	13.2	9.7	12.0	12.3	66.6	11.1	9.8

Capital cities

The number of homeless people in 2006 was estimated to be highest in Sydney (3,372 homeless people), Melbourne (2,590) and Brisbane (2,327). However, the rate in Darwin was substantially higher (66.6 homeless people per 10,000 population) than those of the other capital cities.

In **Sydney** in 2006, the largest numbers of homeless people were estimated to be in Sydney - East (210 homeless; almost twice that of any other area in Sydney, and the highest rate at 44.9 per 10,000 population), with other notable numbers in Sydney - South, Blacktown - South-West, Penrith - West and Parramatta - Inner, all with more than 100 homeless people.

The largest numbers of homeless people (80 or more people) in **Melbourne** were estimated to be in the inner city area of Melbourne - Remainder (100 homeless), in the south in Frankston - West and Casey - Cranbourne, and in Yarra - North.

The largest number of homeless people in **Brisbane** was estimated to be in the inner city area of City/Spring Hill (160 homeless; almost twice that of than any other Brisbane area, and the highest rate, at 128.8 homeless people per 10,000 population). Other areas with 80 or more homeless people included Herston/Newstead (61.9 per 10,000), Stretton-Karawatha/Kingston, and Pine Rivers Balance.

Adelaide's homeless people were also principally located in the central city SLA of Adelaide, with 144 homeless (more than three times that of any other Adelaide SLA), and the city's highest rate at 86.4 per 10,000 population).

In **Perth**, the largest numbers of homeless people were recorded in Perth - Remainder (149

homeless; and a rate of 142.0 homeless people per 10,000 population), Swan (108) and Stirling - Central (101). Perth - Inner (with an estimated 92 homeless people, 853.4 per 10,000 population) and Fremantle - Inner (53, 639.3), had the highest rates of any capital city SLA in Australia.

The highest numbers of homeless in **Hobart** were in Clarence (59), Glenorchy (48) and Hobart - Remainder (45), although the rate in Hobart - Inner (16 people, 348.6) was by far the highest (and the third highest capital city rate).

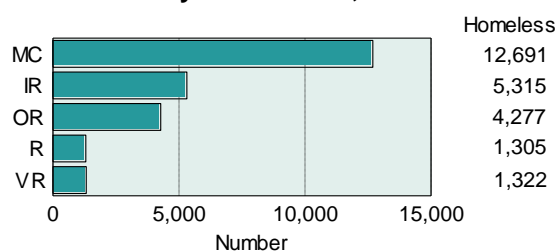
The largest numbers of homeless in **Darwin** were in Darwin South West (264 homeless, 128.7 per 10,000 population), although the city's highest rate was in Litchfield - Part A (17 homeless, 138.0 per 10,000 population). Darwin North West (184), Darwin North East (103) and Litchfield - Part B (70) all had high rates.

The numbers of homeless people in **Canberra** were generally lower, with the largest recorded in Canberra Central (72 homeless; and a rate of 32.8 per 10,000 population) followed by Canberra North (38) and Belconnen West (37).

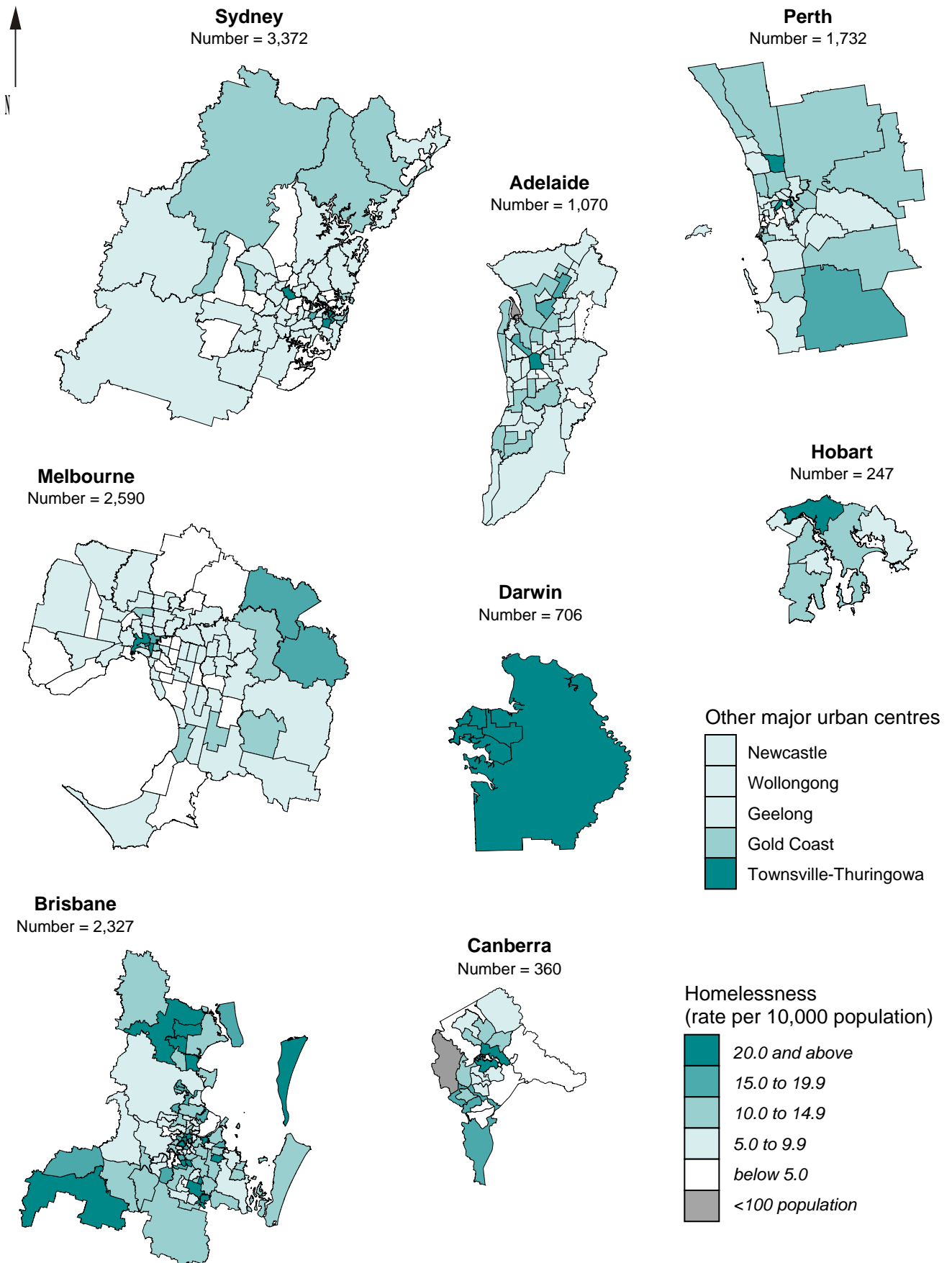
Remoteness

The number of homeless people declined markedly across the Remoteness classes, although this population group was clearly present throughout each State.

Figure 12: Estimated homeless people, by remoteness, 2006



Map 15: Estimated homeless people, major urban centres, 2006
 rate per 10,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU using data supplied by ABS, based on the ABS 2006 Census

Homelessness, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 17: Estimated homeless people, by State/Territory, Australia, 2006

Number and Rate per 10,000

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan – no.	3,010	1,409	4,770	663	1,370	350	936	..	12,508
Non-metropolitan – rate	12.4	10.6	22.4	16.3	27.0	12.7	110.1	..	17.5
Total – number	6,357	4,013	7,015	1,764	3,117	617	1,659	366	24,910
Total – rate	9.7	8.1	18.0	11.7	16.0	13.0	86.9	11.3	12.5

Non-metropolitan areas

Note: The 2011 ABS homeless data are only available at the larger Statistical Area Level 3, so have not been mapped in this Atlas. The total estimated homeless rate for Australia has decreased from 12.5 homeless people per 10,000 population in 2006 to 11.2 in 2011. Refer to the notes and reference (ABS 2012c) in Appendix A.

The largest numbers of homeless people in the non-metropolitan areas of Australia in 2006 were estimated to be in Queensland (4,770 homeless people) and New South Wales (3,010). However, the rate was substantially higher in the Northern Territory (110.1 homeless people per 10,000 population, and more than six times the rate of the total non-metropolitan areas).

Non-metropolitan **New South Wales** had a low overall rate, with the largest numbers of homeless people in coastal areas, particularly in the north, in Byron (138 homeless people; a rate of 48.0 homeless people per 10,000 population), Coffs Harbour - Part A (95, 19.9), Tweed - Part B (86, 43.1) and - Tweed-Heads (71, 14.1), and Ballina (82, 21.3). Port Stephens and Bega Valley had 74 and 69 homeless people, respectively.

The number of homeless people in the non-metropolitan areas of **Victoria** was relatively low compared to the other States and the Northern Territory, with the highest recorded for Greater Shepparton - Part A (58 homeless; a rate of 13.0 per 10,000 population). Other areas estimated to have more than 35 homeless people included Mildura - Part A (52 homeless; 11.3 per 10,000 population), Wodonga (44, 13.3), Greater Bendigo - Part B (41, 36.2) and Corio - Inner (37, 6.7).

In general, the coastal areas in the non-metropolitan areas of **Queensland** are estimated to have the most homeless people, with the State's largest number estimated for Mackay - Part A (182 homeless, and a rate of 25.0 per 10,000 population), followed by Thuringowa - Part A (107, 20.7), Bowen (102, 82.4), Cooloola (excluding Gympie) (96, 48.9), Cairns - Central Suburbs (93, 43.5) and Rockhampton (89, 15.1). Emerald had

the largest number of homeless of the State's inland SLAs (87 homeless people, 60.6 per 10,000 population).

The largest numbers of homeless people in the non-metropolitan areas of South Australia were estimated for SLAs in the far north, in Anangu Pitjantjatjara (74 homeless and the highest rate in the State, at 331.8 per 10,000 population) and Unincorporated Far North (52 homeless and the State's second highest rate at 331.6 per 10,000 population). The next highest estimates were closer to Adelaide in Murray Bridge (43 homeless, 24.3 per 10,000 population), and in the north of the State, in Port Augusta (31, 22.3). All other SLAs were estimated to have fewer than 25 homeless people.

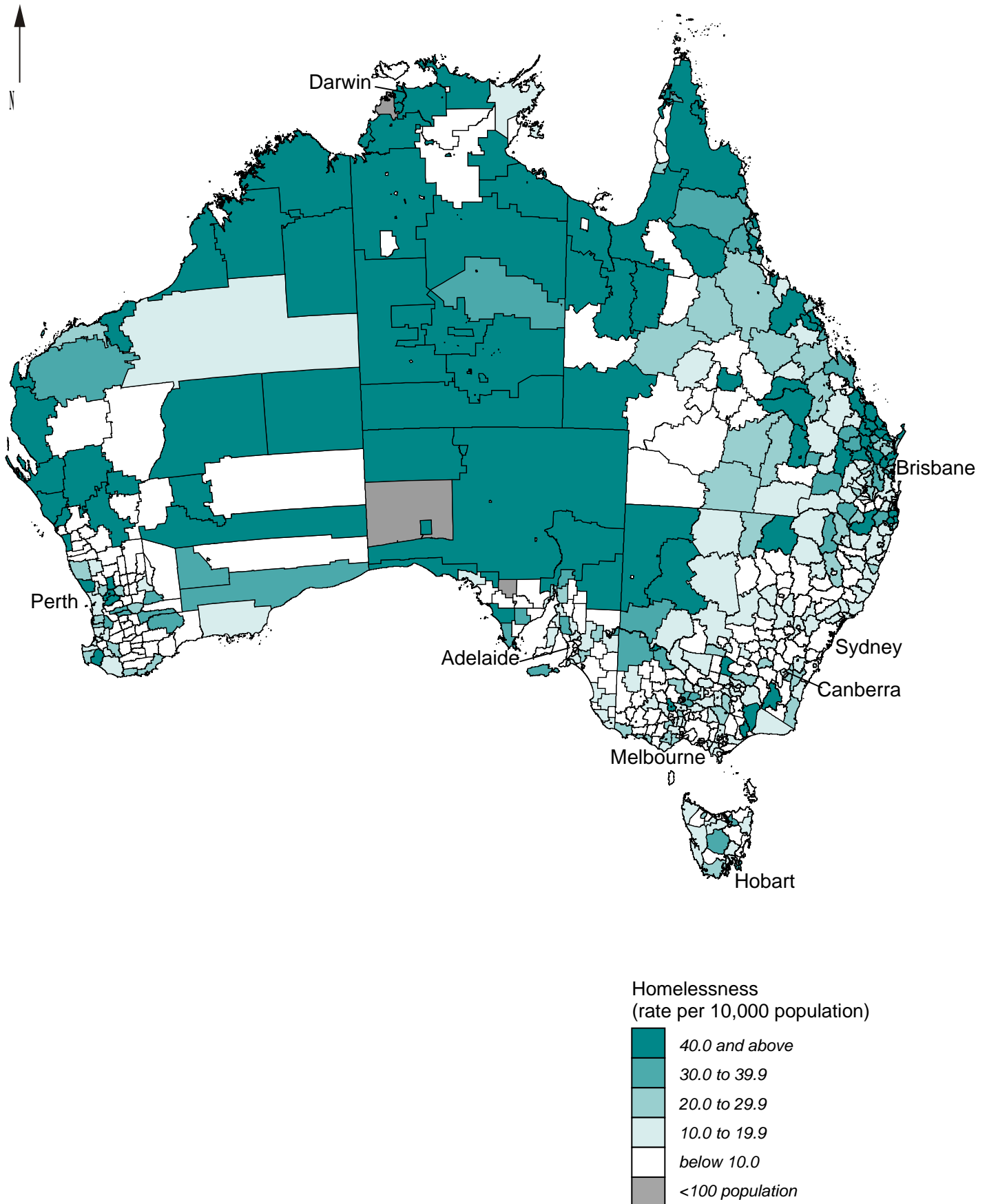
The largest numbers of homeless people in the non-metropolitan areas of **Western Australia** were estimated to be in the far north of the State, in Wyndham-East Kimberley (134 homeless people, and a rate of 203.1 per 10,000 population), Broome (128, 98.0) and Halls Creek (104, 332.0). The next highest numbers were in Mandurah (64 homeless people, 11.5), Kalgoorlie/Boulder - Part A (60, 21.2) and Port Hedland (58, 48.5).

There were estimated to be relatively few homeless people in non-metropolitan SLAs in **Tasmania**, with the largest numbers recorded in Launceston - Part B (61 homeless, a rate of 10.3 per 10,000 population), Huon Valley (40, 28.6), Devonport (33, 13.7) and Central Coast - Part A (24, 13.6). All other SLAs were estimated to have 20 or fewer homeless people.

The largest numbers of homeless people in the **Northern Territory** in 2006 were estimated to be in Katherine (190 homeless; almost 75% more than the number recorded for any other SLA in the non-metropolitan areas of the Territory, and a rate of 231.9 per 10,000 population). Thamarrurr (110 homeless people; 569.7 per 10,000 population), Sandover (82, 295.9), Anmatjere (53, 548.1) and Alice Springs - Charles (48, 105.6) recorded the next largest numbers of homeless people.

Map 16: Estimated homeless people, Australia, 2006

rate per 10,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU using data supplied by ABS, based on the ABS 2006 Census

Dwellings rented from the government housing authority, capital cities

Affordable, safe and appropriate housing has significant benefits for people's health, social inclusion and access to labour markets.^{53,135} The distribution of households in public rental accommodation remains an indicator of socioeconomic disadvantage; and reflects historic government policies, which led to substantial declines in public housing stock, and the transfer of some stock to community-managed housing.^{47,52,96} Recent increases in the Northern Territory are largely the result of specific funding for Indigenous community housing in non-metropolitan areas.^{95,96}

Indicator definition: Occupied private dwellings rented from a state or territory government housing authority, as a proportion of all occupied private dwellings.

Table 18: Dwellings rented from the government housing authority, by capital city, 2011

Per cent								
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
4.5	2.6	3.7	6.4	3.4	5.9	6.9	7.3	4.0

Capital cities

The largest number of private dwellings rented from the government housing authority in 2011 was in Canberra (7.3%), with similar proportions in Darwin (6.9%) and Adelaide (6.4%). Of note is that the number of dwellings in Darwin is some four fifths of that at the 2006 Census, with 13% fewer of these dwellings in a larger housing stock.

The highest proportions of these rented dwellings in **Sydney** were located in two distinct areas, the larger group to the west and south-west of the city centre, and including Blacktown South - West (14.6%) and Parramatta - South (12.2%); and in a band from the city centre and south to Botany Bay, including Sydney - South (13.2%). The lowest percentages for this indicator were in a large area to the north of the harbour and in the inner east, in Woollahra and Mosman.

Dwellings in **Melbourne** rented from the government housing authority were concentrated in inner SLAs, with the highest proportions in Yarra - North (10.8%), Richmond (10.7%), Melbourne - Remainder (8.5%), and Port Phillip - West and Moonee Valley - Essendon (both 7.5%). Lower proportions were in SLAs throughout the metropolitan area.

The distribution of housing authority rented dwellings in **Brisbane** showed no distinct pattern, with the highest proportions in a mix of inner and fringe areas, including in the grouped areas of Loganlea (12.8%), Stretton-Karawatha/Kingston (12.7%), Darra-Sumner/Wacol (12.2%). The lowest proportions were largely in areas located on the metropolitan fringe.

In **Adelaide**, the Playford SLAs of - Elizabeth (21.5%) and Port Adelaide Enfield - Park (20.2%) had the two highest capital city rates for dwellings rented from the government housing authority. The lowest proportions were largely recorded in SLAs to the east, north-east and south-east of the city.

SLAs in **Perth** with high proportions of dwellings rented from the housing authority were located along the Swan River in the inner area of Fremantle - Remainder (9.9%) and further out in the suburb of Belmont (8.7%). SLAs with less than 1% of dwellings in this category were largely in inner areas, or on the coast.

The highest proportion of dwellings rented from the government housing authority in **Hobart** was recorded in the SLA of Brighton (17.0%, the third highest capital city proportion), and the lowest in Sorell Part A (1.8%).

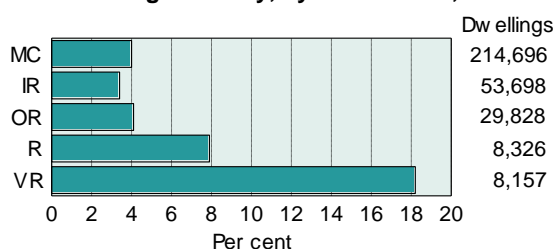
In **Darwin**, SLAs other than Litchfield - Part A and Litchfield - Part B had more than 5% of dwellings rented from the housing authority. The highest proportions were in Palmerston (9.9%) and Darwin North East (9.7%).

There were relatively high proportions of dwellings across **Canberra**, with the highest in the contiguous areas of Canberra North (11.3%), South and Central (both 10.6%). Kamba, Tuggeranong North West, Belconnen West and Eastern Fringe had the next highest proportions.

Remoteness

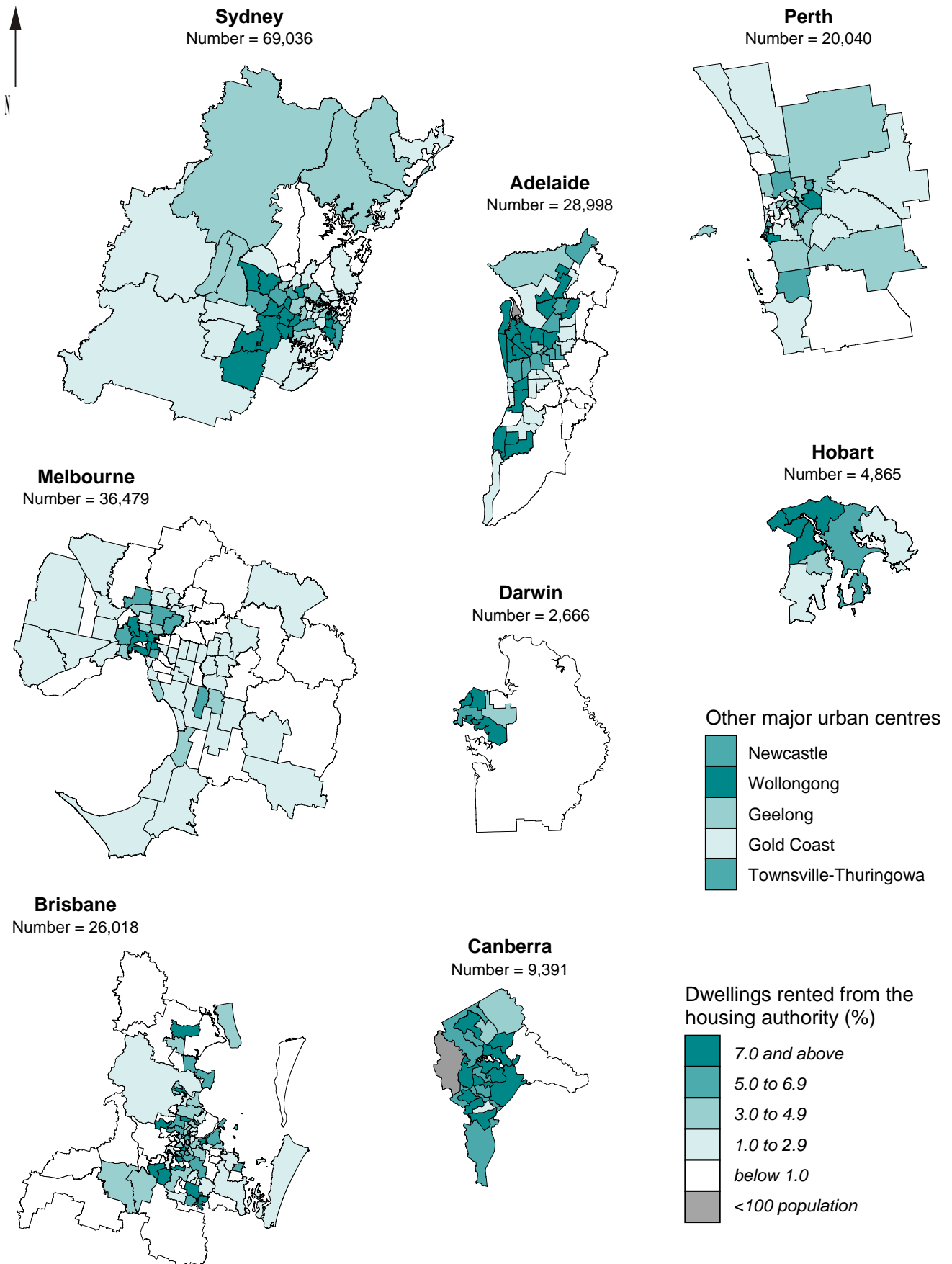
The proportion of the private dwelling stock rented from government housing authorities was similar across the first three remoteness classes (3.4% to 4.1%), higher in the Remote areas (7.9%) and substantially higher in the Very Remote areas (18.2%).

Figure 13: Dwellings rented from the government housing authority, by remoteness, 2011



Map 17: Dwellings rented from the government housing authority, major urban centres, 2011

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS 2011 Census

Dwellings rented from the government housing authority, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 19: Dwellings rented from the government housing authority, by State/ Territory, Australia, 2011

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	4.2	3.4	3.3	5.5	6.0	4.9	21.7	.	4.1
Total	4.4	2.8	3.5	6.1	4.0	5.4	12.3	7.3	4.1

Non-metropolitan areas

Whereas there were fewer of these dwellings in Darwin in 2011 than in 2006, outside of Darwin the situation was very different. In 2006, there were 1,578 dwellings rented from Territory Housing; by 2011, this number had more than trebled to 4,808 dwellings. Thus, in 2011, the Northern Territory (21.7%) had the highest proportion of dwellings rented from the housing authority outside of the capital cities. The lowest levels were recorded in the non-metropolitan areas of Queensland (3.3%) and Victoria (3.4%).

High rates of dwellings rented from the government housing authority in **New South Wales** were recorded in a mix of regional towns and rural and remote SLAs. More than 7% of dwellings were rented from the government housing authority in Central Darling (12.9%), Brewarrina (10.3%), Wollongong - Inner (8.5%) and Balance (7.6%), Lake Macquarie - East (8.5%), Shoalhaven - Part A (8.2%), Shellharbour (7.5%), and Bourke and Moree Plains (both 7.1%).

There are few of these dwellings across much of non-metropolitan **Victoria**, with the highest proportions generally in regional centres. Only seven SLAs recorded proportions of 7.0% or above: these areas included Greater Bendigo - Eaglehawk (7.9%) and - Central (7.1%), Campaspe - Echuca (7.8%), Wodonga (7.5%), and Swan Hill - Central (7.1%) and - Robinvale (7.0%).

In the non-metropolitan areas of **Queensland**, the highest proportions of dwellings rented from the government housing authority are generally located in a number of small, island-based Indigenous communities in the Torres Strait and on Cape York, with the next highest rates in SLAs located along the Northern Territory border, extending inland and down to the State's southern border. The former group (with rates above 50%) included Napranum (90.7%), Wujal Wujal (90.0%), Iama (86.6%), Hope Vale (83.3%), Kubin (82.6%), Yorke (78.3%), Warraber (72.2%), Erub (71.6%), Mer (71.4%), Mornington (68.6%), St Pauls (68.6%), Yarrabah (67.8%), Saibai (66.7%), Mabuig and Hammond (both 64.4%), New

Mapoon (62.3%), Poruma (61.8%), Palm Island (60.4%), Pormpuraaw (59.1%), Dauan (58.3%), Doomadgee (53.5%). Rates above 50% were also recorded in Woorabinda (72.8%), located in the mid-east of the State.

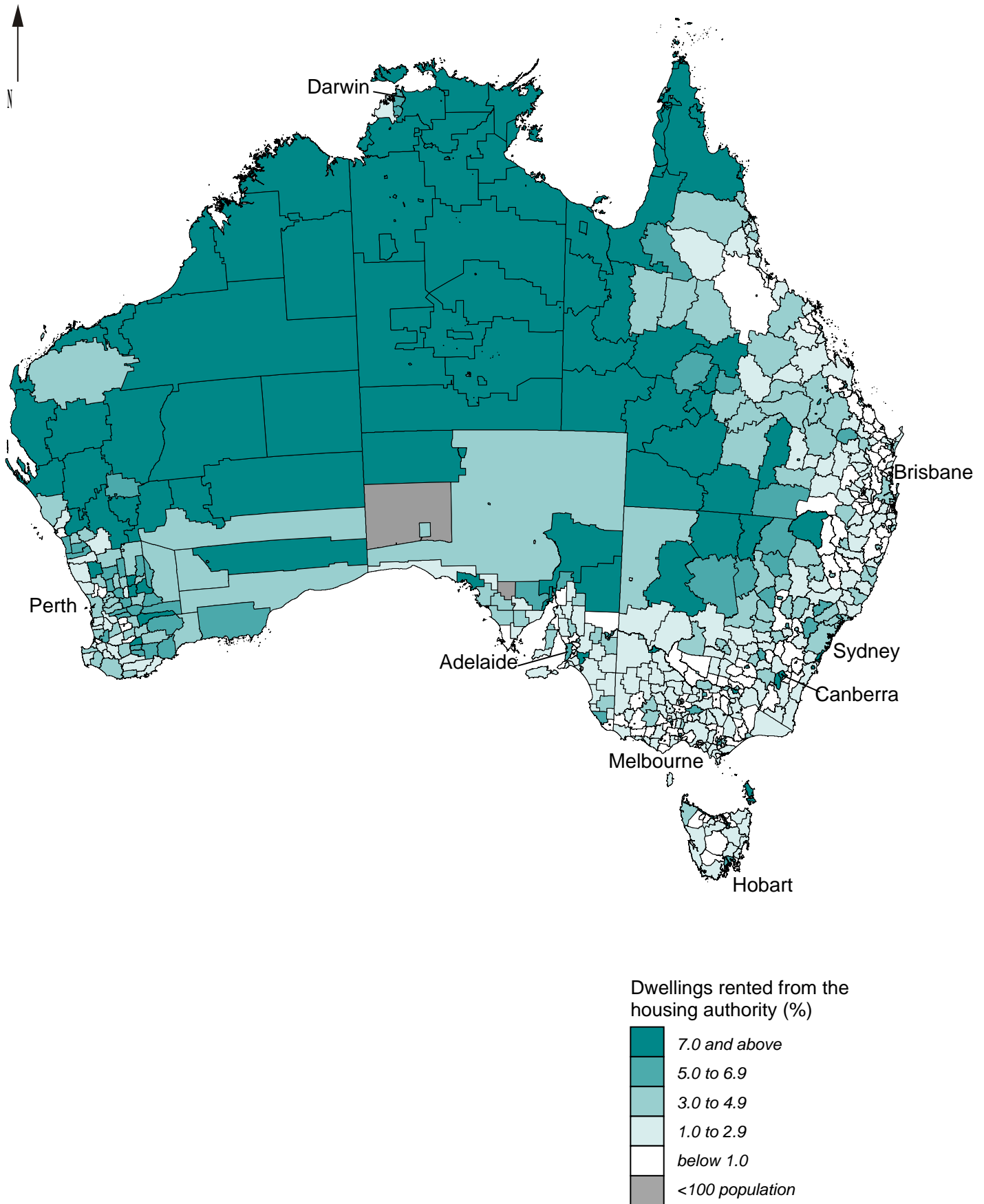
The SLA of Anangu Pitjantjatjara (34.0%), in the far north-west recorded the highest proportion of rented dwellings in non-metropolitan **South Australia** in 2011, with high proportions also recorded in the larger regional towns of Whyalla (21.1%), Port Augusta (14.4%), Port Pirie (12.7%), Ceduna (10.9%), Port Lincoln (10.8%) and Mount Gambier (10.3%).

SLAs with high proportions of dwellings rented from the housing authority covered much of **Western Australia**, other than in the more populous south-west. The highest proportions were recorded in the SLAs of Ngaanyatjaraku (59.0%), Halls Creek (49.4%), Upper Gascoyne (35.6%), Wiluna (31.9%), Meekatharra (29.0%), Derby-West Kimberley (24.1%), Yalgoo (23.2%), Broome (20.5%), Wyndham-East Kimberley (19.9%) and Mount Magnet (18.9%).

The distribution across **Tasmania** was relatively uniform. The highest proportions of dwellings rented from the government housing authority were found in areas along the north coast and in the Tamar Valley with George Town - Part A (10.0%), Devonport (9.6), Burnie - Part A (9.2%), Flinders (8.1%), Launceston - Part B (7.5%) and Waratah/Wynyard - Part A (7.3%), all with proportions above the Tasmanian average.

The highest proportions of these dwellings in the non-metropolitan areas of **Northern Territory** are in towns and small Indigenous, community-based SLAs. Rates above 45% were recorded in Belyuen (77.8%), Thamarrurr (72.0%), Tiwi Islands (60.3%), Arltarlpilta, Yuendumu, Lajamanu and Anmatjere (all 56.2%), Hanson (55.2%), Tableland, Elliott District, Tennant Creek - Balance and Alpururulam (all 49.9%), Kunbarlanjnja and West Arnhem (both 49.6%), Marn Garr, Angurugu and East Arnhem - Balance (all 49.1%), and Sandover (45.6%).

Map 18: Dwellings rented from the government housing authority, Australia, 2011
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS 2011 Census

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People living with disability or mental illness, and their carers

People who live with disability (including mental illness) face many barriers to employment, health and wellbeing, and social inclusion.⁷ These include interrupted or inadequate education; a lack of access to vocational and educational training; the debilitating effects of the disability; inappropriate job design or working environment; little assistance following the gaining of employment; fear of losing eligibility for crucial benefits; and negative employer and community attitudes.^{7,60,68} In particular, stigma, discrimination and a lack of understanding of mental illness can be significantly reduce opportunities for people with mental illness accessing employment.⁶⁰

Characteristics which contribute positively to the ability of a person experiencing a mental illness to obtain and maintain employment have been identified as work readiness; work attitudes and motivation; interpersonal relations and work quality; duration of the employment; and available mental health supports.^{8,61} Issues that have a negative impact on employment outcomes included multiple impairments (cognitive, perceptual, affective and interpersonal), decreased life experiences, associated substance abuse, the episodic nature of the illness, obstacles within the service delivery system (such as discrimination) and the negative symptoms of the illness being confused with lack of motivation.^{9,10} Factors which are not predictive of employment outcomes include age, and number and length of hospitalisations.⁸

Unemployment is a complex and diverse experience, and its effects are mediated by a large number of social and individual factors.¹¹ While many people with psychiatric or other forms of disability do not experience significant employment disruption over the course of their working life, others however, find gaining and maintaining employment extremely difficult.⁶² The psychological wellbeing of people living with disability (particularly those who are young) is enhanced by their economic and social participation.^{61,63}

The lack of employment of people living with disability is costly for the Australian economy. In 2009, it was estimated that the financial cost of mental illness in people aged 12-25 years was \$10.6 billion, of which \$7.5 billion (70.5%) was productivity lost due to lower employment, absenteeism and premature death of young people with mental illness.⁶⁴ Overall, people with disability achieve lower educational qualifications than people without disability, and generally have poorer labour market outcomes.^{65,67} However, because the experience of disability stems from the interaction of individual and broader factors, it is possible to reduce the impact of disability on a person's participation in all aspects of life through early intervention, and environmental and societal modifications.⁶⁶

The indicators listed in bold type are included in this sub-section. The remaining indicators listed below and other indicators can be found online at www.adelaide.edu.au/phidu/.

- People aged 0 to 64 years and living in the community who have a profound or severe disability
- **People aged 15 to 59 years and living in the community who have a profound or severe disability and are not employed**
- People who provide assistance to people with a disability
- **People with long-term mental health problems, who are unemployed**
- **Prevalence of psychological distress**

People living in the community who have a profound or severe disability and are not employed, capital cities

People of working age living with disability generally experience lower levels of employment than other Australians.⁶⁷ In 2009, nearly half (46%) of working-age people with disability were not in the labour force, and more than half of these (59%) were permanently unable to work.⁶⁷ While the severity of the disability may limit participation in the labour market, other factors are also significant, particularly discrimination.⁶⁸

Indicator definition: People aged 15 to 59 years and living in the community whose responses to the 2011 ABS Census resulted in them being categorised as having a profound or severe disability, and who were not employed, as a proportion of the population aged 15 to 59 years.

Table 20: People aged 15 to 59 years and living in the community who have a profound or severe disability and are not employed, by capital city, 2011

Per cent									
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total	
1.5	1.5	1.5	2.0	1.1	2.3	0.9	1.0	1.5	

Capital cities

In 2011, the proportion of the population aged 15 to 59 years, with a profound or severe disability, who were living in the community and were not employed, ranged from 1.0% in both Canberra and Darwin, to 2.0% in Hobart.

For **Sydney**, the proportions of the population in this group were highest in a large group of SLAs in the west, including Parramatta - South (3.7%), Fairfield - East (3.5%) and - West (2.8%), Liverpool - East (3.4%), Bankstown - North-East (3.2%) and - North-West (3.0%), Blacktown - South-West (2.8%) and Campbelltown - South (2.7%); and in the north, in Wyong - North-East (3.0%). The lowest proportions were in SLAs on the north shore, and in and to the east and south of the city centre.

SLAs in **Melbourne** with the highest proportions of the population with a disability who were unemployed were located to the north and north-west of the city, in Hume - Broadmeadows (4.2%), Whittlesea - South-West (3.2%) and Melton Balance (2.9%); and to the south-east, in Greater Dandenong - Dandenong (2.9%) and Casey - Hallam (2.5%). The lowest proportions were generally in the inner city and eastern suburbs.

People in **Brisbane** in this category were in several locations, principally in the outer areas in the south and south-west, and along the coast in the outer north. SLAs with the highest proportions, of above 3.0%, included Redland Balance (6.8%, the highest capital city rate), Bribie Island (3.7%), Caboolture - Central (3.6%), Waterford West (3.5%), Deception Bay (3.4%), Archerfield/ Coopers Plains, Loganlea and Morayfield (all 3.3%), Stretton-Karawatha/Kingston (3.2%) and Caboolture - East (3.1%).

In **Adelaide**, high proportions of this population lived in Playford - Elizabeth (5.5%) and - West Central (4.4%), the second and third highest capital city rates, and in Onkaparinga - North Coast and - Hackham (both 3.9%). Low rates were in the east, south and south-east of the city.

SLAs in **Perth** had relatively low proportions of the population with these characteristics, with the highest being in the middle and outer SLAs of Kwinana (1.8%), Armadale (1.7%) and Bassendean (1.6%).

In **Hobart**, Brighton (4.1%) and Derwent Valley - Part A had the highest rates, with other high rates in Glenorchy (3.2%) and Sorrell - Part A (3.0%).

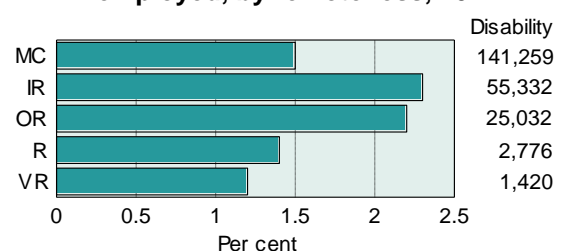
The proportions of this population group in **Darwin** were all low, with the highest in the outer SLA of Litchfield - Part B (1.3%).

Proportions in **Canberra** were also generally low, ranging from no cases in Kowen and Majura, to 1.4% in Belconnen West.

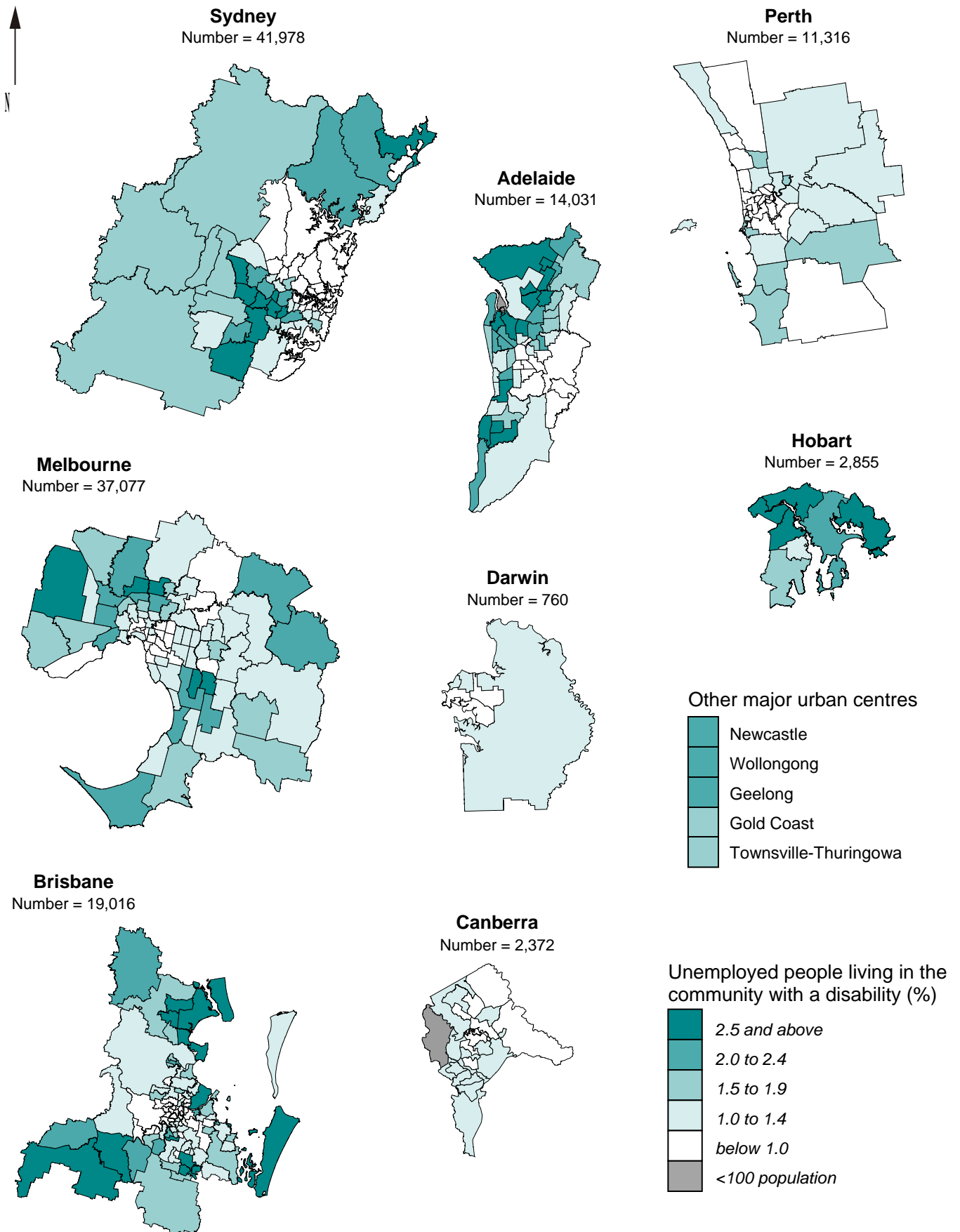
Remoteness

The highest proportions of the population living in the community who had a profound or severe disability and were unemployed were in the Inner and Outer Regional remoteness classes. The categorisation of people in the CDEP scheme by the ABS as 'employed' is likely to have influenced the low proportion in the Very Remote class.

Figure 14: People aged 15 to 59 years who have a profound or severe disability and are not employed, by remoteness, 2011



Map 19: People aged 15 to 59 years and living in the community who have a profound or severe disability and are not employed, major urban centres, 2011 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS 2011 Census

People living in the community who have a profound or severe disability and are not employed, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 21: People aged 15 to 59 years and living in the community who have a profound or severe disability and are not employed, by State/ Territory, Australia, 2011

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	2.4	2.3	2.0	2.3	1.4	2.8	1.5	..	2.2
Total	1.8	1.7	1.8	2.1	1.2	2.6	1.2	1.0	1.7

Non-metropolitan areas

In areas outside of the capital cities, the proportion of the population living in the community who have a profound or severe disability and were unemployed, ranged from 1.4% of the population aged 15 to 59 years in Western Australia, to 2.8% in Tasmania. Again, note that categorisation of people in the CDEP scheme as employed is likely to have had an impact on the proportions in remote areas with relatively large Indigenous populations.

Relatively high proportions of the population with these characteristics were found in many SLAs in **New South Wales**. The highest proportions were in Clarence Valley Balance (5.5%), Kempsey and Weddin (both 4.6%), Nambucca (4.3%), Greater Taree, Tenterfield and Kyogle (all 4.1%), and Warrumbungle Shire, Walgett, Great Lakes and Urana (all 4.0%).

Relatively high proportions of the population living in the community who have a profound or severe disability and were unemployed were also spread across much of **Victoria**, with percentages above 4% in Central Goldfields Balance (4.9%) and - Maryborough (4.2%), Loddon - South (4.9%), Yarra Ranges - Part B (4.8%), Yarriambiack - South (4.3%) and - North (4.2%), and Northern Grampians - St Arnaud (4.1%). Very few areas had proportions in the lowest category mapped.

SLAs in **Queensland** with the highest percentages of the population with these characteristics were largely located around Brisbane, and in a group to the south of Cairns. The five highest rates in Australia were recorded in Tara and Kolan (both 7.5%), Nanango (6.9%), Mount Morgan (located south of Cairns, 6.5%) and Hervey Bay - Part B (6.4%). Rates of 4% or more (in areas with more than 20 people in this category) were also recorded in Woocoo and Wondai (both 5.9%), Biggenden (5.5%), Tiara (5.2%), Hervey Bay - Part A (4.7%), Maryborough and Miriam Vale (4.6%), Isis (4.5%), Kilkivan

(4.4%), Cherbourg (4.3%), Cooloola (excluding Gympie) and Laidley (4.2%), Rosalie - Part B and Herberton (4.1%), and Esk (4.0%). As shown in the map, many of the central and far western areas of the State had low proportions.

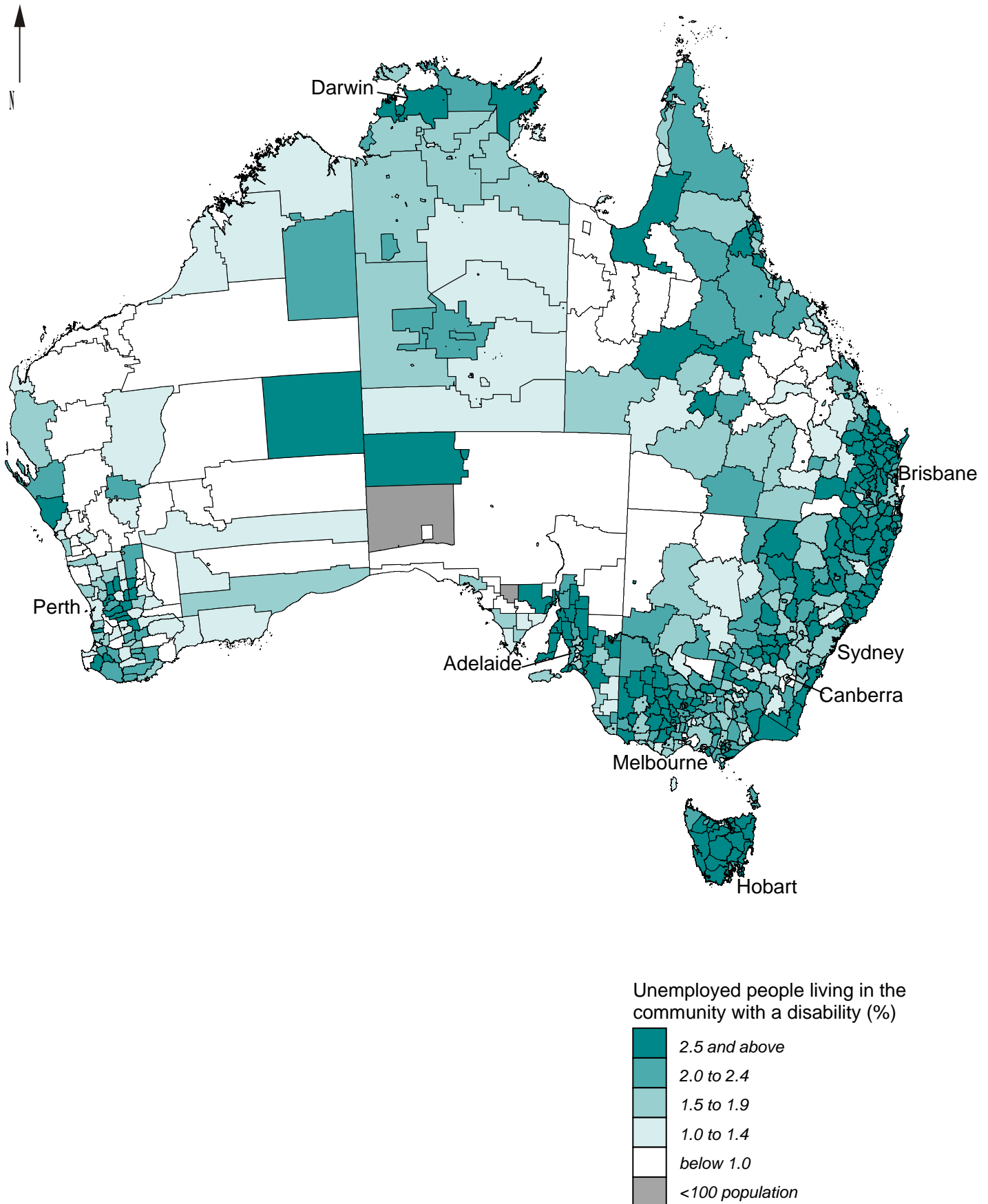
The proportion of the population with a profound or severe disability who were unemployed and lived in the non-metropolitan areas of **South Australia** was highest in the mid-north, and on the Yorke and Fleurieu Peninsulas, in particular in the SLAs of Peterborough (6.0%), Port Pirie City Districts - City (4.3%), Copper Coast (4.2%) and Goyder (4.0%). The lowest percentages were in SLAs in the far north (other than a rate of 2.6% in Anangu Pitjantjatjara), in the north-east, and in parts of Eyre Peninsula.

There were low proportions of the population with these characteristics across most of non-metropolitan **Western Australia**, with the highest proportions in SLAs located in the south-west. Of areas with more than 20 people in this category, the highest rates were in the SLAs of Kellerberrin (4.2%), Beverley (3.9%), Brookton (3.5%) and Nannup (3.3%).

With the greatest proportion of the population with these characteristics in the non-metropolitan areas, the majority of the SLAs in **Tasmania** were mapped in the highest range (2.5% and above). The largest proportions were in Tasman (6.2%), Break O'Day (5.3%), Central Highlands (5.2%), Derwent Valley - Part B (4.5%), George Town - Part A (4.2%), Waratah/Wynyard - Part A (3.7%), Kentish (3.6%) and Huon Valley (3.5%).

Overall, few SLAs in the **Northern Territory** had high proportions of the population with a profound or severe disability who were unemployed. The highest proportions were in the small Indigenous communities of Angurugu and Marngarr (both 3.4%, with 6 and 18 people, respectively, in this category), and in East Arnhem - Balance (3.4%) nearby. High rates were also recorded in SLAs near to Darwin, in Cox-Finnis (3.2%, 11 people), South Alligator (2.8%, 15) and Coomalie (2.7%, 18).

Map 20: People aged 15 to 59 years and living in the community who have a profound or severe disability and are not employed, Australia, 2011
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS 2011 Census

People with long-term mental health problems who are unemployed, capital cities

Employment plays a critical role in the life and recovery of people with experience of mental illness; and offers an opportunity to improve levels of confidence, social status and identity, and in some cases, clinical improvement.⁶⁸ However, accessing and maintaining employment can be difficult, especially without supportive work environments; and people with experience of mental illness are more likely to be unemployed when they have lower education levels, and where they also suffer from additional disabilities.^{68,69}

Indicator definition: Estimated population aged 20 to 59 years who reported having current long-term mental and behavioural disorders and who are unemployed, expressed as an age-standardised rate per 1,000 population; further details of these estimates are in Appendix B.

Table 22: Estimated population aged 20 to 59 years with long-term mental health problems, who are unemployed, by capital city, 2007-08

Age-standardised rate per 1,000 population

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
5.4	6.2	5.1	8.8	6.0	4.8	6.2	3.0	5.9

Capital cities

The highest rate of people aged 20 to 59 years reporting long-term mental health problems and who were unemployed was estimated for Adelaide, and the lowest for Canberra.

The inner city SLAs of Sydney - Inner (11.8 per 1,000 population), - East (11.4), - West (9.8) and - South (8.8), and Waverley (8.3), were estimated to have the highest rates of people with these characteristics in **Sydney**. The lowest rates were largely evident on the north shore, in Ku-ring-gai, Baulkham Hills - South and - Central, and Hornsby - North and - South.

In **Melbourne**, more than 9 people per 1,000 population in the SLAs of Mornington Peninsula - South (12.3 per 1,000 population), Yarra Ranges - North (11.2), Cardinia - South (10.9), Port Phillip West (9.2) and Yarra Ranges Central (9.0), were estimated to have a mental health problem and to be unemployed. Inner and middle suburbs to the east, north-east and south-east had the lowest rates.

In **Brisbane**, the highest rates of the population aged 20 to 59 years with mental health problems and who were unemployed were estimated for the outer SLAs of Bribie Island (17.4 per 1,000 population), Redland Balance (16.7) and Caboolture - Hinterland (10.4). Apart from City/Spring Hill and New Farm, the next highest rates were in middle and outer suburbs. The lowest rates were generally confined to areas in the inner region, just north or south of the Brisbane River.

Reflecting the overall high rate in **Adelaide**, all SLAs, other than Adelaide Hills - Central, were mapped in the top three ranges. The highest rates were estimated for the Playford SLAs of - Elizabeth (14.0 per 1,000 population), - West Central (12.6), - Hills (11.1) and - West (11.0); the

Port Adelaide Enfield SLAs of - Park (12.3), - Port (11.6) and - Inner (10.6); Charles Sturt - North-East (11.2) in the north-west; and Onkaparinga - North Coast (11.6) in the outer south.

The highest rates in **Perth** were estimated for Perth - Inner (13.5 per 1,000 population) and - Remainder (11.4), with other high rates in outer-suburban SLAs including Rockingham, Serpentine-Jarrahdale and Kwinana. Excluding areas with no people with these characteristics (Peppermint Grove and Fremantle - Inner), the lowest rates were in Joondalup - South, Melville, Nedlands, Cambridge, Canning and Claremont.

In **Hobart**, the highest rates were estimated for Derwent Valley - Part A (7.6 per 1,000 population), Brighton (6.8), Glenorchy (6.2) and Sorell Part A (5.7), and the lowest were in Kingborough - Part A (3.4).

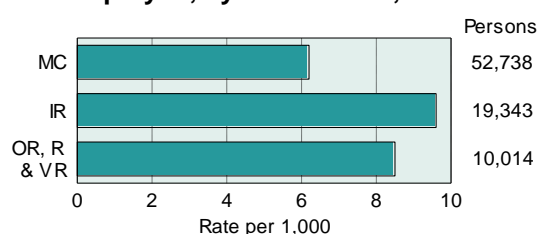
Litchfield - Part B (8.3), Darwin South West (7.4), Palmerston (6.5) and Darwin North West (5.4) had the highest estimated rates in **Darwin**.

Canberra Central and South were the only grouped SLAs estimated to have rates above the lowest range (four or more people per 1,000 population).

Remoteness

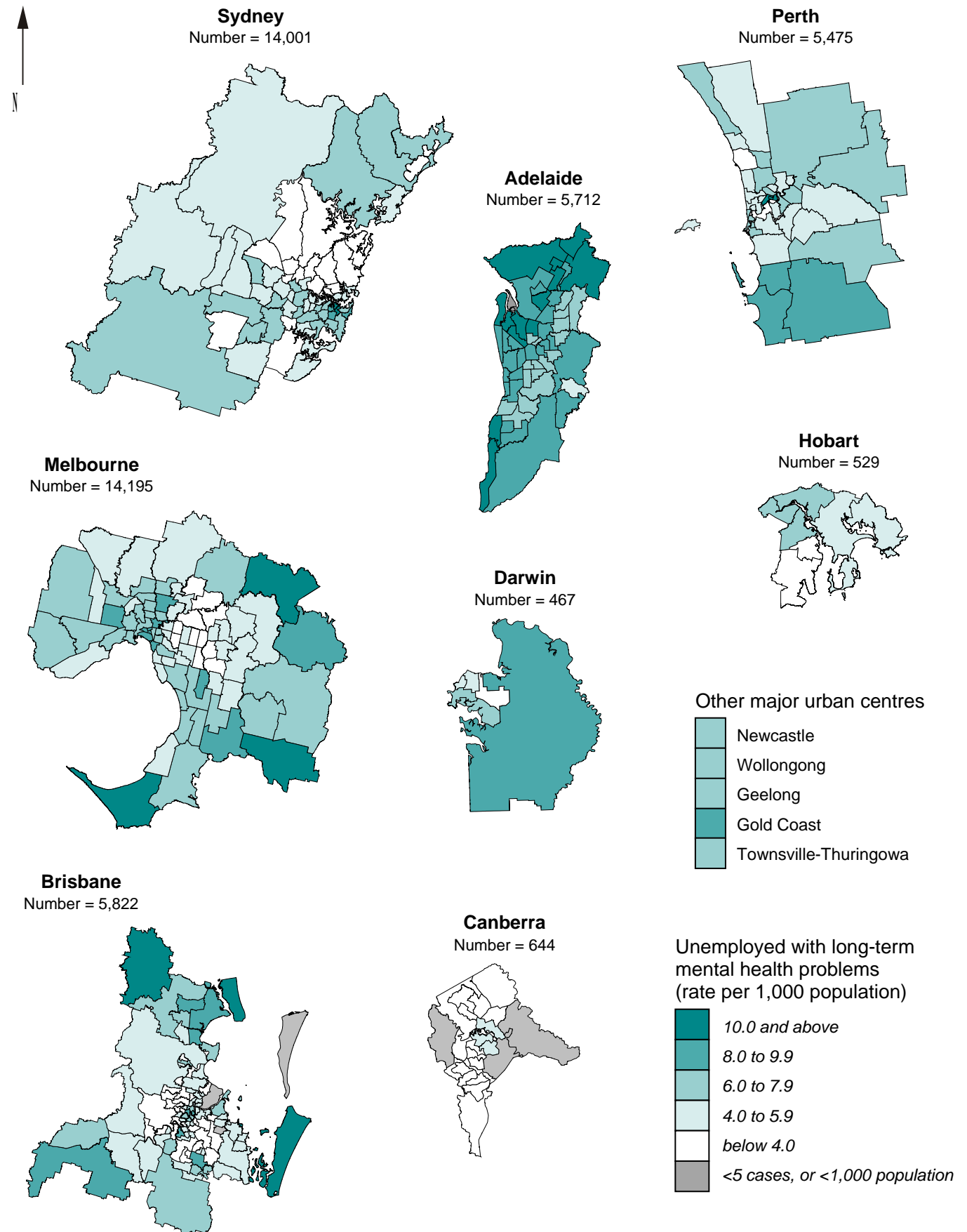
Rates were higher in areas outside of the Major Cities remoteness class.

Figure 15: Estimated population aged 20 to 59 years with mental health problems, who are unemployed, by remoteness, 2007-08



Map 21: Estimated population aged 20 to 59 years with long-term mental health problems, who are unemployed, major urban centres, 2007-08

standardised rate per 1,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (provided as a consultancy)

People with long-term mental health problems who are unemployed, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 23: Estimated population aged 20 to 59 years with long-term mental health problems, who are unemployed, by State/ Territory, Australia, 2007-08

Age-standardised rate per 1,000 population

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	8.7	9.9	9.2	14.3	12.5	6.7	..	..	9.5
Total ¹	6.5	7.0	7.2	10.1	7.4	5.9	..	3.0	7.0

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

The highest rates of the population aged 20 to 59 years reporting long-term mental health problems and who were unemployed were estimated for the non-metropolitan areas of South Australia and Western Australia; the lowest rate was in Tasmania. Rates in all the non-metropolitan areas were estimated to be higher than those in the capital cities.

SLAs in the north of non-metropolitan **New South Wales**, on the coast in Nambucca (17.1), Clarence Valley - Coast (14.7) and Balance (15.1), Great Lakes (14.7); and inland, in Walgett (14.2) and Brewarrina (14.0) had the highest rates of the population with these characteristics, with a similar rate in Eurobodalla (14.0). Lower rates were estimated for SLAs across much of the State.

In non-metropolitan **Victoria**, the highest rates of long-term mental health problems and unemployment were estimated for the SLAs of Central Goldfields Balance (17.5 per 1,000 population), and Pyrenees - North (14.1), to the north-west of Melbourne; East Gippsland - Orbost (15.2) and Balance (14.3), in the east of the State; and Bass Coast Balance (14.9) and Philip Island (14.0), Wellington - Alberton (14.3), and South Gippsland - East (14.1), in the south-east. The lowest rates were in SLAs in and around Geelong.

Many of the more remote areas of non-metropolitan **Queensland** were not mapped for this variable. Of those mapped, the highest rates were estimated for Cook (18.7 per 1,000 population) and Herberton (17.4) in the far north, and further south in Mount Morgan (16.4), Hervey Bay - Part B (16.4), Miriam Vale (16.0), Kolan (15.6) and Tiaro (15.3). The lowest rates were estimated for a group of SLAs covering an area from Roma to Belyando; as well as a number of SLAs closer to Brisbane, and on the Gold Coast.

Many of the SLAs in the non-metropolitan areas of **South Australia**, for which data were available, were estimated to have rates above 14 people per 1,000 population, with rates as high as 20 per 1,000 population estimated for the SLAs of Robe (23.3), Alexandrina - Coast (21.5), Flinders Ranges (21.3), Victor Harbor (21.1), Peterborough (20.8), and Yankalilla (20.4): these are the highest rates in Australia. Roxby Downs, with a rate of 7.8 people per 10,000 population, was the only SLA mapped in the lowest range.

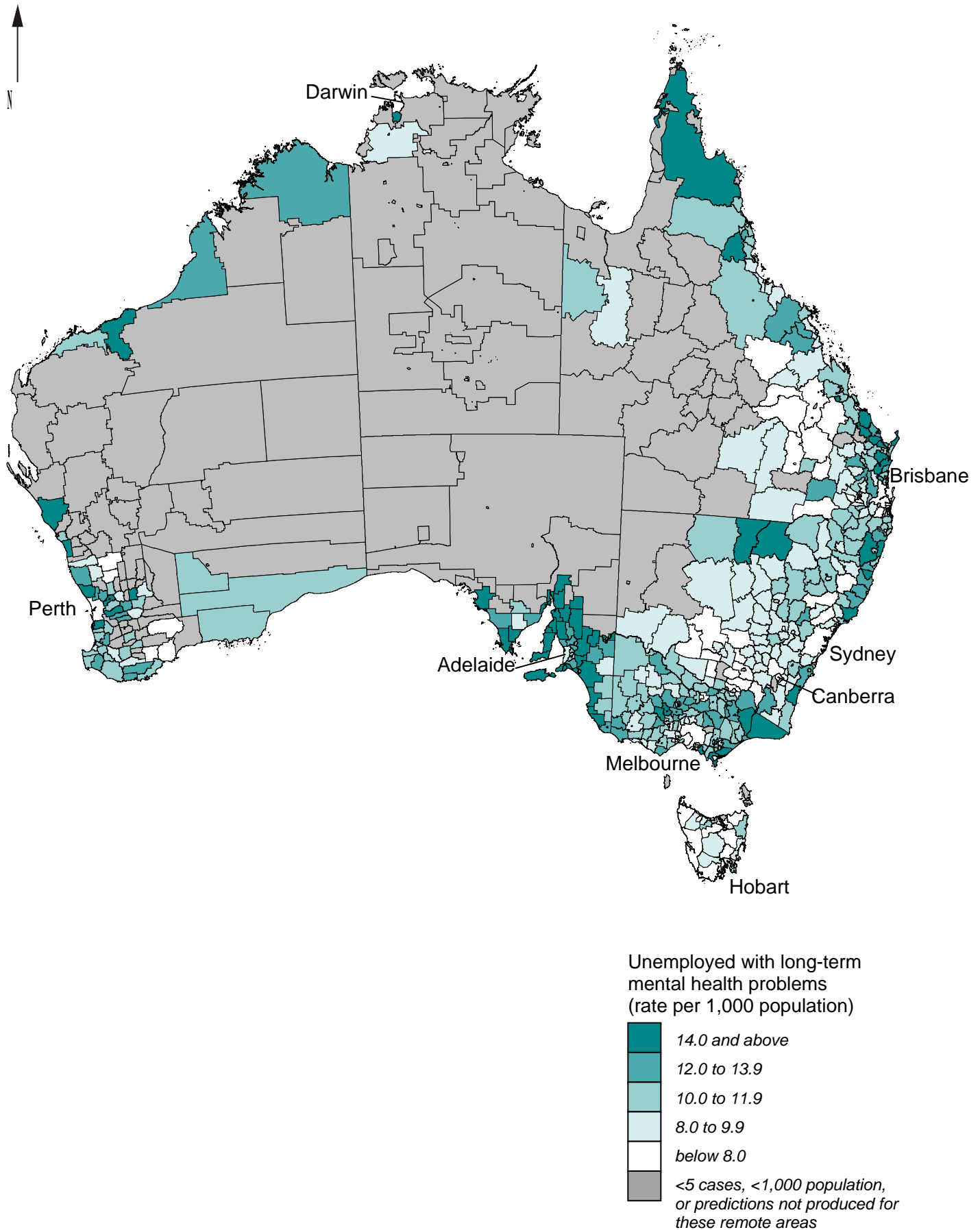
The highest rates of the population in the non-metropolitan areas of **Western Australia** with long-term mental health problems and who were unemployed, were estimated for SLAs in the south-west of the State (Kellerberrin (17.0 people per 10,000 population), Gingin (16.6), Murray (14.9) Beverley (14.7), Northam (14.5) and Mandurah (14.0)) and further north, in Irwin (15.0) and Northampton (14.7), and Port Hedland (16.1). The SLAs of Wongan-Ballidu and Dalwallinu, just north-east of Perth; and Gnowangerup, Lake Grace, and Jerramungup, in the outer south, had the lowest rates.

There were generally small numbers of people with these characteristics across non-metropolitan **Tasmania**, with the lowest rates estimated for Meander Valley - Part A, Launceston - Part C and - Part B, West Tamar - Part A, and Northern Midlands - Part A. Although still relatively low, the highest rates, just above 10 people per 1,000, were estimated for Break O'Day (10.8), Tasman (10.5) and Kentish (10.1).

Of the nine areas mapped in the non-metropolitan areas of the **Northern Territory**, the highest rates were estimated for the SLAs of Coomalie (18.3 per 1,000 population), Jabiru (10.6), and Katherine (9.4), with lower rates in the Alice Springs SLAs of - Ross (6.0), - Larapinta (6.1), and - Charles (6.7).

Map 22: Estimated population aged 20 to 59 years with long-term mental health problems, who are unemployed, Australia, 2007-08

standardised rate per 1,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of psychological distress, capital cities

People who gave responses in the 2007-08 National Health Survey which resulted in them being assessed as having 'high' or 'very high' psychological distress under the Kessler Psychological Distress Scale (K-10), as distinct from 'low' or 'moderate', are reported here. Based on previous research, a high or very high K-10 score may indicate a need for professional mental health care.⁷¹

Indicator definition: Estimated population aged 18 years and over assessed as having a high or very high level of psychological stress as indicated by the K-10, expressed as a percentage (age-standardised); further details of these estimates are in Appendix B.

Table 24: Estimated population aged 18 years and over with high/ very high psychological distress, by capital city, 2007-08

Per cent (age-standardised rate per 100 population)

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
12.0	12.1	11.8	12.3	9.9	9.4	10.8	10.0	11.7

Capital cities

The estimated prevalence of high/very high psychological distress, as indicated by the K-10, varies across the capital cities, with the highest rates in Adelaide, Melbourne and Sydney. In each of the cities, the distribution of this population group reflects the pattern of socioeconomic disadvantage.

In **Sydney**, rates of above 12% were estimated for SLAs located in a band, from Botany Bay in the east to Penrith - East in the west, and south to Campbelltown - South. The highest rates were estimated for Parramatta - South (16.8%), Bankstown - North-East (16.7%), and Fairfield - East (16.6%); and the lowest for Ku-ring-gai (6.9%), Mosman (8.4%), and Hornsby - North (8.5%).

SLAs in **Melbourne** with the highest rates were largely located to the north and west of the city centre, including Hume - Broadmeadows (18.0%), Whittlesea - South-West (16.3%) and Brimbank - Sunshine (16.1%); with similar rates in Greater Dandenong - Dandenong (15.8%) and Balance (14.6 %) to the south-east. The lowest rates were in SLAs to the east, south-east and north-east.

The highest rates in **Brisbane** were estimated for Stretton-Karawatha/Kingston (16.5%), Redland Balance (16.1%) and Darra-Sumner/Wacol (16.0%), Loganlea (15.3%) and Marsden (15.2%), in the south; and Caboolture Central (15.2%) and Deception Bay (15.1%) in the north. Rates above the city average were also in these areas, other than for a few inner-city SLAs, south of the river. The lowest rates were in inner and middle suburbs to the east and west of the city.

Areas with the highest rates of high/very high psychological distress in **Adelaide** were Playford - Elizabeth (18.0%) and - West Central (16.9%) in the outer north; Port Adelaide Enfield - Park (17.2%, - Port (15.7%), and - Inner (15.3%) in the north-west; and Onkaparinga - North Coast

(15.4%) in the outer south. Low rates were estimated for SLAs to the east, south and south-east of the city.

Compared to the other capital cities, **Perth** had a relatively low prevalence of high/very high psychological distress. The highest rates were estimated for Perth - Inner (13.7%), Kwinana (12.4%), Stirling - Central (12.1%), and Wanneroo - South (11.8%). The lowest rates were estimated for the inner city areas of Peppermint Grove, Nedlands, Cambridge and Cottesloe.

Although **Hobart** had the lowest overall rate of high/very high psychological distress, considerable variation in rates was still evident, ranging from 7.5% in Kingborough - Part A, to over 10% in Brighton (12.6%), Derwent Valley part A (12.0%), Glenorchy (11.4%) and Sorell (10.4%).

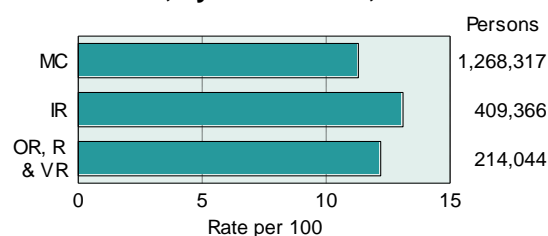
In **Darwin**, rates were highest in Palmerston (11.6%); a little lower in Litchfield - Part B (11.1%), Darwin South West (10.9%) and Darwin North West (10.8%); and lowest in Litchfield - Part A (8.7%) and Darwin North East (9.9%).

Rates were consistent across **Canberra**, with most SLA groups mapped in the second lowest range, other than for Eastern Fringe, which had the highest estimated rate (13.8 %).

Remoteness

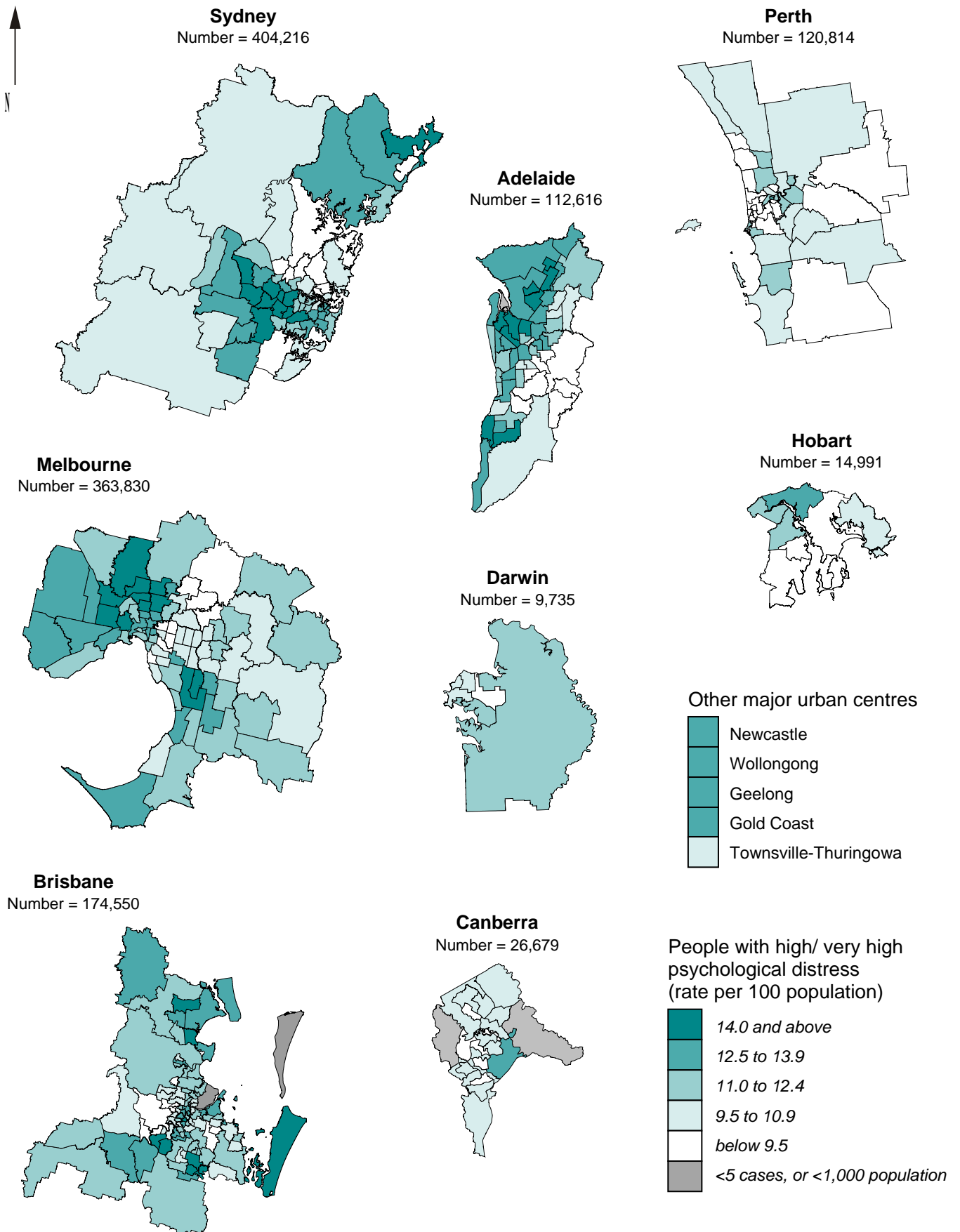
Rates of high/very high psychological distress were somewhat higher in remoteness classes outside of the Major Cities.

Figure 16: Estimated population aged 18 years and over with high/ very high psychological distress, by remoteness, 2007-08



Map 23: Estimated population aged 18 years and over with high/ very high psychological distress, major urban centres, 2007–08

standardised rate per 100 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of psychological distress, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result, totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 25: Estimated population aged 18 years and over with high/ very high psychological distress, by State/ Territory, Australia, 2007-08

Per cent (age-standardised rate per 100 population)

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	12.3	11.7	11.9	11.5	9.7	10.6	..	..	11.8
Total ¹	12.1	12.0	11.9	12.1	9.9	10.1	..	10.0	11.7

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

There is little difference in the estimated prevalence of high/very high psychological distress, as indicated by the K-10, between the metropolitan and non-metropolitan areas of Australia, with the largest difference in Tasmania.

In non-metropolitan **New South Wales**, the highest rates were in SLAs located along the coast, and inland in the north of the State, with rates above 14% estimated for Brewarrina (15.2%), Walgett (14.7%), Kempsey (14.4%), Nambucca (14.3%) and Tweed - Tweed Heads (14.2%) and - Tweed Coast (14.1%). The lowest rates were estimated for SLAs in the south of the State.

Three main areas were estimated to have above-average prevalence of high/very high psychological distress in **Victoria**: one to the north-west of Melbourne, another in the east of the State and the third in and around Geelong. The highest rate was estimated for Corio - Inner (14.3%), with slightly lower rates in Geelong, Geelong West and Bellarine Inner; Central Goldfields - Maryborough and Balance (both 14.1%) and Bendigo Eaglehawk had the highest rates in this cluster of SLAs; as did Latrobe - Morwell (13.7%) and - Moe (13.6%) in the east. Areas with the lowest rates were evident across the State.

A group of SLAs along the coast, from Brisbane to south of Mackay (including Mount Morgan (17.4%), Hervey Bay - Part B (16.1%), Kolan (15.8%) and Nanango (15.0%)); and another, in the far north of **Queensland** (Cook (15.6%) and Herberton (15.0%)), were characterised by high rates of high/very high psychological distress. Low rates were mainly concentrated in an area from Belyando and Nebo, to Balonne and Waggamba on the southern border. Data are not shown for much of inland Queensland, as the estimates were not considered to be reliable.

No data were available for many SLAs in **South Australia**, which have small populations, or are considered to be remote. The highest rates were estimated for adults living in the towns of Peterborough (16.3%), Port Pirie (14.2%), Whyalla (13.7%), and Port Augusta (13.5%) and Murray Bridge (13.3%). Roxby Downs and Kimba had the lowest rates; and a number of areas around Adelaide and in the south-east also had low rates.

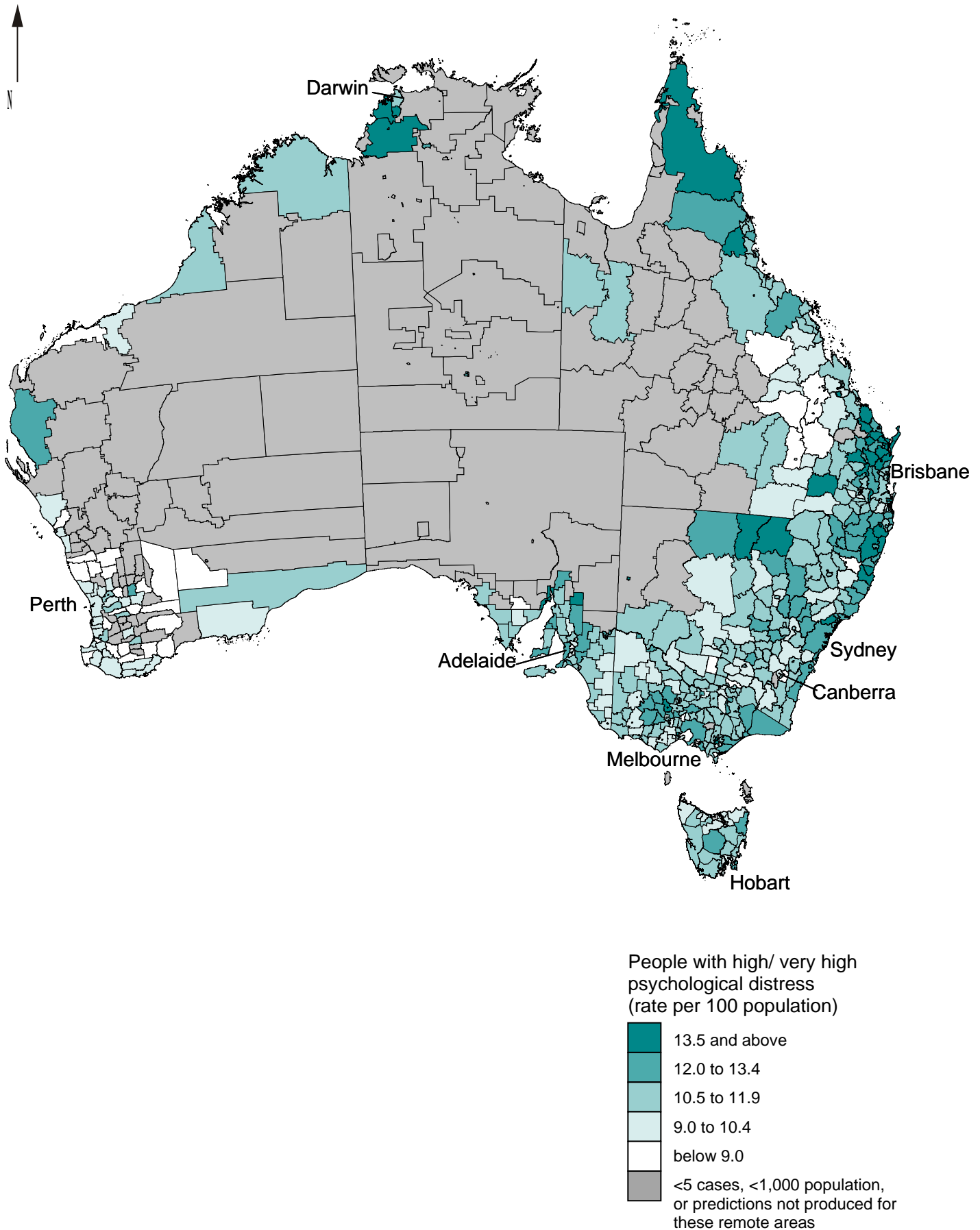
Rates were relatively low across the non-metropolitan areas of **Western Australia**, with the highest in Carnarvon and Kellerberrin (both 12.1%). Other relatively high rates were recorded in SLAs in Broome and Wyndham-East Kimberley in the far north, in Geraldton and in numerous SLAs in the south-west, where many of the lowest rates were also evident. Again, estimates were not produced for many areas.

In non-metropolitan **Tasmania**, the prevalence of high/very high psychological distress ranged from 8.8% in Meander Valley - Part A to 12.8% in Break O'Day. Higher rates were generally estimated for SLAs on the north (George Town - Part A (12.3%)) and south-west coast (Tasman (12.1%)), as well as in central Tasmania (Central Highlands (12.1%) and Southern Midlands (11.8%).

Coomalie (14.7%), Daly (14.5%), Alice Springs - Stuart (13.2%) and Katherine (12.7%) had the highest rates of the very few SLAs in the non-metropolitan areas of **Northern Territory** for which estimates could be made. Prevalence rates below the non-metropolitan average were estimated for Jabiru (with a rate of 10.1%) and the Alice Springs SLAs of - Ross (10.9%) and - Larapinta (11.4%).

Map 24: Estimated population aged 18 years and over with high/ very high psychological distress, Australia, 2007–08

standardised rate per 100 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (provided as a consultancy)

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Aboriginal and Torres Strait Islander Australians

In Australia, the parlous state of wellbeing of Aboriginal and Torres Strait Islander peoples has been documented for decades.⁷² Key social and economic measures in areas such as life expectancy, poverty, employment, housing ownership, education, justice and health show that these populations are at substantially higher risk of poorer wellbeing and social exclusion compared with non-Indigenous Australians, and represent the most disadvantaged groups in our society. This situation is the result of the inter-generational impact of colonisation, dispossession of lands, lost and stolen generations and the attempted decimation of the cultures and languages of the peoples inhabiting Australia before 1770.^{73, 74} Therefore, for there to be a start to improving Aboriginal and Torres Strait Islander wellbeing and 'closing the gap', a process of genuine reconciliation, which acknowledges the past in light of the present, needs to be embraced across all sectors of society, accompanied by changes in attitudes, practices and the sharing of power.^{75,76}

Most indicators of Aboriginal and Torres Strait Islander wellbeing, such as those included in the atlas, tend to reflect a 'deficit' model, highlighting problems and the extent of disadvantage experienced over a lifetime, and between generations. While there is an imperative to illustrate the unmet need for appropriate resources and services, this approach overlooks the strengths, capabilities and passion that the majority of Aboriginal and Torres Strait Islander peoples demonstrate in caring for their family and community, their environment, and their land; and fails to represent the holistic nature of Indigenous cultures, histories and understandings.^{77,78} A positive concept of Aboriginal and Torres Strait Islander wellbeing can be drawn from the following definition, which notes that achieving wellbeing is an attribute of communities, as well as of the individuals within a community; and it identifies cultural wellbeing, along with physical, social, spiritual and emotional wellbeing, as equally important:

'Not just the physical wellbeing of the individual but the social, emotional and cultural wellbeing of the whole community. This is the whole-of-life view and it also includes the cyclical concept of life-death-life'.⁷⁹

Thus, a community's capabilities are fundamental to enhancing individual and collective wellbeing, preserving cultural knowledge, engaging in social and economic development, and in resolving local issues. Unfortunately, indicators that might illustrate these capabilities are not yet available in a form needed for mapping.

A number of indicators of Aboriginal and Torres Strait Islander peoples' wellbeing are the focus of government attention, such as life expectancy, infant and child mortality, access to early childhood education, educational attainment and employment. There is a strong thread of interdependence between them, and the nature of the inter-relationships is complex.⁸⁰ For example, post-secondary educational attainment is linked to year 10 and 12 retention and attainment.⁸¹ In turn, these are related to household income, education and employment, levels of racism and discrimination, and so forth. None of these policy areas in isolation will achieve the priority outcomes mentioned above but, together, they may have the capacity to start to address the existing intergenerational cycle of disadvantage for Aboriginal and Torres Strait Islander peoples whose needs are not being met; and to support the health and wellbeing of the members of these populations who are doing well.

The indicators listed in **bold** type are included in this sub-section. The remaining indicators listed below, and other indicators which are relevant, can be found online at www.adelaide.edu.au/phidu/.

- Indigenous population: number of people
- **Indigenous population: % of total population**
- Indigenous participation in preschool and primary education
- **Indigenous participation in secondary education**
- **Indigenous women smoking during pregnancy**
- **Indigenous median age at death**
- **Non-Indigenous median age at death (as a comparator)**

Indigenous population, capital cities

Aboriginal and Torres Strait Islander peoples are disadvantaged across all domains of wellbeing compared to their non-Indigenous counterparts.⁷ Nationally, the majority of the Aboriginal and Torres Strait Islander populations live in cities and towns, but around one-quarter resides in areas classified as 'Remote' or 'Very Remote' in relation to having 'very little or very restricted access to goods and services and opportunities for social interaction'. Only 2% of the non-Indigenous population live in Remote or Very Remote areas.

Indicator definition: The Aboriginal and Torres Strait Islander population (based on people identifying as such in the 2011 Census), as a proportion of the total population. Note: The Aboriginal and Torres Strait Islander population are also referred to in the text as 'Indigenous' (people, population, women, etc.).

Table 26: Indigenous population, by capital city, 2011

Per cent									
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total	
1.2	0.4	2.0	1.3	1.6	3.3	9.2	1.4	1.3	

Capital cities

The proportion of Aboriginal and Torres Strait Islander people living in the capital cities is low, with the exception of Darwin, where they comprise 9.2% of the population.

Areas in **Sydney** with relatively large Indigenous populations are generally located in outer areas, in the outer north, the outer west and the south-west. SLAs with the highest proportions were Blacktown - South-West (4.6%), Wyong - North-East (4.0%) and - South and West (3.3%), Campbelltown - South (3.6%) and - North (2.9%), and Penrith - East (3.3%) and - West (2.7%).

Reflecting the overall low proportion in **Melbourne**, the Indigenous population comprised low proportions at the SLA level. The exception was Yarra Ranges - North, with 2.2% of its population estimated to be Indigenous. Preston had the largest Indigenous population, of 841 people (1.0%).

Aboriginal and Torres Strait Islander people comprised high proportions of the population in a number of areas in **Brisbane**, in three main clusters of SLAs. The highest proportions were in Redland Balance (7.5%), Darra-Sumner/Wacol (6.6%), Ipswich - West (4.7%), Loganlea and Stretton-Karawatha/Kingston (both 4.5%), Marsden, Ipswich Central and Caboolture - Central (all 4.3%), Murarrie (4.2%) and Deception Bay (4.0%).

In **Adelaide**, the highest proportions of this population group lived in three main areas: in the outer north, in Playford - West Central (4.3%) and - Elizabeth (4.1%; and the largest number), and Salisbury - Inner North (2.3%) and - Central (2.0%); the north-west, in all five of the Port Adelaide Enfield SLAs, ranging from 3.3% in - Port, to 2.0% in - East, and Charles Sturt - North-East (2.0%); and the outer south, in Onkaparinga - North Coast (2.7%) and - Hackham (2.2%).

In **Perth**, Aboriginal and Torres Strait Islander people were generally in middle and outer suburban SLAs, in Kwinana (3.9%), Swan (3.0%, the largest number of Indigenous people), Belmont (3.0%), Armadale (2.8%), Mundaring and Bassendean (both 2.7%), and Gosnells (2.5%).

In **Hobart**, the proportions were relatively high in all of the SLAs (other than in Hobart - Inner and - Remainder), with Brighton (7.5%), and Glenorchy (the largest number) and Derwent Valley - Part A both 4.2%. Clarence, with 2.9%, had the second largest number.

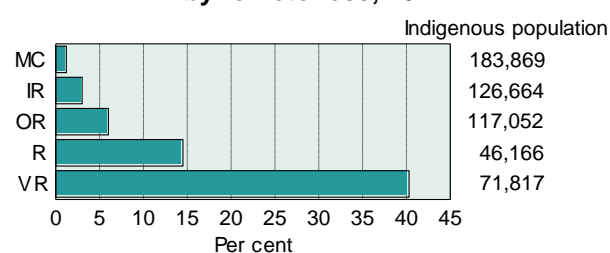
Aboriginal people and Torres Strait Islanders comprised relatively high proportions of the population in SLAs in **Darwin**, ranging from 6.6% in Darwin South West, to the highest proportion, of 12.6%, in Palmerston (and the largest number). Darwin North East had the second highest proportion, with 11.1%.

In **Canberra**, the highest proportions of this population group were generally in SLAs in outer areas of the city, including Eastern Fringe (6.0%), and Tuggeranong North West, Tuggeranong South, and Kambah (all 2.2%).

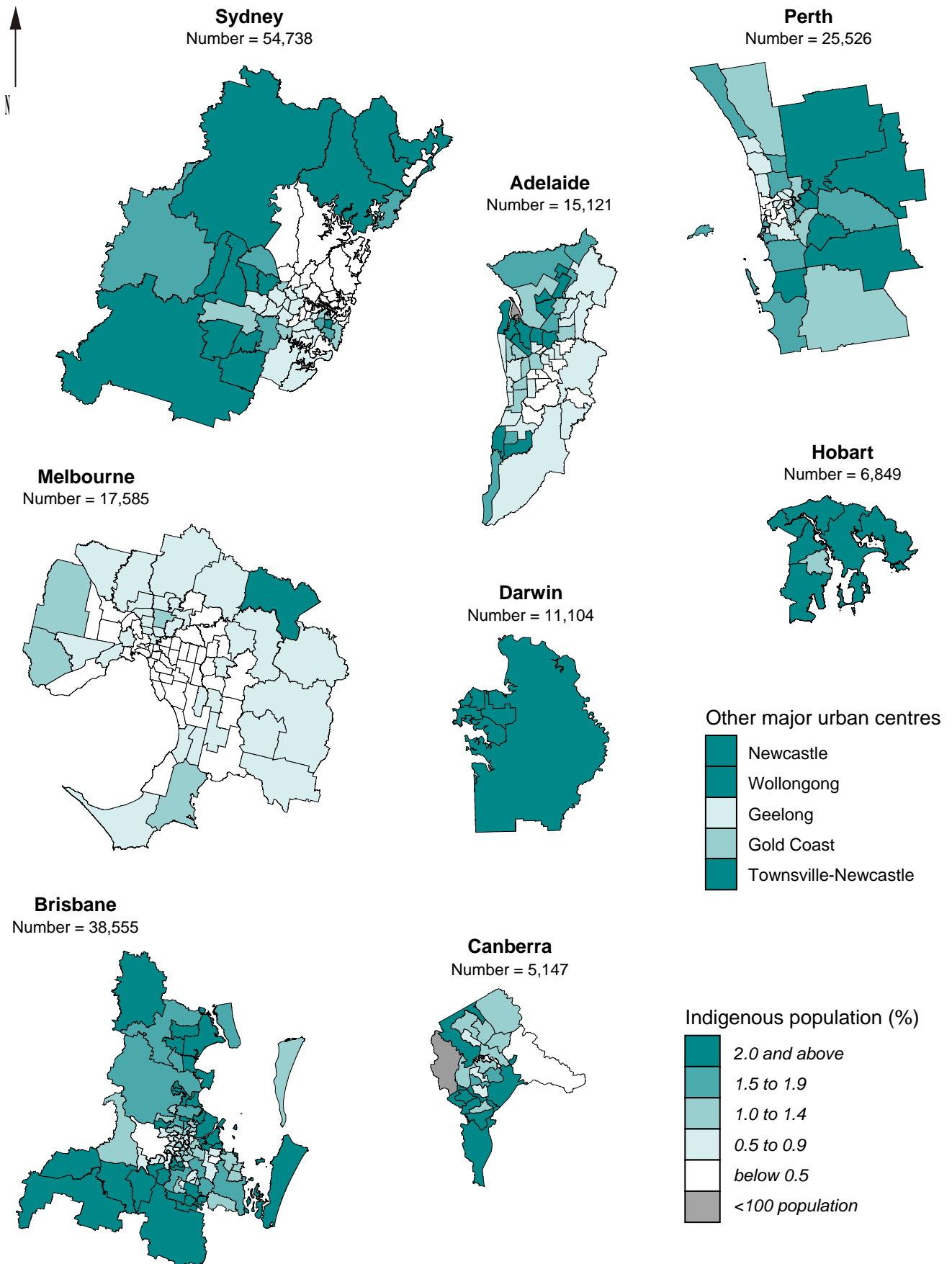
Remoteness

There is a clear gradient, and a substantial differential, in the distribution by remoteness of the Indigenous population (as a proportion of the total Australian population), from a low of 1.2% in the Major Cities areas to 14.5% in the Remote and 40.3% in the Very Remote areas.

Figure 17: Indigenous population, by remoteness, 2011



Map 25: Indigenous population, major urban centres, 2011
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS Census 2011

Indigenous population, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 27: Indigenous population, by State/ Territory, Australia, 2011

Per cent

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	4.7	1.4	4.9	3.6	7.5	4.5	50.9	..	4.8
Total	2.5	0.7	3.6	1.9	3.1	4.0	26.8	1.5	2.5

Non-metropolitan areas

There are wide variations in the proportion of the population who are Indigenous in the areas outside of the capital cities; by far the highest proportion was recorded in the Northern Territory, with half of its population identifying as Aboriginal or Torres Strait Islander or both in the 2011 Census (50.9%). Proportions in the non-metropolitan areas of the States ranged from 1.4% in Victoria to 7.5% in Western Australia.

Indigenous people comprised very high proportions of the population in a band of SLAs across much of inland **New South Wales**, including Brewarrina (59.0%), Central Darling (38.3%), Bourke (30.2%), Coonamble (29.3%) and Walgett (28.1%). The largest numbers of this population group (with 2,500 or more people) were in Dubbo, Tamworth, Kempsey, Moree Plains, Wagga Wagga and Greater Taree.

The majority of SLAs in the non-metropolitan areas of **Victoria** had less than 2% of their population who were Indigenous. Areas with the highest proportions were located in the north of the State (including Swan Hill - Robinvale (7.9%) and - Central (4.3%), Greater Shepparton - Part A and Mildura - Part A (both 3.8%), and Campaspe - Echuca (3.7%)); as well as in the east of the State, including the East Gippsland SLAs of - Orbost (4.9%) and - Bairnsdale (3.2%).

The extent of distribution of the Aboriginal and Torres Strait Islander population in the non-metropolitan areas of **Queensland** is not evident from the scale of this map, with many of the highest proportions in small communities, in particular on Cape York and in the Torres Strait, with proportions of over 95% of the population in the small communities of Yorke, Poruma, Dauan, Cherbourg, Yarrabah, Mabuiag, Injinoo, Kubin and Napranum. As noted elsewhere, the online atlas and datasheets allow a better examination of these data. Other areas, with as high as one third of the population being Indigenous, are more evident on the map, and cover a broad area from Cape York to the southern State border. The largest numbers were in regional centres, including Cairns, Rockhampton, Mackay and Mount Isa.

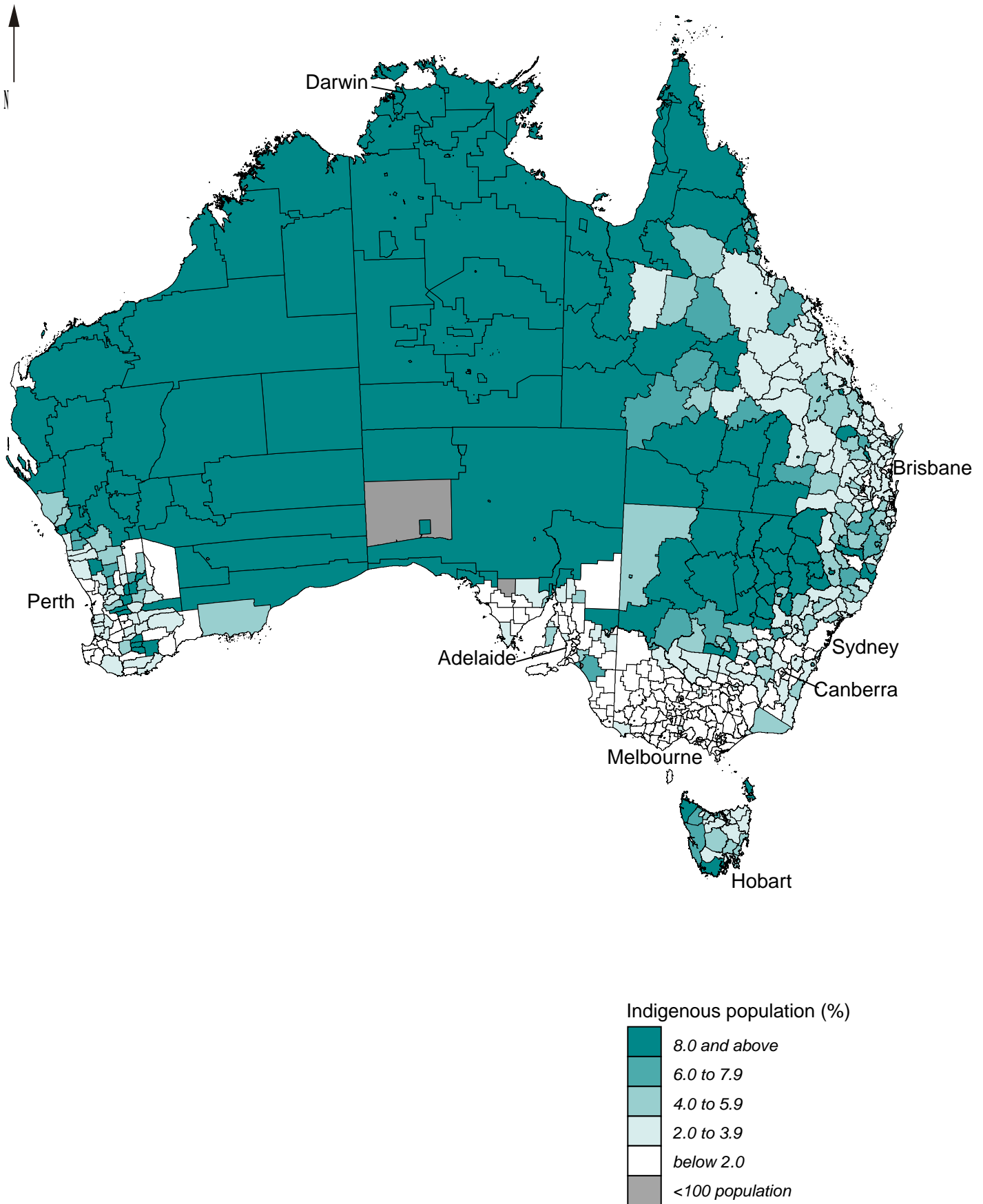
In non-metropolitan **South Australia**, the Aboriginal population was highly represented in the far north of the State (86.2% in Anangu Pitjantjatjara, and the second largest number, after Port Augusta (16.9%), and 18.4% in Unincorporated Flinders Ranges); on the west coast (49.8% in Unincorporated West Coast and 24.9% in Ceduna); and in Unincorporated Riverland (50.0%), as well as in the upper south-east of the state. The rest of the State was characterised by low proportions.

Indigenous people comprised relatively high proportions of the population across much of **Western Australia**, in particular in Ngaanyatjarraku (84.5%), Halls Creek (76.3%), Menzies (66.2%), Upper Gascoyne (56.6%), Derby-West Kimberley (48.1%), Mount Magnet (36.0%), Wyndham-East Kimberley (34.8%) and Meekatharra (32.8%). A number of communities in the south-west had proportions of 8% and higher, although many SLAs in this part of the State also had very low proportions. The largest numbers were in the far north of the State, in Broome, Kimberley and Halls Creek.

In **Tasmania**, Indigenous people formed the highest proportions of the population in the SLAs of Flinders (16.4%) in the Bass Strait; in the north-west, in Circular Head (11.7%); and in the south, in Huon Valley (8.6%). The largest numbers of this population group were in the northern areas of Launceston - Part B and Devonport, and in Huon Valley in the south.

Only two SLAs in the **Northern Territory**, outside of Darwin, were estimated to have Aboriginal and Torres Strait Islander populations below 10%: these were Cox Peninsula with 4.0%; and Nhulunbuy with 6.1%. The highest proportions, all over 85%, were recorded in the Indigenous communities of Belyuen, Thamarrurr, Angurugu, Marngarr, East Arnhem - Balance, Tiwi Islands, Kunbarllanjnja and West Arnhem. East Arnhem - Balance, West Arnhem, Tiwi Islands, Sandover, Katherine, Thamarrurr and Tanami all had populations of more than 2,000 Aboriginal people and Torres Strait Islanders.

Map 26: Indigenous population, Australia, 2011
 per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data from ABS Census 2011

Indigenous participation in secondary education, capital cities

Increasing rates of educational attainment for Aboriginal and Torres Strait Islander peoples in the education system are key strategies to improve socioeconomic and health outcomes. Capacity to engage with and learn at school is linked to individual life experience and influenced by family, community, cultural, school and social contexts.⁸² Lower participation is hampered by poor school access (in some remote areas), inability to afford education, and other community expectations affecting the ability of families to get children to school.⁸³

Indicator definition: Aboriginal and Torres Strait Islander young people aged 16 years in full-time secondary school education, as a proportion of all Aboriginal and Torres Strait Islander people aged 16 years. The area mapped is the Indigenous Area (IA) as the number of cases at the SLA level is generally too small to be reliable. However, even for IAs, and removing IAs with populations below ten Indigenous persons aged 16 years, the numbers are small; and the data are subject to perturbation by the ABS, designed to protect confidentiality.

Table 28: Indigenous participation in full-time secondary education at age 16, by capital city, 2011

Per cent									
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total	
70.1	74.4	74.7	77.5	50.9	59.6	71.2	92.8	69.0	

Capital cities

Canberra had the highest rate of full-time participation in secondary education of Indigenous young people at 16 years of age (92.8%). Participation rates in the remainder of the capital cities were between 70 to 80 per cent, apart from in Perth (50.9%, the lowest) and Hobart (59.6%).

In 2011, Indigenous young people's participation in full-time secondary education was below 50% in the **Sydney** Indigenous Areas (IAs) of Hawkesbury; a number of Blacktown IAs, including - Bidwell, - Blackett/Emerton, - Dharruk/Hebersham, - Inner West, - Lethbridge Park/Tregear, - Mount Druitt/Whalan and - Shalvey; as well as in Campbelltown - Airds, - Central and - South West. Participation rates were over 80% in a number of IAs to the north and south of the inner city, and in the west, in the Blue Mountains IAs.

In **Melbourne**, the highest rates of Indigenous participation in secondary school were in the inner IAs of Maribyrnong/Moonee Valley and Melbourne/ Port Phillip, and in the outer IAs of Whittlesea, North-Eastern Suburbs, Yarra Ranges, Frankston and Wyndham. The lowest rates were in Melton, Greater Dandenong and Hume.

IAs in **Brisbane** with the highest rates of Indigenous full-time educational participation at age 16 included the inner Brisbane City IAs of - Eastern Inner, - Eastern Outer, - Northern Outer, - North-Western Inner and - Southern Outer, and the southern IAs of Redland, Kingston and Woodridge. Low rates were recorded for Indigenous young people in Inala, Marsden and Beaudesert/Boonah, also located in the south.

At least 80% of Indigenous young people aged 16 years in **Adelaide** were participating in secondary education in West Adelaide, Marion,

Unley/Burnside/Mitcham, Port Adelaide Enfield and Charles Sturt. There were no IAs in Adelaide with participation rates below 60%.

A number of IAs in **Perth** had rates below 50%, including Melville, Cockburn, Gosnells, Rockingham, Bayswater, Armadale, Canning and Stirling. Participation rates were highest in South Perth and Joondalup, with 80% or more Indigenous 16 year olds in full-time secondary education.

Participation in full-time secondary education of 16 year old Indigenous students in **Hobart** was lowest in Glenorchy and Hobart, and highest in Clarence.

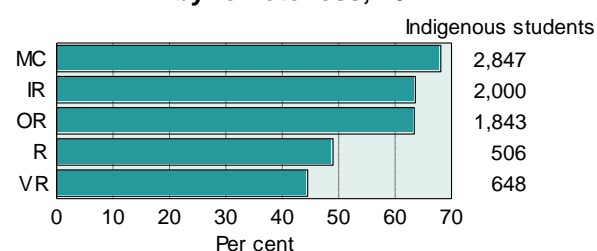
In **Darwin**, participation in full-time secondary education of 16 year old Indigenous students varied from below 50% in Palmerston - Remainder, Moulden and Litchfield, to over 80% in Marrara/Winnellie/Berrimah, Karama, Moil/Wagaman and Driver/Woodroffe.

In **Canberra**, participation rates for the three Indigenous Areas were all over 80%.

Remoteness

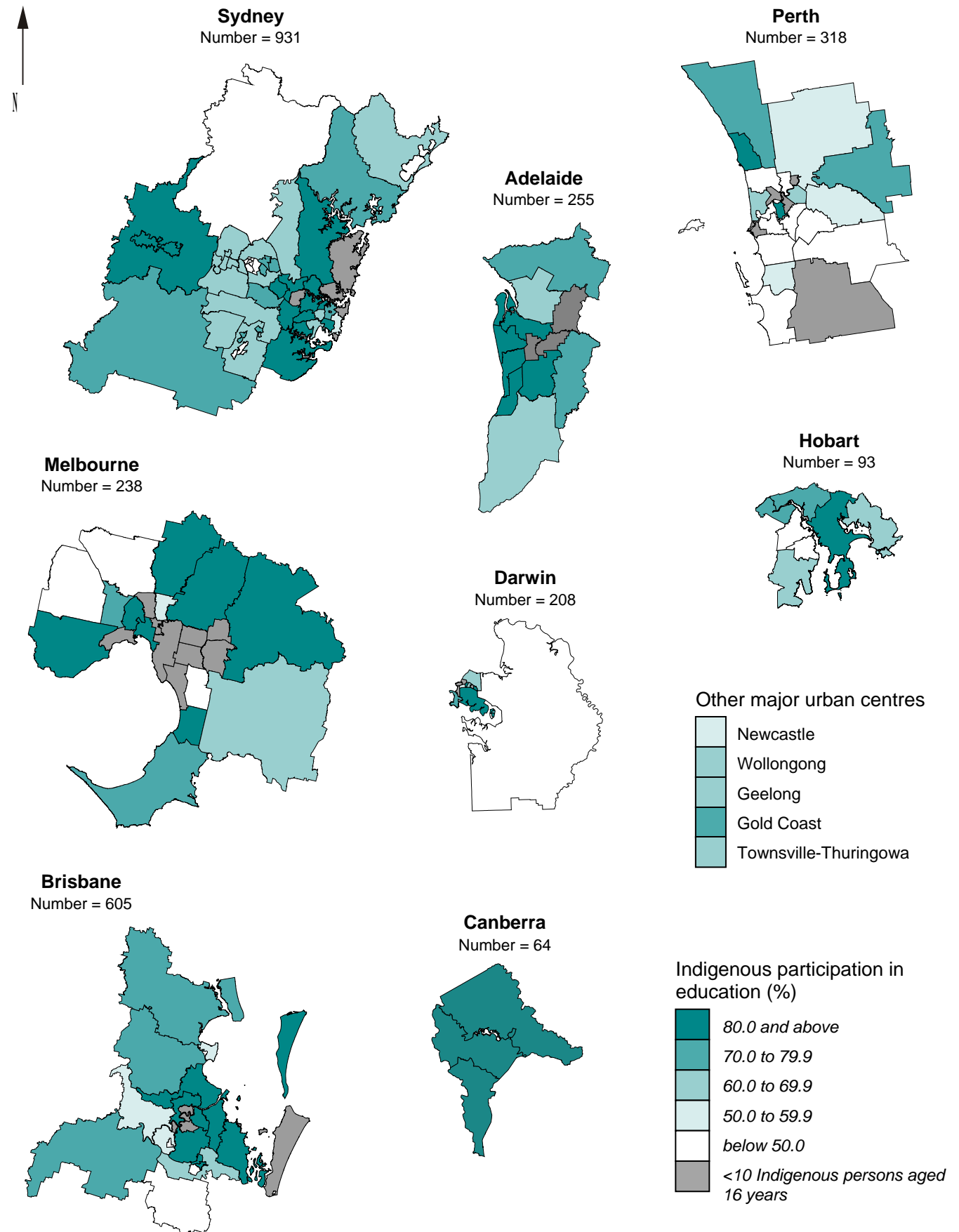
Around two thirds of Indigenous young people aged 16 years living in the first three remoteness classes were participating in secondary education full-time in 2011; participation rates then decreased, to 44.5% in the Very Remote areas.

Figure 18: Indigenous participation in full-time secondary education at age 16, by remoteness, 2011



Map 27: Indigenous participation in full-time secondary education at age 16, major urban centres, 2011

per cent by Indigenous Area



Source: Compiled in PHIDU based on data from ABS 2011 Census

Indigenous participation in secondary education, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 29: Indigenous participation in full-time secondary education at age 16, by State/ Territory, Australia, 2011

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	63.0	64.6	60.3	69.6	46.2	57.6	44.4	..	58.4
Total	65.1	68.8	63.6	73.7	48.1	58.3	50.4	92.8	61.7

Non-metropolitan areas

The lowest participation rates for Indigenous young people at age 16 engaged in full-time secondary education in the non-metropolitan areas were recorded in the Northern Territory (44.4%) and Western Australia (46.2%). Non-metropolitan South Australia (69.6%) had the highest rate, with rates above 60% also recorded in Victoria, New South Wales and Queensland.

At least 80% of the Indigenous population aged 16 years living in non-metropolitan **New South Wales** in the Indigenous Areas (IAs) of Blayney/Cabonne, Byron, Narrandera, Central Murray/Lower Murrumbidgee, Cowra, Gloucester/Dungog, Guyra, Tweed - Remainder, Upper Hunter Shire, Lithgow/Oberon and Tumut were participating in secondary education on a full-time basis. The IAs of Bourke, Gundagai/Junee/Harden, Moree Plains, Albury, Brewarinna, Young, Wellington, Newcastle, Mid-Western Regional, Broken Hill and Dubbo recorded the lowest rates (of less than 50%).

Campaspe, Latrobe, Swan Hill, Wellington, Ballarat and Warrnambool recorded the highest participation rates (of 80% or more) in the non-metropolitan areas of **Victoria**, with the lowest rates along the northern border in the IAs of East Gippsland, Mildura and Greater Shepparton.

High rates of educational participation in the non-metropolitan areas of **Queensland** were recorded in the IAs of Cairns - Barron, - City and - Western Suburbs, Darling Downs South-East, Esk/Kilcoy, Livingstone, Weipa, South Wide Bay, Herberton, Atherton/Eachem, Charters Towers, Burnett and Caloundra. In addition to areas with no Indigenous young people participating (Mornington, Pormpuraaw and Woorabinda), the lowest participation rates (of less than 40%) were recorded in Aurukun, Murgon, Yarrabah, Doomadgee, Cherbourg, Palm Island, Gatton, Cloncurry/McKinlay, Umagico and Balonne. The next lowest participation rates (of 40% to less than 50%) included the IAs of South-West Queensland, Paroo, South Central Queensland, Emerald, Hope Vale, Maryborough, Mackay,

Kowanyama, Cardwell, Warwick and Hervey Bay.

Rates in the non-metropolitan areas of **South Australia** were generally higher than those in the other States and Territories, with participation rates of Aboriginal young people aged 16 in secondary education recorded in the lowest range only for Port Augusta (43.2%). The next lowest rates were in Port Lincoln (52.4%), Murray Bridge (63.0%) and Whyalla (66.7%). The highest rates were recorded in the IAs of Mid-North and Yorke.

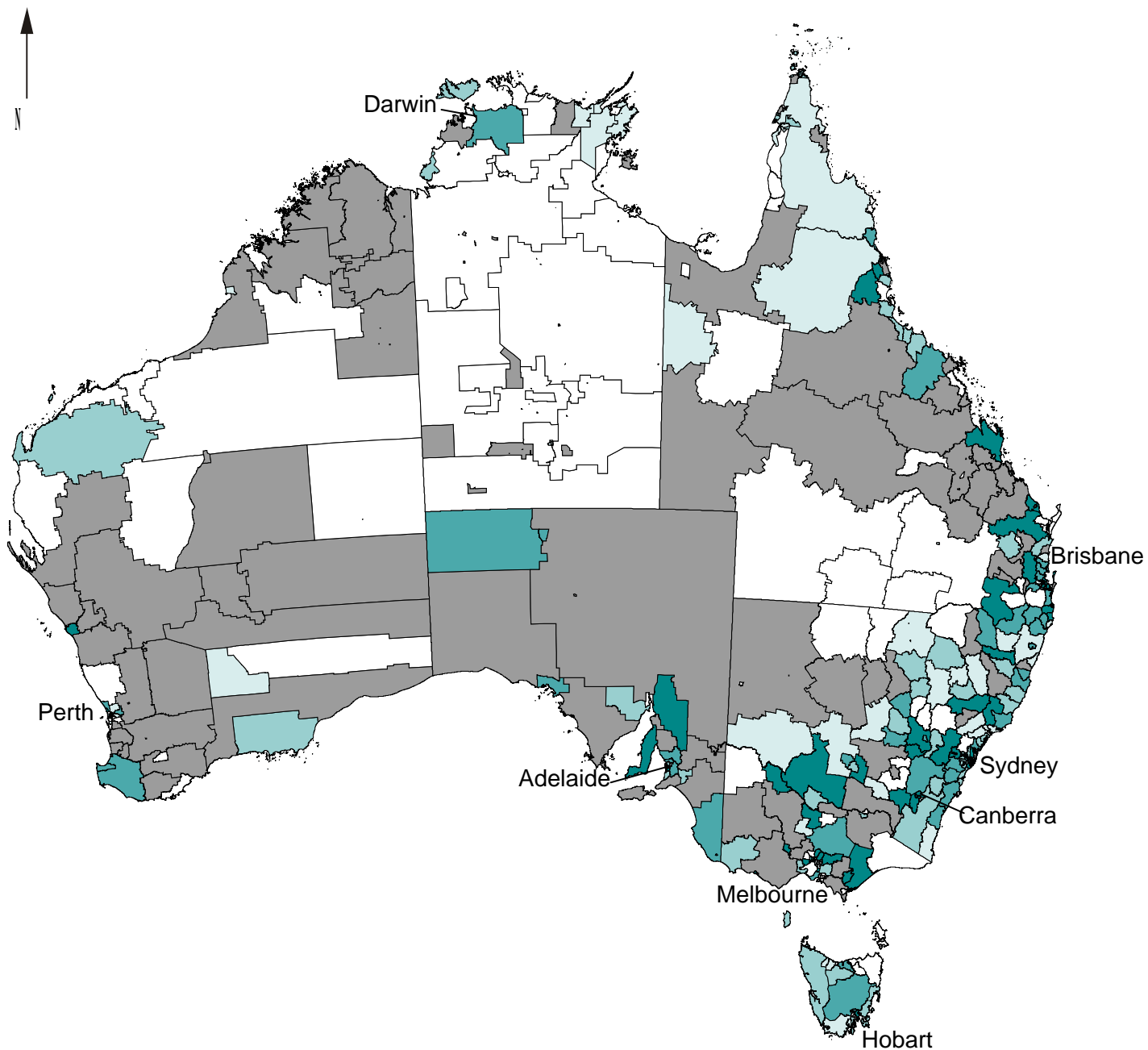
Throughout **Western Australia**, participation in secondary education of 16 year old Indigenous people was low, with the Indigenous Area of Northam recording no such students. Fewer than 40% of Indigenous young people in Kununurra, Ngaanyatjarraku (excl. Warburton), East Pilbara, Derby, Fitzroy Crossing, Fitzroy River, Port Hedland, Kalgoorlie/Boulder, Halls Creek Town and Mandurah were participating in full-time secondary education. Low rates (of 40% to less than 50%) were also recorded in Meekatharra, Karratha, Roebourne (excl. Karratha), Moore, Carnarvon, Katanning and Albany. Greenough recorded a participation rate of above 80%.

Participation rates in the non-metropolitan areas of **Tasmania** were below 50% in Glenorchy and Hobart. The highest rates were recorded in Central Tasmania (72.7%) and West Tamar/Latrobe (72.0%).

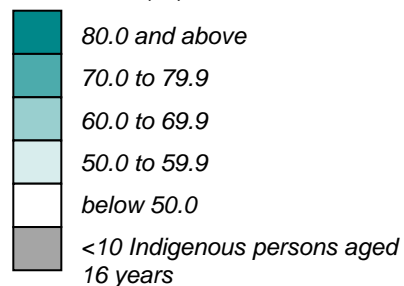
Only three Indigenous Areas in the non-metropolitan areas of the **Northern Territory** recorded more than 60% of Indigenous 16 year old young people participating in secondary education on a full-time basis: these areas were Kakadu/Marrakai (77.9%), Thamarrurr (65.2%) and Tiwi Islands (64.6%). As can be seen from the map, participation rates were relatively low across the remaining Indigenous Areas. The lowest of these, with less than 30% participation, included the IAs of Petermann/Simpson, Tanami, Yuendumu, Anjatjere, Lajamanu, Sandover, Urapuntja Outstation, Ingerkerke Outstation/Iwupataa.

Map 28: Indigenous participation in full-time secondary education at age 16, Australia, 2011

per cent by Indigenous Area



Indigenous participation in education (%)



Source: Compiled in PHIDU based on data from ABS 2011 Census

Indigenous women smoking during pregnancy, capital cities

Smoking during pregnancy doubles the risk of low birth weight and significantly increases the risk of perinatal mortality, SIDS, asthma and other adverse pregnancy outcomes.⁸⁴ Smoking prevalence remains disproportionately high among pregnant Aboriginal and Torres Strait Islander women, especially teenaged mothers.^{84,85} Having a smoking partner, an Aboriginal and/or Torres Strait Islander partner, and high levels of stress, are associated with an increased risk of smoking during pregnancy.⁸⁶ Smoking cessation interventions within this population need to focus on the social environment, and the influences of social networks and partners on the smoking behaviour of individuals.⁸⁶

Indicator definition: Aboriginal and Torres Strait Islander women who reported smoking during a pregnancy, as a proportion of the number of pregnancies (Aboriginal women), over the time period (three years).

Note: The area mapped is the Indigenous Area (IA) as the number of cases at the SLA level is generally too small to produce reliable results. As IAs do not in all cases match the ABS boundaries on which the capital cities are based, the 'capital city' totals in the table below approximate the true figures for these areas.

Table 30: Indigenous women smoking during pregnancy, by capital city, 2006 to 2008

Per cent

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra*	Total [#]
42.6	n.a.	n.a.	55.1	50.0	57.1	45.1	46.6	47.5

* The figures for Canberra are for the years 2005 to 2007.

[#] The 'Total' excludes data for Melbourne and Brisbane.

Capital cities

At the capital city level, rates of smoking during their pregnancy, as reported by Aboriginal and Torres Strait Islander women, were all high, and varied from 42.6% in Sydney to 57.1% in Hobart. Readers should be aware that many of the areas that were not mapped (with fewer than five Indigenous women reporting smoking during their pregnancy) were also likely to have low rates.

There were relatively low rates across **Sydney**, with the exception of a number of Indigenous Areas in the inner west. These were the Indigenous Areas (IAs) of Blacktown - Shalvey (85.7%, with the highest rate in Australia), Blacktown - Blackett/Emerton (66.7%) and Blacktown - Doonside/ Woodcroft (65.7%); the Penrith SLAs of - West (64.3%) and - Central (63.5%); and Campbelltown - North-West (63.2%). In addition to IAs with small numbers (which were not mapped; and some of which are on the north shore), less than 25% of Indigenous women in Wollondilly, Inner Western Sydney, Canterbury and Rockdale reported smoking during their pregnancy.

Data for **Melbourne** and **Brisbane** were not available.

The northern IAs of Salisbury (60.7%) and Playford/ Gawler (57.5%) recorded the highest proportions of Aboriginal women smoking during pregnancy in **Adelaide**. High rates were also recorded in the inner city, in Adelaide/ Prospect/Walkerville (57.1%), and in the southern IA of Onkaparinga (56.0%). The lowest

smoking rates were recorded in West Adelaide, and Tea Tree Gully.

In **Perth**, 60% or more Indigenous women reported smoking during pregnancy in Armadale (62.3%), Victoria Park (60.5%) and Kwinana (60.0%), with rates of over 50 % in several other IAs. Low rates were recorded in some inner city, middle and outer areas, the lowest of which were in Melville, Joondalup and Wanneroo.

At least 50% of Indigenous women smoked during their pregnancy in each of the IAs in **Hobart**. The highest proportions were recorded in Brighton (the second highest capital city rate) and Clarence (61.7%), with the lowest in Kingborough and Glenorchy.

Darwin/Inner Suburbs and several IAs in the north-west of **Darwin** had rates below 40%, with the lowest of these in Anula/Wulagi, Alawa/ Brinkin/Nakara and Malak. More than half of the Indigenous women in the Indigenous Areas of Millner/Jingili, Marrara/Winnellie/ Berrimah, Driver/Woodroffe, and Nightcliff/Rapid Creek reported smoking during pregnancy.

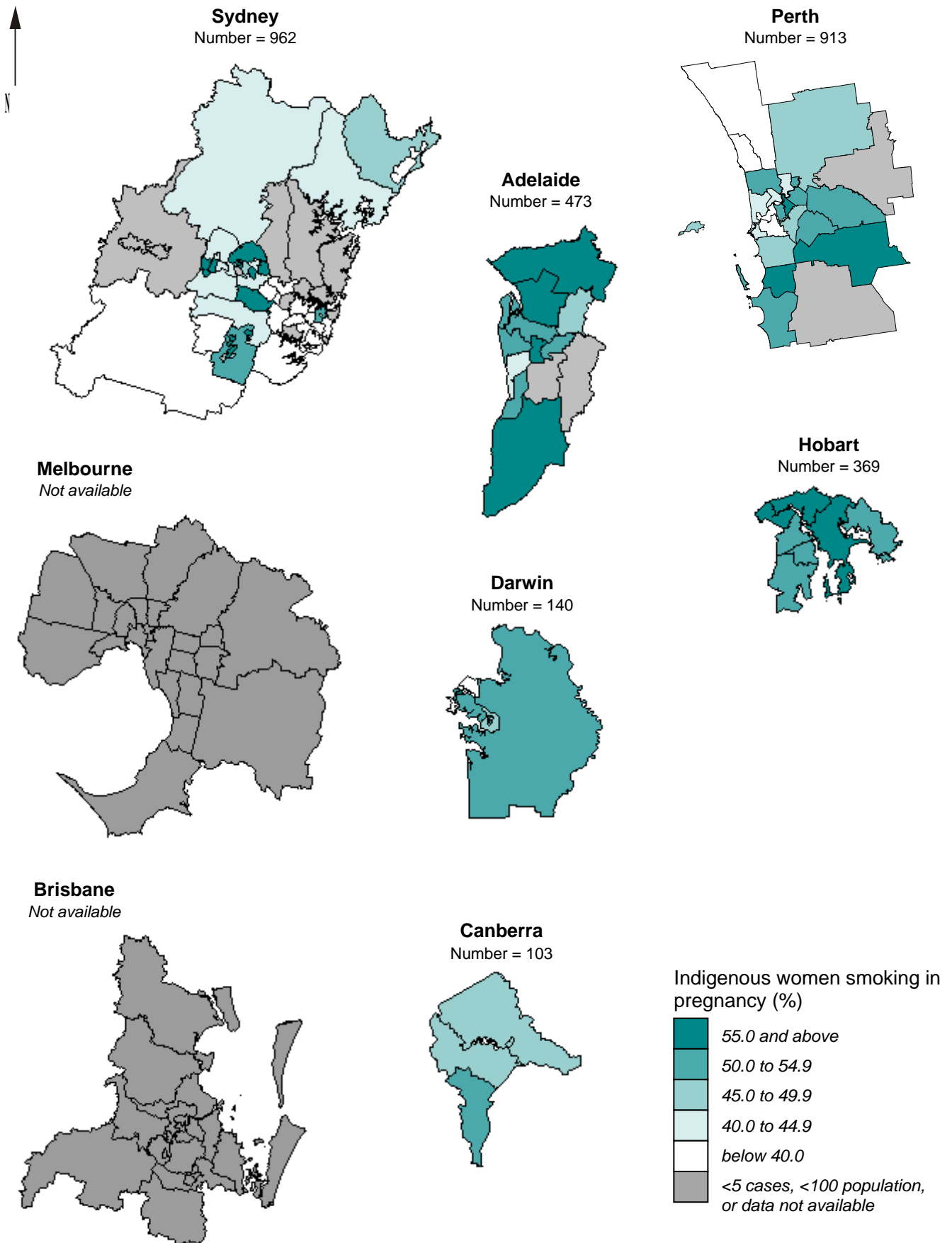
There was little difference in the proportion of Indigenous women smoking during pregnancy across **Canberra**, with 46.1% in Belconnen/ Gungahlin/North Canberra, 46.9% in South Canberra/Weston/Woden, and 50.0% in Tuggeranong/ACT South.

Remoteness

Data were not available at a geographic level which would allow the calculation of rates by the remoteness classification.

Map 29: Indigenous women smoking during pregnancy, capital cities, 2006 to 2008

per cent by Indigenous Area



Source: Compiled in PHIDU based on data supplied by State and Territory health authorities

Indigenous women smoking during pregnancy, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory. The area mapped is the Indigenous Area as the number of cases at the SLA level is generally too small to produce reliable results. As IAs do not in all cases match the ABS boundaries on which the non-metropolitan areas are based, the 'non-metropolitan' totals in the table below approximate the true figures for these areas.

Table 31: Indigenous women smoking during pregnancy, by State/ Territory, Australia, 2006 to 2008

<i>Per cent</i>									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT*	Total [#]
Non-metropolitan	53.8	n.a.	n.a.	59.8	53.6	53.4	45.5	..	52.2
Total	51.2	n.a.	n.a.	57.4	52.5	54.6	44.7	46.6	50.8

* The figures for the Australian Capital Territory are for the years 2005 to 2007.

[#] The 'Total' excludes data for Victoria and Queensland.

Non-metropolitan areas

Aboriginal women in the non-metropolitan areas of South Australia reported the highest level of smoking in pregnancy (59.8%), with the lowest (45.5%) in the Northern Territory. Rates in the non-metropolitan areas of the other States were between 53% and 54%.

In **New South Wales**, high rates of Indigenous women smoking during pregnancy were evident throughout much of the State. Proportions above 70% were recorded in the Indigenous Areas (IAs) of Carrathool/Murrumbidgee (80.0%), Kyogle (75.0%), Queanbeyan (75.0%), Tenterfield (73.7%) and Wilcannia (72.7%). The IAs of Liverpool Plains, Coolamon/Temora/Weddin/Bland, Cowra, and Tumut had the lowest proportions, with 40% or fewer Indigenous women smoking during pregnancy.

Data for **Victoria** and **Queensland** were not available.

The IAs of Renmark Paringa (76.9%) and Loxton Waikerie/ Mid Murray/Gerard (69.6%) had the highest proportions of Aboriginal women smoking during pregnancy in country **South Australia**, with other high rates in Port Augusta (66.4%) and Port Pirie City and Districts (65.0%). Smoking rates were generally high across the State, with no area mapped in the lowest range. The lowest proportions (of just below 50%) were recorded in Barossa SSD and Anangu Pitjantjatjara, with 50% of Aboriginal women from Murray Mallee, South-East, Coober Pedy and Mid-North smoking during pregnancy.

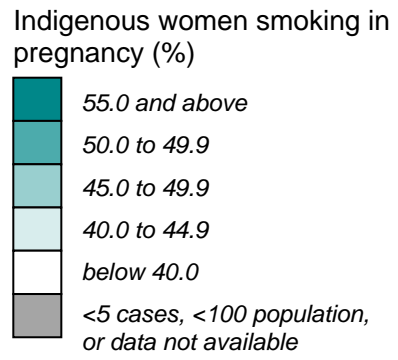
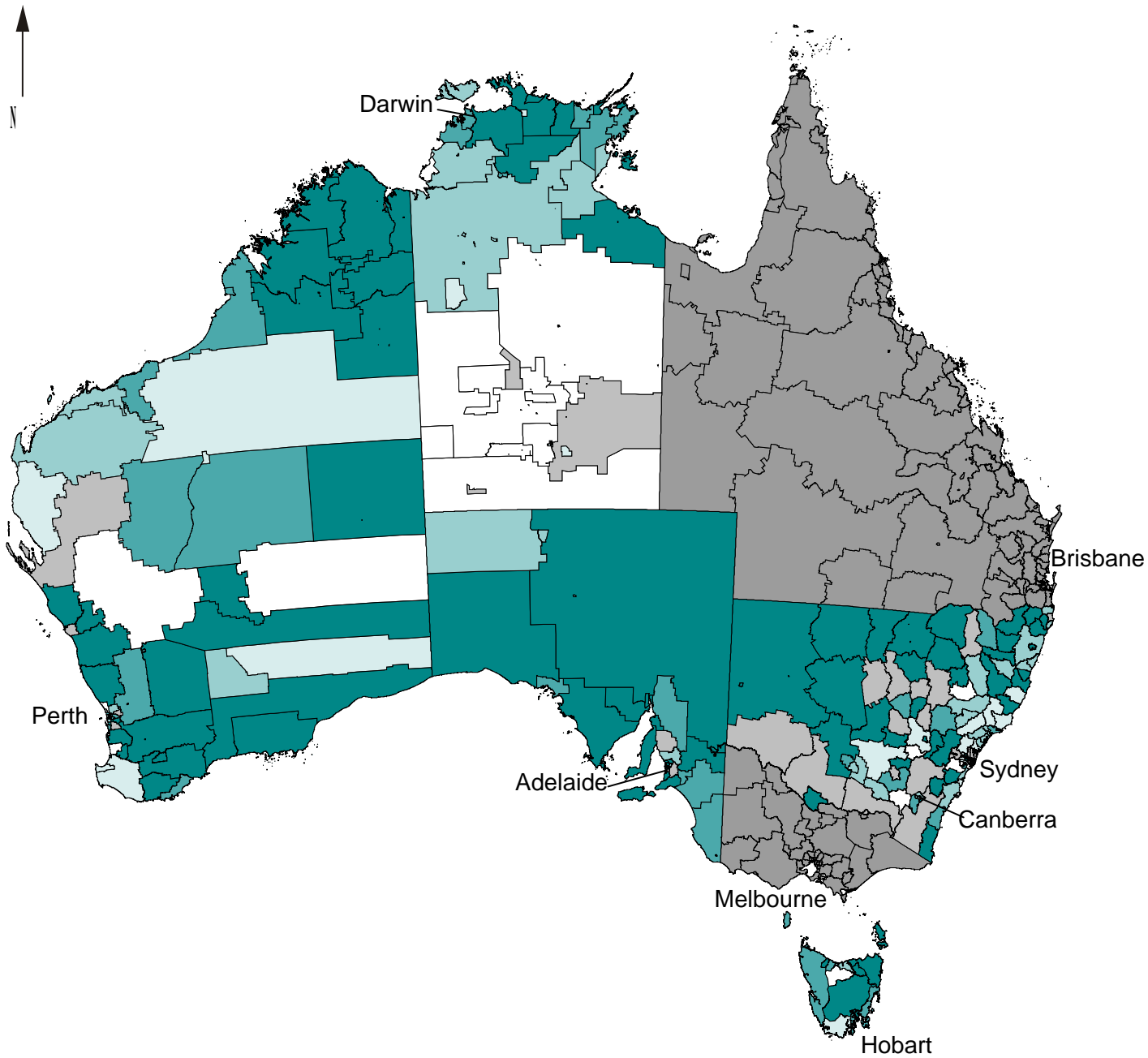
The highest rates of smoking by Indigenous women during pregnancy in Western Australia were in IAs located across the State, with rates above 70% in the IAs of Northern Agricultural (73.7%), Moore (70.6%) and Leonora (70.4%); in the south, in Esperance (71.1%); and in the north, in Derby and Fitzroy Crossing (both 67.1%). Harvey, Carnegie South and Laverton had rates

below 40%, with slightly higher rates in Northam, Busselton, Jigalong and East Pilbara.

The proportions of Indigenous women smoking during pregnancy in the non-metropolitan areas of **Tasmania** ranged from 34.6% in Meander Valley/ Kentish to 70.8% in North-East Tasmania and 69.4% in Central Tasmania. Other rates were between 43 and 47%.

IAs in the southern half of the **Northern Territory** were characterised by lower rates of smoking by Indigenous women during pregnancy (and the lowest of the IAs across Australia), including Tennant Creek Balance (14.9%), Urapuntja Outstation (16.2%) and Ingkerreke Outstation/ Iwupataka (16.2%); and Hermannsburg (Ntaria), Kintore (Walungurru) and Outstations, Tjuwanpa Outstation and Tanami, all reporting rates below 25%. In Angurugu IA, 81.6% of Indigenous women smoked during pregnancy (the highest non-metropolitan rate), with relatively high proportions also recorded in the IAs of Nyirranggulung Mardrulk Ngadberre (68.4%), Mabunji Outstation/ Mungoorbada Outstation (68.2%) and Nhulunbuy/ Marngarr/ Gumatj and Outstations/ Marthakal Homelands (64.8%).

Map 30: Indigenous women smoking during pregnancy, Australia, 2006 to 2008 per cent by Indigenous Area



Source: Compiled in PHIDU based on data supplied by State and Territory health authorities

Indigenous median age at death, capital cities

In 2009, the median age at death of Aboriginal and Torres Strait Islander males was 52.5 years and of females, 61.3 years.⁸⁷ This was much lower than for the non-Indigenous population (78.0 years and 83.9 years respectively). While median age at death values are influenced to some extent by the age structure of a population and the Aboriginal and Torres Strait Islander populations have a younger age structure than the non-Indigenous population (see 'Note' under the Indicator definition, below), this difference still clearly represents an important health inequity.^{87,123} Similar information for the total population follows.

Indicator definition: The age at which exactly half the Aboriginal and Torres Strait Islander deaths registered in the period 2003 to 2007 were deaths of people above that age and half were deaths below that age. The area mapped is the Statistical Subdivision (SSD), as the number of deaths at the Statistical Local Area level is too small to be reliable.

Notes: Areas with fewer than 20 deaths over this five-year period have not been mapped. In addition to general issues to do with the quality of statistics for the Indigenous population, the ABS advises that the median age at death 'may also be affected by differences in identification by age'.⁸⁷ For more information on data quality issues for this indicator, refer to Appendix A.

Table 32: Indigenous median age at death, by capital city, 2003 to 2007

Age (years)								
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total*
63.0	n.a.	56.0	51.0	56.0	n.a.	52.0	n.a.	57.0

* 'Total' excludes data for Melbourne, Hobart and Canberra

Capital cities

The variation in Indigenous median age at death between the capital cities has been calculated at twelve years, with the lowest median age (poorest outcome) recorded in Adelaide (51.0 years) and Darwin (52.0 years) and the highest in Sydney (63.0 years). Comparable figures for the non-Indigenous population are 81.0 years (Adelaide), 80.0 years (Sydney) and 67.0 years (Darwin). Readers should be aware that the lower median ages (poorer outcomes) are mapped in the darker shades.

In **Sydney**, the Indigenous median age at death was lowest in Blacktown (57.0 years), Inner Sydney (59.0 years) and Outer South Western Sydney (60.0 years). The highest median ages were calculated for a number of areas, from Central Northern Sydney (71.0 years) north to Gosford-Wyong, and to the south of the city.

Reliable data were not available for **Melbourne**.

In **Brisbane**, Indigenous median ages at death were markedly lower, with the lowest recorded in Pine Rivers Shire (43.0 years) and Redcliffe City (49.0 years). Median ages below 55 were also recorded for Southeast Outer Brisbane, Northwest Inner Brisbane, Logan City and Ipswich City. The highest median ages were recorded in Redland Shire (67.5 years), Caboolture Shire (66.0 years) and Southeast Inner Brisbane (61.5 years).

Relatively low Indigenous median ages at death were calculated for all four SSDs in **Adelaide**. The median ages were 48.5 years in Southern Adelaide, 51.0 years in Western Adelaide, 52.0

years in Northern Adelaide and 57.5 years in Eastern Adelaide.

The Indigenous median ages at death in **Perth** were also relatively low, in South East Metropolitan (54.0 years), East Metropolitan (55.0), South West Metropolitan (56.0) and North Metropolitan (57.0). The exception was the Central Metropolitan SSD, with a median age of 62.0 years.

Reliable data were not available for **Hobart**.

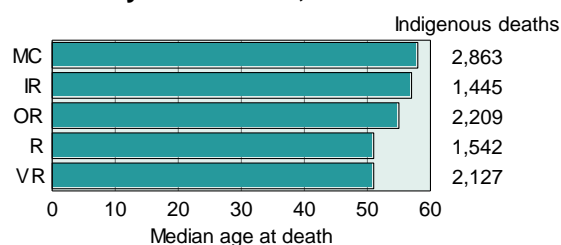
The median age at death was estimated to be low in all three SSDs in Darwin, at 50.0 years in Palmerston-East Arm, 52.5 years in Darwin City and 53.0 years in Litchfield Shire.

Reliable data were not available for **Canberra**.

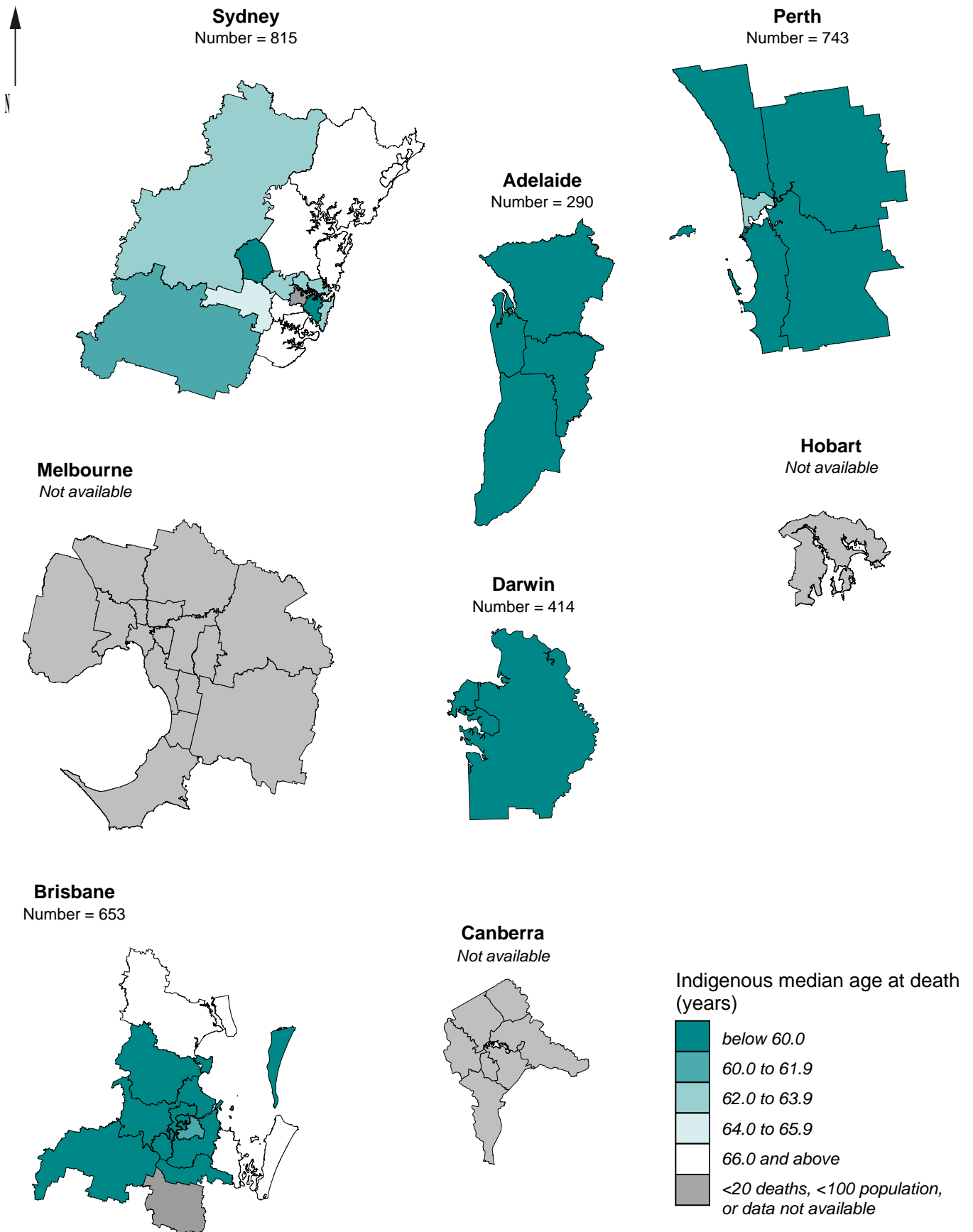
Remoteness

The median age at death for the Indigenous population (excluding Melbourne, Hobart and Canberra) decreases over the remoteness classes, from 58.0 years in the Major Cities class 51.0 years in both the Remote and Very Remote areas. The next indicator shows the comparable figures for the non-Indigenous population to be markedly higher, at 80.0 years in the Major Cities and 74.0 years in the Very Remote areas.

Figure 19: Indigenous median age at death, by remoteness, 2003 to 2007



Map 31: Indigenous median age at death, capital cities, 2003 to 2007
 median age at death by Statistical Subdivision



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

Indigenous median age at death, Australia

Notes: See comments on previous text page for details of this indicator. ‘Non-metropolitan’ refers to the area of the State or Territory outside of the capital city. ‘Total’ refers to the whole State or Territory. Areas with fewer than 20 deaths over this five-year period have not been mapped.

Table 33: Indigenous median age at death, by State/ Territory, Australia, 2003 to 2007

Area	Age (years)								
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total*
Non-metropolitan	59.0	n.a.	56.0	49.0	54.0	n.a.	49.0	n.a.	54.0
Total	60.0	n.a.	56.0	50.0	55.0	n.a.	49.0	n.a.	55.0

* ‘Total’ excludes data for Victoria, Tasmania and the Australian Capital Territory

Non-metropolitan

The difference in the Indigenous median age at death between the non-metropolitan areas has been calculated at ten years, with the lowest median age (indicating the poorest outcome) calculated for the non-metropolitan areas of South Australia and the Northern Territory (both 49.0 years) and the highest for New South Wales (59.0 years). The median ages at death in the non-metropolitan areas were lower than those in the capital cities, apart from in Queensland where it was the same.

Comparable figures for the non-Indigenous population are 80.0 years (SA), 69.0 years (NT) and 80.0 years (NSW). The low median age calculated from these official statistics for the non-Indigenous population of the Northern Territory (outside of Darwin), suggests that some Indigenous deaths may not be being correctly identified and, therefore lowering the non-Indigenous median. A similar possibility exists in relation to the data for Darwin, shown on the previous pages. It is not known if this is the case, nor what impact this might have on the Indigenous median age at death.

Indigenous median ages at death in non-metropolitan **New South Wales** were higher than in the other States, although still notably lower in comparison with the non-Indigenous population. The lowest median age at death was recorded for Richmond-Tweed SD Balance (50.0 years). Other areas with median ages below 55.0 years and more than 20 deaths) were Lower South Coast (50.5 years), Far West (52.5 years), Coffs Harbour (53.0 years), Dubbo (53.5 years) and Murray-Darling (54.0 years). Almost one-third of the SSDs in non-metropolitan New South Wales recorded median ages in the highest range mapped (62.0 years and above), with the majority of these spanning an area from the Queensland to the Victorian borders, inland from the coast, and around Sydney.

Reliable data were not available for non-metropolitan **Victoria**.

In **Queensland**, Indigenous the lowest median ages at death were calculated for Townsville City Part A (50.0 years), North West (50.0 years), Northern Statistical Division Balance (51.0 years), Sunshine Coast SD Balance (53.0 years) and Mackay City Part A (54.0 years): a median age of 46.0 years was calculated for Gladstone, although with 17 deaths over this five-year period it has not been mapped. The highest median ages were recorded for the SSDs of Gold Coast West (65.0 years) and East (62.5 years), Central West (62.5 years) and Lower West Moreton (62.5 years).

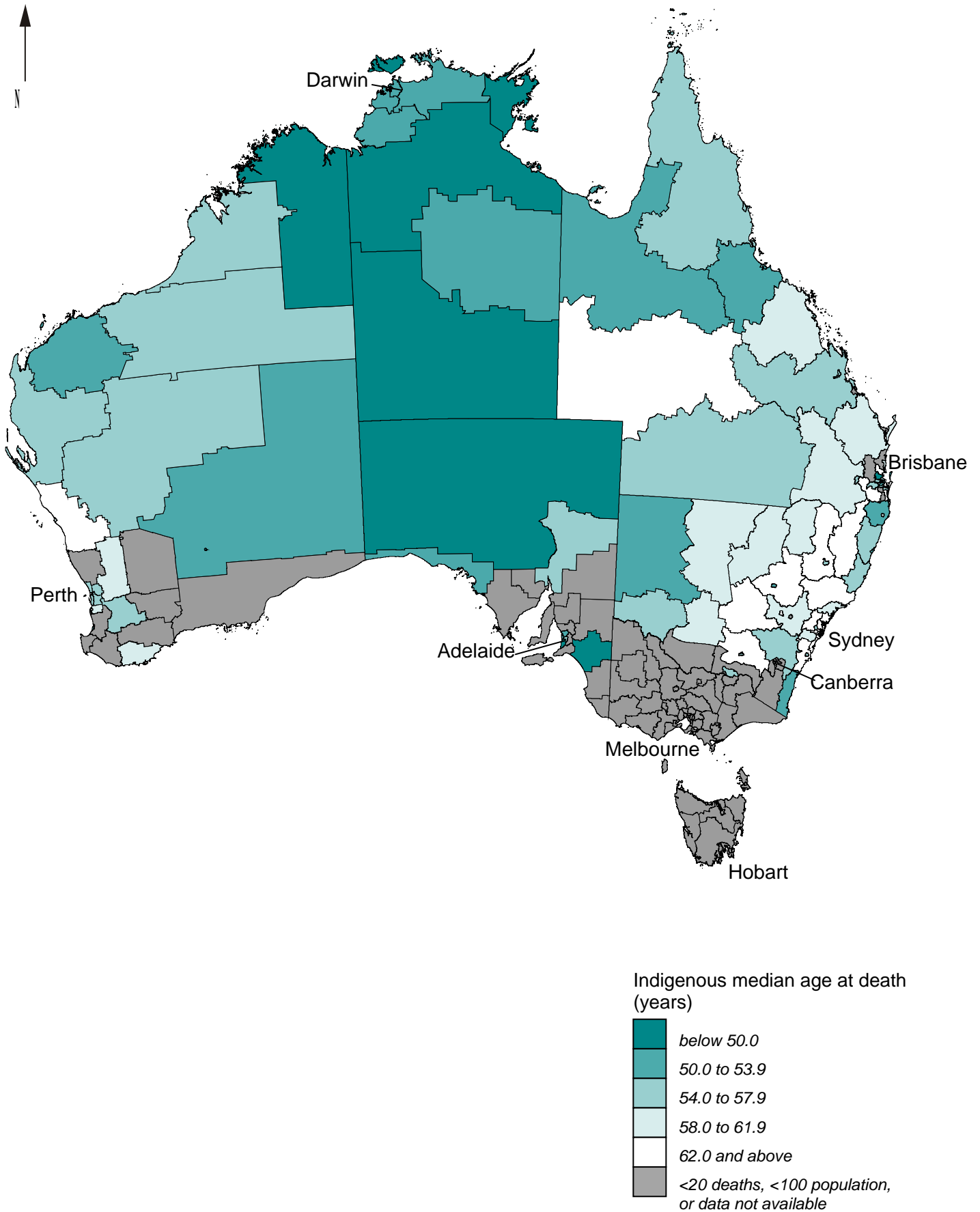
The median age at death was lower in the non-metropolitan areas of **South Australia**, ranging from 55.5 years in Flinders Ranges. Other SSDs with median ages below 50.0 years included the Murray Mallee, Far North and Riverland. Lincoln had a median age at death of 40 years, although with only 18 deaths, it has not been mapped.

In the non-metropolitan areas of **Western Australia**, the lowest Indigenous median ages at death were calculated for Kalgoorlie/Boulder City Part A and Ord (both 48.0 years). Median ages at death below 55.0 years were also recorded for Champion, Bunbury, Fortescue, Johnston, Lefroy, Pallinup and De Grey. The highest median age at death was recorded in the SSD of Greenough River (63.0 years); Vasse and Preston had similar median ages, but with 19 and 18 deaths, respectively, have not been mapped.

Reliable data were not available for non-metropolitan **Tasmania**.

In the non-metropolitan areas of **Northern Territory**, the Indigenous median age at death was comparatively lower than in the States. There was also little variation across the SSDs, with median ages below 50.0 years recorded for East Arnhem (47.0 years), Central Northern Territory (48.0 years), and Bathurst-Melville and Lower Top End NT (both 49.0 years); and 50.0 years or above in Daly (51.0 years), Barkly and Finnis (both 50.5 years), and Alligator (50.0 years).

Map 32: Indigenous median age at death, Australia, 2003 to 2007
 median age at death by Statistical Subdivision



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

Non-Indigenous median age at death, capital cities

Although not an indicator in this Priority Area, the median age at death of the non-Indigenous population is shown for comparison with the information for the Indigenous population, shown above. In 2009, the median age at death of the non-Indigenous population was 77.8 years for males and 83.9 years for females.⁸⁷

Indicator definition: The age at which exactly half the non-Indigenous deaths registered in the period 2003 to 2007 were deaths of people above that age and half were deaths below that age. To enable comparison with the Indigenous median age at death mapped above, the area mapped for this indicator is also the Statistical Subdivision (SSD).

Table 34: Non-Indigenous median age at death, by capital city, 2003 to 2007

Age (years)									
Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total	
80.0	n.a.	80.0	81.0	80.0	n.a.	67.0	n.a.	80.0	

* 'Total' excludes data for Melbourne, Hobart and Canberra

Capital cities

There was a 14 year difference in the median age at death between the Australian capital cities, with the lowest median age calculated for Darwin (67.0 years, the poorest outcome under this measure), and the highest for Adelaide (81.0 years, the best outcome).

In **Sydney**, the non-Indigenous median age at death were calculated at below 80 years for the western and south-western SSDs of Blacktown (76.0 years), Fairfield-Liverpool and Outer South Western Sydney (both 77.0 years), Outer Western Sydney (78.0 years) and Canterbury-Bankstown (79 years); with 78.0 years also in Inner Sydney. The highest median ages were calculated for the inner northern areas of Northern Beaches (83.0 years), Lower Northern Sydney and Central Northern Sydney (both 82.0 years).

As reliable data were not available for the Indigenous populations in **Melbourne**, data for the non-Indigenous population have not been mapped.

In **Brisbane**, SSDs with the lowest non-Indigenous median ages at death were located in the outer north and outer south, with the lowest median age calculated for Beaudesert Shire Part A (71.0 years). Other SSDs with median ages below 79.0 included Logan City (74.0 years), Pine Rivers Shire (77.0 years), Caboolture Shire (78.0 years) and Ipswich City (78.0 years). The highest median ages were in Inner Brisbane, Northwest Inner Brisbane and Northwest Outer Brisbane (all 81.0 years).

The median age at death in **Adelaide** was calculated at 78.0 years for the SSD of Northern Adelaide, with 80.0 years for Western Adelaide, 81 years for Southern Adelaide and 83.0 years for Eastern Adelaide.

Areas in **Perth** with a median age at death below 80.0 years for the non-Indigenous population were East, North and South West Metropolitan SSDs (all 79.0 years). The highest median age was recorded for the Central Metropolitan (83.0 years) with 80.0 years in South East Metropolitan.

As reliable data were not available for the Indigenous population in **Hobart**, data for the non-Indigenous population have not been mapped.

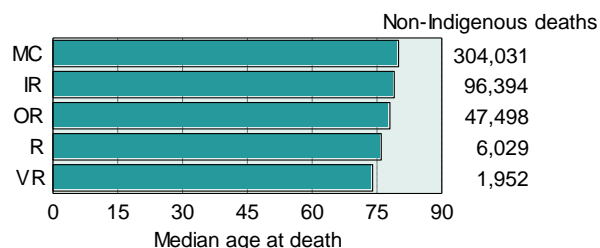
The non-Indigenous median age at death for **Darwin** was by far the lowest of the capital cities, with 62.0 years in Litchfield Shire SSD, 66.0 years in Palmerston-East Arm and 68.0 years in Darwin City.

As reliable data were not available for the Indigenous population in **Canberra**, data for the non-Indigenous population have not been mapped.

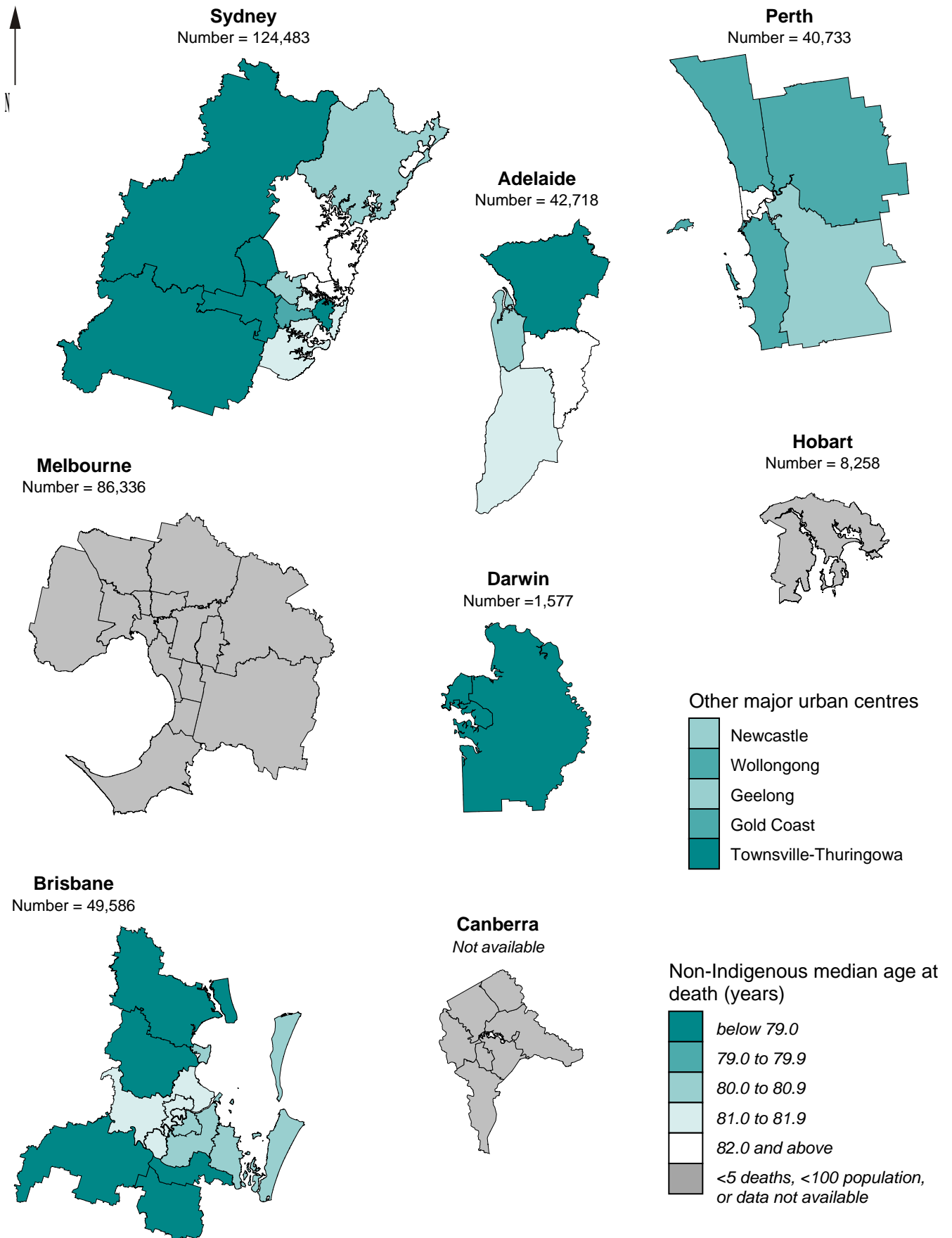
Remoteness

The non-Indigenous median age at death (excluding Victoria, Tasmania and the Australian Capital Territory) decreases over the remoteness classes, from a median age at death of 80.0 years in the Major Cities to a median age at death of 74.0 years in the Very Remote areas.

Figure 20: Non-Indigenous median age at death, by remoteness, 2003 to 2007



Map 33: Non-Indigenous median age at death, major urban centres, 2003 to 2007
 median age at death by Statistical Subdivision



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

Non-Indigenous median age at death, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 35: Non-Indigenous median age at death, by State/ Territory, Australia, 2003 to 2007

Age (years)									
Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total*
Non-metropolitan	80.0	n.a.	79.0	80.0	78.0	n.a.	69.0	n.a.	79.0
Total	80.0	n.a.	79.0	80.0	79.0	n.a.	67.0	n.a.	80.0

* 'Total' excludes data for Victoria, Tasmania and the Australian Capital Territory

Non-metropolitan areas

The lowest median age at death was recorded for the non-metropolitan areas of the Northern Territory (69.0 years), some eleven years below that in the non-metropolitan areas of New South Wales, Victoria and South Australia (all 80.0 years). The median age was slightly lower in the majority of the non-metropolitan areas of each State and Territory than in the capital cities, apart from in New South Wales and Victoria (where the age was the same) and the Northern Territory (where it was two years higher).

The difference in the median ages at death between the more heavily populated and the rural and remote areas is clear in the map, even for these large geographical areas.

In the non-metropolitan areas of **New South Wales**, the lowest non-Indigenous median ages at death were in the far north and west of the State in Macquarie-Barwon, Upper Darling and Murray-Darling, as well as south of Sydney in Queanbeyan (all 77.0 years). The highest median ages were recorded for Lismore, Coffs Harbour, Port Macquarie and Orange (all 81.0 years).

As reliable data were not available for the Indigenous populations in **Victoria**, data for the non-Indigenous population have not been mapped.

A number of SSDs in non-metropolitan **Queensland** recorded median ages at death in the lowest range mapped (below 78.0 years) including the North West (74.0 years), Sunshine Coast Statistical Division (SD) Balance, Gold Coast North, Fitzroy SD Balance, Mackay SD Balance, Upper West Moreton, Gladstone and Cairns City Part A. There were no SSDs in the non-metropolitan areas of the State with median ages in the highest range mapped (81.0 years and above). Gold Coast East, Gold Coast West, Sunshine Coast and Toowoomba all recorded a median age at death of 80.0 years.

In non-metropolitan **South Australia**, the non-Indigenous median age at death was substantially lower in the northern-most SSD, the Far North, at 69.0 years. The next lowest median

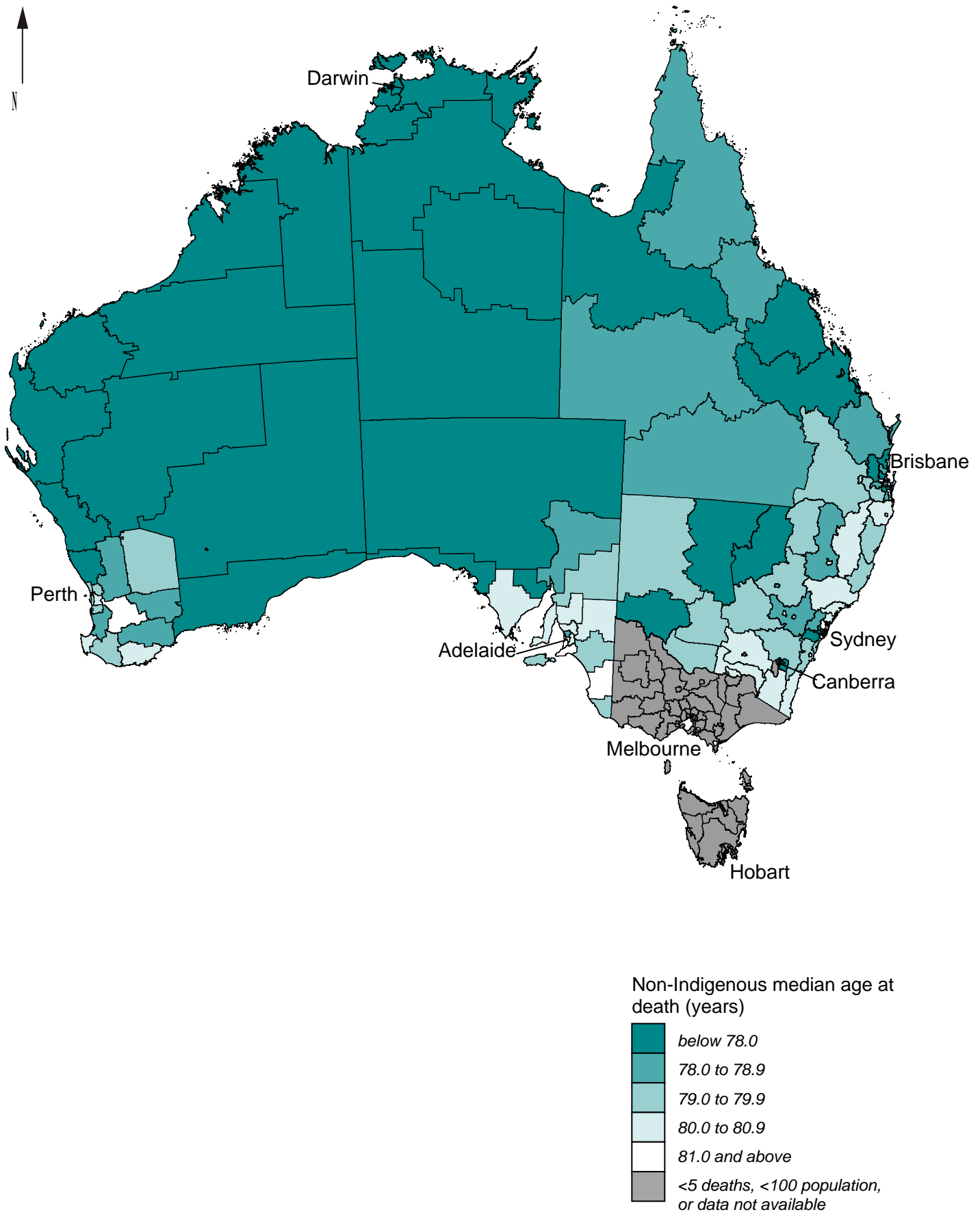
ages were in the far west and north of the State, in West Coast and Whyalla (both 77.0 years). Flinders Ranges, Kangaroo Island, Murray Mallee, Lower South East and Pirie SSDs also had median ages at death below 80.0 years for their non-Indigenous populations. The highest median ages at death were in the Upper South East (82.0 years) Fleurieu (81.0 years) SSDs.

SSDs with median ages at death in the lowest range mapped (below 78.0 years) covered the majority of **Western Australia**, with higher median ages evident only in the south-west of the State. In addition, some of these areas had the lowest median ages calculated for the non-Indigenous population, with ages below 70.0 years recorded for the SSDs of Fortescue (the lowest in Australia, at 60.0 years), Lefroy (63.0 years, and second lowest in Australia), Ord and Fitzroy (both 67.0 years), and De Grey (68.0 years). Again, this in part related to poor identification of Indigenous deaths. The highest median age at death was calculated for Hotham (81.0 years), followed by Bunbury, Vasse and King (all 80.0 years).

As reliable data were not available for the Indigenous populations in **Tasmania**, data for the non-Indigenous population have not been mapped.

All of the SSDs in the non-metropolitan areas of the **Northern Territory** recorded median ages at death below 77.0 years. Areas with a median age at death below 70.0 years included Finnis (64.0 years), Barkly (65.0 years), East Arnhem (68.0 years) and the Lower Top End NT (69.0 years). The highest median ages at death were calculated for Alligator and Bathurst-Melville (both 76.0 years).

Map 34: Non-Indigenous median age at death, Australia, 2003 to 2007
 median age at death by Statistical Subdivision



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

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Indicators of health status, risk factors, outcomes and use of services

As noted in Section 1, this atlas describes the extent and significance of inequalities in health and social inclusion across Australian society. As such, it reflects recognition within the health sector of the impact of socioeconomic disadvantage on health and wellbeing.^{124,125}

Although some indicators of health status and outcomes are specifically covered by the indicators for social inclusion presented above (e.g., smoking in pregnancy, median age at death), details are presented in the following pages for a number of indicators (listed below) of health status, health risk factors and outcomes, and screening for bowel cancer.

Chronic diseases and associated risk factors:

- Prevalence of circulatory system diseases;
- Prevalence of type 2 diabetes;
- Prevalence of smoking among males;
- Prevalence of smoking among females;
- Prevalence of obesity among males; and
- Prevalence of obesity among females.

Screening services:

- National Bowel Cancer Screening Program, participation; and
- National Bowel Cancer Screening Program, positive test results.

Premature mortality:

- Deaths from all causes; and
- Deaths from suicide and self-inflicted injury.

In addition to the indicators listed, a substantially larger number of indicators can be found online at www.adelaide.edu.au/phidu/. For example, services provided by general medical practitioners and funded through Medicare are available from the PHIDU website, with separate details for men and women, and for selected services, such as the 45 Year Old Health Check. Details are also available for a wider range of causes of death (and for a later period (2008-12) than is shown here), of other screening programs (breast and cervical cancer screening), and of other chronic diseases and associated risk factors; and information about children includes immunisation status at ages one, two and five years.

National Bowel Cancer Screening Program (NBCSP)

Since 2006, the Australian Government has initiated a limited colorectal cancer screening program, which aims to reduce the incidence and death from bowel cancer, by using a one-time immunochemical faecal occult blood test (FOBT) for people aged 50, 55 and 65 years. The second phase of the NBCSP commenced on 1 July 2008 and offered testing to people turning 50 years of age between January 2008 and December 2010, and to those turning 55 or 65 between July 2008 and December 2010. From 2012, the program was expanded to include Australians turning 60 years of age, and from 2015, those turning 70 years. In 2017-18, the program will offer biennial screening, commencing with 72 year olds, as per the recommendations of the National Health and Medical Research Council for two-yearly screening.¹³⁴

In addition to the NBCSP, a variety of FOBT kits are available in Australia to screen for bowel cancer; these are either available over the counter from pharmacies, through medical practitioners, or through other programs such as BowelScreen Australia (an education and screening initiative run by The Pharmacy Guild of Australia), and BowelCare (a community service project of various Rotary clubs and districts). The data contained within this report only represent participation within the NBCSP implemented by the Australian Government in partnership with State and Territory governments, and not the other programs. This is likely to have influenced the patterns evident in the maps of participation in testing, and of positive test results, published here. Additional notes are provided in Appendix A, page 205.

Prevalence of circulatory system diseases, capital cities

Circulatory system diseases are diseases of the heart and the vascular (blood vessel) system: ischaemic heart disease (IHD), stroke, hypertensive heart disease (due to the effects of high blood pressure), and rheumatic heart disease. In 2009, the leading cause of death in Australia was heart disease; and IHD and stroke combined contributed to 73.2% of deaths from diseases of the circulatory system.⁸⁷ Groups at increased risk of developing and dying from these diseases include Aboriginal and Torres Strait Islander Australians, people of lower socioeconomic status, males over the age of 45 years, males living in rural and remote areas, and people with diabetes and/or a family history of heart disease.⁸⁸

Indicator definition: Estimated population with circulatory system diseases as a long-term condition, expressed as a percentage (age-standardised); further details of these estimates are in Appendix B.

Table 36: Estimated population with circulatory system diseases, by capital city, 2007-08

Per cent (age-standardised rate per 100 population)

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
13.9	17.0	15.6	18.5	14.3	19.7	11.0	16.3	15.6

Capital cities

The estimated rate of circulatory system diseases varied across the capital cities, with the highest rates in Hobart (19.7%) and Adelaide (18.5%), and the lowest rates in Darwin (11.0%) and Sydney (13.9%).

Rates were relatively low in **Sydney**, with the highest estimates in the outer north-eastern SLAs of Wyong - North-East (16.3%) and - South and West (16.2%), and Gosford - West (15.7%); and the western SLAs of Parramatta - South (15.6%), and Bankstown - North-West (16.2%) and - South (15.5%). The lowest rates were estimated for the inner city areas of Sydney - Inner and - East, and for North Sydney.

SLAs with the highest rates in **Melbourne** were located to the north (in Moreland - North (18.7%) and - Coburg (18.6%); Darebin - Preston (18.5%), Northcote (18.3%), and Hume Broadmeadows (18.3%); in the west, in a group from Maribyrnong (18.6%) to Wyndham West (18.3%); and in the south-east, in Cardinia - Pakenham (18.5%).

Areas with the highest rates of circulatory system diseases were generally along, or close to, the coast, and in the outer south and south-west of **Brisbane**, including Caboolture - Central (17.8%), Ipswich Central (17.6%), Redland Balance (17.3%) and Chermside West/Chermside (17.4%). The lowest estimated rates were in a number of inner city areas, including Spring Hill, Herston, Newstead, St Lucia, and Toowong.

In **Adelaide**, the highest estimated rates were in a band of SLAs from the north-west to the outer north: from Port Adelaide Enfield - Park (20.2%) and - Inner (19.7%) to Playford - West Central (20.6%) and - Elizabeth (20.3%); in the outer south, in Onkaparinga - Hackham (19.8%) and - South Coast (19.6%); and in the west, in

West Torrens - East (19.6%). The lowest rates were in Adelaide Hills - Ranges and - Central, and Burnside - North-East.

The estimated prevalence of circulatory system diseases was lower in **Perth**, with the highest rates in a mix of inner, middle and outer suburbs, including Kwinana (15.9%), Bassendean (15.8%), Belmont (15.7%) and Fremantle - Remainder (15.6%). The lowest rates were in the inner city SLAs of Perth - Remainder and Subiaco; and to the north, in Joondalup - North and - South.

Estimated rates were high in all SLAs in **Hobart**, with the highest in Brighton (22.1%), Derwent Valley - Part A (20.7%), Glenorchy (20.6%) and Sorell - Part A (20.5%). The lowest rates, in Kingborough - Part A and Hobart - Remainder, were still relatively high, at 18.5%.

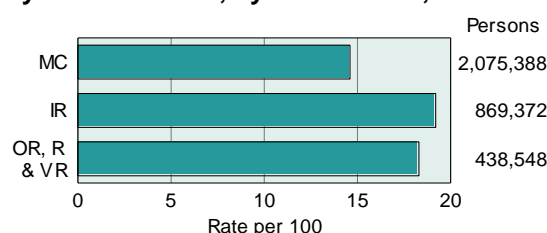
In **Darwin**, rates of circulatory system diseases were lower, ranging from 11.8% in Litchfield - Part B to 10.8% in Palmerston.

Rates in **Canberra** were highest in the SLAs of Eastern Fringe (17.5%), Canberra North (17.2%) and Canberra South (16.8%), with rates of above 16% in all of the Belconnen and Woden SLAs, other than Woden - Central.

Remoteness

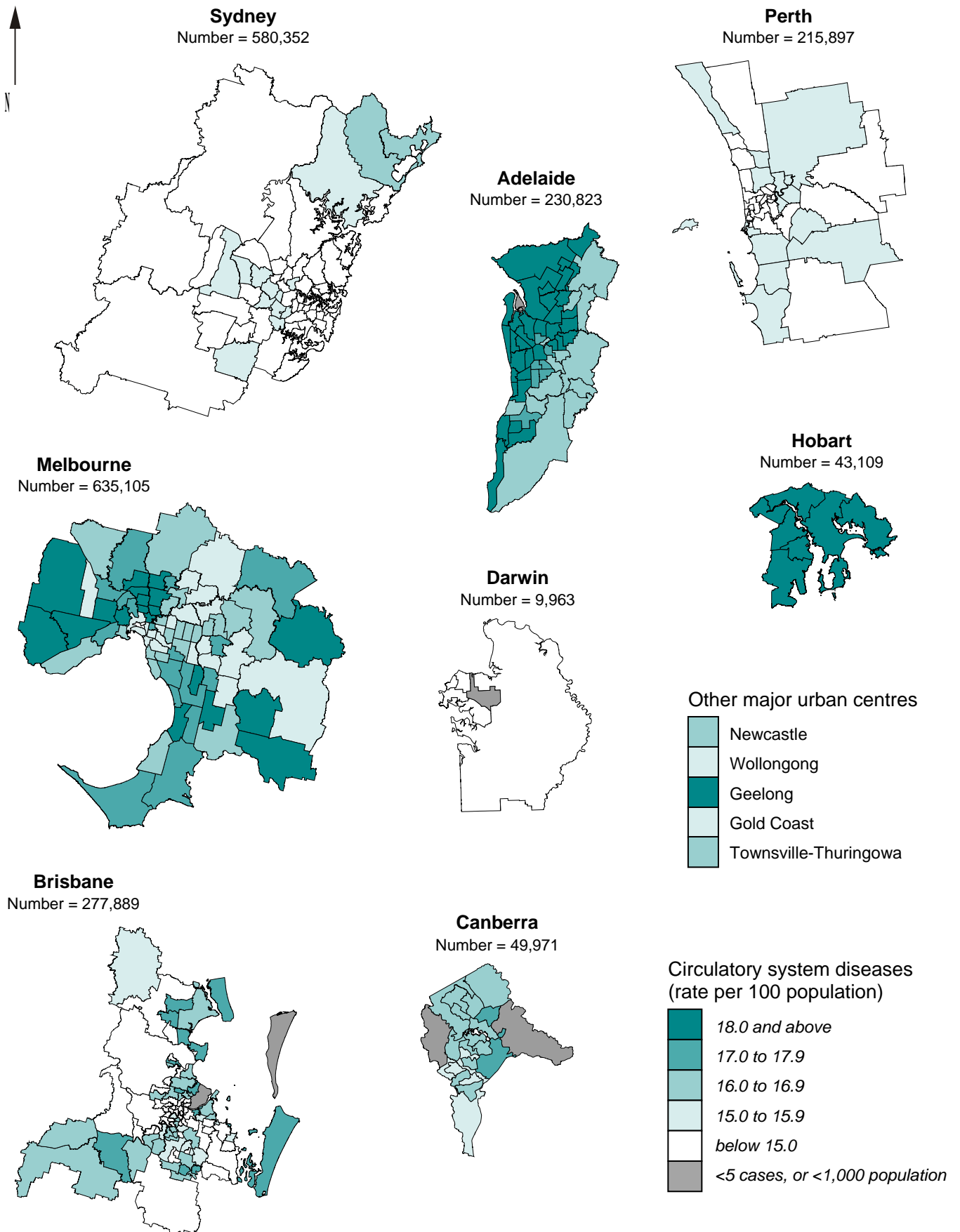
Rates of circulatory system diseases were highest outside of the Major Cities remoteness class.

Figure 21: Estimated population with circulatory system diseases, by remoteness, 2007-08



Map 35: Estimated population with circulatory system diseases, major urban centres, 2007-08

standardised rate per 100 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (provided as a consultancy)

Prevalence of circulatory system diseases, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result, totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 37: Estimated population with circulatory system diseases, by State/ Territory, Australia, 2007-08

Per cent (age-standardised rate per 100 population)

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	15.9	18.0	16.3	18.8	15.3	20.2	..	..	16.7
Total ¹	14.7	17.3	16.0	18.6	14.5	20.0	..	16.3	16.0

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

In 2007-2008, estimated rates of circulatory system diseases in the non-metropolitan areas were highest in Tasmania (20.2%). The lowest rates were in Western Australia (15.3%) and New South Wales (15.9%). Rates in the non-metropolitan areas were higher than those in the capital cities.

High rates of circulatory system diseases in non-metropolitan **New South Wales** were estimated for the SLAs of Broken Hill (with the highest rate of 16.7%) in the far west; Wellington (16.6%) in the mid-west; and for a number of SLAs along the coast, with the highest rates in a group from Kempsey to Tweed Heads (both 16.4%).

Although areas with low rates were quite widespread across the State, those with the lowest rates were generally in the far south and south-west of the State.

In the non-metropolitan areas of **Victoria**, the highest estimated rates of circulatory system diseases were dispersed across the State, largely in towns and regional centres, including all of the SLAs in Bendigo - Central (19.3%) to - Strathfieldsaye (16.4%); Wangaratta - Central (18.9%); Ballarat - Central (18.9%), - South (18.7%) and - Inner North (18.6%); and Latrobe - Moe (18.7%), Morwell (18.5%) and - Traralgon (18.4%). Low rates were in SLAs located across the State, with the lowest in a cluster in and around Geelong.

Estimated rates of circulatory system diseases in non-metropolitan **Queensland** were highest to the north of Brisbane in coastal areas (around Hervey Bay (17.9% in Part B and 17.6% in Part A) and inner coastal areas (18.5% in Mount Morgan), and to the north-west and west of the city (17.6% in Laidley). Areas estimated to have the lowest rates were in a group located south of Mackay, and around the Gold Coast, Cairns and Toowoomba.

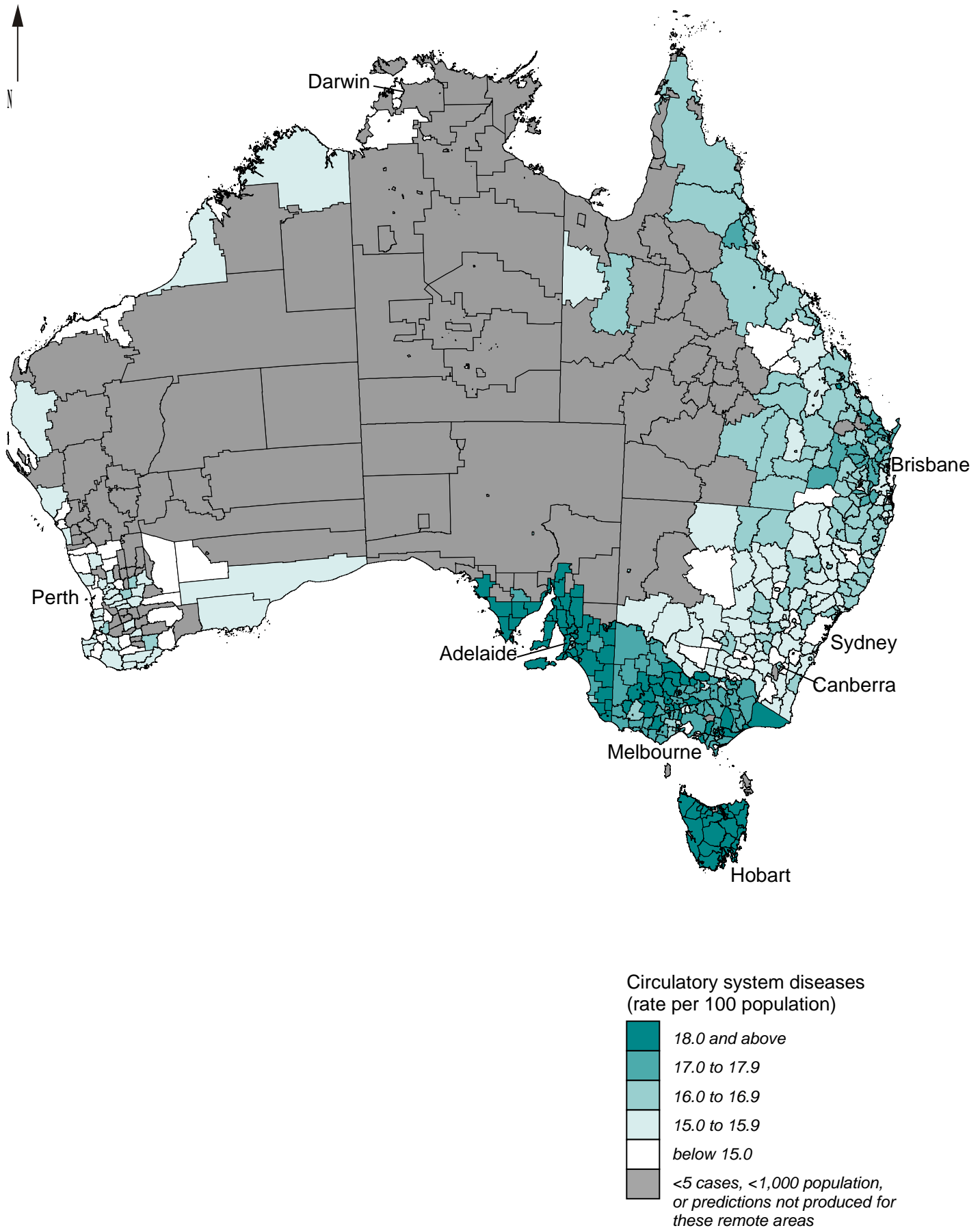
A number of towns and regional centres in **South Australia** had high estimated rates of circulatory system diseases, including Peterborough (19.9%), Whyalla (19.7%), Port Pirie City Districts - City (19.7%) and Port Augusta (19.5%), in the north; Murray Bridge (19.5%) and Mount Barker (19.4%), closer to Adelaide; and Berri and Barmera (19.2%), and Mount Gambier (19.1%). Several rural SLAs also had high rates. The lowest rates were in the SLAs of Roxby Downs in the far north, Adelaide Hills - North and Mount Barker - Balance to the east of Adelaide, and Robe, in the south-east.

Non-metropolitan SLAs in **Western Australia** with the highest estimated rates of circulatory system diseases were to the west in Kellerberin (16.7%), Northam (16.3%) and Quairading (16.5%); south-west (Gnowangerup (16.3%) and south (Collie (16.2%) of Perth. The SLAs with the lowest rates included Lake Grace in the south, and Port Hedland and Roebourne, in the north.

All of the SLAs in non-metropolitan **Tasmania** were estimated to have rates for circulatory system diseases above the national average. Rates of 20% or higher were estimated for the majority of SLAs on the north and west coasts, including Burnie - Part A (20.6%), Launceston - Part B (20.5%), George Town - Part A (20.5%), Devonport (20.4%); and in West Coast (20.6%), Southern Midlands (20.6%) and Central Highlands (20.5%). The lowest rates were in Kingborough - Part B and Glamorgan/Spring Bay.

Of the few areas mapped in non-metropolitan **Northern Territory**, the estimated rates of circulatory system diseases were all relatively low. Rates of 12% were estimated for Coomalie, Katherine and the Alice Springs SLAs of - Heavitree, - Larapinta and - Charles.

Map 36: Estimated population with circulatory system diseases, Australia, 2007-08
 standardised rate per 100 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (provided as a consultancy)

Prevalence of type 2 diabetes, capital cities

Type 2 diabetes is the commonest form of diabetes, and its prevalence is increasing.⁸⁹ Control of modifiable risk factors (such as overweight, obesity and physical inactivity) is key to preventing type 2 diabetes and reducing its complications.⁸⁹ Aboriginal and Torres Strait Islander peoples are three times as likely as non-Indigenous people to have diabetes; and have higher hospitalisation and death rates than other Australians.⁸⁹ Diabetes prevalence and death rates for the poorest fifth of the population are also nearly twice as high as for the most affluent fifth of the population.⁸⁹

Indicator definition: Estimated population with type 2 diabetes as a long-term condition, expressed as a percentage (age-standardised); further details of these estimates are in Appendix B.

Table 38: Estimated population with type 2 diabetes, by capital city, 2007-08

Per cent (age-standardised rate per 100 population)

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
3.3	3.4	3.4	3.5	3.3	2.5	3.6	3.1	3.3

Capital cities

There was little variation in the estimated rate of type 2 diabetes between the capital cities, apart from the lower rate in Hobart (2.5%).

Areas in **Sydney** for which the highest rates of type 2 diabetes were estimated were in a band from Sydney - South to Blacktown - South West (both 3.9%), and south to Liverpool - East (3.7%), including Parramatta - South (4.1%) and Fairfield - East and Bankstown - North-East (3.9%). Similar rates were estimated for Wyong - North-East (3.8%) and Wyong - South and West (3.7%). The lowest rates were in Woollahra and a number of SLAs on the north shore.

A cluster of SLAs to the north of **Melbourne** had some of the highest rates, including Moreland - North (4.0%), - Brunswick (3.8%) and - Coburg (3.8%); Hume - Broadmeadows (4.0%); Whittlesea - South-West (4.0%); and Darebin - Preston (3.9%). Rates were equally high in the west, in Maribyrnong and Brimbank - Sunshine (both 4.0%); and in the south-east, in Greater Dandenong - Dandenong (3.9%) and Balance (3.7%). Rates are lowest in Nillumbik - South and Balance in the outer north-east, and in Melbourne - Southbank Docklands.

SLAs with the highest estimated rates of type 2 diabetes were dispersed across **Brisbane**, in Darra-Sumner/Wacol (4.2%), to the south-west; Stretton-Karawatha/Kingston (4.0%) and Marsden and Loganlea (both 3.9%), to the south; Redland Balance (4.1%) and Caboolture - Central (4.0%), on the coast; and in Dutton Park/Woolloongabba (4.0%) and Rocklea (3.9%). The lowest estimated rates were generally in the inner and middle suburbs.

Rates of type 2 diabetes in **Adelaide** were estimated to be highest in the outer north in the SLAs of Playford - Elizabeth and - West Central both 4.3%) and Salisbury - Inner North (4.1%);

and in the north-west, in Port Adelaide Enfield - Park (4.3%), - Port (4.1%) and - Inner (4.0%), and Charles Sturt - North-East (4.0%); and in Onkaparinga - North Coast and - Hackham (both 3.9%). Areas to the east and south of the city had the lowest rates.

The highest estimated rate of type 2 diabetes in **Perth** was in Perth - Inner (4.6%), with other high rates in the inner and middle SLAs of Kwinana (3.9%), Belmont (3.7%), Wanneroo -South (3.6%) and Bassendean (3.6%). The lowest rates were largely in inner SLAs, with a low rate also estimated for Joondalup - North and - South.

In **Hobart**, Brighton, Derwent Valley - Part A, Glenorchy and Sorell - Part A had rates of 2.8% to 3.0%; with 2.5% in Clarence and 2.4% in Kingborough - Part A; and the lowest, in Hobart Remainder (2.1%).

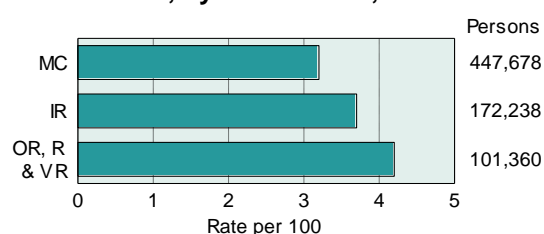
In **Darwin**, the prevalence of type 2 diabetes varied from 4.0% in Palmerston, to 3.2% in Litchfield - Part A.

The rate of type 2 diabetes in **Canberra** was estimated to be highest in Canberra North (3.4%), Eastern Fringe (3.3%), Canberra South (3.2%), Woden Central (3.2%), and the Belconnen SLA groups.

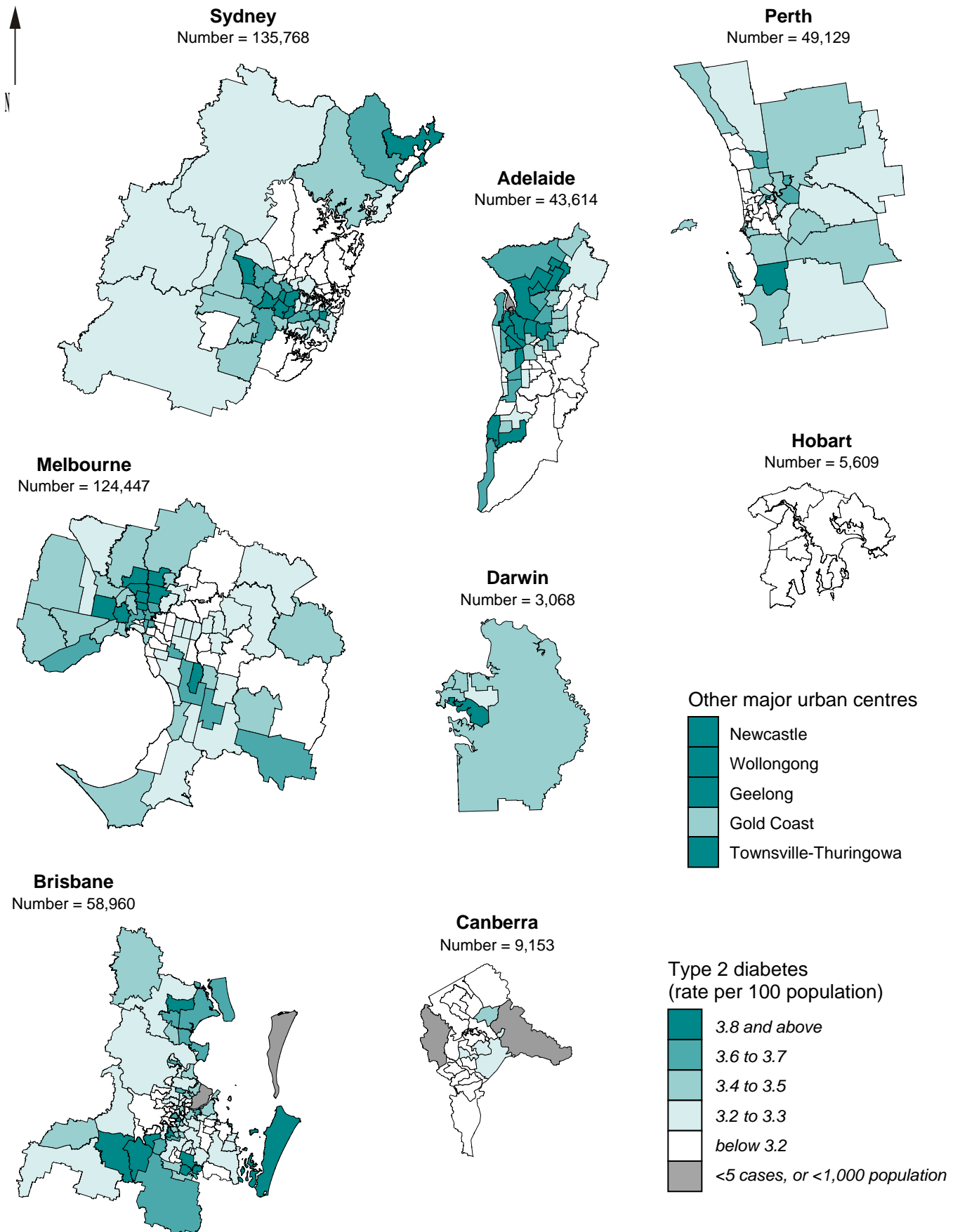
Remoteness

Rates increased steadily across the remoteness classes, from a rate of 3.2% in the Major Cities to 4.2% in the combined Outer Regional, Remote and Very Remote classes.

Figure 22: Estimated population with type 2 diabetes, by remoteness, 2007-08



Map 37: Estimated population with type 2 diabetes, major urban centres, 2007-08
 standardised rate per 100 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (provided as a consultancy)

Prevalence of type 2 diabetes, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result, totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 39: Estimated population with type 2 diabetes, by State/ Territory, Australia, 2007-08

Per cent (age-standardised rate per 100 population)

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	3.7	3.5	3.5	3.5	3.5	2.8	..	..	3.5
Total ¹	3.5	3.4	3.5	3.5	3.3	2.7	..	3.1	3.4

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

There is little variation in the estimated population with type 2 diabetes across the non-metropolitan areas, other than in Tasmania, with a lower rate of 2.8%. The estimated rates for the non-metropolitan areas were higher than those for the capital cities, apart from South Australia, where the rates were the same.

A cluster of areas along the northern State border had the highest rates in **New South Wales**, including the SLAs of Brewarrina (6.5%), Walgett (4.9%), Bourke (4.7%), and Coonamble (4.3%). High rates were also estimated for Wellington, further south; and for Clarence Valley Balance, Richmond Valley Balance and Kempsey in the north-east. The lowest rates were estimated for SLAs across the south and south-east and extending to the north as far as Armidale Dumaresq Balance. They included Palerang - Part A, Snowy River, Greater Hume Shire - Part A, Yass Valley, Wingecarribee, Wagga Wagga - Part B, and Goulburn Mulwaree Balance.

The highest rates of type 2 diabetes in the non-metropolitan areas of **Victoria** were estimated for the SLAs of Central Goldfields - Maryborough (3.8%) and Balance (4.0%), and Greater Bendigo - Central (3.9%) and - Eaglehawk (3.8%); further south in Ballarat - South and Corio - Inner (both 3.8%); and east, in Latrobe - Moe and - Morwell, and Wellington - Rosedale (all 3.8%). Rates were lowest in areas to the north and west of Melbourne, extending through the south of the State to the Grampians; and in central eastern Victoria.

In **Queensland**, the highest rates were in a number of coastal and inner coastal SLAs north of Brisbane, including Mount Morgan (a rate of 4.6%), Hervey Bay - Part B (4.3%), and Kolan (4.1%); further north, in Herberton (4.2%), Dalrymple (4.0%), Cairns - City (4.1%) and Cook (4.0%); to the far west, in Mount Isa (4.1%) and Cloncurry (4.0%); and in the south, in Tara (4.1%). Rates were lowest closer to Brisbane,

in the SLAs of Beaudesert - Part C, Cambooya - Part B and Noosa - Noosa-Noosaville; and in a cluster of areas in the mid-north, including Broadsound, Nebo, Peak Downs, Belyando, Duinga and Bungil.

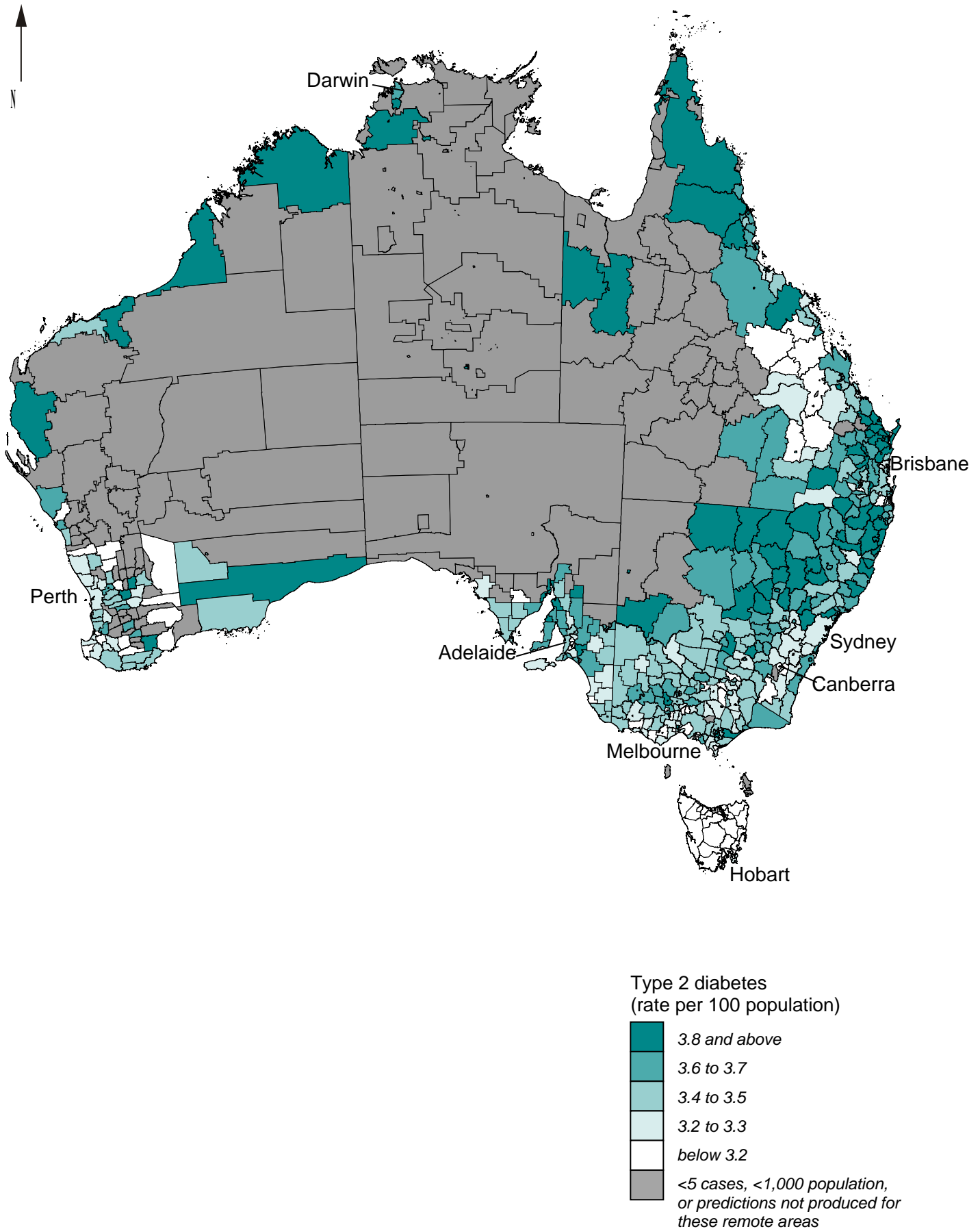
The highest rates of type 2 diabetes in the non-metropolitan areas of **South Australia** were estimated for the northern SLAs of Port Augusta and Peterborough (both with rates of 4.2%), Whyalla, Port Pirie City Districts - City and Balance, and Copper Coast; and closer to Adelaide, in Murray Bridge. Roxby Downs in the far north, Robe in the south-east, and Kimba in the west had the lowest rates. Low rates were also estimated for SLAs to the east of Adelaide, in Adelaide Hills - North and Balance, and Mount Barker Balance.

The highest rates in non-metropolitan **Western Australia** included the SLAs of Wyndham-East Kimberley (6.0%), Broome (5.1%) and Port Hedland (3.9%) on the far north coast; Carnarvon (4.4%) on the mid-west coast; and Dundas (4.0%), Kellerberrin (4.0%), Quairading (3.9%) and Gnowangerup (3.9%), in the south. The lowest rates were in SLAs dispersed across the south-west of the State including Lake Grace, Yilgarn, Dalwallinu, Cranbrook, Coorow, Jerramungup, and Kojonup.

The highest rates in the non-metropolitan areas of **Tasmania** were estimated for the SLAs of Tasman (3.2%), Break O'Day (3.1%) and Waratah/Wynyard - Part B (3.1%). A cluster of areas in the north of the State had the lowest rates: these included Launceston - Part C, Meander Valley - Part A, and Northern Midlands - Part A; with a low rate also in Kingborough - Part B, in the south.

Of the few areas mapped in the **Northern Territory**, the highest rate of type 2 diabetes was estimated for the SLA of Daly (7.6%) and the lowest for Jabiru (3.0%). The SLAs in Alice Springs were all estimated to have rates of around four or five per cent.

Map 38: Estimated population with type 2 diabetes, Australia, 2007-08
 standardised rate per 100 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (provided as a consultancy)

Prevalence of smoking among males, capital cities

Tobacco smoking is the greatest single cause of premature death and a leading preventable cause of morbidity in Australia.⁹⁰ Smoking rates among Australian adults have declined since the early 1970s. In 2007, 21% of adult males were current smokers, compared to 18% of adult females, with the highest rates for both in the 25-29 year age group (males 30%, females 26%).⁹⁰ For the period 2004-05, tobacco smoking was estimated to cost \$31.5 billion annually in health care, lost productivity and other costs.⁹¹ The prevalence of smoking is significantly higher among lower socioeconomic groups, particularly those facing multiple personal and social challenges.⁹⁰

Indicator definition: Estimated male population aged 18 years and over who were current smokers, expressed as a percentage (age-standardised); further details of these estimates are in Appendix B.

Table 40: Estimated male population who were current smokers, 18 years and over, by capital city, 2007-08

Per cent (age-standardised rate per 100 males)

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
20.7	21.0	22.0	21.9	21.9	22.3	24.4	17.1	21.2

Capital cities

There was little variation in estimated smoking rates for adult males between the capital cities, other than for Canberra and Darwin.

A cluster of SLAs in the west of **Sydney**, including Fairfield - East (27.4%), Parramatta - South (26.8%), Bankstown - North-East (25.4%) and - North-West (24.9%), and Auburn (25.0%), were estimated to have the highest rates of male smokers. Rates were also high further west in Blacktown - South-West (26.6%) and Penrith - East (25.4%), and to the north, in Wyong - North-East (28.1%), and - South and West (25.3%). A group of SLAs to the east and to the north of the city had the lowest rates.

High rates were estimated for SLAs throughout **Melbourne**, including in the north, Hume - Broadmeadows (28.4%) and Whittlesea - South-West; in the west, Melton Balance (26.1%), Brimbank - Sunshine, Altona and Wyndham - West; in the outer south-east, Casey - Cranbourne (26.3%) and - South, Cardinia - South and - Pakenham, and Greater Dandenong - Dandenong and Balance; and in the north-east, Yarra Ranges - Central (25.9%) and - North. The lowest rates were in a number of inner eastern, south-eastern and north-eastern SLAs.

The highest rates in **Brisbane** were estimated for SLAs located to the south, south-west and south-east: in Redland Balance, Darra-Sumner/Wacol, Stretton-Karawatha/Kingston, Marsden, Waterford West and Loganlea; and in the north, in Caboolture - Hinterland and - Central, and Deception Bay. A large group of SLAs to the east and west of the city centre had the lowest rates.

The highest rates in **Adelaide** were estimated for areas in the outer north, in Playford - Elizabeth (30.4%) and - West Central (29.6%), and Salisbury - Inner North (27.4%) and - Central (27.0%); in the south, in Onkaparinga - North Coast (27.8%) and

- Hackham (27.0%); and in the west, in Port Adelaide Enfield - Port (27.2%) and - Park (27.1%). Rates were lowest in SLAs to the east, south and south-east, and in Walkerville, just north of the city.

The highest rates of adult male smokers in **Perth**, were estimated for a group of SLAs in the south, including Kwinana (27.6%), Serpentine-Jarrahdale (25.5%), Rockingham (25.5%), Armadale (25.0%) and Gosnells (24.5%); to the east, in Belmont (25.1%); and to the north, in the Wanneroo SLAs (around 24.5%); as well as in Perth - Inner (24.7%). The lowest rates were in inner and middle suburbs between the city and the coast.

In **Hobart**, the highest rates were estimated for Derwent Valley - Part A (28.5%) and Brighton (28.1%); and the lowest for Hobart - Remainder (18.3%) and Kingborough - Part A (18.9%).

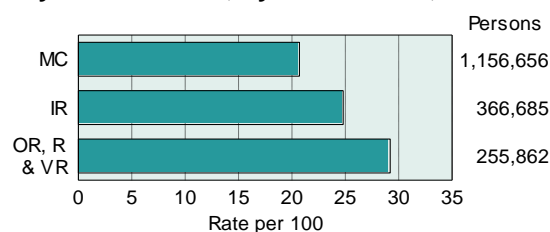
Smoking rates for males in **Darwin** ranged from 27.3% in Litchfield - Part B and 26.3% in Palmerston, to 22.5% in Darwin North East.

Rates in **Canberra** were estimated to be highest in the outer north-west and south, in particular in Eastern Fringe (29.4%); and lowest in Woden North (12.7%) and South (13.7%).

Remoteness

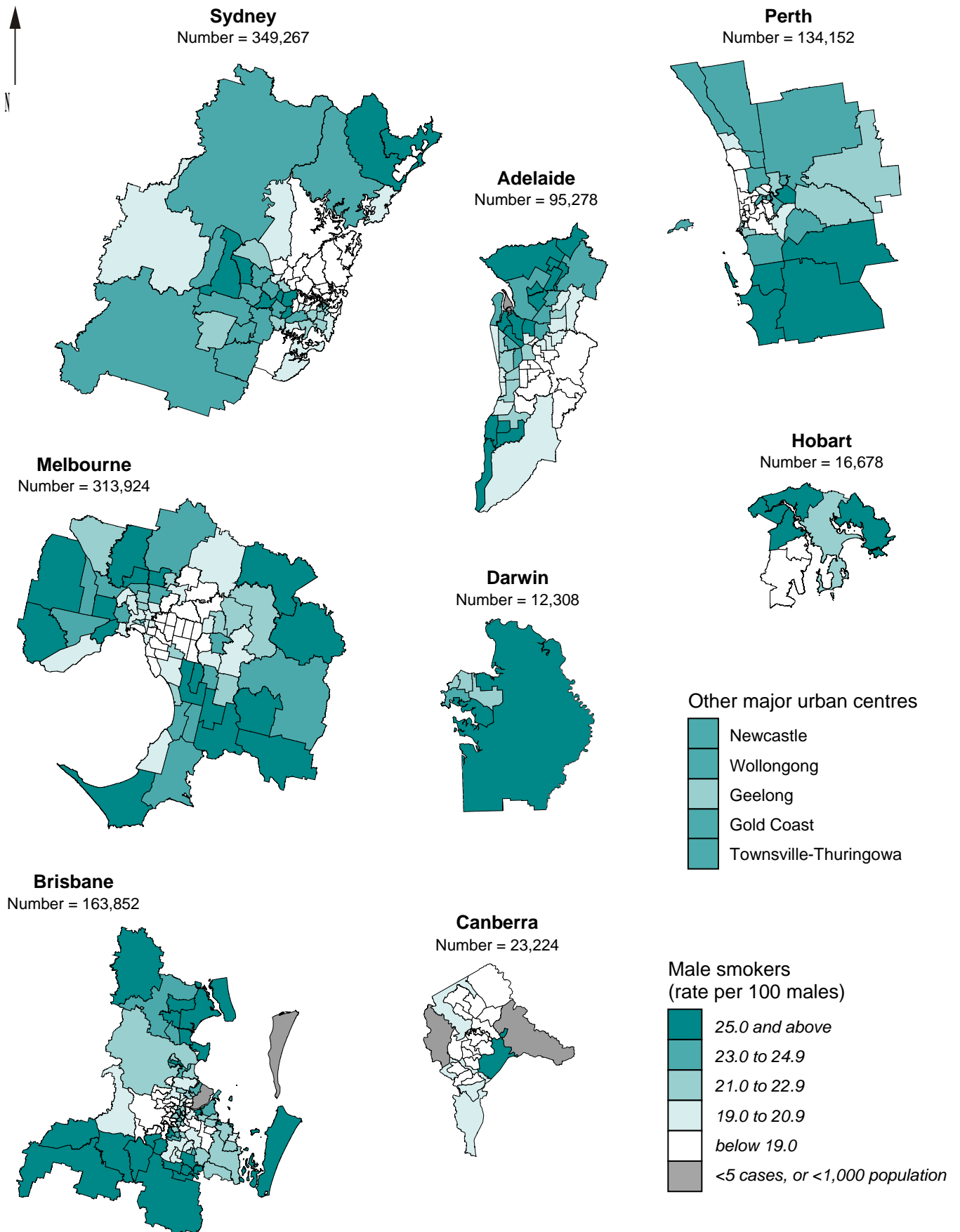
Rates increased steadily across the remoteness classes, from 20.7% in the Major Cities to 29.2% in the combined Outer Regional, Remote and Very Remote classes.

Figure 23: Estimated male smokers, 18 years and over, by remoteness, 2007-08



Map 39: Estimated male population who were current smokers, 18 years and over, major urban centres, 2007-08

standardised rate per 100 males by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of smoking among males, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result, totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 41: Estimated male population who were current smokers, 18 years and over, by State/ Territory, Australia, 2007-08

Per cent (age-standardised rate per 100 males)

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	24.5	24.5	24.7	25.0	25.8	26.3	..	..	24.8
Total ¹	22.0	21.9	23.4	22.7	22.8	24.6	..	17.1	22.4

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

There was little variation between the States in estimated smoking rates for males aged 18 years and over. The rates in the non-metropolitan areas were higher than those in the capital cities.

Rates in **New South Wales** were above 27.0% in Brewarrina (33.8%), Walgett (30.7%) and Bourke (27.7%), along the northern State border; on or near the north coast, in Kempsey (29.1%), Nambucca (28.7%), Richmond Valley - Casino (27.9%), and Clarence Valley - Coast (27.9%) and Balance (27.5%). Rates were also high in Junee in the south; and in Cessnock and Lithgow to the north and west of Sydney. The lowest rates were in the northern areas of Armidale Dumaresq Balance and - City; and in the south, including Palerang - Part A, Kiama, Jerilderie, Conargo, Yass Valley, Wagga Wagga - Part B and Lockhart.

The highest estimated rates of male smokers in non-metropolitan **Victoria** were in the mid-northern SLAs of Central Goldfields - Maryborough (29.0%) and Balance (28.1%), Greater Bendigo - Eaglehawk (28.1%) and Loddon - South and Pyrenees - North (both 27.5%). High rates were also estimated for East Gippsland - Orbost (28.6%), Balance (27.5%) and - Bairnsdale (27.4%), and Wellington - Rosedale; and in Glenelg - North on the south-western border. Rates were lowest in the south/south coastal areas of Queenscliffe, Newtown, South Barwon - Inner and Surf Coast - East; just north of Melbourne, in Macedon Ranges Balance; and in Yarriambiack - North in the north-west of the State.

In **Queensland**, over 28.0% of males were estimated to be smokers in a large group of SLAs from the west of Brisbane to north of Gladstone, including Mount Morgan, Hervey Bay - Part B, Nanango, Wondai, Miriam Vale, Tiaro, Kolan and Biggenden; and further north in Cook, Herberton, Cairns - Central Suburbs, Bowen and Dalrymple. Rates are lowest just to the west of

Brisbane in Crow's Nest - Part A, Toowoomba - North-East and South-East, and Cambooya - Part B; in Hope Island on the Gold Coast, and in Bauhinia.

Non-metropolitan areas in **South Australia** with the highest estimated rates of male smokers included the northern SLAs of Peterborough (29.9%), Port Augusta (29.6%), Flinders Ranges (29.6%) and Port Pirie Central Districts - City (27.8%); to the east of Adelaide, Murray Bridge and Mid Murray (both 27.7%); and Copper Coast (27.4%) on Yorke Peninsula. SLAs with the lowest rates were near Adelaide, although others were more widespread, on the west coast (Cleve and Kimba); and in the far north (Roxby Downs).

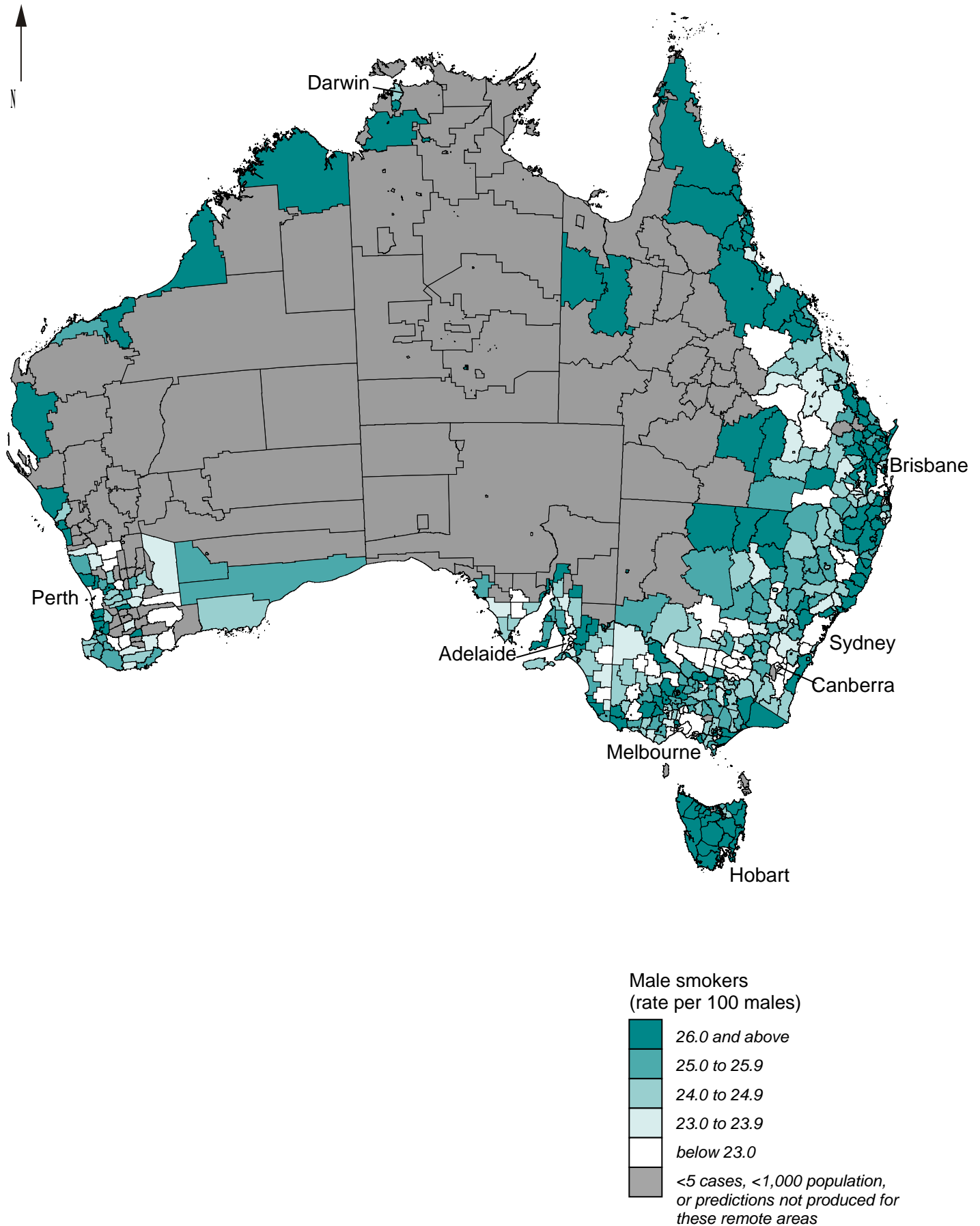
In **Western Australia**, areas with the highest rates of male smokers were the far northern SLAs of Wyndham-East Kimberley (30.2%), Broome and Port Hedland; further south, in Greenough - Part B (30.1%), Carnarvon, Geraldton and Irwin; and south of Perth, in Collie (27.7%), Dardanup - Part A (27.7%) and Harvey - Part B. The lowest rates were in the south-east of the State, in Lake Grace, Jerramungup and Boyup Brook; and just north-east of Perth, in Wongan-Ballidu and Cunderdin.

SLAs in **Tasmania** with the highest rates included George Town - Part A (29.4%), Break O'Day (29.2%), Kentish (29.0%), Tasman (28.6%), Central Highlands (28.5%), West Coast (28.4%), Circular Head (28.5%) and Dorset (28.1%). A cluster of areas in the north had the lowest rates: West Tamar - Part A, Meander Valley - Part A, and Launceston - Part B and - Part C; with a low rate also in Kingborough - Part B in the south.

Of the few areas that could be mapped in the **Northern Territory**, the rates of male smokers were generally high, with 36.7% in Daly, 33.2% in Coomalie, 28.5% in Alice Springs - Heavitree and 28.5% in Katherine. The lowest rates were estimated for Alice Springs - Ross (24.0%) and - Larapinta (25.3%), and Jabiru (25.7%).

Map 40: Estimated male population who were current smokers, 18 years and over, Australia, 2007-08

standardised rate per 100 males by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of smoking among females, capital cities

Tobacco smoking is the greatest single cause of premature death and a leading preventable cause of morbidity in Australia.⁹⁰ Smoking rates among Australian adults have declined since the early 1970s. In 2007, 18% of adult females were current smokers, compared to 21% of adult males, with the highest rates for both in the 25-29 year age group (females 26%, males 30%).⁹⁰ For the period 2004-05, tobacco smoking was estimated to cost \$31.5 billion annually in health care, lost productivity and other costs.⁹¹ The prevalence of smoking is significantly higher among lower socioeconomic groups, particularly those facing multiple personal and social challenges.⁹⁰

Indicator definition: Estimated female population aged 18 years and over who were current smokers, expressed as a percentage (age-standardised); further details of these estimates are in Appendix B.

Table 42: Estimated female population who were current smokers, 18 years and over, by capital city, 2007-08

Per cent (age-standardised rate per 100 females)

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
15.8	16.7	18.5	16.0	15.7	18.1	23.7	17.7	16.5

Capital cities

The estimated rate of current female smokers aged 18 years and over showed little variation across the capital cities, except for Darwin, where the rate was higher, at 23.7%.

The highest rates in **Sydney** were estimated for SLAs in the north, in Wyong - North-East (23.3%), - South and West (both 21.5%), and Gosford - West (20.2%); in the south, in Campbelltown - South (20.6%) and - North (19.8%); and in the west, in Blacktown - South-West (20.6%) and Penrith - East (20.4%). SLAs with the lowest rates were on the north shore, other than Strathfield, Burwood and Woollahra.

In **Melbourne**, the highest estimated smoking rates for females were in the western areas of Melton Balance (22.2%) and Wyndham - West (21.2%); in the north, in Hume - Broadmeadows (21.3%); in the south, in Cardinia - Pakenham (21.4%) and - South (20.6%); in the outer east, in Yarra Ranges - Central (21.0%); and in the south-east in Casey - Cranbourne (20.8%), Frankston - West (20.7%) and - East (20.5%), and Mornington Peninsula - East (20.3%) and - South (20.2%). The lowest rates were located in the eastern suburbs.

Areas with the highest rates in **Brisbane** included Redland Balance (26.4%), Marsden (24.6%), Deception Bay (24.3%), Loganlea (24.2%), Waterford West (24.1%), Stretton-Karawatha/Kingston (23.8%), Bethania-Waterford/Eagleby and Coomera-Cedar Creek in the south and south-east; Ipswich - Central (22.3%) and - East (22.0%) in the south-west; and Deception Bay (24.3%), Caboolture - Central (23.9%), and Morayfield (22.7%), in the north. SLAs in a number of inner suburbs, and middle suburbs to the east and west of the city, had the lowest rates.

In **Adelaide**, the highest estimated rates of female smokers were in the outer north, in Playford - West Central (24.3%) and - Elizabeth (24.2%)

and Salisbury - Inner North (21.0%) and - Central (20.0%); and in the outer south, in Onkaparinga SLAs of - North Coast (20.8%), - Hackham (20.3%), - South Coast and - Morphett (both 19.7%). The lowest rates were in SLAs close to Adelaide, to the north, east and south; and in middle suburbs to the east, south and south-east.

In **Perth**, the highest rates were in the outer areas, in Kwinana (20.8%), Rockingham (18.9%) and Armadale (18.8%) in the south; Wanneroo - North-West (18.8%) and North-East (17.9%) in the outer north; and in Belmont (18.2%), in the east. The lowest rates were estimated for a number of inner and middle SLAs.

Female smoking rates in **Hobart** were estimated to be highest in the SLAs of Brighton (23.7%), Sorell - Part A (23.0%) and Derwent Valley - Part A (22.5%); and lowest in Hobart - Remainder (14.1%) and Kingborough - Part A (15.3%).

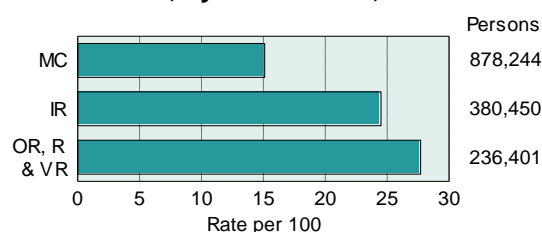
Rates in **Darwin** were all estimated to be above 20.0%. The highest rates were in Palmerston (26.2%) and Litchfield - Part B (24.1%).

Rates in **Canberra** were highest in Eastern Fringe (21.6%), and lowest in Woden North (11.3%) and South (11.4%).

Remoteness

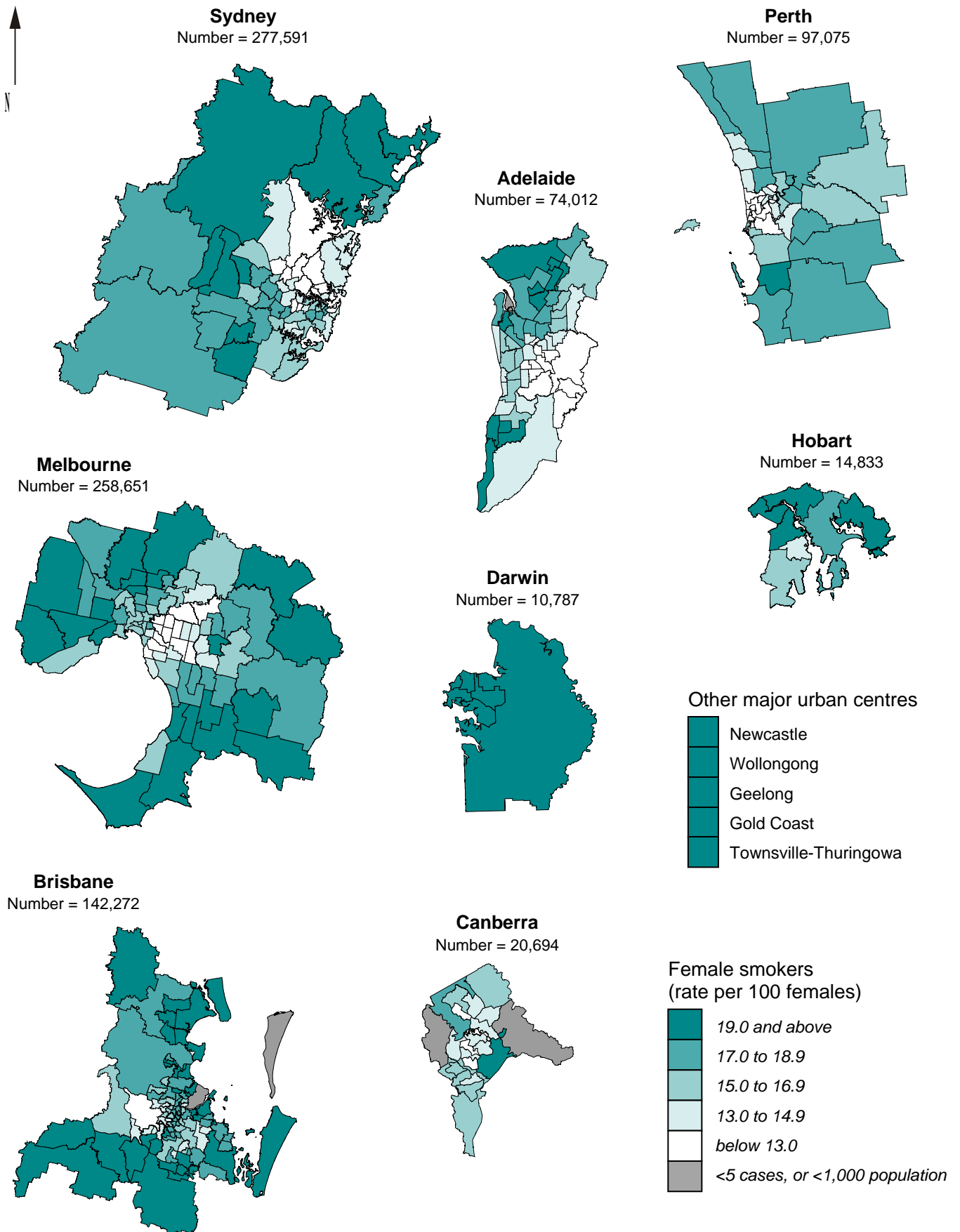
Rates increased across the remoteness classes, from 15.1% in the Major Cities to 27.7% in the combined Outer Regional, Remote and Very Remote classes.

Figure 24: Estimated female smokers, 18 years and over, by remoteness, 2007-08



Map 41: Estimated female population who were current smokers, 18 years and over, major urban centres, 2007-08

standardised rate per 100 females by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of smoking among females, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result, totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 43: Estimated female population who were current smokers, 18 years and over, by State/ Territory, Australia, 2007-08

Per cent (age-standardised rate per 100 females)

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	21.5	20.9	21.7	20.8	21.8	22.4	..	..	21.5
Total ¹	17.8	17.8	20.2	17.2	17.1	20.5	..	14.7	18.2

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

There was little variation between the States in the estimated rate of smoking by adult females, with rates in the non-metropolitan areas higher than in the capital cities.

High estimated smoking rates were evident for females across much of **New South Wales**, from the north-east to the south-west, with the highest in Brewarrina (37.5%), Walgett (32.2%), Coonamble (32.2%), Bourke (30.5%), Bogan (28.0%) and Cobar (27.0%). High rates were also evident in Wellington (28.6%), in central New South Wales; Nambucca (28.3%), on the north coast; and Broken Hill (27.9%), in the far west. The lowest rates were in areas closer to the coast, to the east, south-east and north-east of Sydney; in the south of the State; and to the north, in a number of SLAs near the coast.

The highest smoking rates were estimated for females in the outer eastern and western areas of **Victoria**. These included the SLAs of East Gippsland - Orbost (27.4%) and - Bairnsdale (26.7%), in the east; Glenelg - Portland (26.0%) and - North (25.3%), in the south-west; Swan Hill - Central (25.9%) and - Robinvale (25.0%), and Mildura - Part A (25.9%) along the State's northern border; and Horsham - Central (25.4%) and Hindmarsh (25.0%), in the west. The lowest rates were predominantly in two groups of SLAs: one from south of Geelong to Macedon Ranges, and another in the north-west of the State, around Wangaratta and Shepparton.

Rates in **Queensland** were highest in the far north, in Cook (31.3%), Herberton (29.6%) and Cairns - Central Suburbs (27.9%); in the far west, in Cloncurry (28.6%) and Mount Isa (28.3%); to the west of Brisbane in a group from Tara (26.6%) to Murweh (27.7%); and north of Brisbane, from Wondai (26.1%) to Miriam Vale (26.8%) and Mount Morgan (26.6%). Areas with the lowest rates were largely close to Brisbane, to the west,

south, and north; and further north, around Livingstone - Part A.

In **South Australia**, female smoking rates were estimated to be highest in the mid north of the State, in Peterborough (26.6%), Port Augusta (26.4%), Port Pirie (25.5%), Whyalla (24.7%), and Flinders Ranges (24.4%); on the Eyre Peninsula, in Port Lincoln (26.3%); in Yorke Peninsula - South (24.6%) and Copper Coast (24.3%); and in the Riverland, in Barmera (24.2%) and Berri (24.0%). Areas on the fringe of the metropolitan area, from Light to Yankalilla, had the lowest rates.

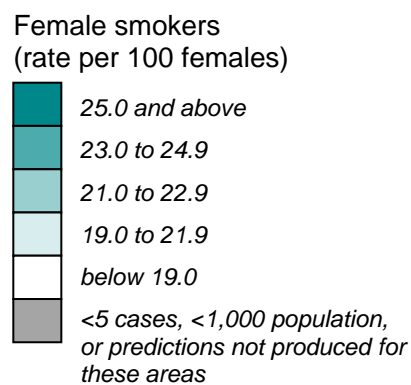
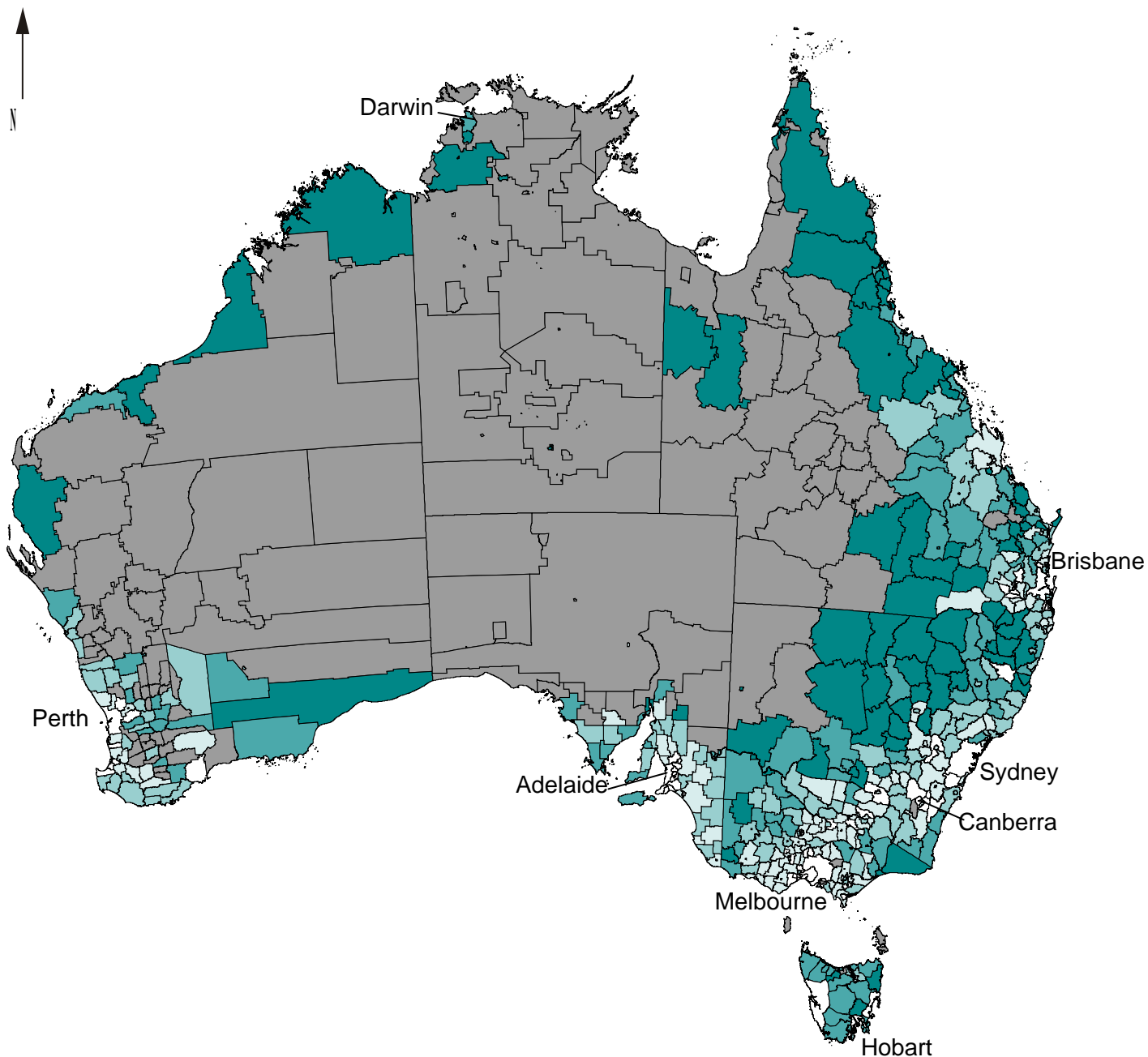
The highest female smoking rates in **Western Australia** were in coastal SLAs including Wyndham-East Kimberley (29.6%), Broome (28.6%) and Port Hedland (26.1%), in the far north; on the mid-west coast in Carnarvon (29.6%) and Geraldton (29.3%); and in the south-west, in Dundas (27.2%). A small number of areas to the west of Perth also had high rates. The lowest rates were in SLAs to the north and east of Perth; in a group from Mandurah to Busselton; and in Jerramungup and Lake Grace.

The highest rates of female smokers estimated for **Tasmania**, included the north coast SLAs of George Town - Part A (27.4%), Burnie - Part A (26.3%), Waratah/ Wynyard - Part A (26.0%), Central Coast - Part A (25.7%), Break O'Day (25.7%), and nearby Kentish (25.9%); and Southern Midlands (26.2%), north of Hobart. The SLAs of West Coast, Glamorgan/Spring Bay, and a number of SLAs in and around the Tamar Valley, had the lowest rates.

Of the few areas that could be mapped in the **Northern Territory**, the estimated rates of female smokers was highest in Daly (34.7%), Katherine (28.8%), and Alice Springs - Heavitree (28.6%) and - Stuart (28.5%). The lowest rates were estimated for Jabiru (23.7%) and Alice Springs - Ross (25.5%).

Map 42: Estimated female population who were current smokers, 18 years and over, Australia, 2007-08

standardised rate per 100 females by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of obesity among males, capital cities

In 2007-08, an estimated 61.4% of the Australian population were either overweight or obese, with 25.6% of adult males classified as obese (Body Mass Index > 30.0 kg/m²).⁹² For adults, the health problems and consequences of obesity are many and varied, and include musculoskeletal problems, cardiovascular disease, some cancers, sleep apnoea, type 2 diabetes, and hypertension.⁹³ Many of these health problems are preventable: for example, regular physical activity reduces cardiovascular risk in its own right and also improves levels of cardiovascular risk factors such as overweight, high blood pressure, and Type 2 diabetes.⁹⁴

Indicator definition: Estimated male population aged 18 years and over who were obese based on BMI from self-reported height and weight, expressed as a percentage (age-standardised); further details of these estimates are in Appendix B.

Table 44: Estimated male population who were obese, 18 years and over, by capital city, 2007-08

Per cent (age-standardised rate per 100 males)

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
20.3	17.0	19.9	17.3	15.7	15.4	24.0	16.5	18.4

Capital cities

The estimated population of obese adult males varied across the capital cities, from 24.0% in Darwin, to 15.4% in Hobart and 15.7% in Perth.

The highest estimated rate of male obesity in **Sydney** was in the western SLA of Blacktown - South-West (29.4%), with high rates also in a group of SLAs including Liverpool - East (28.9%), Bankstown - North-East (28.2%) and - North-West (28.1%), Auburn (26.7%), Canterbury (26.6%) and Campbelltown - North (23.9%) and - South (23.3%). The lowest rates were in Strathfield and Burwood, south of the city centre; and on the north shore, in Ku-ring-gai, Willoughby, Hornsby - South and Baulkham Hills - South.

In **Melbourne**, only Whittlesea - South-West (26.3%) had a very high rate. Other high rates were estimated for Melton Balance (21.7%), in the north-west; Greater Dandenong - Dandenong (25.3%), Cardinia - South (22.3%) and Casey - Cranbourne (20.9%), in the south-east; and Yarra Ranges - Central (21.4%), in the outer east. The lowest rates were in the city centre, and in a large group of inner and middle SLAs to the east and south-east.

Obesity rates for males in **Brisbane** were high, at over 25%, in the south in Marsden (30.8%), Loganlea (29.7%), Waterford West (28.6%) and Inala/Richlands (27.9%); in the north in Deception Bay (30.1%) and Caboolture - Central (29.9%); and in the south-east, in Redland Balance (26.8%). A group of SLAs to the west of the Brisbane River, and another group in the south, had the lowest rates.

Areas in **Adelaide** with the highest rates included Salisbury - Inner North (26.3%) and - Central (25.1%) in the outer north; Onkaparinga - Hackham (26.1%) and - Morphett (25.1%) in the outer south; and Charles Sturt - North-East

(23.7%) to the north-west of the city. Rates were lowest in the City of Adelaide and in SLAs to the east, south and south-east.

Obesity rates for males were lower in **Perth**, with the highest rates estimated for Kwinana (20.9%), Armadale (20.0%), Belmont (19.0%), Wanneroo - South (19.0%) and Bassendean (19.0%). The inner SLAs of Peppermint Grove, Claremont, Subiaco, Nedlands and South Perth had the lowest rates; with low rates also in Melville, Canning, Mosman Park and Cambridge.

In **Hobart**, estimated male obesity rates were much higher in Glenorchy (23.4%) than in the other SLAs, where rates ranged from 11.1% in Hobart - Remainder to 17.8% in Kingborough - Part A.

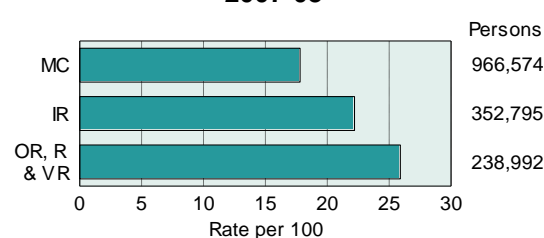
Rates in **Darwin** were relatively high in Palmerston (27.7%), Litchfield - Part A (26.2%), and Darwin North East (25.3%). Darwin North West, Darwin South West and Litchfield Part B had the lowest rates.

There was little variation in male obesity rates in **Canberra**, ranging from 15.8 to 17.9 per 100 males, apart from in Eastern Fringe (21.5 per 100 males). Rates were higher in the outer SLAs.

Remoteness

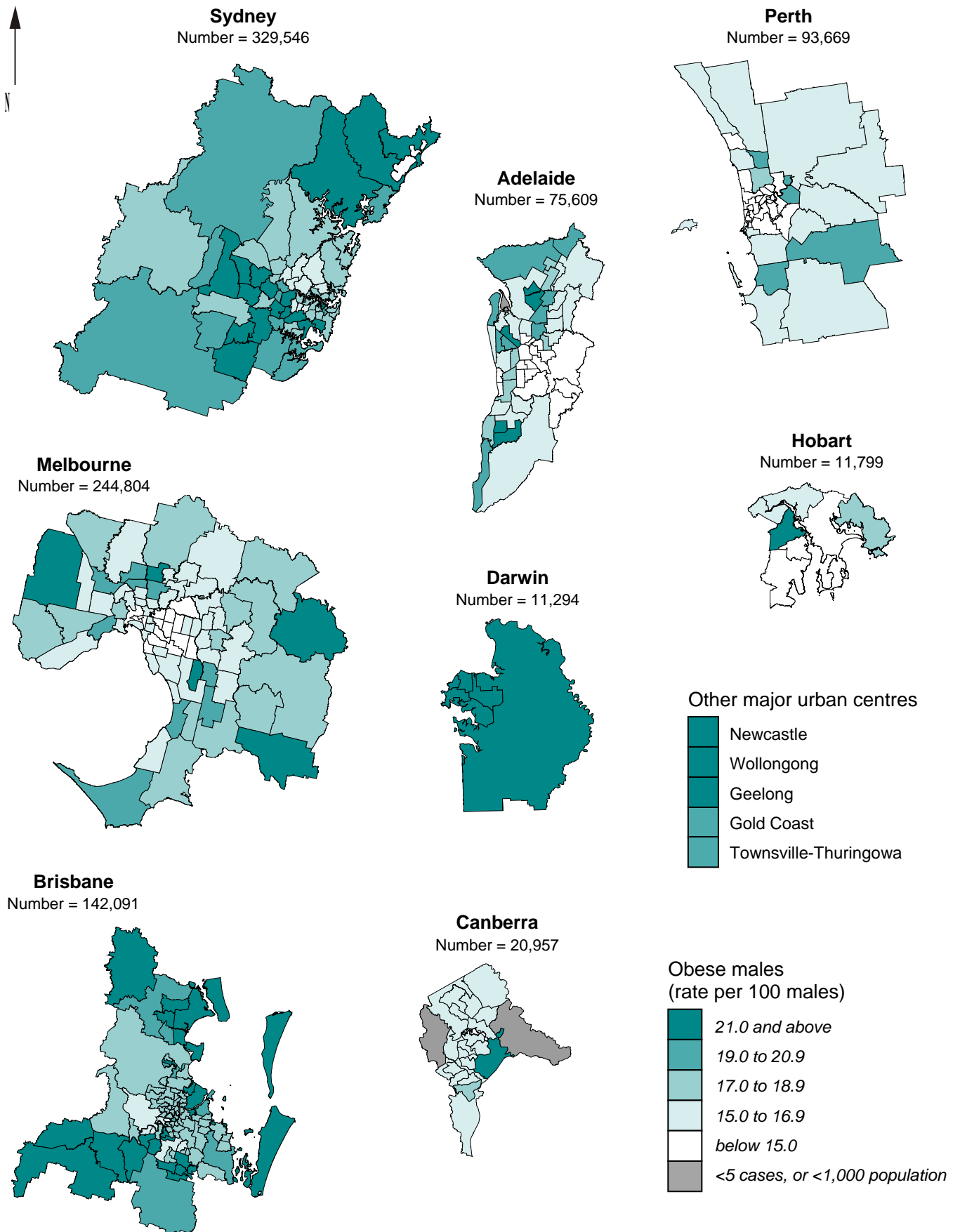
Male obesity rates increased from a rate of 17.8 per 100 males in Major Cities to 25.9 in the combined Outer Regional to Very Remote classes.

Figure 25: Estimated male population who were obese, 18 years and over, by remoteness, 2007-08



Map 43: Estimated male population who were obese, 18 years and over, major urban centres, 2007-08

standardised rate per 100 males by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of obesity among males, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result, totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 45: Estimated male population who were obese, 18 years and over, by State/ Territory, Australia, 2007-08

Per cent (age-standardised rate per 100 males)

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	23.8	20.7	21.6	19.4	19.0	19.0	..	..	21.8
Total ¹	21.6	18.0	20.9	17.9	16.5	17.5	..	16.5	19.6

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

There was little variation between the States in the rate of obesity among males aged 18 years and over, apart from a higher rate, of 23.8%, in New South Wales. Rates in the non-metropolitan areas were higher than those in the capital cities.

Areas with the highest rates of male obesity in **New South Wales** were widely dispersed, including the rural SLAs of Junee (30.8%), Inverell - Part B (30.4%), Gilgandra (30.3%), Bourke (30.1%), Narrandera (30.0%), Lachlan (29.9%) and Gunnedah (29.8%); and regional centres such as Goulburn (29.8%), Grafton (29.8%) and Broken Hill (29.7%). The lowest rates were evident in SLAs to the south of Sydney.

Male obesity rates of 26.0% or higher in the non-metropolitan areas of **Victoria** were located in the regional centres of Bendigo (the SLAs of - Eaglehawk (28.1%) and - Central (27.5%)), and Maryborough (27.3%), in the mid-west of the State; in Swan Hill - Robinvale (27.6%), on the State border; in Corio - Inner (27.0%), in the south-west; and in Latrobe - Moe (26.9%) and - Morwell (26.5%), in the south-east. The rural SLAs of Loddon - South (26.2%), and Pyrenees - North (26.0%) also had high rates. The lowest rates were in a group of SLAs to the south-west, west and north of Melbourne; in the north-east of the State; and in the Bendigo SLAs of - Inner East and - Strathfieldsaye.

In **Queensland**, rates of 29.0% or higher were estimated for areas to the west and south-west of Brisbane, in Booringa (31.0%), Toowoomba - North-East (30.0%) and Warwick - Central (30.2%); to the north in Cooloola - Gympie (29.9%), Bundaberg (29.7%), Mundubbera (29.5%), Gayndah (29.4%), Maryborough (29.1%), Wondai (29.1%) and Kilkivan (29.0%); and further north in Charters Towers (29.5%). The lowest rates were largely in SLAs located in the Sunshine Coast and Gold Coast; further north, inland from Mackay; and in some parts of Cairns.

Areas in non-metropolitan **South Australia**, with rates of 24.0% or higher, included Renmark Paringa - Renmark (26.0%), Loxton Waikerie - West (25.9%), Murray Bridge (25.7%), Berri & Barmera - Barmera (25.4%) and Mid Murray (24.0%) in the Murray Valley; on Yorke Peninsula, in Copper Coast; and in the north, in Flinders Ranges (26.0%) and Port Augusta (25.9%). Roxby Downs in the far north had the lowest rate (12.5%), with low rates also in areas close to Adelaide, from Alexandrina - Strathalbyn, in the south, to Clare and Gilbert Valleys, in the north.

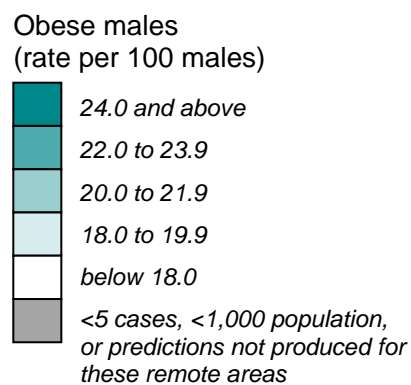
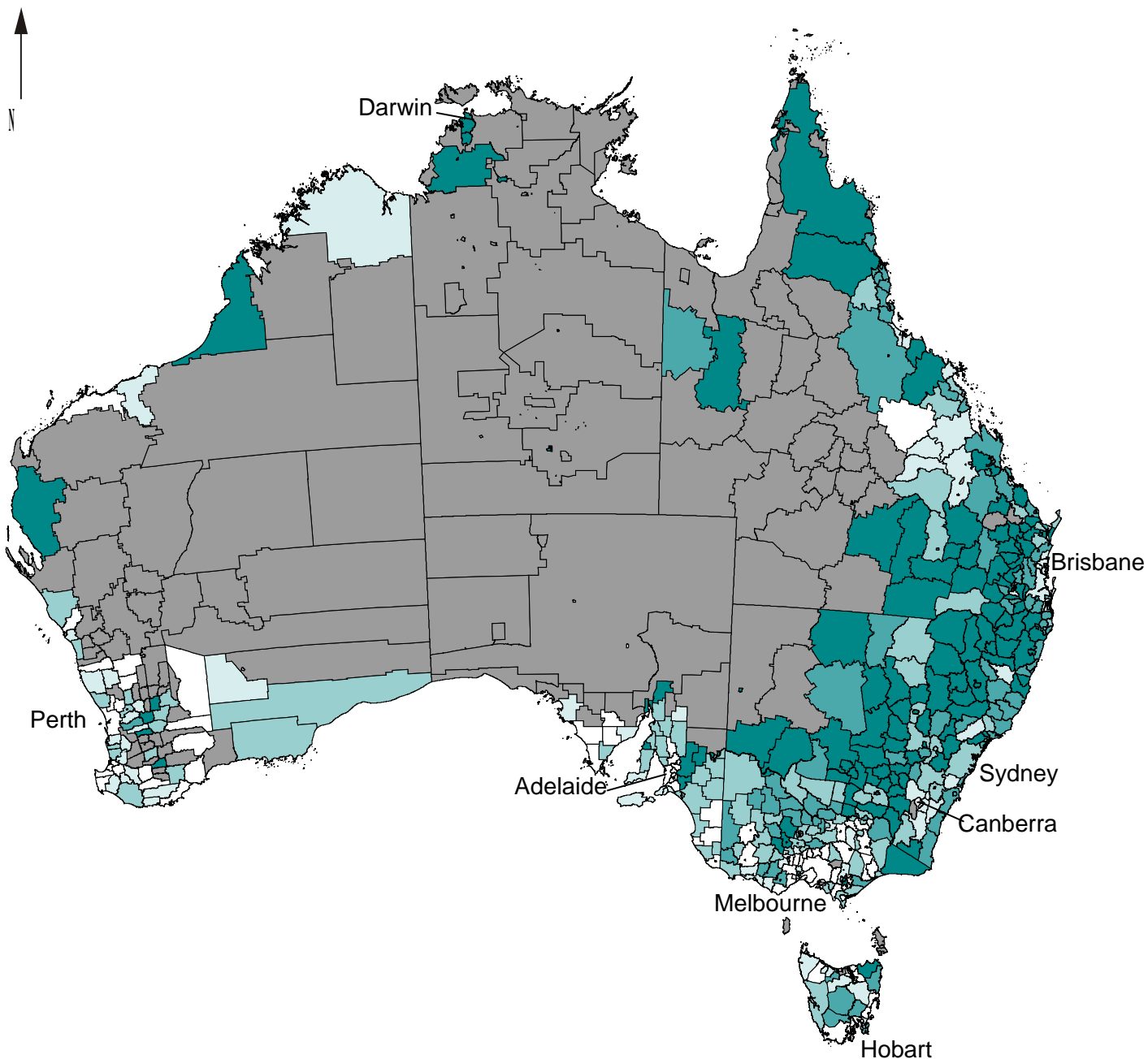
In non-metropolitan **Western Australia**, areas with the highest estimated populations of obese males were largely located in the south-west of the State, including Quairading (26.7%), Northam (26.5%), Katanning (25.8%) and Pingelly; along the mid-western coast in Geraldton (25.9%), and further north in Carnarvon (25.2%) and Broome (25.3%). SLAs with the lowest rates included Roebourne, on the north coast; Busselton and Capel - Part A, and Augusta-Margaret River in the south-west; and Kalgoorlie/Boulder - Part A in the far west.

Male obesity rates were highest in northern **Tasmania**, in the non-metropolitan SLAs of Dorset (24.2%), Burnie - Part A (23.8%), Devonport (23.5%), Waratah/ Wynyard - Part A (23.4%) and Kentish (23%); and in the SLA of Central Highlands (23.5%). Rates were lowest in Kingborough - Part B and West Tamar - Part A.

Of the areas that could be mapped in non-metropolitan **Northern Territory**, the estimated rates of obese males were generally high. Rates of 28.0% or higher were estimated for the Alice Springs SLAs of - Stuart (31.5%) and - Charles (28.2%), and Daly (28.3%). The lowest rates were estimated for Jabiru and Alice Springs - Ross.

Map 44: Estimated male population who were obese, 18 years and over, Australia, 2007-08

standardised rate per 100 males by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of obesity among females, capital cities

In 2007-08, an estimated 61.4% of the Australian population were either overweight or obese, with 24.0% of adult females classified as obese (Body Mass Index > 30.0 kg/m²).⁹² For adults, the health problems and consequences of obesity are many and varied, and include musculoskeletal problems, cardiovascular disease, some cancers, sleep apnoea, type 2 diabetes, and hypertension.⁹³ Many of these health problems are preventable: for example, regular physical activity reduces cardiovascular risk in its own right and also improves levels of cardiovascular risk factors such as overweight, high blood pressure, and Type 2 diabetes.⁹⁴

Indicator definition: Estimated female population aged 18 years and over who were obese based on BMI from self-reported height and weight, expressed as a percentage (age-standardised); further details of these estimates are in Appendix B.

Table 46: Estimated female population who were obese, 18 years and over, by capital city, 2007-08

Per cent (age-standardised rate per 100 females)

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
15.6	15.5	16.1	16.7	15.1	16.2	17.5	13.6	15.7

Capital cities

The lower rate in Canberra and the higher rate in Darwin were the main variations in the estimated rate of obesity for females aged 18 years and over across the capital cities.

In **Sydney**, the highest rates of obesity were estimated for females in Wyong - North East (19.8%) and - South and West (19.3%) and Gosford - West (19.0%), in the outer north-east; in the west, in Parramatta - South (19.2%), and further west, in Penrith - East (19.4%) and - West (19.1%); and to the south-west, in Campbelltown - South (19.2%) and - North (19.0%), and Liverpool - East (19.0%). The lowest rates were in a large group of SLAs on the north shore, and in Woollahra.

The highest rates in **Melbourne** were in the northern SLAs of Hume - Broadmeadows (19.8%) and - Craigieburn (19.3%), Moreland - North (19.6%) and Whittlesea - South-West (19.3%); in the west, in Melton Balance (19.7%) and Wyndham - North (19.1%); and in the south-east, in Cardinia - Pakenham (19.8%) and Casey - Cranbourne (19.2%). The lowest rates were in the city centre, and in a large group of inner and middle SLAs to the east and south-east.

In **Brisbane**, female obesity rates were estimated to be highest in the south, in Marsden (21.0%), Waterford West and Loganlea (both 20.4%); in the west, in Ipswich Central and - East; and in the north, in Deception Bay (20.2%) and Caboolture - Central (20.1%). SLAs with the lowest rates were in inner and middle suburbs to the west of the Brisbane River.

The highest rates in **Adelaide** were estimated to be in the outer north, in Playford - West Central (21.3%), - Elizabeth (20.7%), - East Central (20.0%) and - West (19.7%), and in Salisbury - Inner North (20.1%) and - North-East (19.3%); the north-western SLA of Charles Sturt - Inner

(19.2%); and in the outer south, in Onkaparinga - South Coast (19.6%) and - North Coast (19.4%). The lowest rates were in inner suburbs to the east, south and south-east of the city.

Estimated rates of obesity for females in **Perth** were highest in the outer south in Kwinana (20.5%); the outer north in Wanneroo - North-West (19.7%); and in Perth - Inner (19.0%). A near-city cluster of SLAs including Peppermint Grove, Nedlands, Claremont, Perth - Remainder, Subiaco, Canning, Melville, Mosman Park and South Perth had the lowest rates.

In **Hobart**, the highest rates were in Brighton (19.0%) and Derwent Valley - Part A (19.0%); and the lowest were in Hobart - Remainder and Kingborough - Part A.

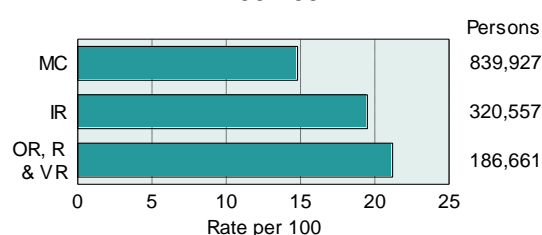
There was little variation in the estimated rate of female obesity in **Darwin**, other than for the highest rate in Palmerston (18.5%) and the lowest rate in Litchfield - Part A (15.7%).

Apart from the high rate in Eastern Fringe (19.8%), female obesity rates in **Canberra** varied little, with the highest rates in the outer suburbs.

Remoteness

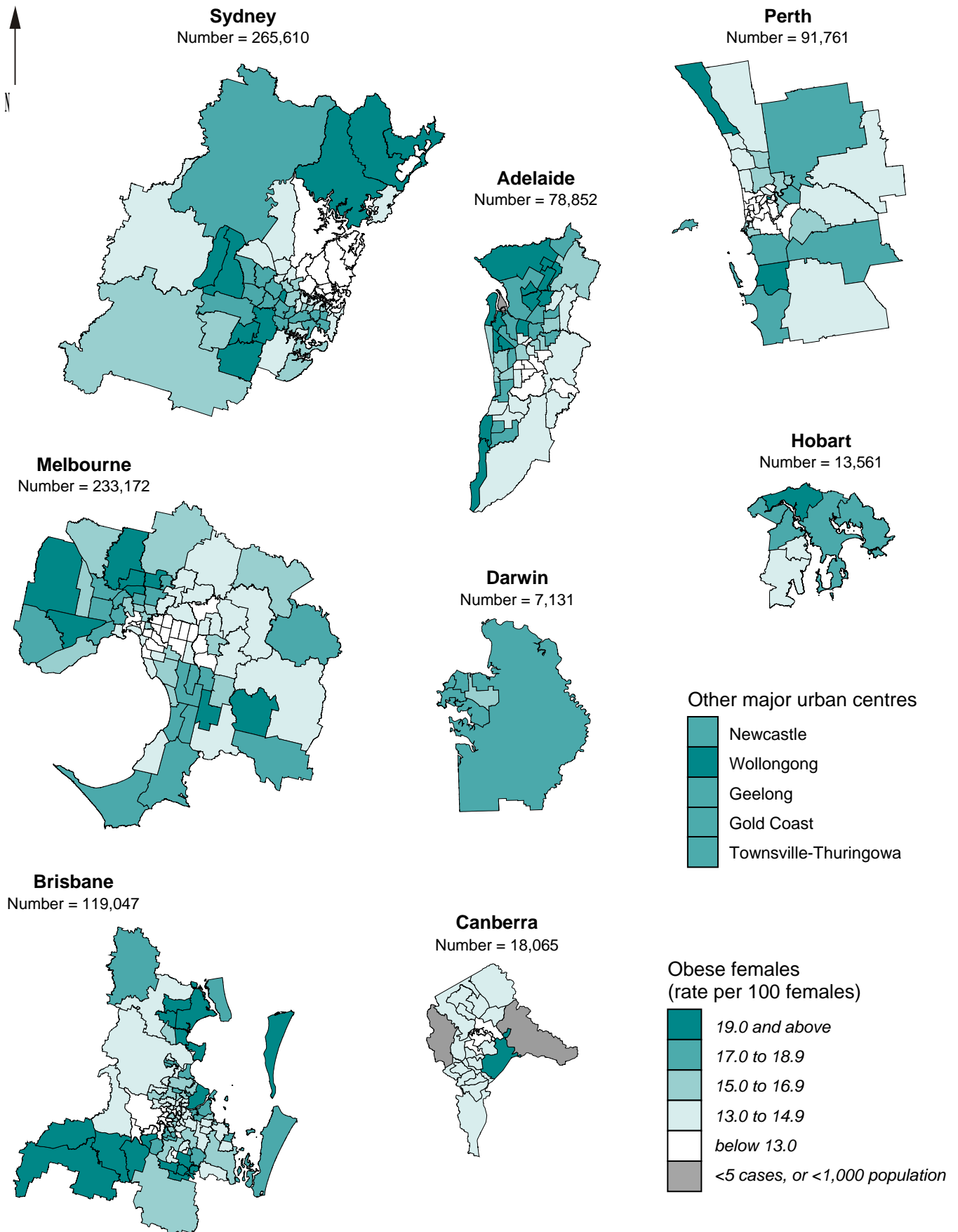
Female obesity rates increased steadily across the remoteness classes, from 14.8% females in the Major Cities to 21.2% in the combined Outer Regional, Remote and Very Remote classes.

Figure 26: Estimated female population who were obese, 18 years and over, by remoteness, 2007-08



Map 45: Estimated female population who were obese, 18 years and over, major urban centres, 2007-08

standardised rate per 100 females by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

Prevalence of obesity among females, Australia

Notes: These estimates were not made for the most remote areas of Australia. This is of particular relevance to the Northern Territory; as a result, totals are not available for the Northern Territory. See comments on previous text page for other details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 47: Estimated female population who were obese, 18 years and over, by State/ Territory, Australia, 2007-08

Per cent (age-standardised rate per 100 females)

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan ¹	17.9	17.4	17.9	18.0	17.7	17.8	..	..	17.8
Total ¹	16.5	16.0	17.1	17.0	15.8	17.1	..	13.6	16.4

¹ Estimates have not been made for SLAs in the remote areas of Australia: the 'Non-metropolitan' and 'Total' figures do not therefore represent the entire population of these areas. See Appendix B for further details.

Non-metropolitan areas

There was little variation between the States in the estimated rate of female obesity at age 18 years, with rates in the non-metropolitan areas higher than those in the capital cities.

The highest rates in the non-metropolitan areas of **New South Wales** were in SLAs located on the northern State border in Walgett (20.6%), Brewarinna (19.7%) and Gwydir (19.5%); the north coast in Kempsey (19.7%) and surrounding SLAs; south of Sydney, in Shellharbour (20.0%) and Wollongong Balance (19.5%); in the far south, in Junee (19.9%), Murrumbidgee (19.7%) and Tumbarumba (19.6%); and, to the west of Sydney, in Lithgow (19.5%). Areas with the lowest rates were largely in the south of the State and included Palerang - Part A, Greater Hume Shire - Part A, Wagga Wagga - Part B, Yass Valley, Snowy River and Conargo; in the north, in Armidale Dumaresq Balance; mid-state in Bathurst Regional - Part B and Dubbo - Part B; and, just south of Sydney, in Kiama.

In **Victoria**, the non-metropolitan SLAs estimated to have the highest rates of obesity among females included Latrobe - Moe and - Morwell east of Melbourne; Central Goldfields - Maryborough and Balance in the middle of the State; Moira - West on the mid-northern State border; Swan Hill - Robinvale on the north-western State border; Mitchell - South just north of Melbourne; and Hindmarsh and Yarriambiack - South in the far west. Areas with the lowest rates were south in Queenscliffe, Surf Coast - East and - West, and Newtown; in Macedon Ranges Balance, just north of Melbourne; further north, in Greater Bendigo - Strathfieldsaye; and in the far north-east, in Wangaratta - North.

Many areas had high rates of obesity among females in **Queensland**, including the SLAs of Tara (20.3%), Rosalie - Part B (20.0%) and Laidley (19.9%) west of Brisbane; and a large number of areas, in a band running north of Brisbane,

from Tiaro (20.1%), through Kolan (20.0%), Gladstone (19.9%) and Calliope - Part B (19.9%), to Mount Morgan (20.1%); and further north in Sarina (19.9%), Bowen (20.0%) and Cairns - Central Suburbs (19.5%). The lowest rates were in regional centres, including Toowoomba and a number of the Cairns SLAs, and on the Gold Coast.

In non-metropolitan **South Australia**, the highest rates of obesity for females were in the north of the State, in Port Augusta (20.5%), Peterborough (20.4%) and Whyalla (20.3%); on the west coast, in Elliston (20.3%); and in Southern Mallee (20.2%), Murray Bridge (19.8%) and Loxton Waikerie - West (19.5%). Rates were lowest in Roxby Downs in the far north; just east of the Adelaide metropolitan area in Mount Barker Balance, Adelaide Hills - North and Balance; and in Robe, in the south-east.

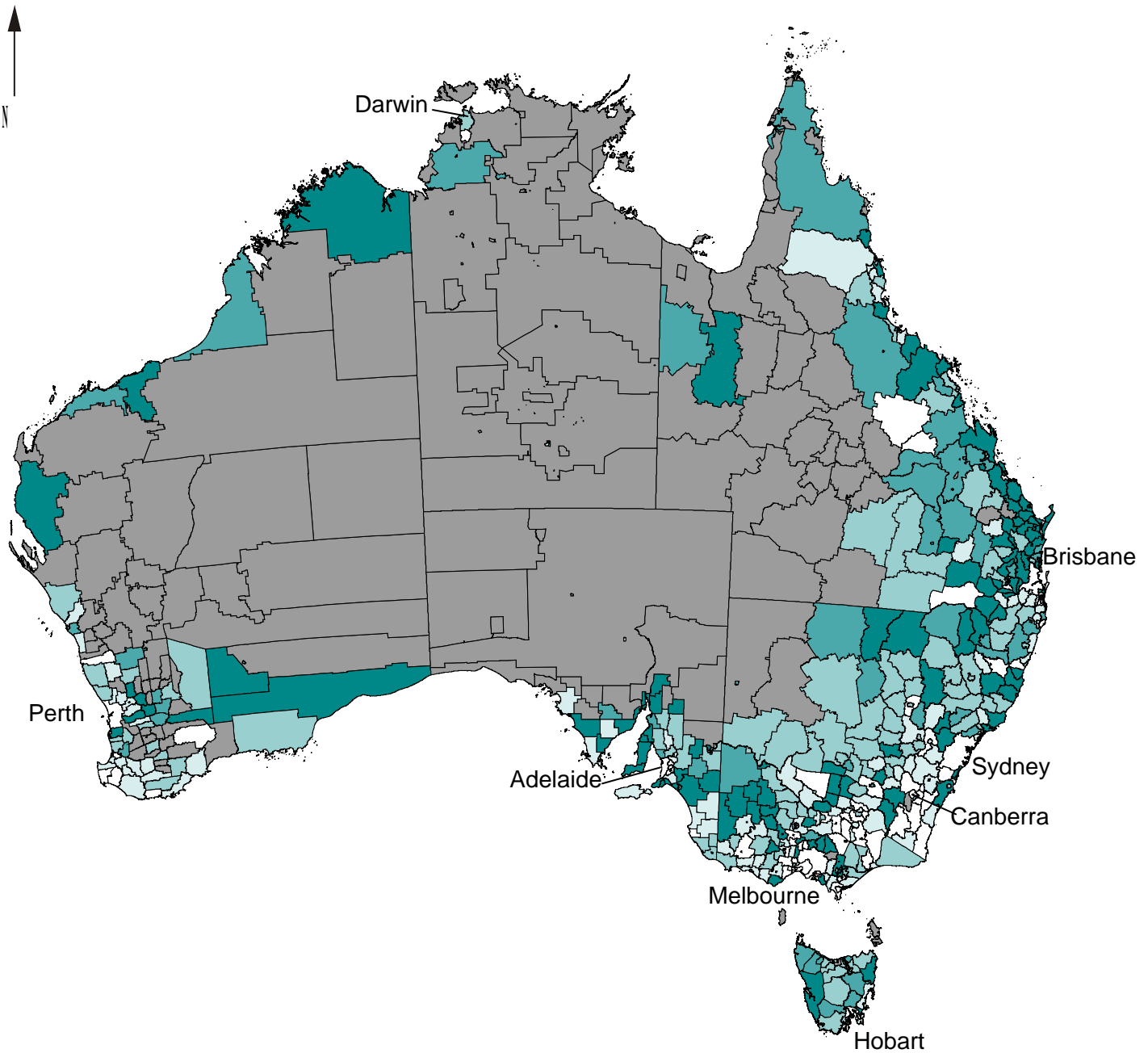
In **Western Australia**, the six highest obesity rates were estimated for females in a band of SLAs to the east and north-east of Perth, including Quairading (20.0%), Cunderdin (19.8%), Beverley (19.5%) and Goomalling (19.3%); and south of Perth, in Murray (19.4%) and Mandurah (19.3%). The lowest rates were also in the south-west, in Dardanup - Part B, Capel - Part A and Harvey - Part A; further east, in Lake Grace; and on the mid-west coast, in Greenough - Part A.

Obesity rates for females in **Tasmania** showed less variation, ranging from 16.5 to 20.5 per 100 females. The highest rates were in the coastal SLAs of George Town - Part A, West Coast, Latrobe - Part B, Break O'Day and Sorell - Part B. The lowest rates were in Kingborough - Part B, West Tamar - Part A, and Tasman.

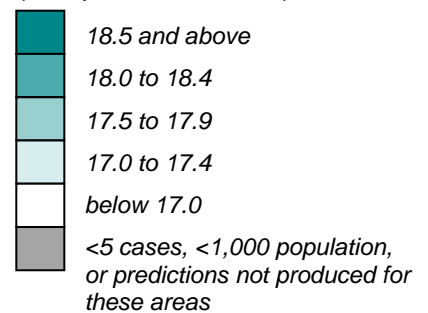
Of the areas that could be mapped in the **Northern Territory**, rates were also low, ranging from 13.9% in Alice Springs - Ross to 18.9% in Alice Springs - Stuart, with 18.2% in both Daly and Katherine.

Map 46: Estimated female population who were obese, 18 years and over, Australia, 2007-08

standardised rate per 100 females by Statistical Local Area/ Statistical Local Area group



Obese females
(rate per 100 females)



Source: Compiled in PHIDU based on unpublished data supplied by ABS (produced as a consultancy)

National Bowel Cancer Screening Program, participation, capital cities

Colorectal cancer, also known as bowel cancer, is one of the commonest forms of cancer, with around 80 Australians dying each week from the disease. Bowel cancer can be treated successfully if detected in its early stages, but currently fewer than 40 per cent of bowel cancers are detected early. Screening has been shown in randomised trials to reduce the incidence of and mortality from colorectal cancer.^{132,133} (See the additional notes on page 127 and in Appendix A, page 205, regarding the National Bowel Cancer Screening Program (NBCSP)).

Indicator definition: Number of people aged 50, 55 or 65 years who participated in the NBCSP, as a proportion of the number of people at those ages who were invited to participate in the Program.

Table 48: National Bowel Cancer Screening Program, participants aged 50, 55 or 65 years, by capital city, 2010

Per cent

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
33.2	35.6	35.2	41.4	40.5	40.9	29.1	39.2	36.0

Capital cities

Participation in the NBCSP ranged from 29.1% in Darwin to 41.4% in Adelaide.

In **Sydney**, participation rates in the NBCSP were lowest in a band of SLAs stretching from the coast to the west and south of the city. Some of the lowest rates were in Sydney - Inner (25.5%), - East (27.0%) and - South (29.8%), Blacktown - South-West (25.8%), Parramatta - South (26.6%), Bankstown North-East (27.1%), Woollahra (28.4%), Liverpool - West (28.9%) and - East (29.2%), Canterbury (29.3%), Campbelltown - North and Strathfield (both 29.4%), and Waverley (29.8%). No areas had participation rates of 40% or more.

Participation in **Melbourne** was lowest in the north, in Hume - Broadmeadows (29.8%) and - Craigieburn (30.9%), and Whittlesea - South-West (30.2%); and in Monash - South-West (30.0%), Greater Dandenong - Dandenong (30.6%) and Casey - Cranbourne (30.6%) in the south-east. Rates of 40% or more were recorded in Banyule - North and - Heidelberg, Nillumbik - South-West and - South, Mornington Peninsula - West, Manningham - East, Whitehorse - Nunawading East and Boroondara - Camberwell South.

A number of SLAs south of **Brisbane** recorded low participation rates, including Marsden (24.8%), Chandler-Capalaba West (25.7%) and Stretton-Karawatha/Kingston (27.6%). Several other areas to the north and south of the Brisbane River also recorded very low participation rates. Areas with rates of 40% or more included Bribie Island, Albany Creek, Anstead/Moggill, Hills District and Burpengary-Narangba.

Over half of the SLAs in **Adelaide** recorded participation rates of above 40%. These

included the four highest capital city participation rates, in Holdfast Bay - South (49.4%) and - North (47.4%), and Onkaparinga -

Hills (47.4%) and - Reservoir (46.9%). Port Adelaide Enfield - Port (29.7%) recorded the lowest rate.

Similarly, participation rates in **Perth** were generally high, with SLAs in the coastal strip north of the city, including Joondalup - South (45.6%) and - North (44.8%), Cambridge (44.9%) and Stirling - Coastal (44.6%), the highest of these. Fremantle - Inner (17.9%, 7 participants) and Perth - Inner (29.5%) had the lowest rates.

Rates in **Hobart** were relatively high, including in Kingborough - Part A (44.7%), Hobart - Remainder (42.2%), Clarence (41.8%) and Sorrell - Part A (41.4%).

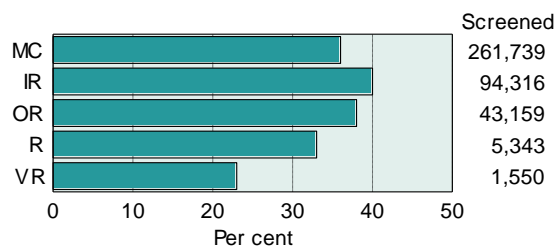
Participation in **Darwin** was relatively low, ranging from 26.5% in Darwin South West to 32.4% in Litchfield - Part A.

The SLA of Eastern Fringe (17.8%, 16 participants) recorded the lowest participation rate in **Canberra**. SLAs with rates above 40% included Belconnen South, Weston Creek, Woden South and North, and Canberra North.

Remoteness

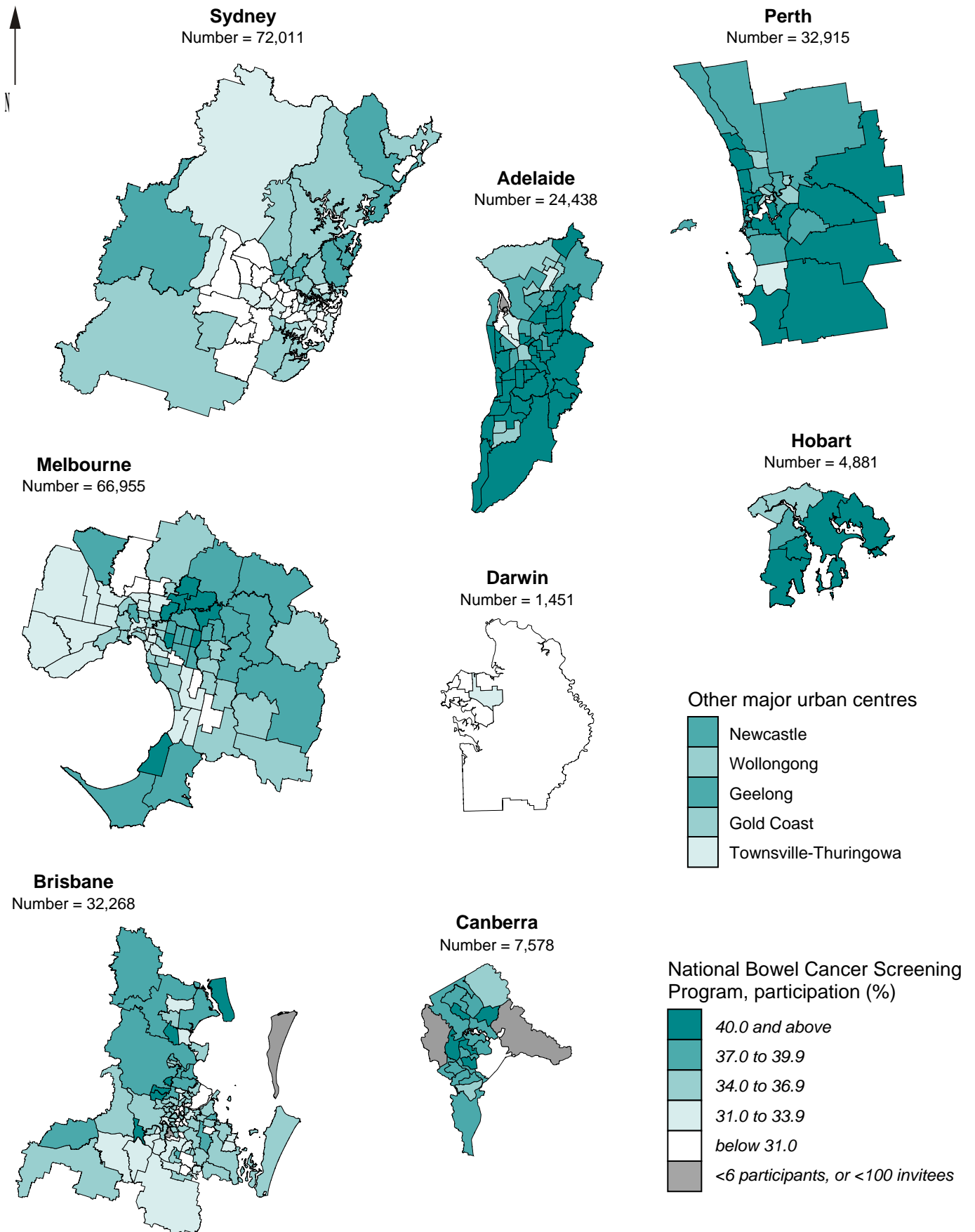
Participation rates were similar in the first three remoteness classes, before declining to lower rates in the Remote (33.3%) and Very Remote (22.8%) areas.

Figure 27: NBCSP, participants aged 50, 55 or 65 years, by remoteness, 2010



Map 47: National Bowel Cancer Screening Program, participants aged 50, 55 or 65 years, major urban centres, 2010

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data provided by DoHA from the National Bowel Cancer Screening Program

National Bowel Cancer Screening Program, participation, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 49: National Bowel Cancer Screening Program, participants aged 50, 55 or 65 years, by State/ Territory, Australia, 2010

Per cent

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	37.4	40.7	36.7	43.1	38.7	41.3	24.6	..	38.2
Total	34.9	37.1	36.1	41.9	40.1	41.1	24.0	39.1	36.9

Non-metropolitan areas

Participation rates in the non-metropolitan areas ranged from 36.7% in Queensland to 43.1% in South Australia, other than for a lower rate of 24.6% in the Northern Territory (the only instance where the non-metropolitan rate was below the capital city rate).

Participation in the NBCSP by invitees aged 50, 55 and 65 years was lowest in a group of areas in the outer far west of non-metropolitan **New South Wales**, from the northern to near the southern border. SLAs in this category included Bourke (22.2%), Brewarrina (22.7%), Walgett (25.6%), Central Darling (26.6%), Balranald (27.3%), Coonamble (27.6%), Cobar (28.0%), Bland (29.1%), and Blayney and Lachlan (both 29.2%). Areas with the highest participation by invitees included Lord Howe Island (54.2%, 13 participants), Urana (44.1%), Dungog (44.0%), Hastings - Part B (43.4%) and Bega Valley (43.2%).

In non-metropolitan **Victoria**, Swan Hill - Robinvale (25.8%) was the only SLA with a participation rate below 30%. Areas in the next lowest range (of between 30% to less than 35%) included Yarra Ranges - Part B, Hepburn - East, Moyne - North-East, Loddon - South and Mitchell - North. A number of areas recorded participation rates of 45% or more, with the highest of these including Queenscliffe (49.1%), South Gippsland (48.3%), Ballarat - North and Glenelg - North (both 47.4%), and Murrindindi - East (47.3%).

Participation in the NBCSP in **Queensland** was lowest in the far north, north-west and west of the State. Areas with the lowest rates included Torres (9.4%, 13 participants), Carpentaria (13.7%), Etheridge (15.9%, 7 participants), Aramac (18.9%, 7 participants), Quilpie (20.6%), Cloncurry (21.9%), Winton (23.3%) and Weipa (25.6%). Higher participation rates were predominant in SLAs around Brisbane, and to the north, along the coast. The highest were in Gayndah (52.6%), Mundubbera (49.0%), Tambo (48.6%, 18 participants), Blackall (46.2%), and Cambooya - Part B and Kingaroy (both 45.2%).

Rates were relatively high in non-metropolitan **South Australia**, with the highest in SLAs in the south-east, the mid north, and on the Yorke and Eyre Peninsulas. The highest of these - with rates above 50% - included the SLAs of Robe and Kimba (both 53.8%), Yorke Peninsula - South (53.4%), Tumby Bay (52.7%) and Barunga West (52.4%). Roxby Downs (30.6%) had the lowest rate of participation, followed by Unincorporated Flinders Ranges (34.8%) and Ceduna (35.0%).

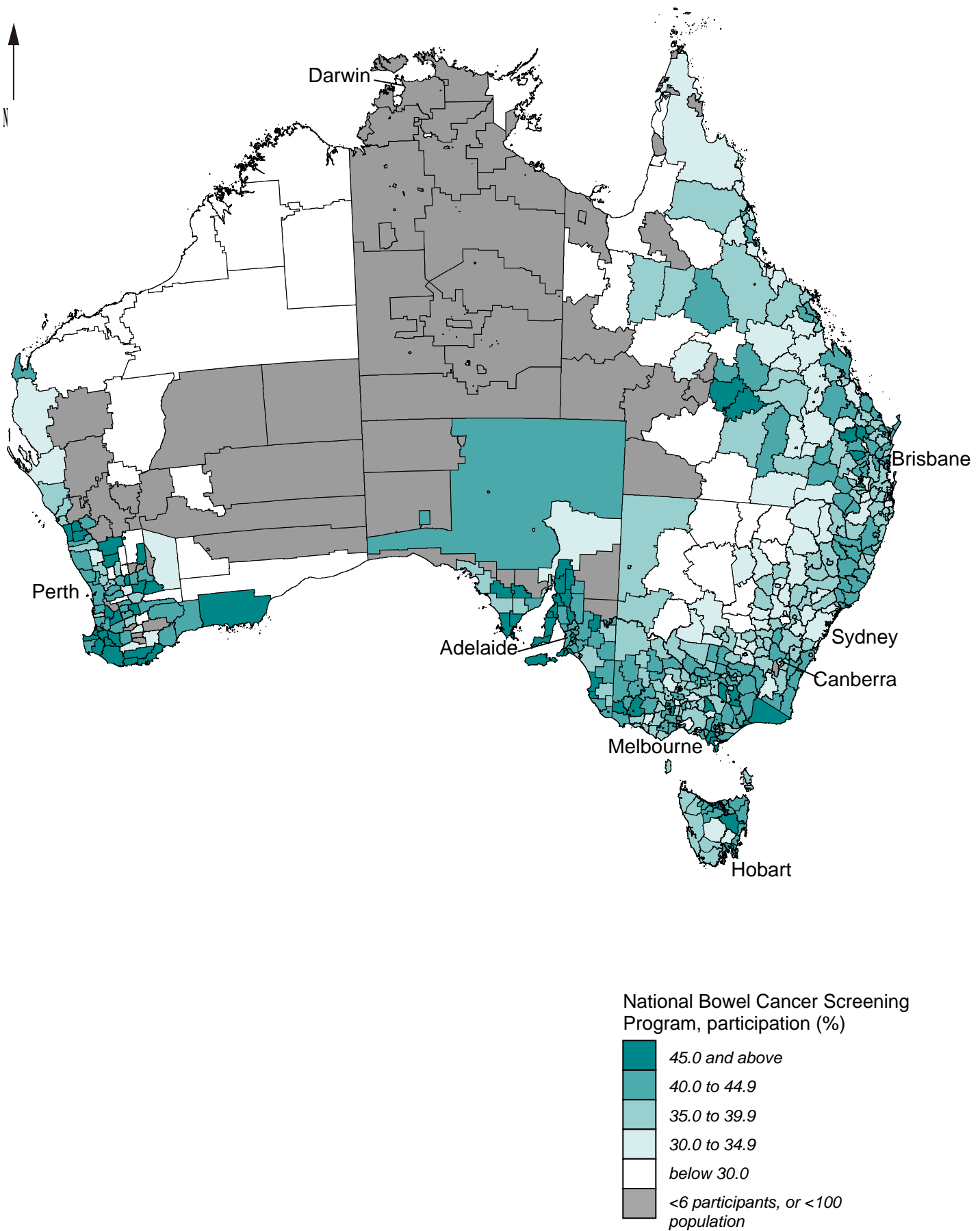
In non-metropolitan **Western Australia**, participation in the NBCSP by invitees aged 50, 55 and 65 years varied more widely than in some of the other States. SLAs with participation rates of 50% or more included Mukinbudin (57.6%, the highest SLA rate in Australia, 19 participants), Wickiepin (55.4%, the second highest), Wongan - Ballidu (52.6%), and Narembeen, Williams, Nannup and Dardanup - Part B (all 50%). Areas with low rates covered much of the State, other than the south-west. Of areas with 20 or more participants, those recording the lowest rates included Derby - West Kimberley (15.8%), Port Hedland (23.8%), Wyndham - East Kimberley (25.6%), East Pilbara (25.7%), Broome (25.9%), Coolgardie (27.2%), Roebourne (28.3%) and Ashburton (28.6%).

Participation rates in **Tasmania** were lowest in the Southern Midlands (33.3%) and Central Highlands (34.8%) SLAs; and were highest in Kingborough - Part B (49.5%), West Tamar - Part B (46.8%) and Northern Midlands - Part B (46.0%).

Of the small number of areas where participation rates in the non-metropolitan areas of the **Northern Territory** are available, rates were all below 30%, ranging from 11.0% in East Arnhem - Balance (15 participants) to 26.7% (16 participants) in Coomalie.

Map 48: National Bowel Cancer Screening Program, participants aged 50, 55 or 65 years, Australia, 2010

per cent by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data provided by DoHA from the National Bowel Cancer Screening Program

National Bowel Cancer Screening Program, positive test results, capital cities

The National Bowel Cancer Screening Program (NBCSP) offers a faecal occult blood test (FOBT) for bowel cancer to eligible adults who do not have any obvious symptoms of the disease.¹³³ A 'positive test result' indicates that blood has been found in the sample provided by a participant, and further medical follow up is then indicated.

Indicator definition: Number of participants aged 50, 55 or 65 years who received a positive test result from the FOBT in the NBCSP, expressed as an age-standardised rate per 100 participants in the NBCSP at these ages.

Table 50: NBCSP positive test results, participants aged 50, 55 or 65 years, by capital city, 2010

Age-standardised rate per 100 participants

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
8.2	8.3	7.9	8.5	8.3	10.1	10.7	7.8	8.2

Capital cities

The highest rates of positive test results were recorded in Darwin (10.7 people aged 50, 55 or 65 years with a positive result per 100 people who participated in the NBCSP) and Hobart (10.1 per 100 participants); the lowest was recorded in Brisbane (7.9 per 100 participants).

Fairfield - East (with a rate of 10.8 positive results per 100 people who participated), Bankstown - South (10.0 per 100) and Canterbury (10.0 per 100) recorded the highest rates in **Sydney**. The lowest rates were found in the inner city and in areas to the north, east and south of the city; and included Hunters Hill (5.3 per 100), Waverley (5.7 per 100), Pittwater (5.8 per 100), Manly (5.9 per 100) and Mosman (5.9 per 100).

In **Melbourne**, the highest rate was in Yarra - Richmond (11.4 per 100 participants), east of the inner city. Other high rates included areas to the north, in Moreland - Coburg (10.7 per 100) and - North (10.5 per 100) and Hume - Broadmeadows (10.7 per 100); in the outer west, in Hume - Sunbury (11.3 per 100), Wyndham - West (10.6 per 100) and Hobsons Bay - Altona (10.5 per 100); and in the south-east, in Cardinia - Pakenham (11.0 per 100) and Casey - Hallam (10.3 per 100) and - South (10.2 per 100). Areas with the lowest rates were largely in the inner city, and to the east.

High rates of positive test results in **Brisbane** were recorded in outer northern and southern SLAs, of which the highest were in Marsden (11.7 per 100 participants), Bribie Island (11.0 per 100), Deception Bay (10.5 per 100) and Ipswich - West (10.2 per 100). Fewer than three positive test results per 100 people who participated were found in the inner areas of Camp Hill/Carindale and Stafford Heights/Mitchelton (both 1.1 per 100), Upper Brookfield/Fig Tree Pocket (2.0 per 100) and Lota/Manly/Manly West (2.3 per 100).

SLAs in the northern areas of **Adelaide** had the highest rates, including in Salisbury - North-East (12.9 per 100) and - Inner North (11.7 per 100),

and in Playford - Elizabeth (11.9 per 100) and - East Central (11.7 per 100). Similarly high rates were also recorded in the outer southern SLA of Onkaparinga - North Coast (12.2 per 100) and the north-western area of Port Adelaide Enfield - Port (11.8 per 100). Unley - West (4.2 per 100), Adelaide (5.2 per 100) and Onkaparinga - Hills (5.8 per 100) recorded the lowest rates.

The highest rates of positive test results in **Perth** were in outer areas, including Wanneroo - North-West (11.1 per 100 participants) and Kwinana (11.0 per 100). The inner areas of Mosman Park (4.4 per 100), Subiaco (4.8 per 100) and Claremont (4.9 per 100) had the lowest rates of positive test results.

In **Hobart**, high rates of positive test results were found in Sorell - Part A (12.5 per 100 participants) and Glenorchy (12.2 per 100), with the lowest rates in Derwent Valley - Part A (6.6 per 100) and Kingborough - Part A (8.6 per 100).

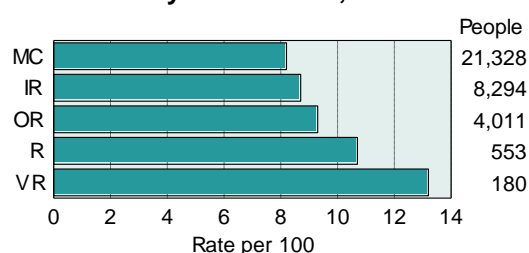
Litchfield - Part B was the only SLA in **Darwin** to be mapped, with 9.3 positive test results per 100 people who participated.

The rates of positive test results in **Canberra** were generally low, ranging from 1.4 per 100 in Belconnen North, to 8.5 per 100 in Kambah.

Remoteness

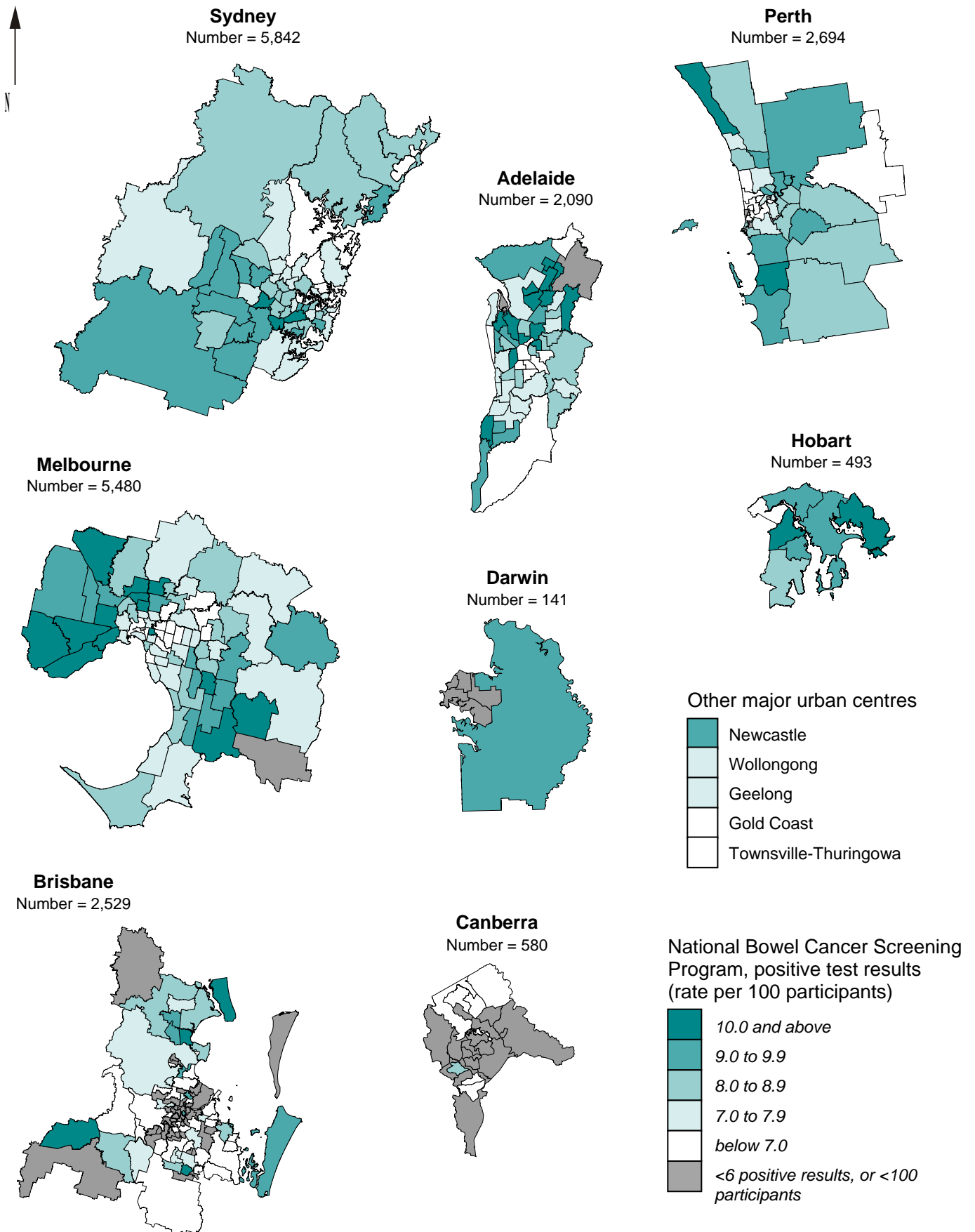
The rate of positive test results increased steadily across the remoteness classes from the Major Cities (8.2 per 100 people) to the Remote areas (10.7 per 100), with a more substantial increase, to 13.2 per 100, in the Very Remote areas.

Figure 28: NBCSP, positive test results, participants aged 50, 55 or 65 years, by remoteness, 2010



Map 49: National Bowel Cancer Screening Program, positive test results, participants aged 50, 55 or 65 years, major urban centres, 2010

standardised rate per 100 participants by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data provided by DoHA from the National Bowel Cancer Screening Program

National Bowel Cancer Screening Program, positive test results, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 51: National Bowel Cancer Screening Program, positive test results, participants aged 50, 55 or 65 years, by State/ Territory, Australia, 2010

Age-standardised rate per 100 participants

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	8.7	8.8	8.5	9.6	9.3	9.6	15.1	..	8.8
Total	8.4	8.4	8.2	8.9	8.5	9.8	11.5	7.8	8.4

Non-metropolitan areas

By far the highest rate of positive test results of people aged 50, 55 or 65 years who participated in the NBCSP was recorded in the non-metropolitan areas of the Northern Territory (15.1 per 100 people). Queensland had the lowest non-metropolitan rate (8.5 per 100).

Many areas have been mapped in grey, as the numbers were considered too small to be reliable.

High rates of positive test results in **New South Wales** were recorded in SLAs in a group from Newcastle, inland and north-west to the border; and from Wollongong, inland and south-west to the border. The highest of these were recorded in Walgett (17.4 per 100 participants), Greater Hume Shire (15.7 per 100), Tumut Shire (13.3 per 100), Wellington (13.2 per 100), Gwydir (12.9 per 100) and Bombala (12.6 per 100). Fewer than five positive test results per 100 participants were recorded in Snowy River (4.7 per 100), Kyogle (4.7 per 100) and Cootamundra (4.8 per 100).

SLAs with the highest rates of positive test results of those who participated in the NBCSP were scattered across **Victoria**, including Corangamite - South (14.4 per 100 participants), Gannawarra (12.4 per 100), Surf Coast - West (11.9 per 100) and Mount Alexander Balance (11.8 per 100). Areas with low rates were also widespread throughout the State, of which the lowest were recorded in Hepburn - West (3.3 per 100), Greater Bendigo - Strathfieldsaye (3.8 per 100), Hepburn - East and Glenelg - Heywood (both 4.2 per 100), and Wangaratta - South (4.4 per 100).

In the non-metropolitan areas of **Queensland**, the highest rates of positive test results were in Pittsworth (16.5 per 100 participants), Murweh (15.3 per 100), Rockhampton - Mount Morgan (12.7 per 100), and Bundaberg - Isis (12.3 per 100). The Townsville areas of Townsville Coastal/Magnetic Island (1.4 positive test results per 100 participants), Townsville South East (3.0 per 100) and Murray/Mt Louisa (3.8 per 100) recorded the lowest rates, with 3.8 positive test results per 100 participants also recorded in Isaac - Belyando.

Relatively few areas in **South Australia** had sufficient numbers for the publication of results. Of these, the far northern areas of Roxby Downs (17.0 per 100 participants) and Unincorporated Far North (14.9 per 100) recorded the highest rates, with high proportions also recorded in the mid northern areas of Mid Murray (13.7 per 100), Port Augusta (12.5 per 100), Mallala (12.2 per 100) and Wakefield (12.0 per 100). The lowest rates were recorded in the Riverland SLAs of Loxton Waikerie - Berri (3.6 per 100) and Berri & Barmera - Berri (4.2 per 100).

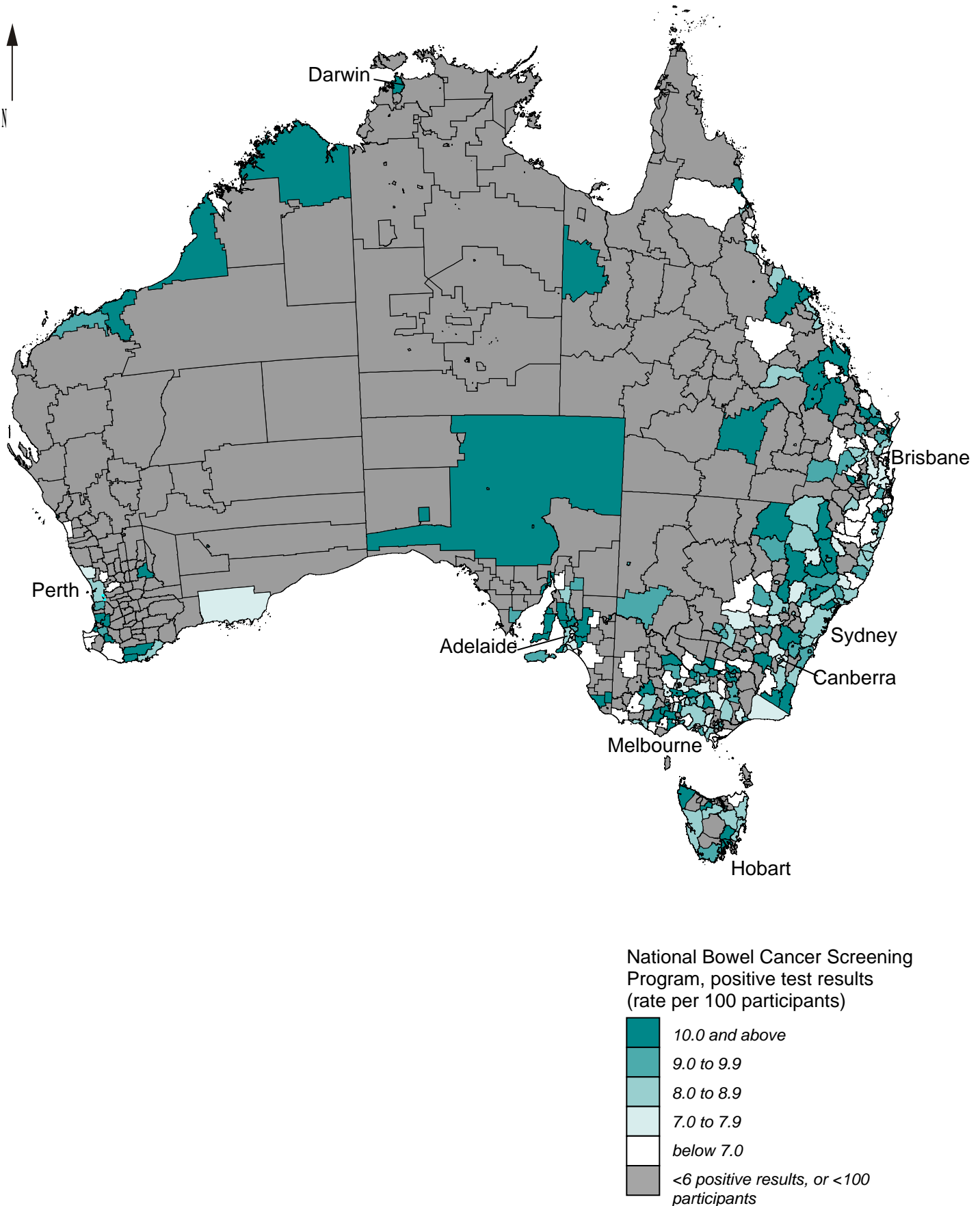
A majority of the non-metropolitan areas in **Western Australia** also had too few positive test results to be mapped. The highest rate was in Plantagenet (13.5 per 100 participants in the NBCSP), with a rate of 12.7 per 100 in Merredin. Other high rates were in Port Hedland and Broome (both 11.7 per 100) in the far north; and in Bridgetown-Greenbushes (11.5 per 100) in the south-west. Dardanup - Part A (with a rate of 4.2 per 100), in the south-west; Toodyay (4.4 per 100), north of Perth; Irwin (4.6 per 100), on the north coast; and York (4.9 per 100), to the east of the city, recorded the lowest rates.

In the non-metropolitan areas of **Tasmania**, the highest rates of positive test results were recorded in the SLAs of Southern Midlands (12.5 per 100 people who participated, located to the north of Hobart), Kentish (11.8 per 100, in the north) and Circular Head (11.0 per 100, in the north-west). The lowest rate (5.7 per 100) was recorded in both Kingborough - Part B, and in Dorset.

No SLAs in the non-metropolitan areas of **Northern Territory** were mapped, as there were too few positive test results.

Map 50: National Bowel Cancer Screening Program, positive test results, participants aged 50, 55 or 65 years, Australia, 2010

standardised rate per 100 participants by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data provided by DoHA from the National Bowel Cancer Screening Program

Premature mortality, all causes, capital cities

Deaths before the age of 75 years are deemed premature, given the life expectancy of Australians of 79.0 years for males and 83.7 years for females for the period, 2005 to 2007.⁹⁷ Diseases of the circulatory system, malignant neoplasms (cancer), and the combined external causes of accidents, poisonings and violence were the main causes of premature death of Australians in 2005.⁹⁸

Indicator definition: Deaths at ages 0 to 74 years, expressed as an age-standardised rate per 100,000 population.

Table 52: Premature mortality (deaths at ages 0 to 74 years), by capital city, 2003 to 2007

Age-standardised rate per 100,000 population

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
233.6	222.9	246.6	251.9	229.7	294.7	357.2	216.5	235.0

Capital cities

Premature mortality rates are highest in Darwin (a rate of 357.2 deaths per 100,000 population) and Hobart (294.7), and lowest in Canberra (216.5) and Melbourne (222.9). There is a strong association at the SLA level with high premature death rates and socioeconomic disadvantage in Melbourne and Brisbane, and a very strong association in Sydney, Adelaide and Perth.

The highest rates of premature mortality in **Sydney** were found in Blacktown - South-West (341 per 100,000 population) and - South-East (288), in the outer west; Sydney - South (337) and - East (297) and Marrickville (298) in the inner city; Parramatta - Inner (306) and - South (280) to the west; Campbelltown - North (293) in the outer south; and in the outer north in Wyong - South and West (326) and - North-East (289). SLAs on the north shore had the lowest rates.

High rates were widespread across **Melbourne**, in the outer south-east, in Cardinia - South (315 per 100,000 population) and Casey - Cranbourne (282); in the outer west, in Melton Balance (289); and closer to the city, in Maribyrnong (313), Port Phillip - St Kilda (290), and Hobson's Bay - Williamstown (278). The lowest rates were in the inner city and in SLAs to the east and north-east.

Premature death rates in **Brisbane** were very high, particularly in many SLAs in and around the city centre (generally to the east of the Brisbane River), and in the south, south-west and the outer north. The highest rates were in Dutton Park/ Woolloongabba (463 per 100,000 population), Stretton-Karawatha/Kingston (383), Rocklea (374), Annerley/Fairfield (360) and Murarrie (354). Areas with low rates were scattered throughout Brisbane and included the SLA groups of St Lucia, Chandler-Capalaba West, Calamvale and Gumdale/ Wakerley.

High rates of premature mortality in **Adelaide** were located in three distinct areas: to the north-west and outer north and south of the city centre. The highest were in Playford - West Central (418) and - Elizabeth (396), Salisbury - Inner North

(337); Port Adelaide Enfield - Coast (392), - Inner (354), - Park (346) and - Port (341); and Onkaparinga - North Coast (327). SLAs in the east and south-east had the lowest rates.

Premature death rates in **Perth** were highest in SLAs to the east of Victoria Park (390 per 100,000 population), Belmont (308) and Bassendean (303); and to the south, in Kwinana (295) and Armadale (280). Perth - Inner had a rate of 283 deaths per 100,000 population. The lowest rates were in the near-city SLAs of Peppermint Grove, Cottesloe, Claremont and Cambridge.

In **Hobart**, premature mortality rates were very high in Derwent Valley Part A (412 per 100,000), Hobart Inner (392, Brighton (376) and Glenorchy (352). Only Kingborough - Part A (238) had a rate close to the capital city average.

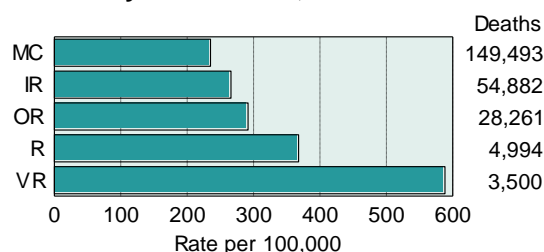
Premature death rates in **Darwin** were all above average, with rates of 393 in Palmerston, 289 in Darwin South West, 353 in Litchfield - Part B, 351 in Darwin North West, 305 in Darwin North East and 258 in Litchfield - Part A.

Rates in **Canberra** were highest in Canberra South (275 deaths per 100,000 population) and North (253), with rates of 244 and above in the outer parts of Tuggeranong and Belconnen, and in Eastern Fringe.

Remoteness

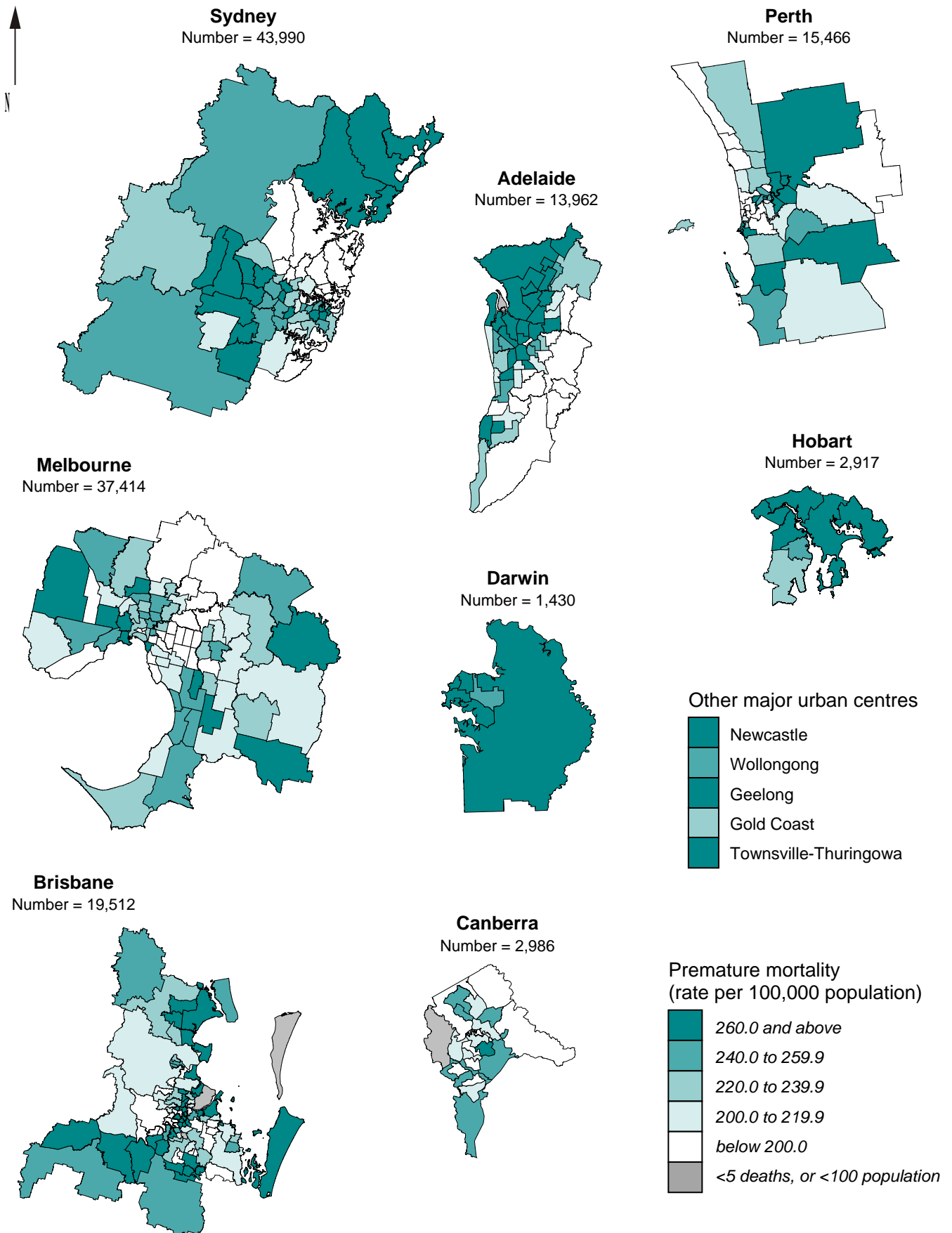
Premature mortality rates increased strongly across the first four remoteness classes (from 93 to 146 deaths per 100,000 population), before increasing substantially in the Very Remote class, to 233 deaths per 100,000 population, two and a half times the rate in the major cities' areas.

Figure 29: Deaths at ages 0 to 74 years, by remoteness, 2003 to 2007



Map 51: Premature mortality (deaths at ages 0 to 74 years), major urban centres, 2003 to 2007

standardised rate per 100,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

Premature mortality, all causes, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 53: Premature mortality (deaths at ages 0 to 74 years), by State/ Territory, Australia, 2003 to 2007

Age-standardised rate per 100,000 population

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	280.9	269.9	262.3	277.3	283.4	294.3	716.7	..	277.5
Total	253.1	236.8	255.6	259.1	244.2	294.5	508.3	216.4	252.2

Non-metropolitan areas

The rate of premature death of 716.7 deaths per 100,000 population in the Northern Territory was more than twice the rate of the next highest, Tasmania, with a rate of 294.3. All of the non-metropolitan areas had relatively high rates, reflecting the high rates of premature death among the Indigenous population.

The highest (of many high) premature mortality rates were recorded in a group of SLAs across inland **New South Wales**, from Walgett (471 deaths per 100,000 population), through Brewarrina (684), Bourke (609) and Central Darling (514) in the north, to Balranald (458) and Jerilderie (651), in the south. Areas with low rates were generally located in the eastern parts of the State, and along the coast, with the lowest rates in Dubbo - Part B, Wagga Wagga - Part B, Bathurst Regional - Part B, Kiama and Armidale Dumaresq Balance.

Rates were well below the non-metropolitan average in all SLAs in **Victoria**. The majority of SLAs with the State's highest rates were to the west and north-west of Melbourne, with a small number to the east. These included Ballarat - North (400 deaths per 100,000 population) and - South (324), Southern Grampians - Wannon (377), Greater Bendigo - Eaglehawk (349), Pyrenees - South (342), Loddon - South (335), Northern Grampians - Stawell (330); on the coast, Glenelg - Portland (344) and Geelong West (340); and in the east, Wellington - Sale (353) and Latrobe - Morwell (350). SLAs with below average rates of premature death were generally located closer to Melbourne, and in the north-east of the State.

The highest of many very high premature death rates in the non-metropolitan areas of **Queensland** were largely in remote areas of the State: on Cape York and in the Torres Strait, in some northern coastal communities, and along the border with the Northern Territory. Highly elevated rates (more than five times the Australian average) were found in the remote areas of Doomadgee (1,632 deaths per 100,000 population), Mornington (1,402), Pormpuraaw (1,290) and Hope Vale (1,268), and in

Cherbourg (1,624), north-west of Brisbane. The lowest rates were largely recorded in areas to the west of Brisbane, and in and around the Gold Coast and Sunshine Coast.

A majority of SLAs in the far north and west of **South Australia** had very high premature mortality rates, including Unincorporated West Coast (936 deaths per 100,000 population), Anangu Pitjantjatjara (725), Unincorporated Whyalla (712), Unincorporated Far North (658), Coober Pedy (541) and Ceduna (522). SLAs with the lowest rates were in the north, in Roxby Downs; to the east and south-east of Adelaide in Adelaide Hills - North, Alexandrina - Strathalbyn and Mount Barker Balance; in the south-east of the State in Karoonda East Murray and Robe; and in Franklin Harbour, on the Eyre Peninsula.

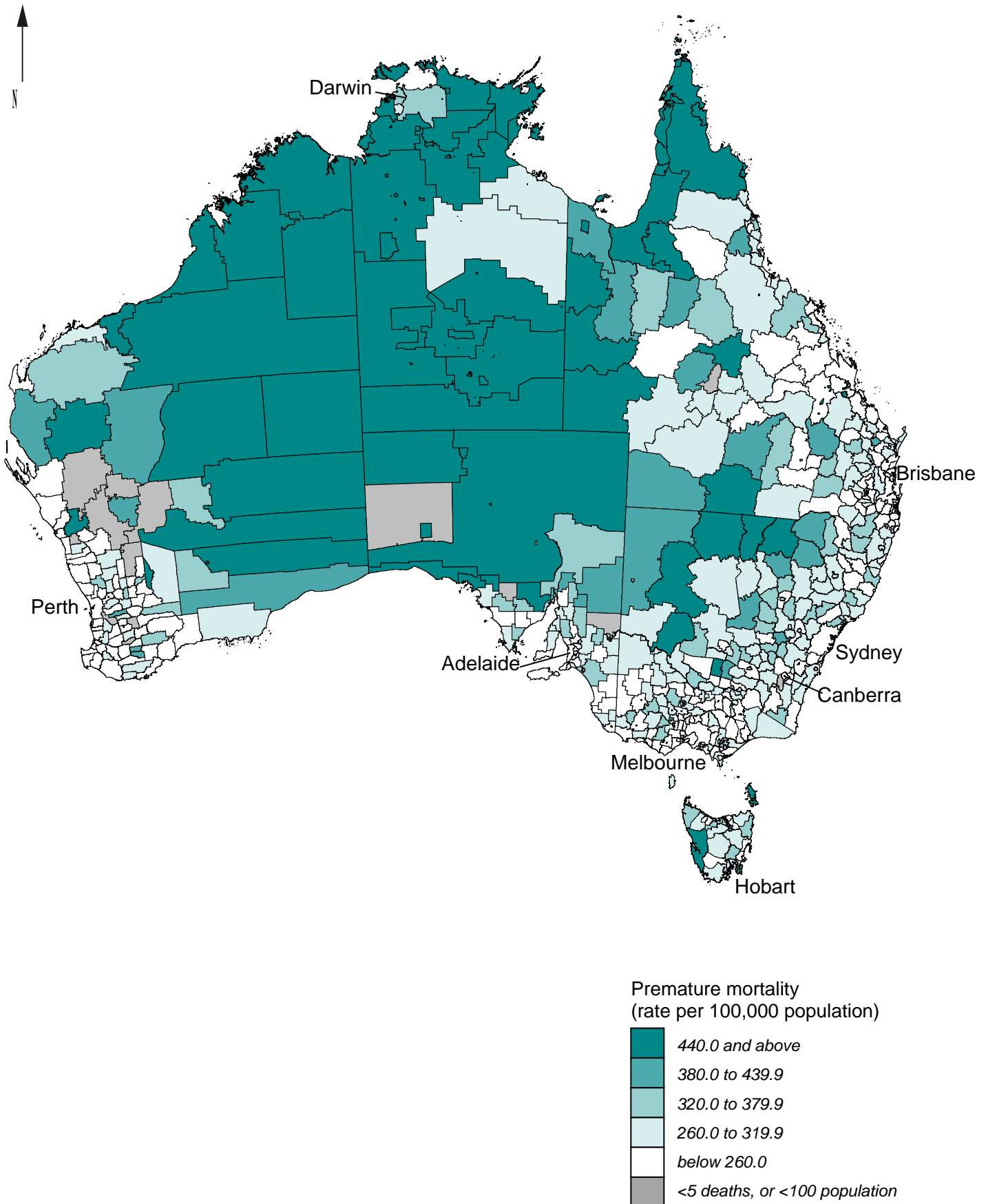
SLAs with high rates of premature death covered much of **Western Australia**, from Kalgoorlie/ Boulder - Part B (1,165 deaths per 100,000 population) to Wyndham-East Kimberley (662), and Halls Creek (1,1135), Derby-West Kimberley (976), Ngaanyatjarraku (910), Wiluna (774), Menzies (563), Broome (554) and East Pilbara (478). Similar rates were recorded in Mulewa (657) and Upper Gascoyne (528). The lowest rates were largely in SLAs in the south-west of the State, and to the north of Perth.

The SLAs of Flinders (206 per 100,000 population) and West Coast (188) had the highest premature mortality rates in **Tasmania**, with high rates also in a number of other coastal SLAs. The lowest rates were largely in SLAs located in the north of the State, including Burnie - Part B, Central Coast - Part B, George Town - Part B, Meander Valley - Part A and West Tamar - Part A; and, in the south, Derwent Valley - Part B.

More than three-quarters of the SLAs in the non-metropolitan areas of **Northern Territory** had premature death rates of more than twice the Australian average. Rates were more than five and a half times the Australian average in the Indigenous communities of Belyuen (2,294), Lajamanu (1,584), Watiyawanu (1,565), Kunbarllanjnja (1,529), Numbulwar Numburindi (1,463) and Tiwi Islands (1,426).

Map 52: Premature mortality (deaths at ages 0 to 74 years), Australia, 2003 to 2007

standardised rate per 100,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

Premature mortality from suicide and self-inflicted injury, capital cities

Suicide is the leading cause of death for adults under the age of 34 years, and for males under the age of 44 years.⁹⁹ Males comprised over three-quarters (77%) of all suicide deaths in 2007, the tenth leading cause of death of males.¹⁰⁰ Although death by suicide is a relatively uncommon event (occurring at a rate of about 1 per 10,000 population per year), the human and economic costs are substantial.¹⁰⁰ Suicide costs the nation over \$17 billion every year, but remains largely preventable, if early identification and effective treatment are available for those suffering mental illness, substance use and other related health problems.¹⁰¹

Indicator definition: Deaths from suicide and self-inflicted injury at ages 0 to 74 years, expressed as an age-standardised rate per 100,000 population.

Table 54: Deaths from suicide and self-inflicted injury at ages 0 to 74 years, by capital city, 2003 to 2007

Age-standardised rate per 100,000 population

Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Total
8.5	10.2	10.3	13.1	10.7	15.4	19.4	9.5	10.1

Capital cities

Death rates from suicide and self-inflicted injury before the age of 75 years were lowest in Sydney (8.5 deaths per 100,000 population) and Canberra (9.5), and highest in Darwin (19.4) and Hobart (15.4). The comments on the following text page as to the quality of suicide data should be read in conjunction with the information presented here.

The highest death rates from suicide and self-inflicted injury in **Sydney** were in the inner SLAs of Sydney - South (15.8 deaths per 100,000 population), - East (14.6) and - Inner (12.4), and the outer western SLA of Blue Mountains (15.1). SLAs in the inner west, the east and on the north shore had the lowest rates, including Pittwater, Strathfield, Lane Cove and Ashfield.

High death rates were most evident in the outer areas of **Melbourne**, in particular in the east and north-east, with by far the highest rate in Yarra Ranges - North (25.4 deaths per 100,000 population), followed by Frankston - West (16.3), Yarra Ranges - Central (15.9) and Yarra Ranges - Dandenongs (15.7). Other high rates were evident in areas throughout the city.

In **Brisbane**, the highest death rates from suicide were in the outer areas of Redland Balance (24.6 deaths per 100,000 population), Caboolture Central (23.8), Stretton-Karawatha/Kingston (19.6), Lawnton (19.1) and Browns Plains (18.5). Some inner city SLAs also had high rates. Dutton Park/Woolloongabba, Red Hill/Kelvin Groves and West End/Highgate Hill in the inner city, had the lowest rates.

In comparison, death rates from suicide and self-inflicted injury were relatively high across much of **Adelaide**, and there was a very strong association at the SLA level with socioeconomic disadvantage. The highest of these rates were in Port Adelaide Enfield - Port (29.2 deaths per 100,000 population), - Inner (23.3), - Coast and

- Park (both 20.1); Onkaparinga - North Coast (28.2) and Playford - Elizabeth (27.0) and - West Central (25.7)

The highest rates in **Perth** were in SLAs to the east of the city, in Belmont (19.8 deaths per 100,000 population) and Victoria Park (17.2); and to the west, in Mosman Park (14.5), Stirling - Coastal (13.3) and Cambridge (13.2). The lowest rates were in outer SLAs: no deaths from suicide were recorded for Peppermint Grove.

In **Hobart**, death rates from these causes were above the capital city average in each SLA other than Hobart - Inner (no suicide deaths recorded), with the highest rates in Brighton (22.5), Sorell - Part A (18.1) and Hobart - Remainder (16.5).

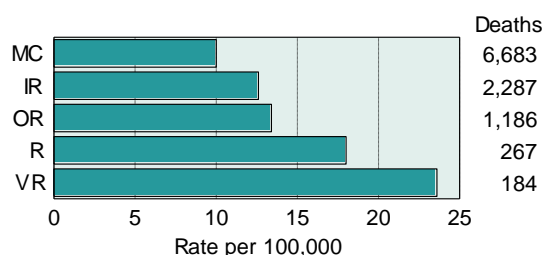
The highest rates in **Darwin** were in Litchfield - Part B (27.8), Darwin North West (22.4), South West (19.2) and North East (17.3). Palmerston had the lowest, although still relatively high rate, with 12.1 deaths per 100,000 population.

Death rates from suicide and self-inflicted injury were generally low across **Canberra**, with the highest in Woden South (15.4 deaths per 100,000 population), Belconnen West (12.4) and North (12.0), and Canberra Central (12.3)

Remoteness

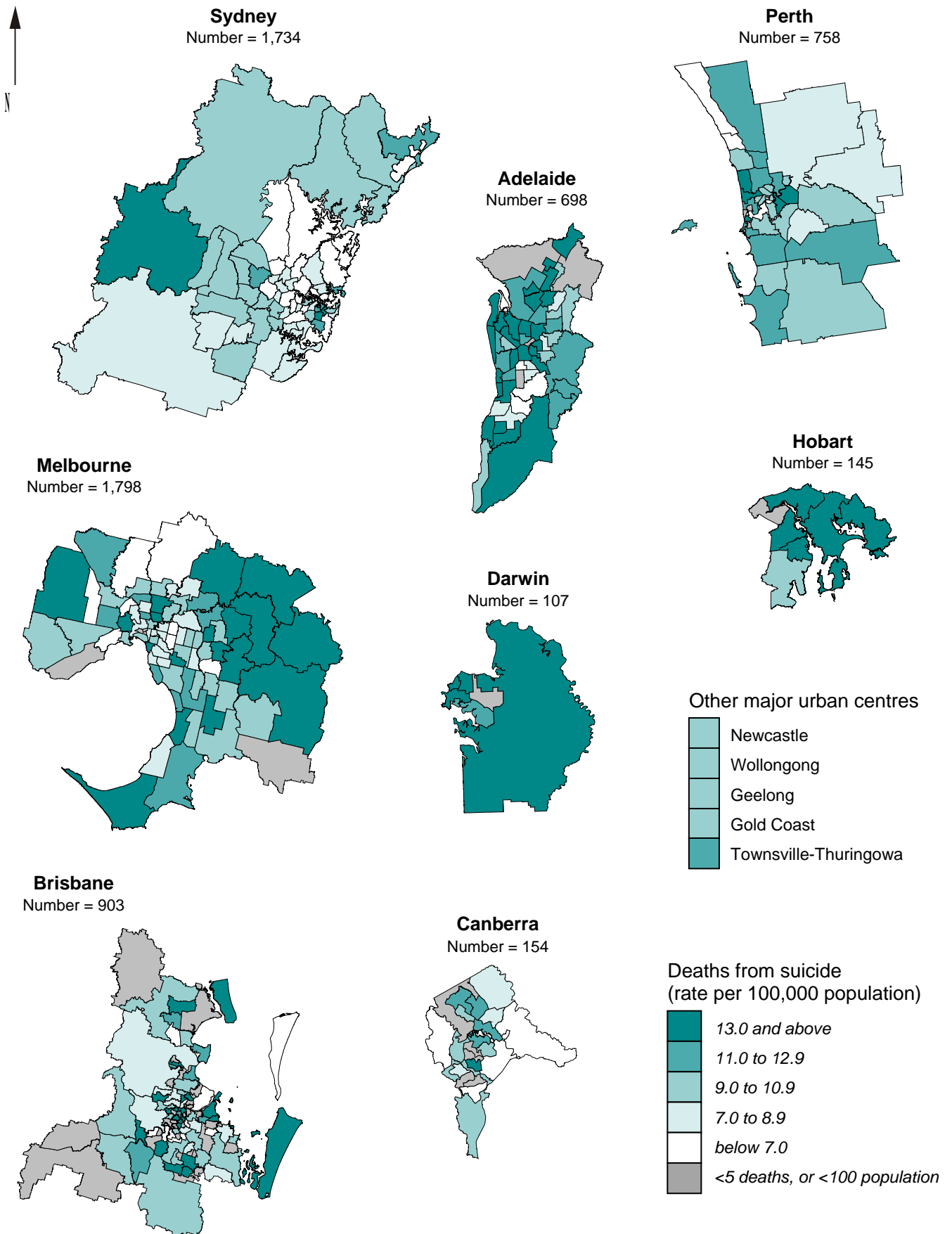
Death rates from suicide and self-inflicted injury increased steadily with increasing remoteness, from a rate of 10.0 deaths per 100,000 population in Major Cities to 23.6 in the Very Remote class.

Figure 30: Deaths from suicide and self-inflicted injury at ages 0 to 74 years, by remoteness, 2003 to 2007



Map 53: Deaths from suicide and self-inflicted injury at ages 0 to 74 years, major urban centres, 2003 to 2007

standardised rate per 100,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

Premature mortality from suicide and self-inflicted injury, Australia

Notes: See comments on previous text page for details of this indicator. 'Non-metropolitan' refers to the area of the State or Territory outside of the capital city. 'Total' refers to the whole State or Territory.

Table 55: Deaths from suicide and self-inflicted injury at ages 0 to 74 years, by State/ Territory, Australia, 2003 to 2007

Age-standardised rate per 100,000 population

Area	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
Non-metropolitan	10.6	13.3	13.8	13.7	12.9	17.2	25.8	..	12.8
Total	9.3	11.0	12.2	13.2	11.2	16.5	22.3	9.5	11.1

Non-metropolitan areas

Death rates from suicide and self-inflicted injury were higher in the non-metropolitan areas of Australia than in the capital cities, with the highest in the Northern Territory, a rate of 25.8 deaths per 100,000 population; the rate of 17.2 in Tasmania was also relatively high.

Data quality: a cautionary note

Where there were fewer than five deaths in an SLA, data have not been mapped and have been 'greyed out' (so as to protect the privacy of small communities, and as small numbers may not be a reliable indicator of the actual situation), and this approach is particularly evident in this map. In addition to the many areas treated in this way, all but two of the areas mapped in white (areas with rates below six deaths per 100,000 population) had no deaths at all from these causes. This finding – that there were fewer than five deaths from suicide and self-inflicted injury over this five-year period in a large number of areas, many of which have relatively large Indigenous populations – is at odds with our general understanding of the high rates of suicide in Indigenous communities.

In this regard, the ABS advises that 'care should be taken in using and interpreting suicide data due to issues affecting data quality.' They add that 'a reluctance by Coroners to make a determination of "suicide" and the high number cases with a status of "open" on the NCIS (National Coroners Information System) have impacted on the 2007 suicide data.'¹⁰² This comment is also applicable to data from the earlier years shown here.

The SLAs in the non-metropolitan areas of **New South Wales** mapped in white, including a number in the far north-west, had no deaths recorded from these causes. As noted in the box, above, this finding appears surprising. More than 19 deaths per 100,000 population from these causes were recorded in Cowra (39.0), Inverell - Part A (32.7), Walgett (19.9), Tumut Shire (19.8) and Richmond Valley - Casino (19.8).

In **Victoria**, 22 SLAs recorded rates above 19 deaths per 100,000 population, with the highest in Mildura - Part B (39.8), Pyrenees - South (33.2), Wellington - Avon (32.3), Northern Grampians - St Arnaud (32.0) and Murrindindi - East (31.3). Many areas had no deaths from these causes.

Deaths rates from suicide and self-inflicted injury in **Queensland** were as high as 164.1 per 100,000 population in Mornington and 108.7 in Doomadgee, with other high rates in Cook (55.2) and Tiara (48.0). By contrast, a number of SLAs had no deaths recorded from these causes.

The remote area of Unincorporated Far North (74.6 deaths per 100,000 population) had the highest rate in non-metropolitan **South Australia**, followed by the SLAs of Peterborough (67.7), Anangu Pitjantjatjara (44.9), and Kangaroo Island (39.3). As noted above, many areas had no deaths recorded from these causes.

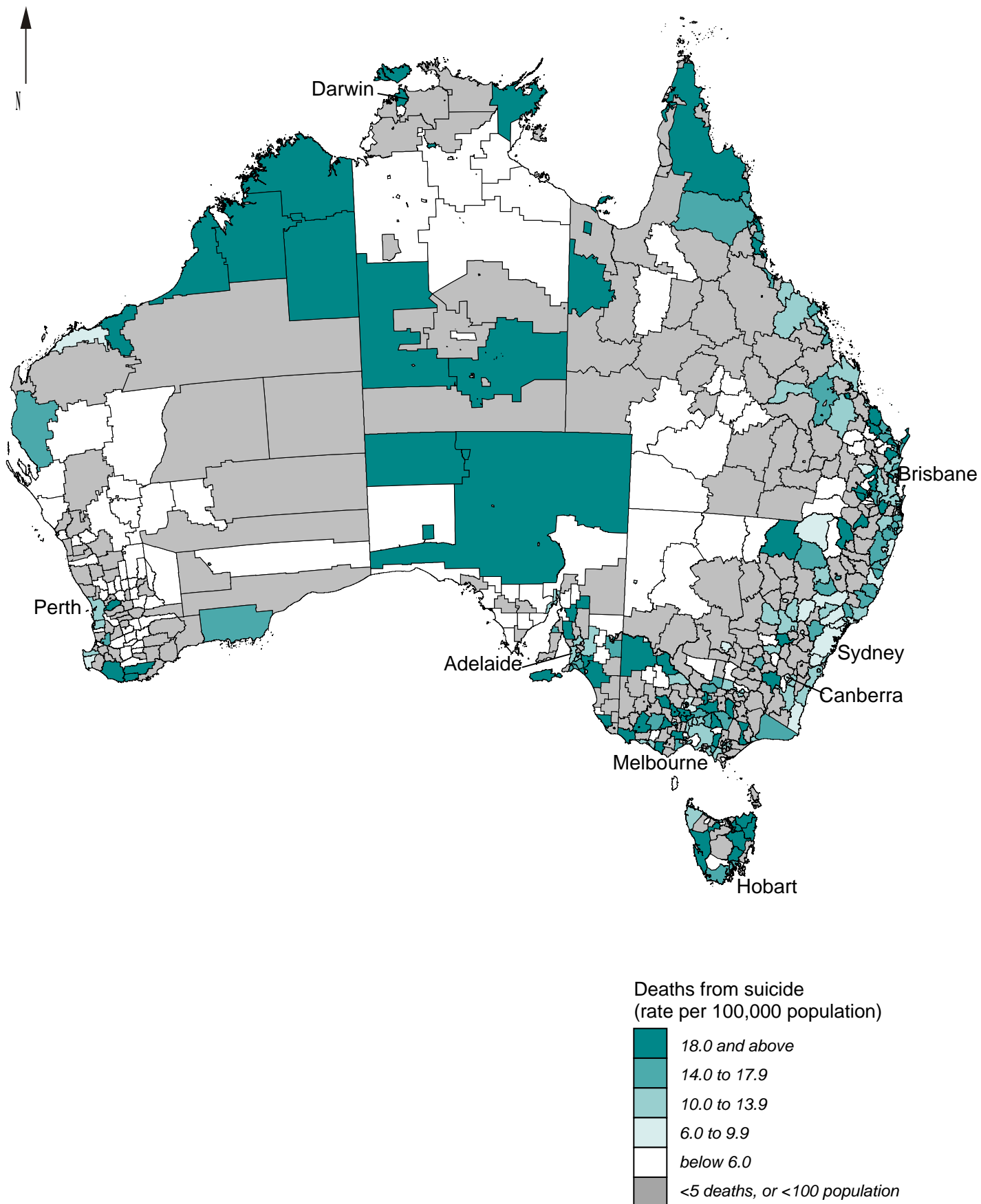
High suicide rates were evident in two areas of **Western Australia**, one in the south-west of the State, including York (46.4), Manjimup, Denmark, Northam and Plantagenet; and the other in the far north, including Halls Creek (34.1), Derby-West Kimberley, Wyndham-East Kimberley, Broome and Port Hedland. Again, many areas had no deaths recorded from these causes.

The majority of the SLAs mapped in **Tasmania** had death rates in the highest range; of these, the highest were in Kentish (37.5), Dorset (37.0), West Coast (36.5), Launceston - Part C (36.3) and Break O'Day (32.1). In areas with ten or more deaths, the lowest rates were recorded in Central Coast - Part A and West Tamar - Part A.

SLAs in the **Northern Territory** with no deaths recorded from these causes formed a group, running from Katherine, through to north of Tennant Creek. However, there were extremely high rates in several other SLAs, in particular the Tiwi Islands (127.1 deaths per 100,000 population), Sandover (70.2), Tanami (55.6), Tennant Creek (46.9), and East Arnhem Balance (28.9). The data for many areas, including those with no deaths, may not be reliable.

Map 54: Deaths from suicide and self-inflicted injury at ages 0 to 74 years, Australia, 2003 to 2007

standardised rate per 100,000 population by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU based on data supplied by ABS on behalf of State and Territory Registrars of Deaths

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