Section 6

Addressing entrenched disadvantage in particular locations

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Introduction

This section reflects the association between socioeconomic disadvantage and certain geographic areas of residence across Australia. As described in Section 2, disadvantage encompasses a range of economic, social, cultural and political exclusions that influence, and are influenced by, factors such as educational attainment.[120] As poverty indicators increase in specific areas, disadvantage often becomes more entrenched and persists over time.[130] Entrenched disadvantage is then reflected by the presence of a range of problems, which can be very difficult to remedy.[25,120,130] For example, vulnerable people in highly disadvantaged communities may not finish school, have difficulty finding and keeping a job, and may have to rely on income support for long periods. In some households, long-term unemployment becomes intergenerational.[16,121] Research evidence shows that targeting particular locations, and building on local expertise of what works, in partnership with members of those communities, is often the best way to improve the life outcomes of individuals and families.[121]

Within this context, Section 6 provides:

- provides a commentary as to the utility of using Statistical Local Areas (SLAs) to identify the most disadvantaged populations in the cities and regional and remote areas of Australia; and
- the results of a cluster analysis, undertaken to identify areas of disadvantage across the capital cities and other major urban centres, using indicators mapped in Section 4.

Area of residence as a measure of disadvantage

In the absence of individual-level data on social background in the major administrative health record collections (deaths, hospital admissions, cancer registries), it is necessary to use a proxy measure. Such records almost always include an address of usual residence, which can be coded to an SLA. The SLA, which is largely based on local government areas, has, until recently, been the major level in the statistical geography hierarchy under the Australian Standard Geographic Classification.[1] The majority of work in Australia describing the association between the health and wellbeing of the population, their socioeconomic status and aspects of social inclusion employs the SLA of the address of usual residence of the person about whom the event is recorded as the proxy measure.

The adoption of an area-based measure of socioeconomic status requires at least two assumptions: that people who move residence do so between, or within, geographic areas of similar socioeconomic status; and that the (often relatively large and populous) areas used in these analyses provide a reliable indication of the characteristics of the individuals in the areas.

Glover and colleagues addressed both of these concerns in an analysis of admissions to hospitals in Western Australia over five years, of residents of the State's capital city, Perth.[122] In the analysis, patient addresses were coded to the smallest areal unit available, the ABS Collection District (CD – in Perth, a CD generally includes 200 dwellings and 550 people), and to higher level geographic areas of postcode and SLA. They found that postcode-level and SLA-level data provided a reliable indication of socioeconomic disadvantage of area. That is, the association between rates of total admissions and socioeconomic disadvantage of area evident at the smallest area level is also present, albeit less strongly, in the higher level area aggregates of postcode and SLA. The finding was similar for individuals admitted. They concluded that, given the widespread use in Australia of area-based analyses at the postcode and SLA level, it is important to know that such analyses can provide a reliable indication of the direction and underlying strength of association of socioeconomic disadvantage at the local area level.[122]

To show the extent to which the most disadvantaged SLAs incorporate the most disadvantaged populations, an analysis was undertaken at the Collection District (CD) level within each capital city and remainder of State/ Territory area (e.g., for Sydney, and for the remainder of New South Wales).

Results

In an analysis for Sydney, for example, SLAs were ranked by their IRSD score, from lowest to highest: the six SLAs with the lowest IRSD scores, and comprising approximately 10% of the population of Sydney Statistical Division, were further examined at the CD level. This was achieved by:

- listing all CDs in the Sydney Statistical Division, ranked by their IRSD score, from lowest to highest;

- identifying which of the CDs comprising the 10% of the population of the Sydney Statistical Division with the lowest IRSD scores were located in the SLAs previously identified as having the lowest SLA-level IRSD scores; and
- ascertaining the proportion of the total population of those six SLAs represented by the selected CDs.

The result is that the six most disadvantaged SLAs under the IRSD encompass half (50.6%) of the population in the most disadvantaged 10% of CDs in the whole of the Sydney Statistical Division (Table 56).

The analysis was repeated with a 5% cut-off, with a result that three SLAs had 30.4% of the population in the most disadvantaged 5% of CDs in Sydney.

The proportions are markedly higher in Melbourne and Brisbane, with almost two thirds of the population in the most disadvantaged 10% of CDs encompassed by the selected SLAs/SLA groups; and 47.5% and 57.0%, respectively, in the lowest 5%.

At the 10% level, the results for Adelaide, Perth and Darwin are similar to those in Sydney, although at the 5% level, the results vary markedly between these cities.

The most disadvantaged SLAs/SLA groups in Hobart and Canberra have the lowest proportions of the population in their most disadvantage CDs, although they still incorporate around one third of their city's most disadvantaged population.

Table 56: Concentration of disadvantage in SLAs for capital cities, 2006

SLA	Lowest 5%	Lowest 10%
Capital cities		
Sydney: Fairfield - East, Parramatta - South, Bankstown - North East, Blacktown - South-West, Auburn, Canterbury	n.a.	50.6
Fairfield - East, Parramatta - South, Bankstown - North East	30.4	n.a.
Melbourne: Brimbank - Sunshine, Darebin - Preston, Greater Dandenong-Dandenong, Greater Dandenong Balance, Hume - Broadmeadows, Maribyrnong, Moreland - North, Whittlesea - South-West	n.a.	65.7
Brimbank - Sunshine, Greater Dandenong - Dandenong, Greater Dandenong Balance, Hume - Broadmeadows	47.5	n.a.
Brisbane: Acacia Ridge, Archerfield, Bribie Island, Caboolture - Central, Chermside, Clontarf, Darra-Sumner, Deception Bay, Durack, Inala, Kingston, Loganlea, Margate-Woody Point, Marsden, Morayfield, Pinkenba-Eagle Farm, Redland Balance, Richlands, Wacol, Waterford West, Woodridge, Zillmere	n.a.	65.4
Acacia Ridge, Caboolture - Central, Durack, Inala, Kingston, Margate-Woody Point, Marsden, Redland Balance, Richlands, Wacol, Woodridge	57.0	n.a.
Adelaide: Playford - Elizabeth, Playford - West Central, Port Adelaide Enfield - Park, Port Adelaide Enfield - Inner, Port Adelaide Enfield - Port, Onkaparinga - North Coast	n.a.	48.8
Playford - Elizabeth, Playford - West Central, Port Adelaide Enfield - Park	49.8	n.a.
Perth: Belmont, Kwinana, Stirling - Central, Wanneroo - South	n.a.	42.8
Belmont, Kwinana	13.6	n.a.
Hobart: Brighton	n.a.	29.8
n.a.	n.a.	n.a.
Darwin: Narrows, Moulden, Gray, Lee Point-Leanyer Swamp		51.1
Narrows, Moulden	24.1	n.a.
Canberra: Symonston, Oaks Estate, Charnwood, Braddon, Reid, Richardson, Belconnen Town Centre, Weston Creek-Stromlo - SSD Balance, Page, Scullin	n.a.	34.0
Symonston, Oaks Estate, Charnwood, Braddon Reid	35.8	n.a.

In the non-metropolitan areas, proportions at the 10% level were much lower, other than in South Australia and Western Australia (where they were similar to those in the capital cities), and the Northern Territory (where they were higher than in Darwin) (Table 57). At the 5% level, Western Australia and the Northern Territory both had higher proportions of their population in the non-metropolitan areas than in the capital cities.

Despite the lower proportions, the selected SLAs still incorporate more than 10% of the population in the most disadvantaged CDs, other than in Queensland, where the large number of SLAs with extremely small populations influence the outcome.

Table 57: Concentration of disadvantage in SLAs for rest of State/ Territory areas, 2006

SLA	Lowest 5%	Lowest 10%
Rest of State/ Territory areas (includes other major urban centres)		
New South Wales:		
Bourke, Brewarrina, Broken Hill, Central Darling, Clarence Valley Balance, Coonamble, Inverell - Part B, Kempsey, Kyogle, Nambucca, Richmond Valley - Casino, Walgett, Wellington	n.a.	14.1
Brewarrina, Central Darling, Coonamble, Kempsey, Richmond Valley - Casino, Walgett, Wellington	12.0	n.a.
Victoria:		
Benalla - Benalla, Central Goldfields - Maryborough, Central Goldfields Balance, Corio - Inner, East Gippsland - Orbost, Greater Bendigo - Central, Greater Bendigo - Eaglehawk, Latrobe - Moe, Latrobe - Morwell, Loddon - South, Pyrenees - North, Swan Hill - Robinvale, Yarriambiack – South	n.a.	35.4
Central Goldfields - Maryborough, Greater Bendigo - Eaglehawk, Latrobe - Moe, Latrobe - Morwell, Loddon - South, Swan Hill – Robinvale	20.5	n.a.
Queensland:		
Aurukun, Badu, Boigu, Cherbourg, Dauan, Erub, Hammond, Hope Vale, Iama, Injinoo, Kowanyama, Lockhart River, Mer, Mornington, Napranum, Palm Island, Pormpuraaw, Poruma, Saibai, Ugar, Umagico, Warraber, Woorabinda, Wujal Wujal, Yarrabah, Yorke	n.a.	8.8
Aurukun, Boigu, Cherbourg, Dauan, Injinoo, Kowanyama, Mer, Napranum, Palm Island, Umagico, Warraber, Wujal Wujal, Yarrabah	11.5	n.a.
South Australia:		
Anangu Pitjantjatjara, Coober Pedy, Peterborough, Port Pirie City Districts - City, Unincorporated Riverland, Unincorporated Whyalla, Whyalla	n.a.	47.7
Anangu Pitjantjatjara, Peterborough, Unincorporated Riverland, Unincorporated Whyalla	16.0	n.a.
Western Australia:		
Cue, Derby-West Kimberley, Halls Creek, Kalgoorlie/Boulder - Part B, Laverton, Meekatharra, Menzies, Murchison, Ngaanyatjarraku, Upper Gascoyne, Wiluna, Yalgoo	n.a.	26.3
Derby-West Kimberley, Halls Creek, Kalgoorlie/Boulder - Part B, Menzies, Ngaanyatjarraku, Wiluna	60.1	n.a.
Tasmania:		
Break O'Day, George Town - Part A, Tasman, West Coast	n.a.	15.4
Break O'Day, George Town - Part A	15.4	n.a.
Northern Territory:		
Belyuen, East Arnhem - Balance, Jilkminggan, Sandover, Walangeri Ngumpinku	n.a.	59.8
East Arnhem - Balance, Jilkminggan, Walangeri Ngumpinku	65.8	n.a.

Conclusion

Given the strong spatial patterning of socioeconomic disadvantage, place-based approaches are likely to have considerable potential to help improve outcomes for people experiencing multiple and inter-related forms of disadvantage.

For detailed local area planning, where the data are available and sufficiently robust, small areas, such as suburbs, can provide specific information to inform these activities.

At times, however, an area with a larger population is needed to provide sufficient numbers of cases for the data to be a reliable indicator of health and wellbeing, or to provide a

population of sufficient size for addressing health issues and their determinants: the SLA is such an area. In addition, most health and health-related data have only been available at the SLA level.

As shown in the analysis described above, SLAs with low IRSD scores comprise a substantial proportion of the CDs with the most disadvantaged populations within a majority of the capital cities, and can be used as a reliable guide to overall disadvantage.

Cluster analysis for Statistical Local Areas

Introduction

A cluster analysis was undertaken at the SLA level, using indicators from Section 4, to identify areas of disadvantage across the capital cities and the other major urban centres; a separate analysis was undertaken for selected urban centres (the largest towns) across regional Australia. This approach can identify locations of concentrated and multiple disadvantages, and, in doing so, assist those involved in policy development and regional planning, and community development and service delivery activities.

Method

The method used (Ward's method) seeks to partition a set of cases (SLAs in this instance) into a set of non-overlapping groups, so as to maximise some external criterion of 'goodness of clustering', typically the extent to which the within-cluster inter-object similarities are maximised and the between-cluster similarities minimised.

The results of the cluster analysis, therefore, represent indicative groupings of areas with broadly similar characteristics among the variables analysed across all of the areas under analysis (the capital cities and other major urban centres and the largest towns). In other words, they represent a set of areas with the highest levels of socioeconomic disadvantage, when analysed using the following variables:

- children in jobless families;
- people receiving an unemployment benefit long-term;
- children in low income, welfare-dependent families;
- children in families where mother has low educational attainment;
- children who are developmentally vulnerable on one or more domains under the AEDI;
- dwellings rented from the government housing authority; and
- having a profound or severe disability and being unemployed.

The variables for the Indigenous population (e.g., median age at death, women smoking during pregnancy) were excluded as they were not available at the SLA level.

Changing the variables in a cluster analysis can change the results; however, given that the variables in this analysis are broadly representative of what we want to illustrate – i.e., patterns of socioeconomic disadvantage – it is unlikely that results would vary greatly, at least in the capital cities and other urban areas, if some variables were replaced.

The analysis was not undertaken for the non-metropolitan areas as a whole, because of the non-uniform nature of the SLAs. For example, many SLAs in the Northern Territory and Queensland, which are based on Aboriginal communities, have very small populations. Their inclusion with larger SLAs across Australia distorts the analysis towards these small communities, at the expense of other (often larger) Aboriginal communities, which are not represented by discrete SLAs and comprise a small proportion of the population of a large SLA. The resources were not available in this project to undertake alternative analyses, which could give appropriate weightings to all SLAs in the non-metropolitan areas.

However, a separate analysis was undertaken for urban centres across regional Australia (outside of the capital cities and other major urban centres), with populations of 7,500 or more, which were SLAs in their own right, or where the urban centre comprised 75% or more of the population of the surrounding SLA.

The results of the analysis can be a useful tool for certain purposes, in this case in identifying the most disadvantaged locations: on other occasions, however, the individual variables on which they are based may be more relevant.

Results

Capital cities and other major urban centres

The analysis of SLAs in the capital cities and other major urban centres produced a four-cluster solution (Table 58). The median IRSD score (in 2006) for each cluster was used to rank the clusters: the clusters are defined as very low (with an IRSD score of 905); low (981); medium (1041) and high (1073) socioeconomic status.

The rate ratio shows the relative difference in the proportions for each variable in the very low

socioeconomic status cluster to the high socioeconomic status cluster. The differential in rates in each case is substantial, being from 2.4 times higher for the proportion of children found to be developmentally vulnerable on one or more domains under the AEDI, to 4.6 times higher for the proportion of children in jobless families and 4.9 times for dwellings being rented from the State or Territory housing authority. These wide gaps highlight the extent to which the greatest disadvantage is concentrated in a relatively small number of areas.

However, it is also clear that there is a gradient in proportions for each variable, with the proportion in Cluster 2 higher than that in Cluster 1; that in Cluster 3 higher than that in Cluster 2; and that in Cluster 4, higher than that in Cluster 3.

Table 58: SLAs in the capital cities in the lowest socioeconomic status cluster

Variable	Socioeconomic status cluster				Total	Rate
	1 (high)	**2**	**3**	**4** (very low)		ratio
IRSD (not used in producing the clusters)	*1073*	*1041*	*981*	*905*	*1026*	*0.8*
Children in jobless families	6.4	9.8	16.7	29.7	12.0	4.6
Children in low income families	9.2	15.6	26.3	38.9	18.1	4.2
Mothers with low educational attainment	9.3	18.4	24.7	33.6	18.3	3.6
AEDI: developmentally vulnerable, one or more domains	13.9	24.4	26.2	33.5	22.3	2.4
Housing authority rented dwellings	2.3	2.8	5.7	11.5	4.0	4.9
Long term unemployment	1.5	2.2	3.8	6.0	2.7	3.9
Disability &unemployment	0.8	1.2	2.1	3.5	1.5	4.2
Number of areas	*125*	*143*	*113*	*27*	*408*	*..*

The results of the cluster analysis are mapped in Map 55; the SLAs which formed the lowest socioeconomic status cluster are listed in Table 59.

The map of the clusters presents a striking pattern for most of the capital cities, summarising what is shown, in Section 4, for many of the individual indicators. It also shows the relative status of SLAs across all of these capital cities, with none of the SLAs in Perth, or SLA groups in Darwin or Canberra, and only one SLA in Melbourne, allocated to the lowest socioeconomic status cluster.

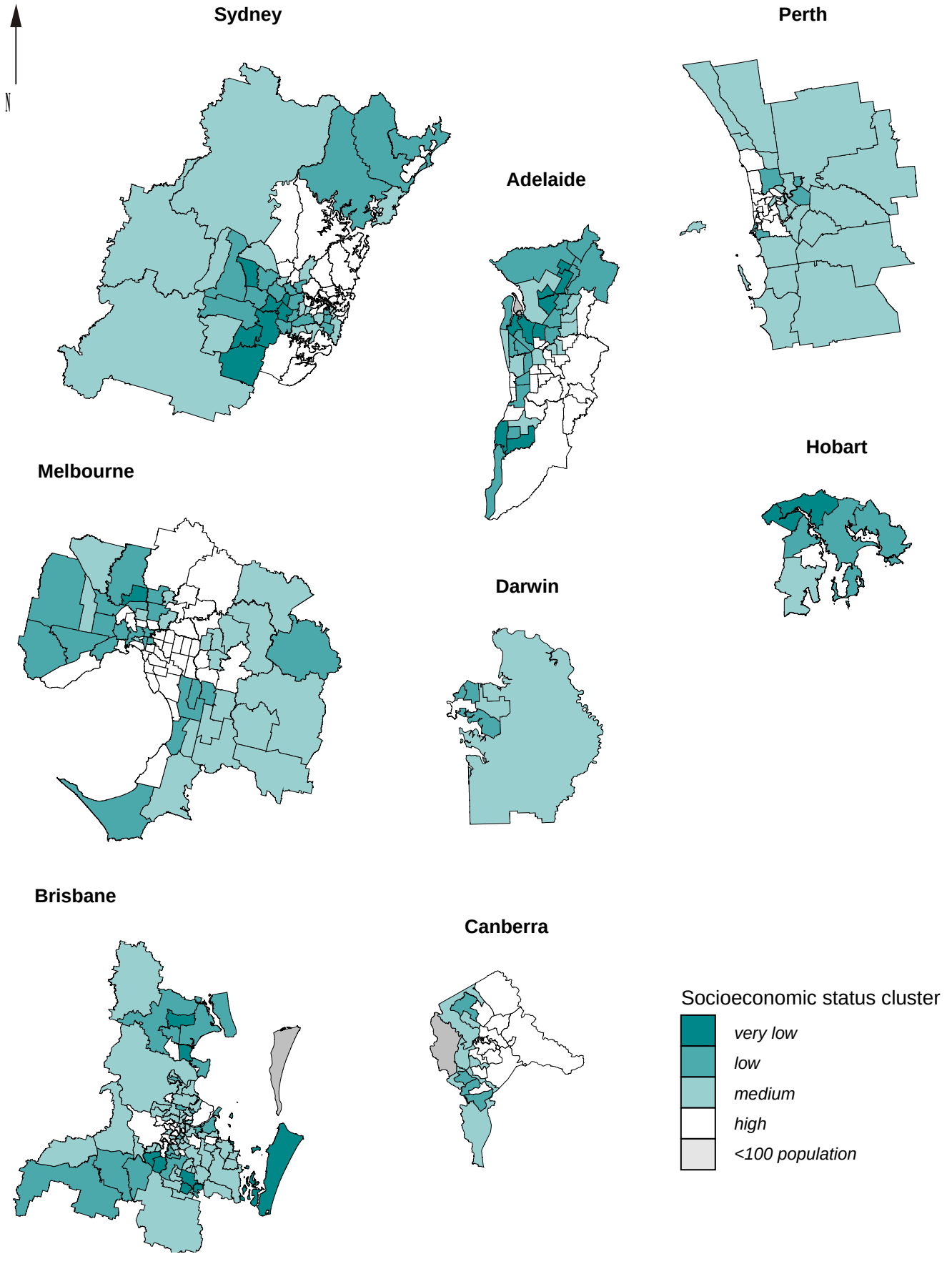
For example, the lowest socioeconomic status cluster in:

- Sydney includes the western SLA of Blacktown - South-West as well as SLAs covering a contiguous area from Parramatta - South, through Fairfield - East, Bankstown - North-West and Liverpool - East to Campbelltown - North and - South;
- Melbourne includes only Hume - Broadmeadows, although several SLAs in the northern, western and south-eastern part of the city fall in the second lowest cluster;
- Brisbane includes areas that are those often described in the maps in Section 4, in the outer south (Stretton-Karawatha/Kingston, Marsden and Loganlea), south-west (Inala/Richlands and Darra-Sumner/Wacol) and south-east (Redland Balance) and outer north (in Deception Bay and Caboolture - Central);
- Adelaide also reflects a well-known pattern of socioeconomic disadvantage, covering parts of Playford and Salisbury in the outer north, much of the Port Adelaide Enfield Council to the north and north-west of the city, and parts of the Onkaparinga Council in the outer south;
- Hobart includes Brighton and Derwent Valley - Part A, the SLAs with the lowest IRSD scores in the city.

None of the SLAs or SLA groups in the other major urban centres was allocated to the lowest socioeconomic status cluster.

Map 55: Socioeconomic status cluster analysis, capital cities

cluster by Statistical Local Area/ Statistical Local Area group



Source: Compiled in PHIDU using data supplied by ABS

Table 59: SLAs in the capital cities which formed the lowest socioeconomic status cluster

Sydney	**Brisbane *...cont.***
Bankstown (C) - North-West	Redland Balance
Blacktown (C) - South-West	Stretton-Karawatha/Kingston
Campbelltown (C) - North	**Adelaide**
Campbelltown (C) - South	Onkaparinga (C) - Hackham
Fairfield (C) - East	Onkaparinga (C) - North Coast
Liverpool (C) - East	Playford (C) - Elizabeth
Parramatta (C) - South	Playford (C) - West Central
Melbourne	Port Adel. Enfield (C) - Inner
Hume (C) - Broadmeadows	Port Adel. Enfield (C) - Park
Brisbane	Port Adel. Enfield (C) - Port
Caboolture - Central	Salisbury (C) - Central
Darra-Sumner/Wacol	Salisbury (C) - Inner North
Deception Bay	**Hobart**
Inala/Richlands	Brighton (M)
Loganlea	Derwent Valley (M) - Part A
Marsden	

Urban centres in regional Australia

Table 60 lists the urban centres in regional Australia in the analysis, which formed the cluster with the lowest socioeconomic status.

Neither of the urban centres in the Northern Territory, which met the conditions for inclusion in the analysis (Alice Springs and Katherine), was allocated to this cluster.

Table 60: Urban centres allocated to the lowest socioeconomic status cluster

New South Wales	**Victoria…*cont.***	**Western Australia**
Shoalhaven (C) - Part A	Latrobe (C) - Moe	Geraldton (C)
Lismore (C) - Part A	**Queensland**	**Tasmania**
Richmond Valley (A) - Casino	Maroochy (S) - Nambour	Launceston (C) - Part B
Clarence Valley (A) - Grafton	Bundaberg (C)	Burnie (C) - Part A
Tamworth Regional (A) - Part A	Hervey Bay (C) - Part A	Devonport (C)
Inverell (A) - Part B	Maryborough (C)	
Broken Hill (C)	Warwick (S) - Central	
Victoria	Charters Towers (C)	
C. Goldfields (S) - Maryborough	**South Australia**	
Gr. Shepparton (C) - Part A	Murray Bridge (RC)	
Benalla (RC) - Benalla	Port Pirie C Districts (M) - City	

The Local Government Areas (LGAs) of Ballarat, Greater Bendigo, Toowoomba, Cairns and Alice Springs are each comprised of more than one SLA – three in Ballarat, five in Bendigo, Toowoomba and Alice Springs, and seven in Cairns. In the cluster analysis, these urban centres were each treated as one unit (the LGA).

The analysis was also undertaken with these urban centres represented by their individual SLAs (replacing the single LGA values), as this shows the extent of variation between the SLAs within the urban centres: the clusters to which the SLAs were allocated are shown in Table 61.

Table 61: SLAs in selected urban centres, by socioeconomic status cluster

Urban Centre and SLA	Cluster	Urban Centre and SLA	Cluster
Ballarat	**2**	**Cairns**	**2**
Ballarat (C) - Central	2	Cairns (C) - Barron	1
Ballarat (C) - Inner North	2	62:Cairns (C) - Central Suburbs	3
Ballarat (C) - South	2	63:Cairns (C) - City	2
Bendigo	**2**	64:Cairns (C) - Mt Whitfield	2
Gr. Bendigo (C) - Central	2	65:Cairns (C) - Northern Suburbs	1
Bendigo (C) - Eaglehawk	3	66:Cairns (C) - Trinity	2
Gr. Bendigo (C) - Inner East	2	Cairns (C) - Barron	2
Gr. Bendigo (C) - Inner North	1	**Alice Springs**	**2**
Gr. Bendigo (C) - Inner West	1	Alice Springs (T) - Charles	1
Toowoomba	**2**	Alice Springs (T) - Heavitree	1
Toowoomba (C) - Central	2	Alice Springs (T) - Larapinta	1
Toowoomba (C) - North-East	1	Alice Springs (T) - Ross	1
Toowoomba (C) - North-West	2	Alice Springs (T) - Stuart	1
Toowoomba (C) - South-East	1		
Toowoomba (C) - West	2		