

7 Availability of selected health services

Introduction

The location of services and facilities in relation to the distribution of the population is an important indicator of accessibility. Unfortunately the data currently available as to the location of health, welfare and other services and facilities are limited. This is true even for data at the SLA level: the range of data by actual address location that can be mapped precisely are even more limited.

Greater interest is, however, being shown in establishing databases of services by exact location. Such databases can assist in developing a better understanding of the patterns of provision, access to and use of services and inform policy development and strategic planning processes for the location and delivery of health services. These initiatives are being aided by the use of Geographical Information Systems (GIS) techniques¹.

In this chapter data are mapped at the SLA level for general medical practitioners (GPs), hospital beds (public acute and private hospitals) and residential aged care facilities (nursing home places and hostel places). The data for GPs are for the 1996/97 financial year and for public acute hospital beds they are for 1995/96; the remaining data are at 30 June 1997.

Data mapped

Population per GP

The spatial distribution of GPs has been illustrated by mapping the population per GP in each area.

Data are of the number of full-time equivalent (FTE) GPs² per practice site. Data were available for postcode areas and were converted to SLA.

The rate of population per GP was calculated for each SLA and is mapped over five ranges. In many non-metropolitan SLAs the rate was very high, because the denominator, the FTE number of GPs, was very small. An examination of the distribution of rates across all non-metropolitan areas in Australia revealed that a sensible cut-off would be where the rate of population per GP exceeded 10,000 people per GP. Most of the SLAs with rates of this size had fewer than 0.3 FTE GPs. On the maps, these areas are shown as having 'No GP' (or fewer than 10,000 people per GP) even though they may have a GP practising for one session per week. The other SLAs are mapped across the remaining four ranges.

The GPs included in this analysis exclude GPs working in salaried practice who do not submit accounts to Medicare. Examples

¹GIS is an organised collection of computer hardware and software designed to efficiently capture, store, update, manipulate, analyse and display all forms of geographically referenced information.

²In computing full-time equivalent GPs, use was made of a threshold of \$71,725 in Schedule fee income in 1995-96. Practitioners with a Schedule fee income above the average, were given a fraction of '1'. All other practitioners were given a proportion of 1, having regard to the Schedule fee income for the practitioner concerned relative to the threshold income of \$71,725.

include GPs working for the Royal Flying Doctor Service and the Aboriginal Medical Service, those working in specialist services such as low vision clinics, as well as in a small number of community health centres (see comments on page 307 in relation to GP services not included in the data mapped). If, however, these GPs meet the definition quoted above for work performed in another practice, they will be included as practising from that location.

Users should be cautious not to place too heavy an emphasis on the population per GP in any one SLA, as the location of the principal practice in an SLA may be close to the population of a neighbouring SLA and provide a significant number of services to people in this neighbouring SLA. This is less of a problem for the larger areas (SSDs) mapped in the Australian atlas.

It is not possible to directly compare the data shown here with that in the first edition of the atlas because of the use in this edition of the more accurate FTE measure. In the first edition GPs were defined as the number of medical practitioners who performed (during 1990/91) at least 1,000 GP services (based on selected items in the Commonwealth Medical Benefits Schedule) for which Medicare benefits were paid, and who received more than 50 per cent of fee-charged income from those items (ie. they were charging patients for services appropriate for a GP for more than 50 per cent of the income they derived from Medicare). This was a relatively small number of services and, as such allowed for the inclusion, in the number of GPs, of many (but not all) of the medical practitioners who were practising part-time in medicine.

Despite this change in definition, the data for the earlier period have been shown below to allow users to examine variations in the rates between the States and Territories at each reference date.

Hospital beds

The number of beds in public acute hospitals and private hospitals has been mapped per 1,000 population of the area in which the hospital is located. The public hospital data were available at 30 June 1996 and the private hospital data at 30 June 1997.

Questions remain as to the accuracy of the data, even at this broad level of publication, as it has not been used in this way before and has therefore not been subject to scrutiny. Although the public hospitals are referred to as 'acute' hospitals, they treat and care for patients with long term care needs, including for rehabilitation (leading to a return to life outside of a hospital or nursing home) and those who are unlikely to ever leave such care, whether in a hospital or nursing home (see below under *Residential aged care facilities*).

The data for some States is also likely to be more difficult to obtain in the future as the organisational arrangements for the management and delivery of health services changes, with hospital data being available only for areas or networks, and not by each service location. Some data are already supplied at the establishment level, even when there are two or more separately

located campuses operated by the establishment. In these cases the campus location without bed numbers was removed from the file before mapping.

Residential aged care facilities

Nursing home places and hostel places are mapped per 1,000 population aged 70 years and over, in line with the Commonwealth planning targets for residential care places of 90 places per 1,000 population aged 70 years and over. This target is comprised of 40 nursing home places and 50 hostel places per 1,000 population aged 70 years and over. Data for community aged care packages have not been mapped as these packages are allocated on a regional basis that does not fit well with the areas mapped.

In many areas (in particular, areas away from the capital cities and other major regional centres) of Australia where there are

few (or no) nursing home facilities, people requiring long term intensive care are often cared for in public hospitals (where they are classified as 'long stay nursing home type patients'). Overall, 2.0 per cent of patient days in public acute hospitals in Victoria were for nursing home type patients, 4.3 per cent of bed days in the non-metropolitan areas, and 1.2 per cent in **Melbourne** (**Table 7.1**). New South Wales had 12.6 per cent of its bed days used by nursing home type patients, with 9.7 per cent in South Australia and 9.5 per cent in Tasmania. South Australia had the highest proportion in the non-metropolitan areas, with 30.8 per cent of bed days used by nursing home type patients; New South Wales had the second highest proportion, with 25.9 per cent.

As the number of beds used by these patients is not available, their details have not been included in the maps.

Table 7.1: Patient days for nursing home type patients in public acute hospitals, by area, States and Territories, 1997/98

Location of hospital	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
Metropolitan	270,289	32,545	32,166	2,675	3,737	948	2,081	1,171	345,612
Non-metropolitan	442,350	41,602	136,682	21,380	128,382	30,746	..	388	801,530
Total	712,639	74,147	168,848	24,055	132,119	31,694	2,081	1,559	1,147,142
Per cent: Nursing home type patient bed days as a proportion of all bed days									
Metropolitan	6.9	1.2	2.1	0.3	0.4	0.6	0.8	1.1	3.3
Non-metropolitan	25.9	4.3	13.7	6.4	30.8	17.0	..	0.5	17.1
Total	12.6	2.0	6.6	1.8	9.7	9.5	0.8	0.8	7.5

Source: AIHW, unpublished data

The tables and maps of nursing home and hostel places show each of these variables separately. To assist readers in assessing the provision of residential care places in relation to the Commonwealth planning targets (90 places per 1,000 population aged 70 years and over) they have been combined in **Table 7.2**.

In all capital cities, excluding **Darwin** (72 places per 1,000 population), the number of residential care places per 1,000 population was above the Commonwealth planning target. There were more places per 1,000 population in the capital cities than in the *Rest of State /Territory* areas of Australia in all but the Northern Territory and Victoria (where there were fewer).

Table 7.2: Nursing home and hostel places per 1,000 population aged 70 years and over, 1997

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total
Capital city	101	91	103	105	102	99	72	96	99
Other major urban centres ²	84	96	74	..	..	..	..	..	82
Rest of State/Territory	81	94	88	74	75	87	72	.. ³	85
Whole of State/Territory	93	92	92	97	96	92	72	96	93

¹Includes Queanbeyan (C).

²Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld).

³Data unreliable: included with ACT total.

Source: See *Data sources*, Appendix 1.3

Gaps and deficiencies in the data

In addition to the limitations noted above in the *Introduction* as to the small range of data available, the limitations of the choropleth mapping technique should also be kept in mind when reading this chapter.

For example, users should be cautious not to place too much emphasis on the population per GP in any one SLA, as the location of the practice in an SLA may be close to the population of a neighbouring SLA and provide a significant number of services to people in that neighbouring SLA. Other factors also

impact on accessibility, including the availability of private and public transport. However, where a contiguous group of SLAs all have high populations per GP (high relative to the State or Territory average), it is likely that the level of provision is low. Similarly, where regional groupings of SLAs together have relatively low nursing home bed rates, provision of these care places is clearly low (although readers should be aware of the note above as to the use, in some instances, of hospital beds for long term care).

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Population per general medical practitioner, 1996/97

Capital city comparison

Details of general medical practitioners (GPs) included in the following analysis, and the way in which the number of GPs has been calculated, are on page 323.

As can be seen from **Table 7.3**, the population per GP was highest in **Darwin** (1,642 people per GP) and **Canberra** (1,467 people per GP), (indicating that there were fewer GPs per head of population practising in these cities) and lowest in **Sydney** (1,118 people per GP) and **Adelaide** (1,145 people per GP).

Although calculated in a different way (see notes on page 323 under *Data mapped*), the 1990/91 figures can be used to examine the differences of rates between the capital cities. The earlier rates show that levels of provision of GPs in **Hobart**, **Brisbane** and **Darwin** have decreased between the periods shown, while levels of provision in Melbourne have moved closer to the *All capitals* average (**Table 7.3**).

Table 7.3: Population per general medical practitioner, capital cities

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra ¹	All capitals
1996/97	1,118	1,181	1,182	1,145	1,259	1,167	1,642	1,467	1,169
1990/91	860	921	834	827	1,015	820	900	1,042	886

¹Includes Queanbeyan (C)

Source: See *Data sources*, Appendix 1.3

Melbourne

In 1996/97, there were 2,643 GPs practising in **Melbourne**, an average of one GP for every 1,181 people. Almost three quarters (74.0 per cent) of the GPs were males, with 1,596 people per male GP compared with 4,601 people per female GP. The lowest rates of male GPs to female GPs³ were in Knox-South and Frankston-East (both with 1.3 male GPs per 1.0 female GP), and Heidelberg and Manningham East (both with 1.5). Apart from Melton East (with just 0.6 male GPs and 0.5 female GPs, 1.1 male GPs per 1.0 female GP), only six SLAs had fewer than two male GPs for each female GP.

In general, the highest rates of population per GP (lowest levels of provision) were recorded in outer and middle SLAs, and the lowest rates (highest levels of provision) in SLAs closer to the city centre (**Map 7.1**).

The highest rate of population per GP was in Melton-East with 4,134 people per GP, and 1.1 full time equivalent (FTE) GP. There were more than 2,000 people per GP in Nillumbik-Balance (3,303 people per GP and three GPs), Craigieburn (3,286 and eight), Cardinia-South (2,801 and 2), Manningham-East (2,644 and 5), Cardinia-North (2,122 and 10) and Whittlesea-North (2,110 and four). There were 1,927 people per GP in Casey-South where residents had access to five GPs. Larger numbers of GPs and correspondingly lower rates of people per GP were estimated for Mornington Peninsular-East (1,884 people per GP and 17 GPs), Werribee (1,776 and 38), Hallam (1,750 and 26), Yarra Ranges - South-West (1,727 and 60), Yarra Ranges-Central (1,631 and 9), Nillumbik-South (1,624 and 16) and Berwick (1,610 and 27).

At the other end of the scale, the SLAs with fewer than 1,000 people per GP were generally located in the older, more established, inner areas of **Melbourne**. The lowest rates were in Richmond (533 people per GP and 43 GPs) and the City of

Melbourne (599 and 76), while slightly higher rates were calculated for Brunswick (744 and 52), Brighton (768 and 42), Prahran (780 and 53), Box Hill (783 and 59) and Monash-South-West (819 and 48). There were also fewer than 1,000 people per GP in each of Port Phillip-West, Dandenong, Camberwell South, Essendon, Maribyrnong, St Kilda, Yarra-North, Coburg and Dandenong-Balance.

The largest numbers of GPs were located in Knox-North (85 GPs), the City of Melbourne (76), Essendon (72), Dandenong-Balance (70), Preston (68), Dandenong and Maribyrnong (both with 66), and Manningham-West, Yarra Ranges-South and Whittlesea-South (both with 65) and Yarra Ranges-South-West (60).

There was no consistent evidence in the correlation analysis of an association at the SLA level between the rate of population per GP and socioeconomic status.

Geelong

There were 109 GPs practising in **Geelong** in 1996/97, 1,337 people per GP. There were 4.3 male GPs for each female GP, equivalent to 1,651 people for each male GP and 7,035 for each female GP. The highest rate of male to female GPs was in Geelong West (13.0 male GPs for each female GP) and the lowest was in Bellarine-Inner (a rate of 2.1 male GPs for each female GP). Rates of population per GP were highest in Bellarine-Inner (1,866 people per GP and 10 GPs) and Corio-Inner (1,684 and 31) and lowest in Newtown (545 and 17) and the City of Geelong (966 and 12).

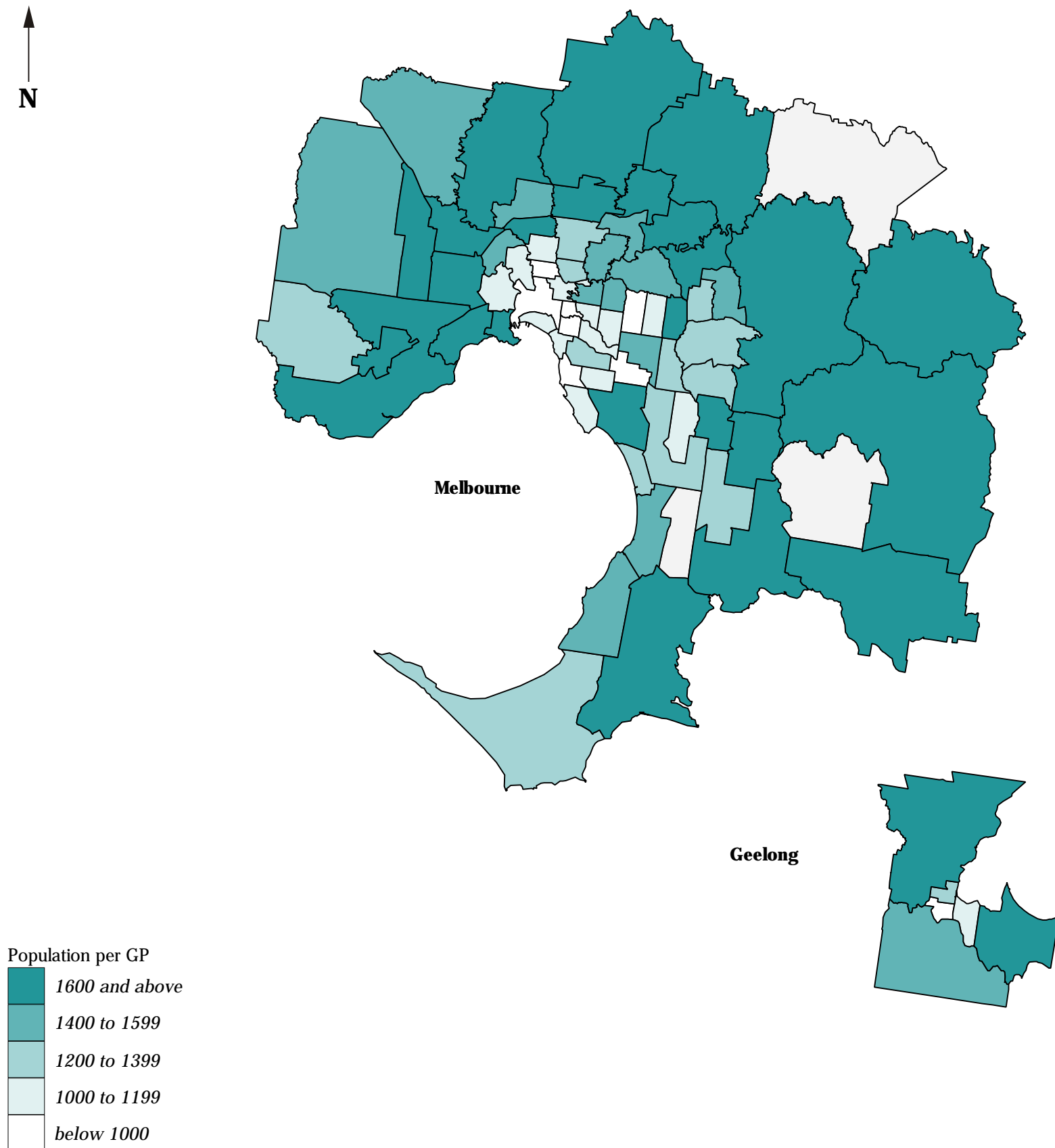
The largest numbers of GPs were practising in Corio-Inner (31 GPs) and South Barwon-Inner (27).

³In Melton-East it was estimated that the ratio of male GPs to female GPs was 0.4; ie. that there were more female than male GPs. This ratio was, however, based on very small numbers, with 0.5 FTE female GPs and 0.2 male GPs.

Map 7.1

Population per general medical practitioner, Melbourne and Geelong, 1996/97

number of people in each Statistical Local Area per general medical practitioner (GP)



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2
National Social Health Atlas Project, 1999

Population per general medical practitioner, 1996/97

State/Territory comparison

The notes on page 323 as to the GPs and GP type services not covered by this data are of particular relevance to the data for the non-metropolitan areas. The population per GP was higher in the non-metropolitan areas of the States and the Northern Territory than in the capital cities, indicating that there were fewer GPs in these areas (**Table 7.4**). The *Rest of State/Territory* figures ranged from 1,464 people per GP in Tasmania to a very high 3,604 people per GP in the Northern Territory. The rate of population to GPs in Western Australia was also well above the *Rest of State/Territory* average, at 1,968 people per GP.

Although calculated in a different way (see notes on page 323 under *Data mapped*), the 1990/91 figures show that New South Wales, South Australia, Tasmania and the Northern Territory had fewer people per GP in the *Rest of State/Territory* areas than the average for these areas (ie. more GPs) whereas in 1996/97 New South Wales had just above the average and the Northern Territory had a considerably higher rate.

Table 7.4: Population per general medical practitioner, State/Territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total
1996/97									
Capital city	1,118	1,181	1,182	1,145	1,259	1,167	1,642	1,467 ¹	1,169
Other major urban centres ²	1,339	1,337	1,188	..	..	..	..	..	1,278
Rest of State/Territory	1,656	1,559	1,616	1,517	1,968	1,464	3,604	— ³	1,627
Whole of State/Territory	1,250	1,262	1,335	1,225	1,400	1,325	2,356	1,451	1,290
1990/91									
Rest of State/Territory	942	1,196	1,203	1,145	1,374	1,000	1,133	— ³	1,147

¹Includes Queanbeyan (C)

²Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)

³Data unreliable: included with ACT total

Source: See *Data sources*, Appendix 1.3

Rest of State

There were 697 GPs and 1,559 people per GP in the non-metropolitan areas of Victoria, considerably more than the rate of 1,181 for **Melbourne**.

The male/female imbalance in the GP workforce is more pronounced in non-metropolitan areas than in the city. Male GPs accounted for 83.5 per cent of the GP population, with 5.1 male doctors for every female doctor. This is equivalent to a rate of 1,867 people for every male GP, compared with 9,441 people for every female GP.

The most notable feature of the distribution of population per GP is the lower rates (higher levels of provision) in the towns compared with the rural areas (**Map 7.2**).

The SLAs of Delatite-North, Moorabool-West and Ballarat-North had no GPs and there were estimated to be more than 10,000 people per GP (effectively no GP) in Golden Plains-North-West and Shepparton-East (both with less than 0.1 full time equivalent (FTE) GPs), Horsham Balance (0.12), Wangaratta South (0.30) and Avon (0.31).

SLAs with rates of between 2,500 and 10,000 people per GP included Mount Alexander-Balance (9,716 people per GP and one GP), Colac-Otway-North (7,908 and one), Geelong [Part C] (6,934 and 0.34), Pyrenees-North (5,673 and one), Bendigo [Part B] (4,436 and two) and Moyne-North-West (3,994 and one). Rates of population per GP in this range were also estimated for Baw Baw [Part B] East (2,660 people per GP and two GPs), Loddon-North (2,635 and one), Gippsland Balance (2,617 and one), Indigo [Part A] (2,600 and four), Rochester (2,576 and 3) and Moyne-South (2,560 and four).

The lowest rate (the highest level of provision) was in Castlemaine, with an estimated 750 people for each of the nine GPs practising in the area. There were fewer than 1,000 people per GP in six other SLAs; these were Benalla (813 people per GP and 11 GPs), Echuca (863 and 12), Surf Coast-West (905 and eight), Queenscliffe (931 and three) and Colac-Otway-South (953 and three) and Colac (965 and 10). In Phillip Island, Buloke-North, Alpine-West, South Gippsland-East and Hepburn-East there were between 1,000 and 1,100 people per GP.

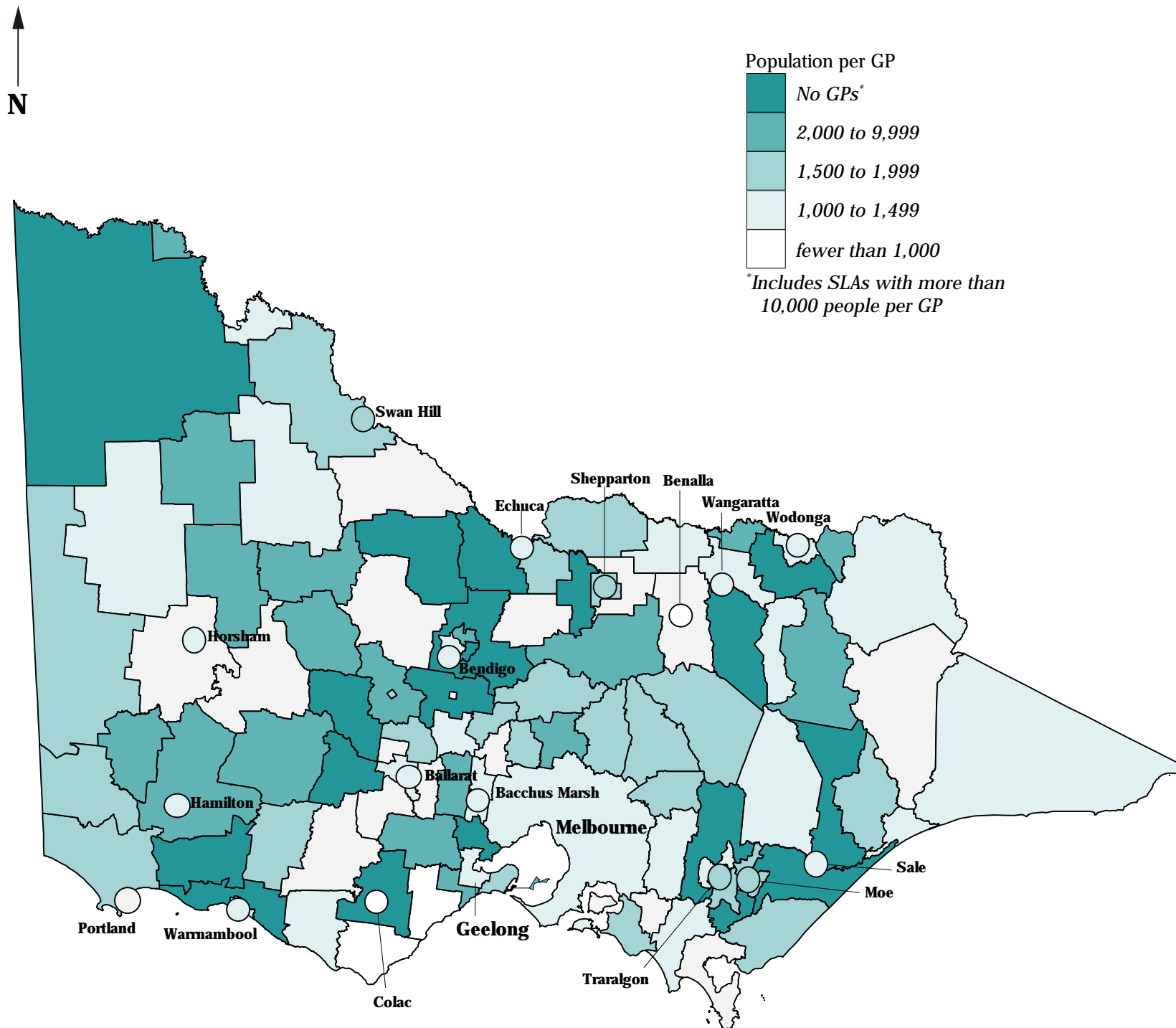
In 1996/97, the largest numbers of GPs were practising in Ballarat (58 GPs), Bendigo (45), Shepparton and Mildura (both with 24), Warrnambool (21), Wodonga (20) and Baw Baw [Part B] West (19).

There was no consistent evidence in the correlation analysis of an association at the SLA level between the rate of population per GP and socioeconomic status.

Map 7.2

Population per general medical practitioner, Victoria, 1996/97

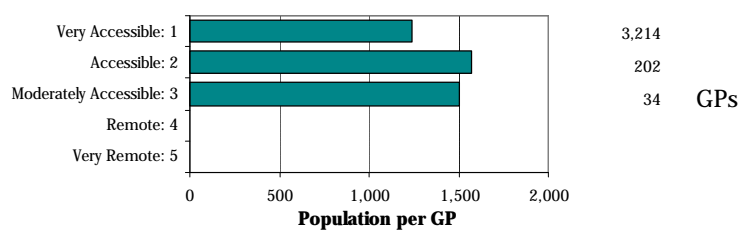
number of people in each Statistical Local Area per general medical practitioner (GP)



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The Very Accessible areas have the highest provision of general medical practitioners (GPs) of the three ARIA categories in Victoria, with 1,240 people per GP. The other two ARIA categories have higher rates of population per GP (lower levels of provision) of 1,502 people per GP in the Moderately Accessible areas and 1,572 people per GP in the Accessible areas.

Source: Calculated on ARIA classification, DHAC
National Social Health Atlas Project, 1999

Public acute hospital beds per 1,000 population, 1995/96

Capital city comparison

In 1995/96, there were 3.1 beds (average available beds over 1995/96) per 1,000 population in public acute hospitals in the capital cities. There was little variation among the capital cities, with rates varying from 2.7 per 1,000 population in **Canberra** to 4.0 in **Hobart** (Table 7.5).

Over the period from 1989 to 1995/96, the rate of public acute hospital beds decreased in each of the capital cities for which data were available in the first edition of the atlas, with the exception of **Melbourne** (where the rate remained stable at 2.8 public hospital beds per 1,000 population) and **Adelaide** and **Sydney** (both with a small increase, from 3.1 beds to 3.2 per 1,000 population). The largest decline occurred in **Brisbane**, where the rate decreased from 4.1 public hospital beds per 1,000 population in 1989 to 3.4 in 1995/96.

Table 7.5: Public acute hospital beds per 1,000 population, capital cities

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra ¹	All capitals
1995/96	3.2	2.8	3.4	3.2	3.1	4.0	3.5	2.7	3.1
1989	3.1	2.8	4.1	3.1	3.3	..	..	..	3.2

¹Includes Queanbeyan (C)

Source: See *Data sources*, Appendix 1.3

Melbourne

There were 49 public acute hospitals in **Melbourne**, with an average of 8,771 beds available over 1995/96, a rate of 2.8 beds per 1,000 population.

The distribution of public acute hospital beds is concentrated in the city centre and in a number of older, inner and middle SLAs, as well as in the eastern and south-eastern suburbs (**Map 7.3**).

The highest rate of provision of beds in public acute hospitals is in the City of Melbourne (65.9 available beds per 1,000 population), with more than three times the rate of next ranked Heidelberg (17.2 beds per 1,000 population). Rates of more than 10 available beds per 1,000 population were recorded in Yarra-North (13.9), Glen Eira-South (13.8), Kew (11.0) and Maribyrnong (10.1). Elsewhere, there were relatively high rates in Dandenong (6.9 available beds per 1,000 population), Box Hill (6.1), Frankston-West (5.8), and Ringwood and Preston (both with 5.3).

Two thirds (68.5 per cent) of SLAs had no public acute hospitals. Of SLAs with these hospitals, the lowest bed rates were in Altona (0.3 public acute hospital beds per 1,000 population), Banyule-North (0.3) and Camberwell North (0.5).

The City of Melbourne had the highest number of beds available in 1995/96, with 2,982 beds. Heidelberg (1,022 beds) was the only other SLA with more than 1,000 public acute hospital beds. There were more than 400 beds in Glen Eira-South (594), Maribyrnong (591), Yarra-North (580), Frankston-West (433) and Preston (413).

The correlation analysis was not undertaken as there were too many SLAs with no (or small numbers of) beds.

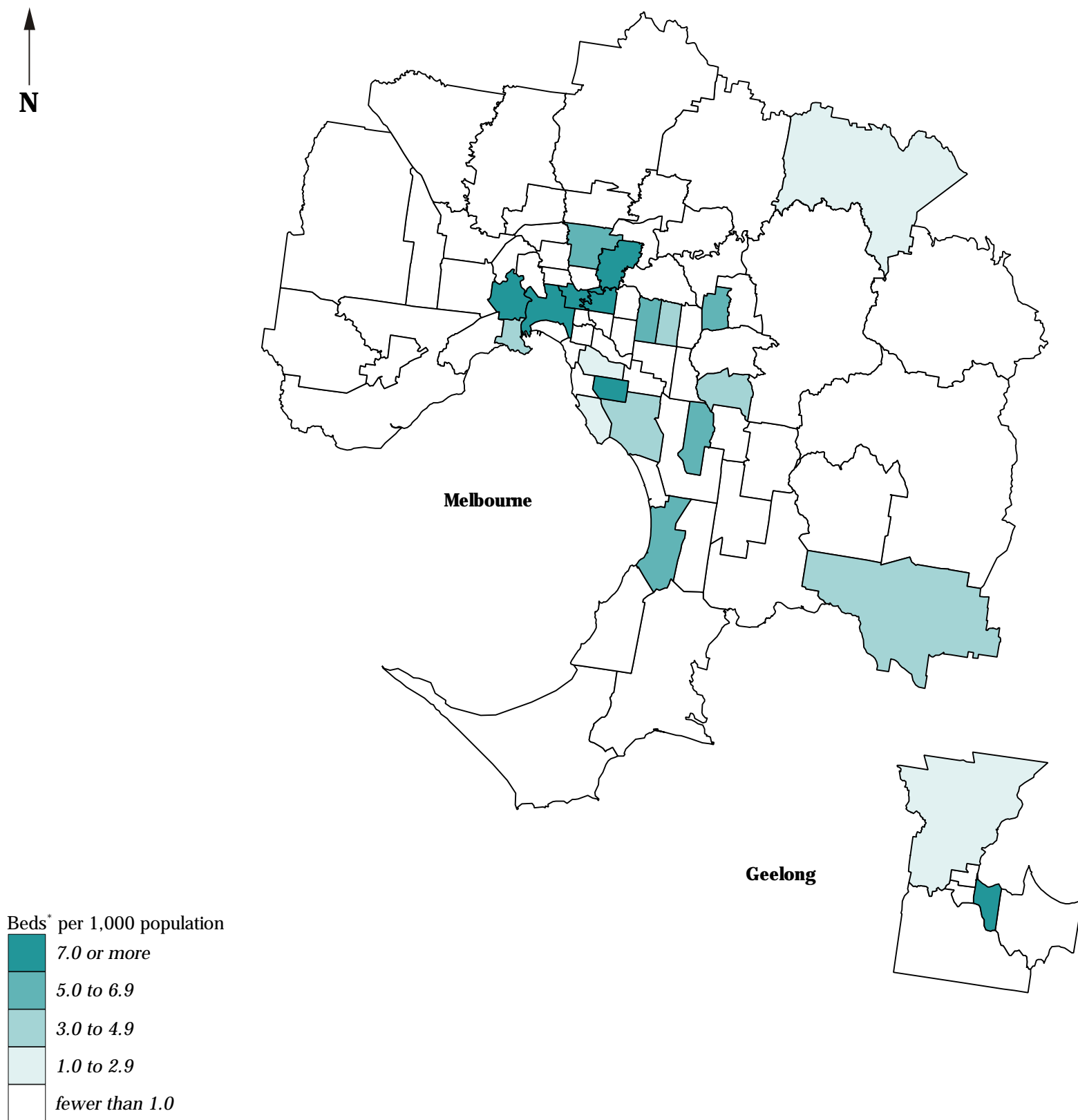
Geelong

There were two public acute hospitals located in **Geelong**, with a total of 478 available beds in 1995/96, a rate of 3.3 beds per 1,000 population. In the City of Geelong, there were 427 beds (35.4 per 1,000 population) and in Corio-Inner there were 51 beds (a rate of one bed per 1,000 population).

Map 7.3

Public acute hospital beds per 1,000 population, Melbourne and Geelong, 1995/96

number of public acute hospital beds* in each Statistical Local Area per 1,000 population



*Beds are average available beds over 1995/1996

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2
National Social Health Atlas Project, 1999

Public acute hospital beds per 1,000 population, 1996

State/Territory comparison

There were more beds (average available beds over 1995/96) per 1,000 population in public acute hospitals in the *Rest of State /Territory* areas of Australia than in the capital cities in all but Tasmania and the Northern Territory (where there were fewer). The average *Rest of State /Territory* rate across Australia was 4.0 public acute hospital beds per 1,000 population, with similar rates recorded in most non-metropolitan areas excluding South Australia, where the rate was higher, at 5.9 beds per 1,000 population. The beds in the non-metropolitan areas include beds used by long stay patients (see page 323).

The non-metropolitan areas of New South Wales, Victoria and Queensland recorded similar rates in both periods as shown in **Table 7.6**. Western Australian recorded a considerable decrease, down from 6.4 public hospital beds per 1,000 population in 1989 to 3.6 public acute hospital beds in 1995/96, with a smaller decrease in South Australia.

Table 7.6: Public acute hospital beds per 1,000 population, State/Territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total
1995/96									
Capital city	3.2	2.8	3.4	3.2	3.1	4.0	3.5	2.7 ¹	3.1
Other major urban centres ²	3.2	3.3	2.2	..	..	..	..	..	2.8
Rest of State/Territory	4.6	3.6	3.7	5.9	3.6	2.6	2.7	— ³	4.0
Whole of State/Territory	3.6	3.0	3.3	3.9	3.3	3.2	3.0	2.6	3.4
1989									
Rest of State/Territory	4.5	3.9	4.6	6.5	6.4	..	..	..	4.7

¹Includes Queanbeyan (C)

²Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)

³Data unreliable: included with ACT total

Source: See *Data sources*, Appendix 1.3

Rest of State

There were 87 public acute hospitals located in the non-metropolitan areas of Victoria, with an average of 3,890 beds available over 1995/96, 3.6 beds per 1,000 population.

The location of public acute hospitals outside **Melbourne** and **Geelong** is very much aligned with the centres of population (in the towns), and spread relatively uniformly throughout the State (**Map 7.4**). The higher rates in some rural SLAs are likely to reflect the location of public acute hospitals in towns that cannot be adequately identified in the SLA statistics presented here.

The highest rates were in Wangaratta-Central (12.3 available beds per 1,000 population), Moe (11.4), Central Goldfields-Balance (11.1), Towong [Part A] (8.7), Castlemaine and Swan Hill (both with 8.5) and Hamilton (8.3).

Two fifths (39.1 per cent) of SLAs had no public acute hospitals. Of SLAs with these hospitals, the lowest bed rates were in Bendigo [Part B] (0.7 public acute hospital beds per 1,000 population), Mount Alexander Balance (0.9) and South Grampians Balance (1.3).

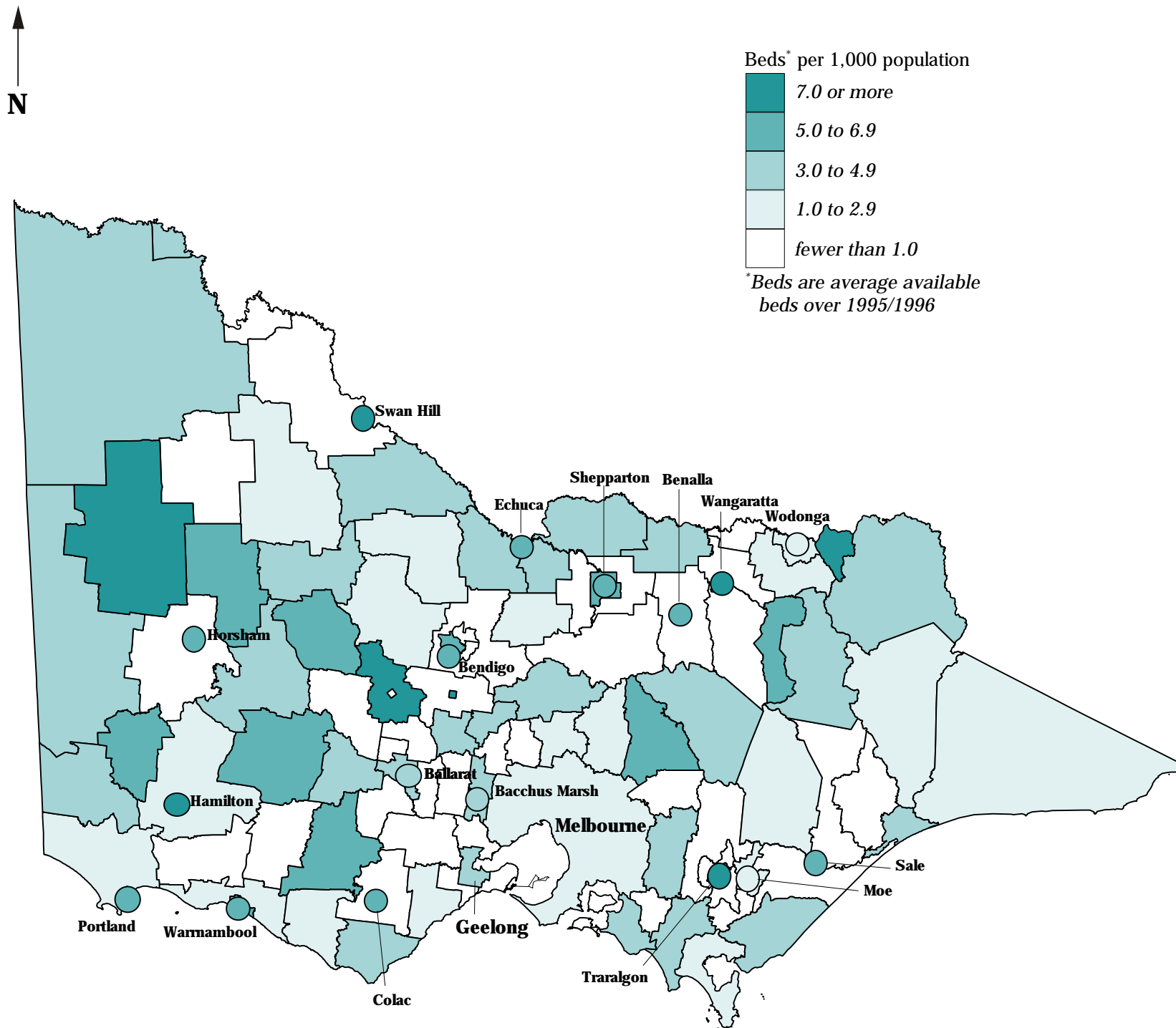
Regional centres had the largest numbers of beds in public acute hospitals, with more than 100 beds in Bendigo (349 beds; 5.8 available beds per 1,000 population), Ballarat (334; 4.4), Shepparton (223; 5.6), Moe (204; 11.4), Wangaratta (191; 12.3), Warrnambool (166; 6.2), Mildura (154; 3.8) and Bairnsdale (106; 4.5).

The correlation analysis was not undertaken as there were too many SLAs with no (or small numbers of) beds.

Map 7.4

Public acute hospital beds per 1,000 population, Victoria, 1995/96

number of public acute hospital beds* in each Statistical Local Area per 1,000 population



Beds* per 1,000 population

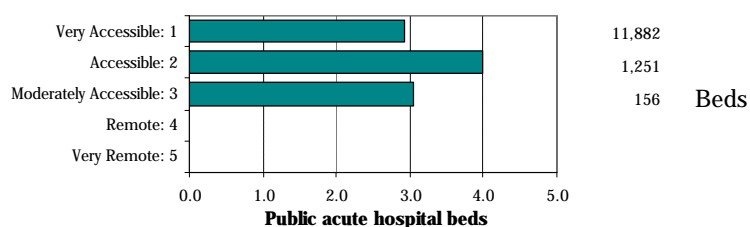
- 7.0 or more
- 5.0 to 6.9
- 3.0 to 4.9
- 1.0 to 2.9
- fewer than 1.0

*Beds are average available beds over 1995/1996

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



Beds in public acute hospitals are located throughout Victoria, with the highest levels of provision in the Accessible (4.0 public acute beds per 1,000 population) ARIA categories. The other two ARIA categories have similar levels of provision, with 3.0 public acute beds per 1,000 population in the Moderately Accessible areas and 2.9 public acute beds per 1,000 population in the Very Accessible areas.

Source: Calculated on ARIA classification, DHAC National Social Health Atlas Project, 1999

Private hospital beds per 1,000 population, 30 June 1997

Capital city comparison

At 30 June 1997, there were 1.5 private hospital beds per 1,000 population in the capital cities. The majority of capital cities had near average percentages for this variable, with lower rates recorded in both **Canberra** (a rate of 0.5) and **Sydney** (a rate of 1.1). **Adelaide** and **Hobart** recorded the highest rates with 2.0 and 2.1 private hospital beds per 1,000 population, respectively (**Table 7.7**).

The *All capitals* rate increased slightly between the two periods for which data were analysed, rising from 1.4 private hospital beds per 1,000 population in 1989 to 1.5 in 1997.

Table 7.7: Private hospital beds per 1,000 population, capital cities

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra ¹	All capitals
1997	1.1	1.7	1.7	2.0	1.7	2.1	1.7	0.5	1.5
1989	1.2	1.6	1.5	1.8	1.5	..	..	..	1.4

¹Includes Queanbeyan (C)

Source: See *Data sources*, Appendix 1.3

Melbourne

In 1997, there were 75 private hospitals with 5,531 beds in **Melbourne**, 1.7 beds per 1,000 population.

As **Map 7.5** shows, the largest numbers of private hospital beds per 1,000 population were in SLAs located in the older inner and middle suburbs, with lower rates throughout much of the eastern and south-eastern suburbs. There were no private hospital beds in many of the outlying SLAs.

The highest rates were in Richmond and the City of Melbourne, with 21.3 and 20.8 private hospital beds per 1,000 population, respectively. Rates of four or more private hospital beds per 1,000 population were recorded in Malvern (10.0 beds per 1,000 population), Prahran (5.3), Yarra-North (4.8), Mornington Peninsula-West (4.4) and Brighton (4.0). Elsewhere, relatively high rates were recorded for Kew (3.7 private hospital beds per 1,000 population), Yarra Ranges-Central (3.3) and Coburg (3.1).

Of SLAs with a private hospital, the lowest rates of provision of private hospital beds were in Maribyrnong (0.3 beds per 1,000 population), Yarra Ranges-South-West (0.5) and Kingston-South and Box Hill (both 0.6). There were no private hospitals in over one quarter (27.8 per cent) of SLAs in **Melbourne**.

The largest number of private hospital beds were in the City of Melbourne, with 876 beds, while there were more than 200 private hospital beds in each of Richmond (515 beds), Malvern (451), Prahran (236), Knox-North (215) and Yarra-North (210).

The correlation analysis was not undertaken as there were too many SLAs with as there were too many SLAs with no (or small numbers of) beds.

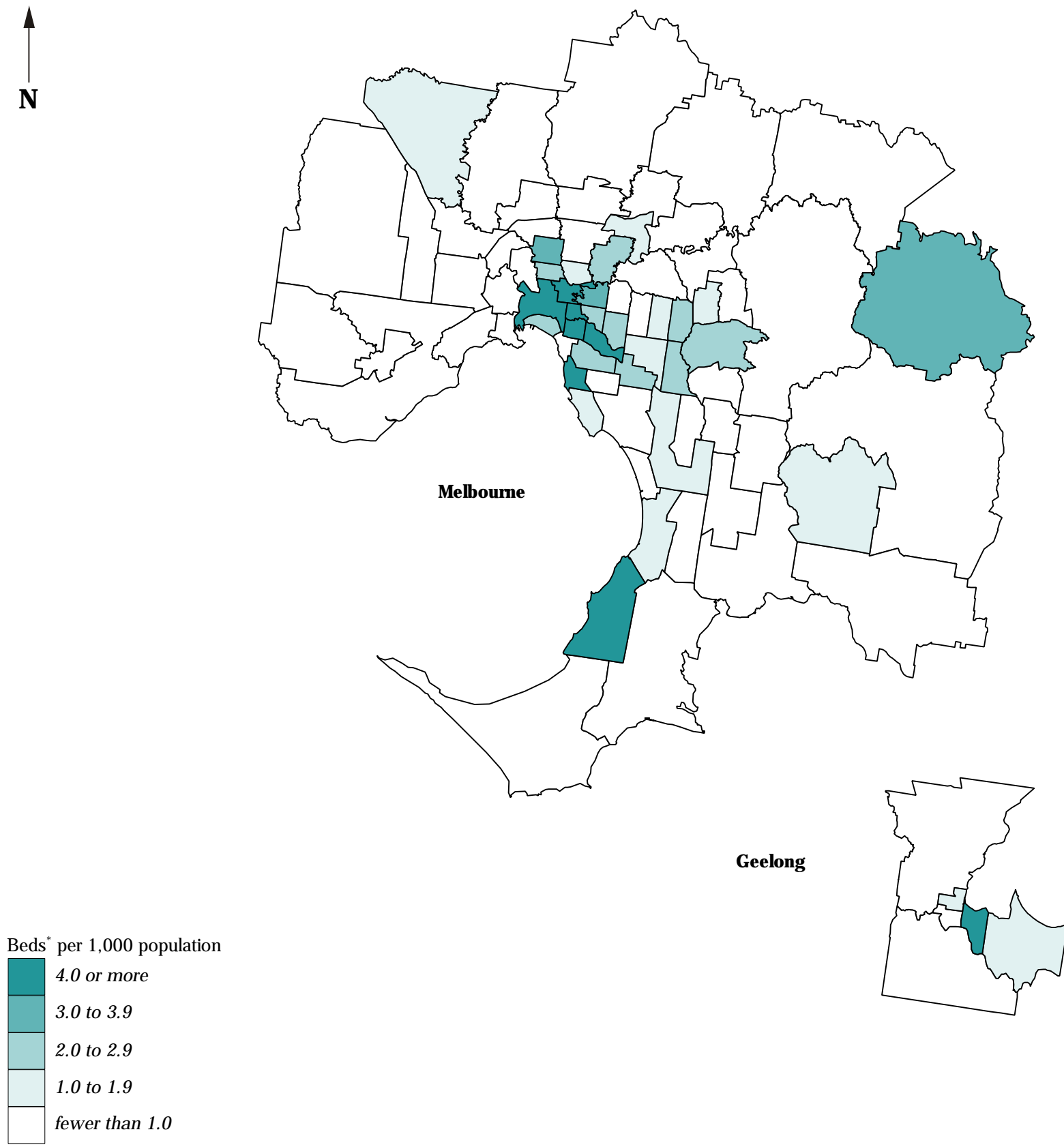
Geelong

In **Geelong**, there were 203 private hospital beds provided in four hospitals, 1.3 beds per 1,000 population. The highest rate was in the City of Geelong (12.3 beds per 1,000 population) and the lowest (of SLAs with a private hospital) in Geelong West (1.1). There were 148 beds in the City of Geelong and 40 in Bellarine-Inner. There were no private hospitals in three SLAs.

Map 7.5

Private hospital beds per 1,000 population, Melbourne and Geelong, 1997

number of private hospital beds* in each Statistical Local Area per 1,000 population



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2
National Social Health Atlas Project, 1999

Private hospital beds per 1,000 population, 30 June 1997

State/Territory comparison

In 1997, rates of private hospital beds were higher in the capital cities than in the *Rest of State/Territory* areas, with the exception of the Northern Territory, with no private hospital beds in the non-metropolitan areas (**Table 7.8**). The highest non-metropolitan rate was recorded in Tasmania (1.9 private hospital beds per 1,000 population), while the lowest (excluding the Northern Territory) was recorded in South Australia and Western Australia (both with a rate of 0.4).

Rates of private hospital beds in the *Rest of State/Territory* remained reasonably consistent between 1989 and 1997, with slight decreases occurring in Victoria, Queensland and Western Australia. The rate recorded in New South Wales increased marginally from 0.6 private hospital beds per 1,000 population in 1989 to 0.7 in 1997, while the rate in South Australia remained consistent (0.4 private hospital beds per 1,000 population).

Table 7.8: Private hospital beds per 1,000 population, State/Territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total
1997									
Capital city	1.1	1.7	1.7	2.0	1.7	2.1	1.7	0.5 ¹	1.5
Other major urban centres ²	1.0	1.3	2.0	..	..	..	..	..	1.4
Rest of State/Territory	0.7	0.8	1.2	0.4	0.4	1.9	0.0	– ³	0.8
Whole of State/Territory	1.0	1.4	1.6	1.6	1.4	2.0	0.8	0.5	1.3
1989									
Rest of State/Territory	0.6	0.9	1.3	0.4	0.5	..	..	..	0.8

¹Includes Queanbeyan (C)

²Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)

³Data unreliable: included with ACT total

Source: See *Data sources, Appendix 1.3*

Rest of State

There were 31 private hospitals located in the non-metropolitan areas of Victoria in 1997 with 926 beds, 0.8 beds per 1,000 population.

Rates of private hospital beds per 1,000 population are low throughout Victoria, with slightly higher rates in rural SLAs in the north-west of the State (**Map 7.6**). The higher rates in some rural SLAs are likely to reflect the location of private hospitals in towns that cannot be adequately identified in the SLA statistics presented here.

The highest rate of provision was in Yarriambiack-North, where there were 9.7 private hospital beds per 1,000 population. Rates of more than three beds per 1,000 population were recorded for Buloke-North (5.8 private hospital beds per 1,000 population), Strathbogie (4.8), Pyrenees-North (3.9), Loddon-North and Buloke-South (both with 3.1).

Over three quarters (76.5 per cent) of SLAs had no private hospital. Of SLAs with a private hospital, the lowest rates were in Horsham-Balance (0.4 private hospital beds per 1,000 population), Baw Baw [Part B] West (0.5), Shepparton [Part B] West (0.8) and Macedon Ranges-Balance (0.9).

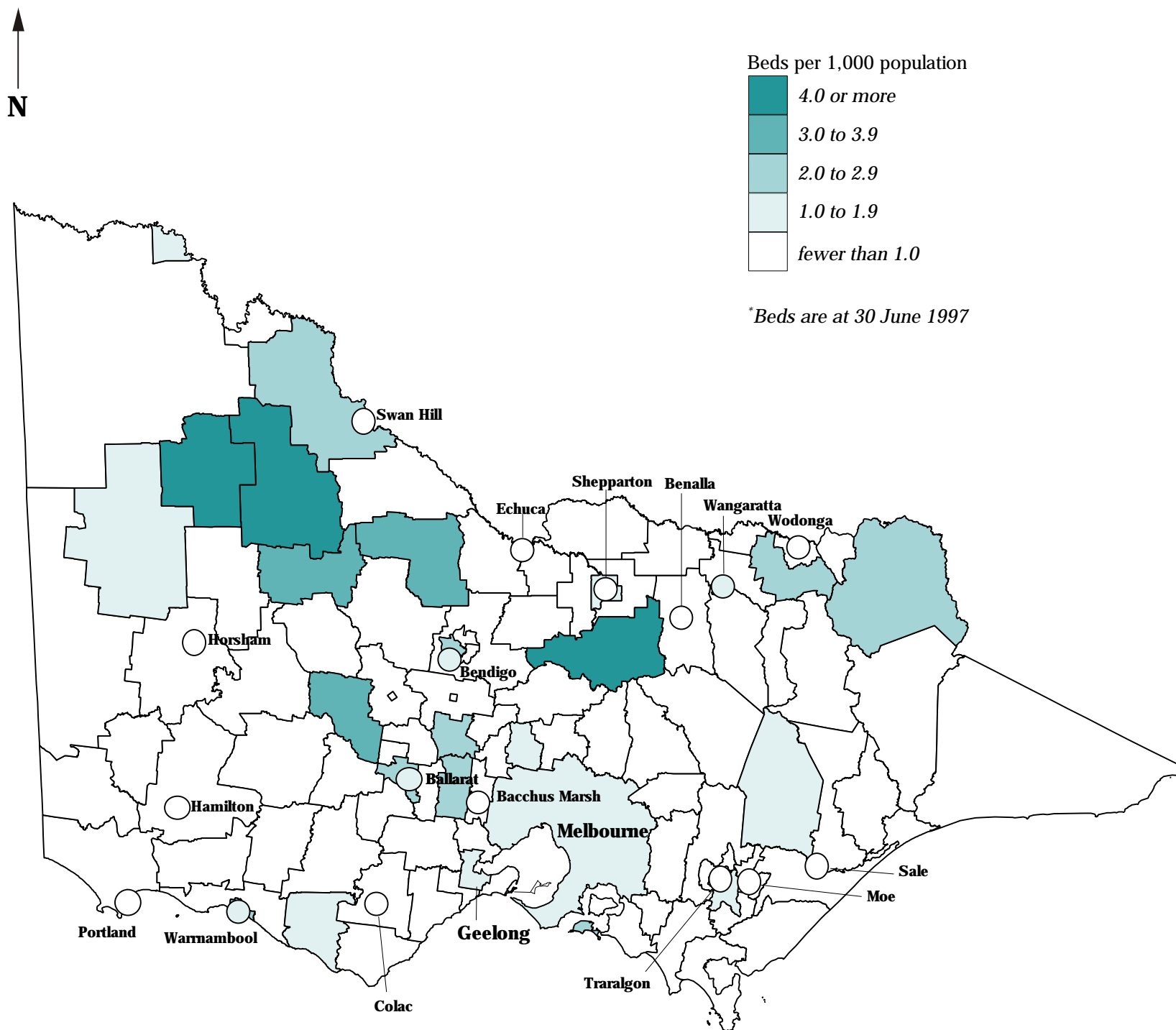
Regional centres provided the largest number of private hospital beds, with 224 beds in Ballarat (2.9 beds per 1,000 population) and 132 in Bendigo (2.1). Relatively high numbers of beds were located in Shepparton and Warrnambool (both with 60 private hospital beds), Mildura (50) and Morwell and Strathbogie (both with 45).

The correlation analysis was not undertaken as there were too many SLAs with no (or small numbers of) beds.

Map 7.6

Private hospital beds per 1,000 population, Victoria, 1997

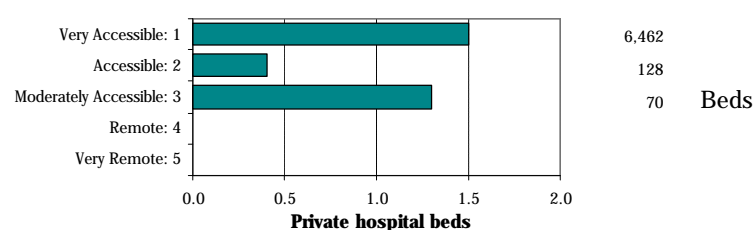
number of private hospital beds* in each Statistical Local Area per 1,000 population



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The rates of private hospital beds per 1,000 population were highest in the Very Accessible (1.5 private hospital beds per 1,000 population) and Moderately Accessible areas (1.3 private hospital beds per 1,000 population, but just 70 beds) and lowest in the Accessible ARIA category (0.4 private hospital beds per 1,000 population). The majority of these beds (6,426 beds, 97.0 per cent) were located in areas in the Very Accessible category at 30 June 1997.

Source: Calculated on ARIA classification, DHAC
National Social Health Atlas Project, 1999

Nursing home places per 1,000 population aged 70 years and over, 1997

Capital city comparison

There were 56 nursing home places per 1,000 population aged 70 years and over in the capital cities at 30 June 1997. The range of rates was from a high of 65 in **Sydney**, 58 in **Adelaide** and 57 in **Hobart**, to a low of 39 in **Canberra** and 41 in **Darwin** (Table 7.9).

The rates for all of the cities for which data were published in the first edition of the atlas have decreased, some more substantially than others. This is largely a result of moves to meet the target rate of 40 nursing home places per 1,000 population aged 70 years and over. At the same time, the number of hostel places has increased (page 342). The largest decrease was recorded in **Perth**, where the rate decreased from being equivalent to the *All capitals* average in 1992 to 7.1 per cent below in 1997, a drop of 24.6 per cent: the decrease of 23.9 in **Brisbane** was almost as marked.

Table 7.9: Nursing home places per 1,000 population aged 70 years and over, capital cities

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra ¹	All capitals
1997	65	48	54	58	52	57	41	39	56
1992	79	53	71	74	69	..	..	..	69

¹Includes Queanbeyan (C)

Source: See *Data sources*, Appendix 1.3

Melbourne

There were 293 nursing home facilities providing 12,064 nursing home places in **Melbourne** in 1997, 48 places per 1,000 people aged 70 years and over.

The highest rate of nursing home places per 1,000 eligible population were generally located in the older inner and middle suburbs to the east and south-east of the city centre, as well as the outer north (Map 7.7).

The highest rate was in Whittlesea-North, where there were 276 nursing home places per 1,000 population aged 70 years and over. Rates of more than 100 places per 1,000 people aged 70 years and over were recorded in Kew (121 places per 1,000 people aged 70 years and over), St Kilda (117) and Nillumbik-Balance (103). Elsewhere, relatively high rates were recorded in Yarra Ranges-North (97 places per 1,000 people aged 70 years and over), Hawthorn (89), Camberwell South (87) and Brighton (76).

There were seven SLAs with no nursing homes. Of SLAs with these facilities, the lowest rates were in Moonee Valley-West and Glen Eira-South (both with 16 nursing home places per 1,000 people aged 70 years and over), Richmond and Broadmeadows (both 19) and Whittlesea-South (20).

The largest numbers of nursing home places were in Caulfield (594 nursing home places) and St Kilda (514), while there were more than 400 places in each of Camberwell South (474), Kew (425), Kingston-North (408) and Knox-North (405).

The correlation analysis was not undertaken as there were too many SLAs with as there were too many SLAs with no (or small numbers of) places.

Geelong

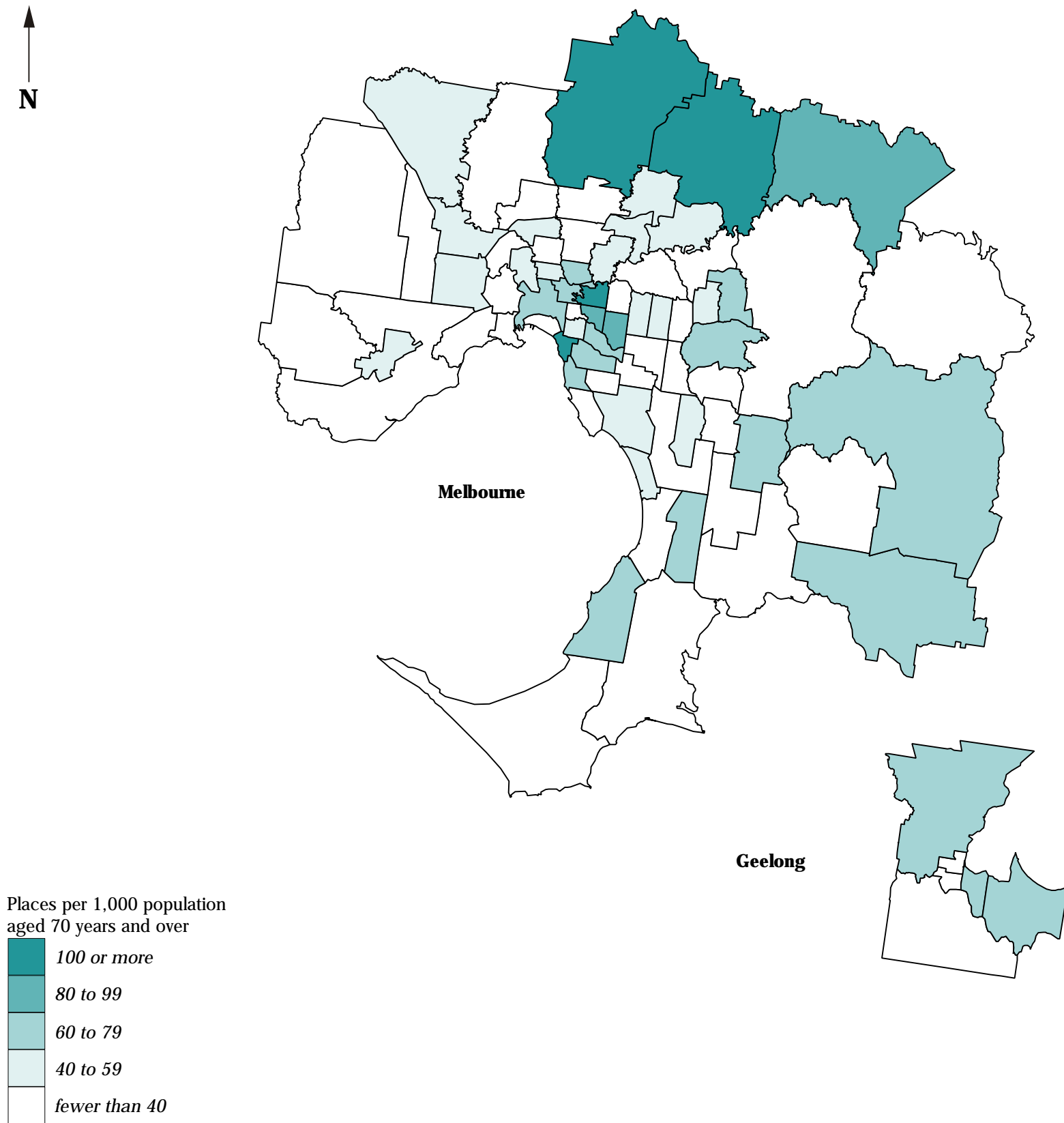
In **Geelong**, there were 766 nursing home places provided in 17 facilities, 55 nursing home places per 1,000 people aged 70 years and over.

The highest rates were in Bellarine-Inner (77 nursing home places per 1,000 people aged 70 years and over), the City of Geelong (73) and Corio-Inner (71). Of SLAs with these facilities, the lowest rate was in Newtown, with 26 places per 1,000 nursing home places per 1,000 people aged 70 years and over. Nursing homes in Corio-Inner provided 295 places, with 126 places in South Barwon-Inner.

Map 7.7

Nursing home places per 1,000 population aged 70 years and over, Melbourne and Geelong, 1997

number of nursing home places in each Statistical Local Area per 1,000 population aged 70 years and over



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2
National Social Health Atlas Project, 1999

Nursing home places per 1,000 population aged 70 years and over, 1997

State/Territory comparison

Readers should note the comments on page 323 under the heading *Data mapped* regarding the limitations of this data, especially in regard to the availability, in some instances, of beds in hospitals for long term aged care. Such beds are not included in this data.

There were fewer places per 1,000 population aged 70 years and over in the *Rest of State /Territory* areas of Australia than in the capital cities in all but the Northern Territory (where there were more places) (**Table 7.10**). The highest rates in the *Rest of State /Territory* areas were in Tasmania (49 places per 1,000 population aged 70 years and over) and Victoria (45 places).

Of the States and Territories for which data were published in the first edition of the atlas, South Australia had a very low rate of nursing home places per 1,000 population aged 70 years and over in the *Rest of State /Territory* areas in both periods (a rate of 27 in 1992 and 28 in 1997). In this context it is worthwhile noting that South Australia has the highest proportion of its inpatient bed days in non-metropolitan hospitals used by nursing home type patients (**Table 7.1**, page 324; New South Wales has second highest in the non-metropolitan areas). Western Australia had the only other rate below the *Rest of State /Territory* average for either period.

Table 7.10: Nursing home places per 1,000 population aged 70 years and over, State/Territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total
1997									
Capital city	65	48	54	58	52	57	41	39 ¹	56
Other major urban centres ²	45	55	35	..	..	..	..	..³	42
Rest of State/Territory	39	45	40	28	31	49	44	.. ³	40
Whole of State/Territory	55	48	45	50	47	52	42	37	50
1992									
Rest of State/Territory	52	53	52	27	40	..	..	..	50

¹Includes Queanbeyan (C)

²Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)

³Data unreliable: included with ACT total

Source: See *Data sources*, Appendix 1.3

Rest of State

There were 132 nursing home facilities in the non-metropolitan areas of Victoria in 1997, providing 4,509 places, 45 places per 1,000 population aged 70 years and over.

SLAs with the highest rates of nursing home places per 1,000 people aged 70 years and over are located throughout the State, with slightly higher rates in rural SLAs in the western areas (**Map 7.8**). The higher rates in some rural SLAs are likely to reflect the location of nursing homes in towns that cannot be adequately identified in the SLA statistics presented here.

The highest rates of nursing home places per 1,000 people aged 70 years and over were recorded in Castlemaine (99 places per 1,000 people aged 70 years and over), Buloke-North (95) and Queenscliffe (94).

One quarter (27.0 per cent) of SLAs had no nursing homes. Of SLAs with these facilities, the lowest rates were in Greater Geelong [Part B], Mount Alexander-Balance, Alberton and Bendigo [Part B], with between 11 and 20 places per 1,000 people aged 70 years and over.

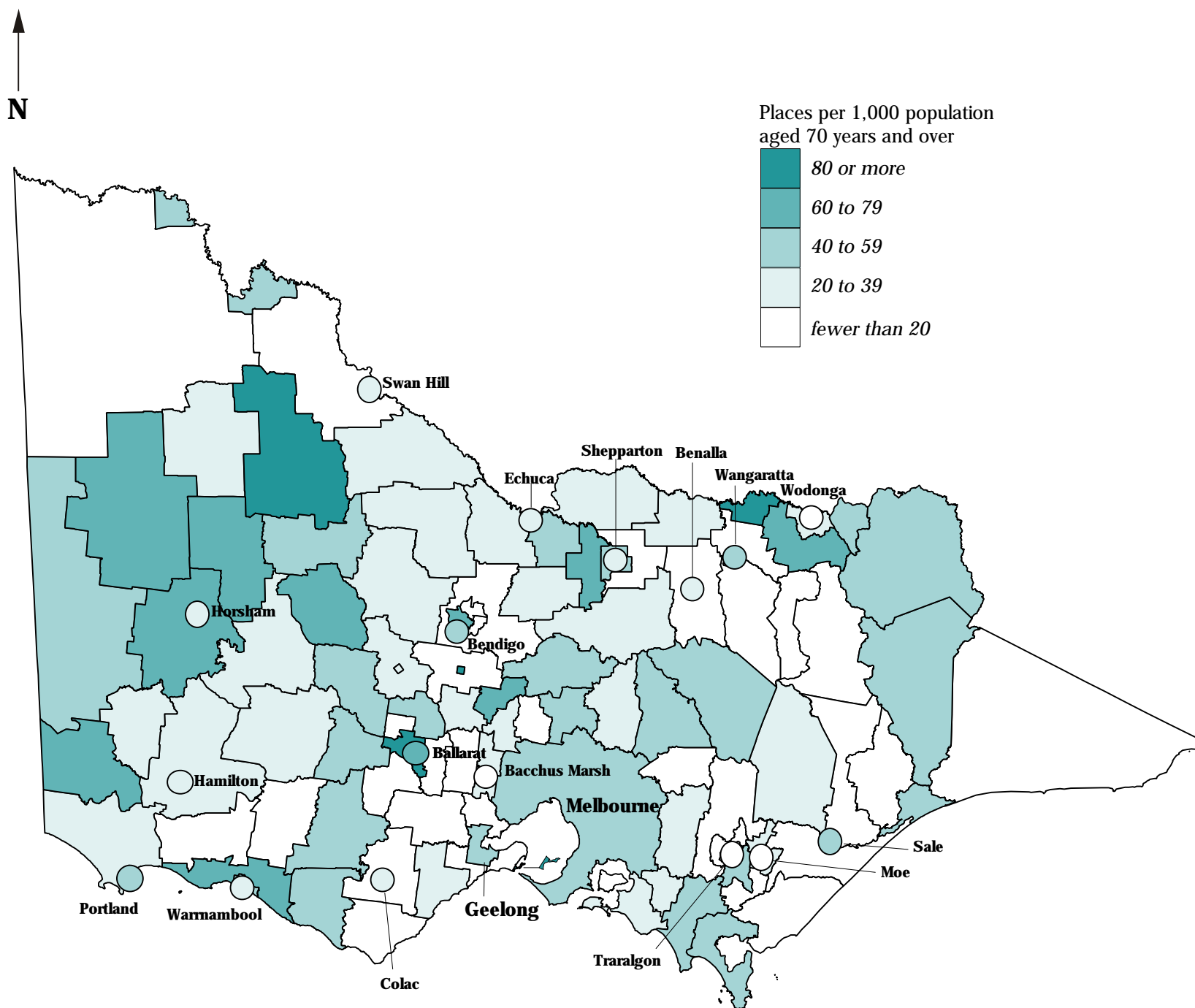
The larger towns provided the largest number of nursing home places, with 582 nursing home places in Ballarat (a rate of 82 nursing home places per 1,000 people aged 70 years and over) and 448 in Bendigo (70 places per 1,000 people aged 70 years and over). Relatively high numbers of places were also located in Mildura (160), Bairnsdale (155), Warrnambool (145), Shepparton (136), Wangaratta-Central (130) and Castlemaine (105).

The correlation analysis was not undertaken as there were too many SLAs with no (or small numbers of) places.

Map 7.8

Nursing home places per 1,000 population aged 70 years and over, Victoria, 1997

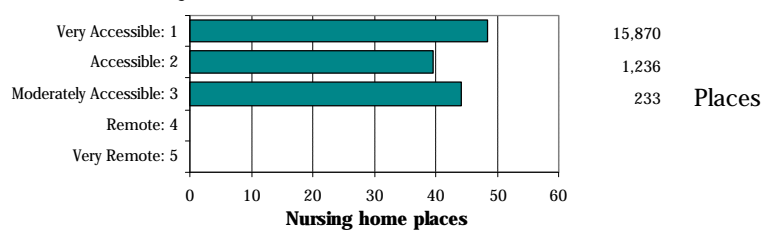
number of nursing home places in each Statistical Local Area per 1,000 population aged 70 years and over



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The provision of nursing home places decreases from 48 places per 1,000 population aged 70 years and over in the Very Accessible ARIA category to 39.5 places per 1,000 population aged 70 years and over in the Accessible category, with a middle level ratio of 40 places per 1,000 population aged 70 years and over in the Moderately Accessible category.

Source: Calculated on ARIA classification, DHAC
National Social Health Atlas Project, 1999

Hostel places per 1,000 population aged 70 years and over, 1997

Capital city comparison

There were 43 hostel places per 1,000 population aged 70 years and over in the capital cities at 30 June 1997. The range of rates was from a high of 57 places in **Canberra**, 50 in **Perth** and 49 in **Brisbane** to a low of 30 in **Darwin** (Table 7.11).

The rates for all of the cities for which data were published in the first edition of the atlas have increased, some more substantially than others, in all of the capitals other than **Brisbane** (the city with the highest rate in 1992). This is largely a result of moves to meet the target rate of 50 hostel places per 1,000 population aged 70 years and over. At the same time, the number of nursing home places has decreased (page 338). The largest increase was recorded in **Sydney**, where the rate increased from 28 places per 1,000 population aged 70 years and over in 1992 to 36 in 1997, an increase of 22.2 per cent.

Table 7.11: Hostel places per 1,000 population aged 70 years and over, capital cities

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra ¹	All capitals
1997	36	43	49	47	50	42	30	57	43
1992	28	35	55	43	45	..	..	..	37

¹Includes Queanbeyan (C)

Source: See *Data sources*, Appendix 1.3

Melbourne

In 1997, there were 223 hostel facilities with 10,689 places providing accommodation for aged people in **Melbourne**, a rate of 43 hostel places per 1,000 people aged 70 years and over.

The geographic distribution of hostel accommodation for the aged is widespread, with relatively high rates across Melbourne (Map 7.9).

The highest rate is in Nillumbik-South, with 176 hostel home places per 1,000 people aged 70 years and over. In Craigieburn and the City of Melbourne, there were 168 and 153 hostel places per 1,000 people aged 70 years and over, respectively. Rates were above 75 hostel places per 1,000 people aged 70 years and over in Knox-North (101 hostel places per 1,000 people aged 70 years and over), Knox-South (93), Whittlesea-North (90), Yarra-North and Kew (both 80).

The lowest rates of provision of hostel places are in the outer, developing areas of **Melbourne**. There were no hostels for aged people in ten SLAs. Of SLAs with these facilities, rates of less than 20 were recorded in Sunshine (11 hostel places per 1,000 people aged 70 years and over), Waverley East (15), Manningham-West and Mornington Peninsula-West (both 16), Hallam (18) and Prahran (19).

The largest numbers of hostel places were in Knox-North and the City of Melbourne, with 681 and 501 places respectively. There were more than 400 hostel places in Heidelberg (440 places), Caulfield (437) and Frankston-West (424), with a further 395 in Camberwell South, 356 in Kingston-North and 312 in St Kilda.

The correlation analysis was not undertaken as there were too many SLAs with no (or small numbers of) places.

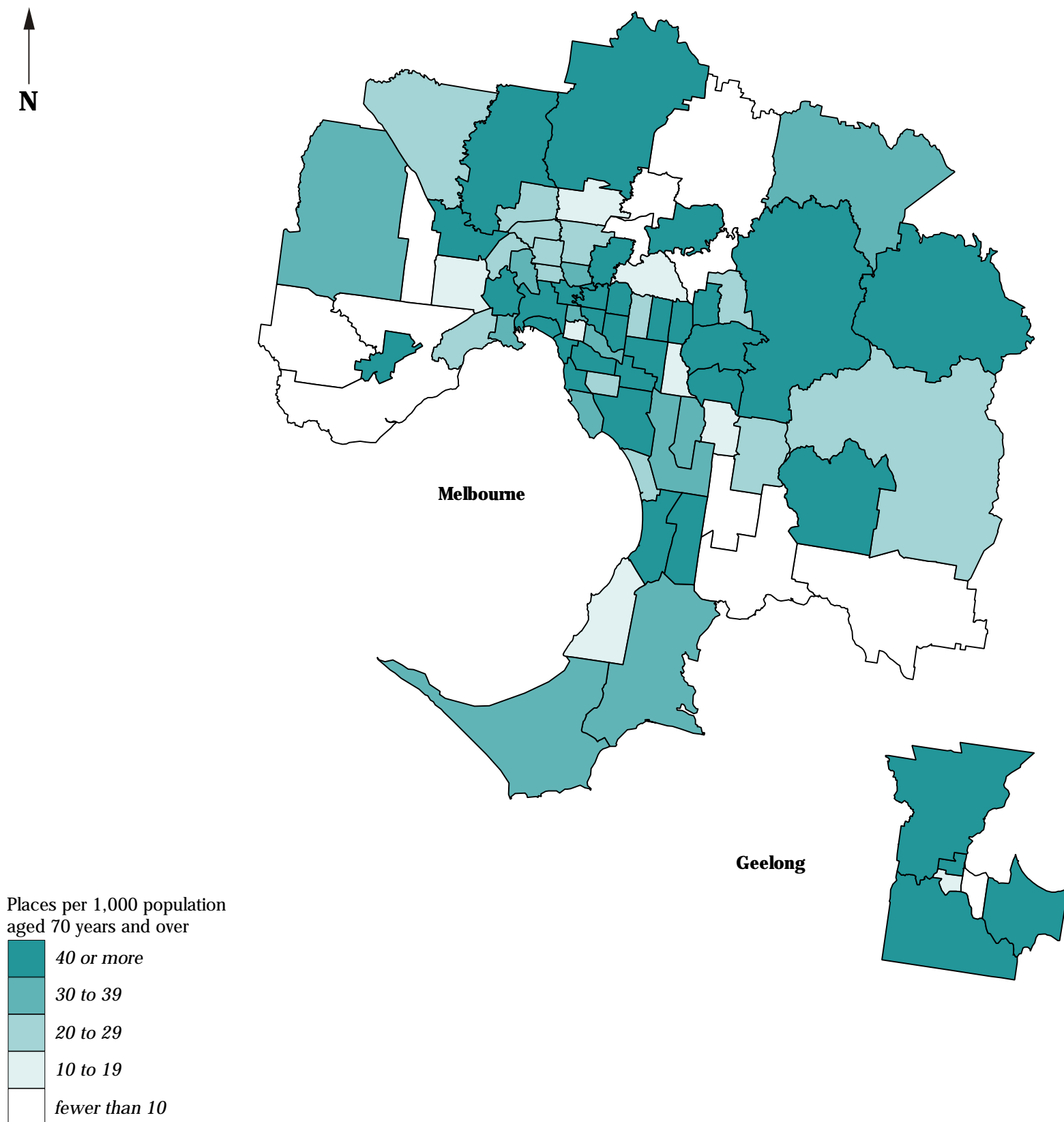
Geelong

In **Geelong**, there were 584 places in 15 hostels providing accommodation for the aged, 42 places per 1,000 population aged 70 years and over. The rate of provision was highest in Corio-Inner (56 hostel places per 1,000 population aged 70 years and over) and Bellarine-Inner (52), and the lowest rate was in Newtown (10). There were no hostel places located in the City of Geelong. The largest numbers of hostel places were in Corio-Inner (234 places) and South Barwon-Inner (159).

Map 7.9

Hostel places per 1,000 population aged 70 years and over, Melbourne and Geelong, 1997

number of hostel places in each Statistical Local Area per 1,000 population aged 70 years and over



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2
National Social Health Atlas Project, 1999

Hostel places per 1,000 population aged 70 years and over, 1997

State/Territory comparison

There were fewer hostel places per thousand population aged 70 years and over in the *Rest of State/Territory* areas of Australia than in the capital cities in all but New South Wales and Victoria (with more places) and Queensland (with the same number of places) (**Table 7.12**). The highest rates were in Victoria and Queensland and the lowest was in the Northern Territory.

Of the States/Territories for which data were published in the first edition of the atlas, the largest increase in the *Rest of State /Territory* areas was recorded for Victoria. There was a small increase in the rate in New South Wales and a small decrease for Western Australia: the rate in Queensland and South Australia remained the same.

Table 7.12: Hostel places per 1,000 population aged 70 years and over, State/Territory

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total
1997									
Capital city	36	43	49	47	50	42	30	57 ¹	43
Other major urban centres ²	40	42	39	..	..	..	..	..	40
Rest of State/Territory	42	49	49	46	43	39	28	— ³	46
Whole of State/Territory	38	45	47	47	48	40	29	60	43
1992									
Rest of State/Territory	39	40	49	46	45	..	..	..	42

¹Includes Queanbeyan (C)

²Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)

³Data unreliable: included with ACT total

Source: See *Data sources*, Appendix 1.3

Rest of State

In 1997, there were 141 hostel facilities with 4,950 places providing accommodation for aged people in the non-metropolitan areas of Victoria, a rate of 49 places for every 1,000 people aged 70 years and over.

The highest rates of hostel places per 1,000 people aged 70 years and over are scattered throughout Victoria, in a mix of towns and rural areas (**Map 7.10**). The higher rates in some rural SLAs are likely to reflect the location of hostels in towns that cannot be adequately identified in the SLA statistics presented here.

The highest rates were recorded in Towong [Part A] (129 hostel places per 1,000 people aged 70 years and over), Wannon (119), South Gippsland-West (115), Castlemaine (112), Ballan (101) and Robinvale (100).

There were no hostels in over one quarter (27.0 per cent) of SLAs. Of SLAs with these facilities, the lowest rates were in Mount Alexander-Balance, Greater Geelong [Part B] and Surf Coast-West, where rates were between 14 and 25 hostel places per 1,000 people aged 70 years and over.

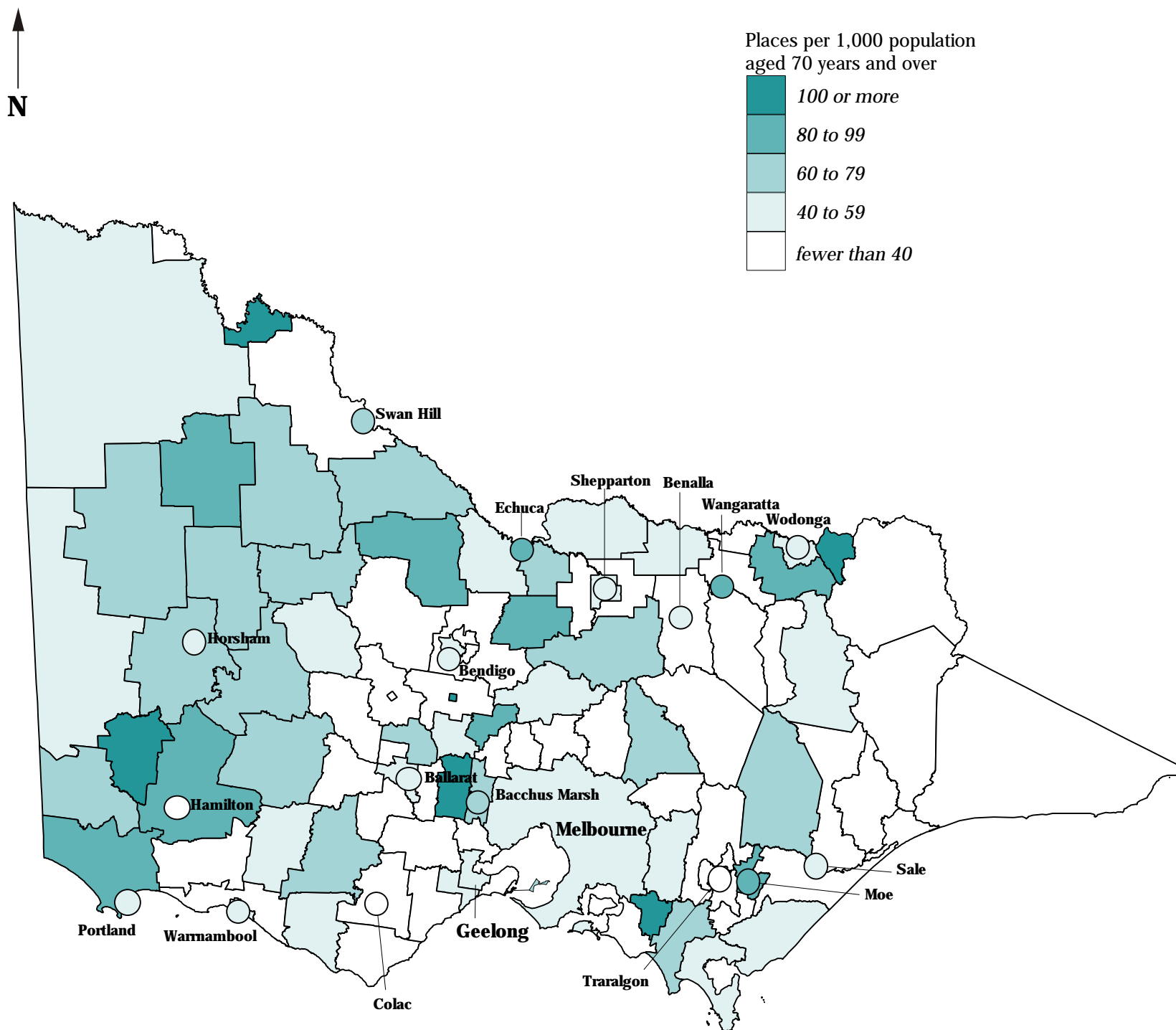
Regional centres provided the largest number of hostel places, with 388 hostel places in Ballarat (a rate of 55 hostel places per 1,000 people aged 70 years and over) and 325 in Bendigo (51 places per 1,000 people aged 70 years and over). Relatively high numbers of hostel places were also available in Shepparton (192 hostel places per 1,000 people aged 70 years and over), Wangaratta-Central (159), Mildura (145), Traralgon (135), Warrnambool (134), Castlemaine (118) and Moira-West (102).

The correlation analysis was not undertaken as there were too many SLAs with no (or small numbers of) places.

Map 7.10

Hostel places per 1,000 population aged 70 years and over, Victoria, 1997

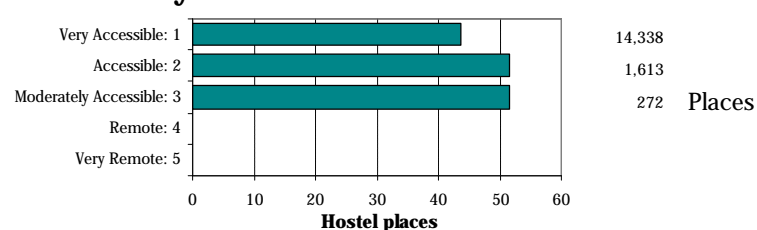
number of hostel places in each Statistical Local Area per 1,000 population aged 70 years and over



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The provision of aged care hostel places is strong across the spectrum of ARIA categories. The rate of provision is lowest in the Very Accessible ARIA category, with 44 hostel places per 1,000 population aged 70 years and over, and a higher rate of 52 hostel places per 1,000 population aged 70 years and over in both the Accessible and Moderately Accessible categories.

Source: Calculated on ARIA classification, DHAC National Social Health Atlas Project, 1999

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