

# **Spatial equity in the distribution of aged care services**

**WELFARE DIVISION  
WORKING PAPER NO. 25**

# **Spatial equity in the distribution of aged care services**

**Diane Gibson, Peter Braun and Zhibin Liu**

**June 2000**

Australian Institute of Health and Welfare  
Canberra

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### **Suggested citation**

Gibson D, Braun P and Liu Z 2000. Spatial equity in the distribution of aged care services. Canberra: Australian Institute of Health and Welfare (Welfare Division Working Paper no. 25).

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Board Chair  
Professor Janice Reid

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Any enquiries about or comments on this publication should be directed to:

Dr Diane Gibson  
Australian Institute of Health and Welfare  
GPO Box 570  
Canberra ACT 2601

Phone: (02) 6244 1190

Fax: (02) 6244 1199

# Contents

**Acknowledgments .....ii**

**Abstract.....1**

**Introduction.....1**

**Older people - where are they? .....2**

**The supply of residential care.....3**

**The supply of care packages .....5**

**Supply of HACC services .....8**

**Other services.....12**

    ‘Nursing home type patients’ .....12

    Multi-purpose services and services approved under the Aboriginal and Torres Strait  
    Islander Aged Care Strategy.....14

    Importance of other services.....14

**Expenditure .....14**

**Conclusions .....15**

**References ..... 17**

## Acknowledgments

We are grateful to the Aged and Community Care Division of the Commonwealth Department of Health and Aged Care for providing service provision data for analysis. At the Australian Institute of Health and Welfare thanks are due to Andrew Phillips and Ian Titulaer for finding time to provide data on nursing home type patients, and to Minh Bui for providing assistance in the preparation of the paper. We would also like to acknowledge the useful comments made by Jacky Fogarty, John Goss, Jerry Hearn and Ching Choi on earlier versions of this paper.

# Spatial equity in the distribution of aged care services

## Abstract

Geographic characteristics and social conditions in rural and remote areas often mean greater difficulty and costs in terms of providing aged care services. This, in turn, inevitably causes concern over spatial equity in the distribution of aged care services. This paper aims to address the spatial equity issue by analysing aged care services (both residential and community-based aged care services) by four geographic categories: capital cities, other metropolitan areas, rural areas and remote areas. Nursing home type patients, multi-purpose services and services approved under the Aboriginal and Torres Strait Islander Aged Care Strategy are included in the analysis in order to get a more complete picture of available resources.

## Introduction

In 1998, the Australian Institute of Health and Welfare released a report on the health and well-being of people in rural and remote Australia (Strong et al 1998). The report documents a number of disadvantages accruing to those who live in rural and remote areas, including lower life expectancy, higher mortality, higher rates of hospitalisation, and poorer socio-economic well-being, as well as lower levels of access to health and medical services including general practitioners, pharmacies, hostels and nursing homes. The geographic location of health, welfare and education services is an issue of continuing contemporary policy significance (Fincher 1999, ACOSS 2000).

The issue of unequal distribution of aged care services and funding across geographical areas has been an area of policy concern for some decades. It features in a number of important government reports on aged care services, including the report of the House of Representatives Standing Committee on Expenditure: *In a Home or at Home: Accommodation and Home Care for the Aged*, the Nursing Homes and Hostels Review (DCS 1986) and the Report of the Mid-Term Review of the Aged Care Reform Strategy (DHHCS 1991a,b). More recent policy directions, including the expansion of multipurpose services and services approved under the Aboriginal and Torres Strait Islander Aged Care Strategy, testify to the continuing interest of politicians, public servants responsible for service planning and the community in improving geographical equity with regard to aged care services.

The pattern of aged care services varies considerably on a state and territory basis. Victoria, for example, has in the past been identified as a state providing high levels of HACC services, but relatively low levels of nursing home and hostel places. New South Wales, on the other hand, provided HACC services at a level very close to the national average, but had the highest level of nursing home provision and among the lowest levels of hostel provision (Mathur 1996). In the present paper, we take these earlier state and territory based comparisons one step further by introducing a regional component to the analysis. The categories employed were derived using the Rural, Remote and Metropolitan Areas (RRMA) classification, developed in 1994 by the Department of Primary Industries and Energy, and the then Department of Human Services and Health. The original seven category classification was reduced to four – capital city (M1), other metropolitan (M2), rural (R1 – R3) and remote (REM1 – REM2).

This paper focuses specifically on aged care services, looking at residential care as well as home based care, and taking into account community care packages as well as nursing home type patients. It documents the nature and extent of variations in access to both residential and home-based services, so that it is possible to take account of 'trade-offs' between different service types.

## Older people – where are they?

In June 1998 the majority of Australians aged 70 and over (62%) lived in capital cities, and over half of those lived in Melbourne (18%) or Sydney (21%). Brisbane, Perth and Adelaide together contributed a further 21%, with Hobart and Canberra each accounting for only 1% of the population aged 70 and over (see Table 1).

A substantial minority of older people (28%) lived in rural areas. These people lived predominantly in New South Wales (10%), Victoria (7%) and Queensland (6%), with small proportions (around 2%) in Western Australia, South Australia and Tasmania.

Only 9% lived in 'other metropolitan' cities, and these were predominantly located in New South Wales, with smaller proportions in Victoria and Queensland. Less than 2% lived in remote areas, with the largest proportions (all less than 1%) coming from Queensland, Western Australia and New South Wales.

The smaller states and territories accounted for only very small proportions of the older Australian population, regardless of the regional dimension. The Northern Territory had only 0.2% of the population aged 70 and over, while the Australian Capital Territory had only 1% and Tasmania only 3%.

**Table 1: Persons aged 70 years and over by geographic area, <sup>(a)</sup> 30 June 1998**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Region</b>	<b>Number</b>								
Capital	332,188	283,560	121,247	100,996	113,571	18,398	16,293	1,868	988,121
Other Metro	79,870	15,902	41,509	-	-	-	-	-	137,281
Rural	151,357	112,626	100,233	25,206	36,211	24,978	10	264	450,885
Remote	4,014	1,305	9,726	6,109	2,225	264	0	1,563	25,206
<b>Totals</b>	<b>567,429</b>	<b>413,393</b>	<b>272,715</b>	<b>132,311</b>	<b>152,007</b>	<b>43,640</b>	<b>16,303</b>	<b>3,695</b>	<b>1,601,493</b>
<b>Region</b>	<b>Per cent</b>								
Capital	20.7	17.7	7.6	6.3	7.1	1.1	1.0	0.1	61.7
Other Metro	5.0	1.0	2.6	-	-	-	-	-	8.6
Rural	9.5	7.0	6.3	1.6	2.3	1.6	0.0	0.0	28.2
Remote	0.3	0.1	0.6	0.4	0.1	0.0	-	0.1	1.6
<b>Totals</b>	<b>35.4</b>	<b>25.8</b>	<b>17.0</b>	<b>8.3</b>	<b>9.5</b>	<b>2.7</b>	<b>1.0</b>	<b>0.2</b>	<b>100.0</b>

(a) Regions based on PIE & HSH 1994.

While Indigenous people make up only 2% of the Australian population, they are disproportionately spread across the RRMA regions. Indigenous people comprise 1% of the metropolitan zone ('capital city' plus 'other metropolitan') population, 3% of the rural zone population, 13% of the remote centre population and 26% of the population in 'other remote areas'. While the proportion of Indigenous people is not high enough in the rural zone to affect the differences in health status between metropolitan and rural regions, the substantially higher proportion of Indigenous people living in the remote zone does statistically lower the health status of people living in the remote zone compared to those living in the metropolitan and rural zones (Strong et al 1998: viii-ix).

Measurement of the need for aged care services based on age alone probably underestimates the need among Indigenous people, as poorer health status and lower life expectancy combine to result in Indigenous people using aged care services at younger ages than do non-Indigenous people. On the basis of the effect reported by Strong and her colleagues, this underestimate could be expected to be particularly significant in remote regions. The data presented in this paper, then, provide a conservative estimate of need, and hence a probable over-estimate of the adequacy of service provision, for those remote areas where a significant proportion of the population is of Indigenous origin.

## The supply of residential care

In June 1999 there were 141,698 residential aged care places in Australia. This number includes standard places in residential aged care facilities, plus special places funded as part of multi-purpose services or under the Aboriginal and Torres Strait Islander Aged Care Strategy. Community care packages, which provide an alternative to low level residential care, are discussed in conjunction with residential aged care services in the next section of this paper.

Sixty-four per cent of residential places were located in capital cities (compared to 62% of the population aged 70 and over), 8% were located in other metropolitan cities (9% of the population aged 70 and over), 27% in rural areas (28% of the population aged 70 and over) and 1.6% in remote areas (1.6% of the population aged 70 and over) (see Table 2). The proportions of places and people appear roughly equal; however they do translate into some quite significant differences in supply when examined in terms of the standard planning ratio of the numbers of places per 1,000 people aged 70 and over.

**Table 2: Residential care places<sup>(a)</sup> by State/Territory by geographic area,<sup>(b)</sup> 30 June 1999**

Region	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Numbers								
Capital	31,498	23,575	11,750	9,537	10,998	1,738	1,426	169	90,691
Other metro	6,237	1,361	3,543	-	-	-	-	-	11,141
Rural	11,938	9,733	9,312	1,923	2,637	2,058	-	-	37,601
Remote	303	106	849	610	143	22	-	232	2,265
<b>Total</b>	<b>49,976</b>	<b>34,775</b>	<b>25,454</b>	<b>12,070</b>	<b>13,778</b>	<b>3,818</b>	<b>1,426</b>	<b>401</b>	<b>141,698</b>
Per cent									
Capital	63.0	67.8	46.2	79.0	79.8	45.5	100.0	42.2	64.0
Other metro	12.5	3.9	13.9	0.0	0.0	0.0	0.0	0.0	7.9
Rural	23.9	28.0	36.6	15.9	19.1	53.9	0.0	0.0	26.5
Remote	0.6	0.3	3.3	5.1	1.0	0.6	0.0	57.8	1.6
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Includes places provided under the Aboriginal and Torres Strait Flexible Care Program and from operating multipurpose services.

(b) Regions based on PIE and HSH 1994.

Table 3 presents data by state and territory and by region according to the number of places per 1,000 persons aged 70 and over. While the average level of residential aged care provision across Australia in 1999 was 86 places per 1,000 people aged 70 and over, the level of provision in capital cities and remote zones was somewhat higher at 89 and 88 places per 1,000 persons aged 70 and over respectively, while that in other zones was somewhat lower. For those living in 'other metropolitan' cities there were 79 residential places per 1,000 persons aged 70 and over, and for those in rural areas 81 places per 1,000 persons aged 70 and over. Those living in the other metropolitan and rural zones thus have some disadvantage in terms of the level of supply of residential care when compared to those



living in capital cities and the remote zones. Accessibility of care services, however, is also affected by the degree of dispersion of the population. This means that people living in rural and remote regions will in general need to travel further to get to a residential aged care facility, even where the level of supply is approximately equivalent to that reported in metropolitan areas. Multi-purpose services and services funded under the Aboriginal and Torres Strait Islander Aged Care Strategy make an important contribution to the favourable circumstances observed in remote regions, most specifically in Victoria, Western Australia and the Northern Territory.

**Table 3: Places<sup>(a)</sup> per 1,000 people 70 years and over by geographic region,<sup>(b)</sup> by State/Territory**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Region	Ratios								
Capital	92.6	81.1	93.8	91.6	94.9	92.4	83.6	85.9	89.4
Other metro	76.2	83.5	82.6	-	-	-	-	-	79.1
Rural	77.0	84.3	89.9	74.0	71.4	80.6	-	-	81.2
Remote	73.7	79.2	84.5	96.9	63.0	81.5	-	140.6	87.5
<b>Total</b>	<b>86.0</b>	<b>82.1</b>	<b>90.3</b>	<b>88.5</b>	<b>88.8</b>	<b>85.5</b>	<b>83.6</b>	<b>102.9</b>	<b>86.2</b>

(a) Includes places provided under the Aboriginal and Torres Strait Flexible Care Program and from operating multipurpose services.

(b) Regions based on PIE & HSH 1994.

Note: Region ratios are estimates as the updated RRMA figures for 1999 were not available at the point of publication.

State/Territory ratios are calculated using ABS 2000.

States and territories also differ in their supply of residential care; the actual levels in particular regions of particular states are therefore subject to a state as well as a regional effect. Queensland, for example, has a relatively high supply of residential care, at 90 places per 1,000 persons aged 70 and over. Thus, while the other metropolitan, rural and remote zones in Queensland have a lower level of supply than the capital city, they are still well above the national average for other metropolitan (83 places per 1,000 persons aged 70 and over compared with 79 places) and rural (90 places per 1,000 persons 70 and over compared to 81 places) areas, although lower than the national average in remote areas (85 places per 100 persons 70 and over compared to 88 places). Similarly, given that Victoria has a relatively low supply of residential care (82 places per 1,000 persons aged 70 and over compared to the national average of 86), the Victorian remote zone has a lower level of supply than the national average (79 places per 1,000 persons aged 70 and over compared to 88). The picture is not always so straightforward, however, as is evident if one examines the level of supply in rural Victoria which is actually above the national average.

Table 4 provides a schematic representation of the data presented in Table 3. Here regions have been categorised as having lower than average, average or higher than average supplies of residential care, based on their level of supply in relation to the national average. The diagram allows both state and territory and regional differences to be taken into account. Those with a level of supply more than 5 places above the national average have been labeled as higher than average (more than 91.2 places per 1,000 persons aged 70 and over), those with a level of supply more than 5 places below the national average have been labeled as lower than average (less than 81.2 places per 1,000 persons aged 70 and over), while those in between have been labeled as average (81.2 to 91.2 places per 1,000 persons aged 70 and over).

The table shows five capital cities (Sydney, Brisbane, Adelaide, Hobart and Perth) with higher than average supplies, with Darwin and Canberra as average and Melbourne with a lower than average provision of care. The Victorian and Queensland 'other metropolitan cities' fall into the average category, while those in New South Wales are categorised as lower than average. The rural regions are predominantly in the lower than average category

(New South Wales, Western Australia, South Australia and Tasmania), with the remainder in the average category (Queensland and Victoria). Some remote regions fall into the lower than average category (New South Wales, Victoria and South Australia), while those in Queensland and Tasmania are categorised as average and those in Western Australia and the Northern Territory are classified as higher than average provision areas.

**Table 4: Residential Places per 1,000 persons aged 70+ at 30 June 1999**

Lower than average supply	Average supply	Higher than average supply
NSW Other metropolitan		NSW Capital
NSW Rural		
NSW Remote		
Vic Capital		
VIC Remote	VIC Other metropolitan	
	VIC Rural	
	QLD Other metropolitan	QLD Capital
	QLD Rural	
	QLD Remote	
WA Rural		WA Capital
		WA Remote
SA Rural		SA Capital
SA Remote		
		Tas Capital
Tas Rural		
	TAS Remote	
	ACT Capital	
	NT Capital	NT Remote

## The supply of care packages

In line with government policy, community care packages have grown rapidly over recent years, increasing from only 3 places per 1,000 persons aged 70 and over in 1996 to 8.5 places per 1,000 persons aged 70 and over in 1999. Care packages provide coordinated home-based services to people who require care equivalent to the old 'personal care hostel' classification (RCS levels 5 to 7 under the new Resident Classification Scale). They have been developed as an alternative to residential care for those who wish to remain at home, but require the level of services available in a residential aged care facility.

Tables 5 and 6 presents data on the distribution of care packages by State and region. The supply of care packages is much higher in the remote regions (25 places per 1,000 persons aged 70 and over) than it is in the capital cities (8 places per 1,000 persons aged 70 and over), other metropolitan cities (9 places per 1,000 persons aged 70 and over), or the rural areas (8 places per 1,000 persons aged 70 and over). The higher level of care package provision in the remote areas is a result of high levels of provision in Queensland, Western Australia and the Northern Territory.

**Table 5: Community care packages<sup>(a)</sup> by State/Territory by geographic area,<sup>(b)</sup> 30 June 1999**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Region</b>	<b>Number</b>								
Capital	2,935	2,362	799	791	990	164	284	28	8,353
Other metro	651	214	434	-	-	-	-	-	1,299
Rural	1,101	737	970	239	258	286	-	-	3,591
Remote	41	10	253	176	28	0	-	146	654
<b>Total</b>	<b>4,728</b>	<b>3,323</b>	<b>2,456</b>	<b>1,206</b>	<b>1,276</b>	<b>450</b>	<b>284</b>	<b>174</b>	<b>13,897</b>
	<b>Per cent</b>								
Capital	21.1	17.0	5.7	5.7	7.1	1.2	2.0	0.2	60.1
Other metro	4.7	1.5	3.1	-	-	-	-	-	9.3
Rural	7.9	5.3	7.0	1.7	1.9	2.1	-	-	25.8
Remote	0.3	0.1	1.8	1.3	0.2	0.0	-	1.0	4.7
<b>Total</b>	<b>34.0</b>	<b>23.9</b>	<b>17.7</b>	<b>8.7</b>	<b>9.2</b>	<b>3.2</b>	<b>2.0</b>	<b>1.2</b>	<b>100.0</b>

(a) Includes packages provided under the Aboriginal and Torres Strait Flexible Care Program and from operating multipurpose services.

(b) Regions based on PIE and HSH 1994.

**Table 6: Community care packages<sup>(a)</sup> by geographic location<sup>(b)</sup> per 1,000 people 70 years and over at 30 June 1999**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Region</b>	<b>Ratios</b>								
Capital	8.6	8.1	6.4	7.6	8.5	8.7	16.7	14.2	8.2
Other metro	8.0	13.1	10.1	-	-	-	-	-	9.2
Rural	7.1	6.4	9.4	9.2	7.0	11.2	-	-	7.8
Remote	10.0	7.5	25.2	28.0	12.3	0.0	-	88.4	25.3
<b>Total</b>	<b>8.1</b>	<b>7.8</b>	<b>8.7</b>	<b>8.8</b>	<b>8.2</b>	<b>10.1</b>	<b>16.6</b>	<b>44.6</b>	<b>8.5</b>

(a) Includes places provided under the Aboriginal and Torres Strait Flexible Care Program and from operating multipurpose services.

(b) Regions based on PIE & HSH 1994.

Note: Region ratios are estimates as the updated RRMA figures for 1999 were not available at the point of publication.

State/Territory ratios are calculated using ABS 2000.

Given that care packages are intended to supplement or provide an alternative to residential care, Table 7 shows the combined ratio of provision for community care package places and residential aged care places per 1,000 persons aged 70 and over. The average level of provision is 95 places per 1,000 persons aged 70 and over. Levels of provision are higher in the capital cities (98 places per 1,000 persons aged 70 and over) and in the remote regions (113 places per 1,000 persons aged 70 and over), and lower in the other metropolitan (88 places per 1,000 persons aged 70 and over) and rural (89 places per 1,000 persons aged 70 and over) regions.

**Table 7: Combined places <sup>(a)</sup> and community care packages per 1,000 people 70 years and over by geographic region, <sup>(b)</sup> by State/Territory at 30 June 1999**

Region	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Ratio								
Capital	101.2	89.2	100.2	99.2	103.4	101.1	100.3	100.1	97.6
Other metro	84.2	96.6	92.7	0.0	0.0	0.0	0.0	0.0	88.3
Rural	84.1	90.7	99.3	83.2	78.3	91.7	0.0	0.0	89.0
Remote	83.7	86.7	109.6	124.9	75.3	81.5	0.0	229.0	112.8
<b>Total</b>	<b>94.1</b>	<b>89.9</b>	<b>99.0</b>	<b>97.4</b>	<b>97.0</b>	<b>95.6</b>	<b>100.2</b>	<b>147.5</b>	<b>94.6</b>

(a) Includes places and community care packages provided under the Aboriginal and Torres Strait Flexible Care Program and from operating multipurpose services.

(b) Regions based on PIE & HSH 1994.

Note: Region ratios are estimates as the updated RRMA figures for 1999 were not available at the point of publication.

State/Territory ratios are calculated using ABS 2000.

**Table 8: Combined residential places and community care packages per 1,000 persons aged 70+**

Lower than average supply	Average supply	Higher than average supply
NSW Other Metropolitan		NSW Capital
NSW Rural		
NSW Remote		
Vic Capital	Vic Other Metropolitan	
Vic Remote	Vic Rural	
	Qld Other Metropolitan	Qld Capital
	Qld Rural	Qld Remote
WA Rural	WA Capital	WA Remote
SA Rural		SA Capital
SA Remote		
Tas Remote	Tas Rural	Tas Capital
		ACT Capital
		NT Capital
		NT Remote

Table 8 provides a second summary table of provision levels across the regions and the states and territories, this time taking community care packages into account. On this scheme, most capital cities fall into the higher than average categorisation, with Perth having an average supply and Victoria a lower than average supply. The other metropolitan areas are in either the average or lower than average categorisations. The rural regions are divided between the average supply (Victoria, Queensland and Tasmania) and the lower than average supply (New South Wales, Western Australia and South Australia) categories. The remote regions of Queensland, the Northern Territory and Western Australia all had higher than average levels of supply, while those in New South Wales, Victoria, South Australia and Tasmania all had lower than average levels of supply.

## **Supply of HACC services**

While care packages have been growing rapidly in recent years, HACC funded agencies continue to be the dominant provider of home-based care in Australia. Expenditure on HACC services totalled \$810.6 million in 1997-98, compared to \$84.1 million on community care packages. HACC services are an important component of the aged care system.

Table 9 presents data on the supply of a range of HACC services across regions and states and territories. Looking at the total hours provided (this variable sums all services for which data are collected in hours, and hence excludes meals and transport services), it is evident that remote regions receive a higher level of HACC services than do capital cities, other metropolitan areas, and the rural zone. On a per month basis, nationally HACC delivered 1,571 hours of service per 1,000 persons aged 70 years and over, while the figure in the remote zone was 3,732 hours per 1,000 persons aged 70 and over. The rural zone (1,768 hours) also did somewhat better than capital cities (1,449 hours) and other metropolitan areas (1,408 hours).

**Table 9: Level of HACC service received in 1998, per month, per 1,000 persons 70 years and over, by geographic location (based on total HACC clients)**

Type of assistance	Region	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
		<b>Hours per month</b>								
<b>Home Help</b>	Capital	251	667	317	451	225	407	278	1,425	401
	Other Metro	315	1,018	266						381
	Rural	389	921	375	177	335	528			510
	Remote	1,467	616	793	1,061	451	905		2,241	1,017
	<b>All regions</b>	<b>305</b>	<b>749</b>	<b>347</b>	<b>427</b>	<b>255</b>	<b>479</b>	<b>278</b>	<b>1,668</b>	<b>440</b>
<b>Personal Care</b>	Capital	187	96	70	218	120	159	258	531	143
	Other Metro	201	225	25						151
	Rural	191	161	37	14	106	128			129
	Remote	963	234	108	240	350	0		853	349
	<b>All regions</b>	<b>195</b>	<b>119</b>	<b>53</b>	<b>180</b>	<b>120</b>	<b>140</b>	<b>257</b>	<b>629</b>	<b>143</b>
<b>Home Nursing</b>	Capital	116	96	154	121	116	143	124	0	116
	Other Metro	79	196	40						81
	Rural	140	194	195	10	95	176			157
	Remote	454	754	389	56	9	295		0	279
	<b>All regions</b>	<b>120</b>	<b>128</b>	<b>160</b>	<b>97</b>	<b>109</b>	<b>163</b>	<b>123</b>	<b>0</b>	<b>127</b>
<b>Paramedical</b>	Capital	16	35	33	18	25	21	12	42	25
	Other Metro	7	20	9						9
	Rural	11	55	15	3	32	1			24
	Remote	22	58	38	5	9	0		7	24
	<b>All regions</b>	<b>13</b>	<b>40</b>	<b>23</b>	<b>15</b>	<b>26</b>	<b>10</b>	<b>12</b>	<b>24</b>	<b>23</b>
<b>Respite Care</b>	Capital	171	129	194	164	218	73	561	495	172
	Other Metro	317	244	127						251
	Rural	339	142	164	157	172	241			222
	Remote	1,184	49	290	96	776	0		48	398
	<b>All regions</b>	<b>244</b>	<b>137</b>	<b>176</b>	<b>160</b>	<b>215</b>	<b>168</b>	<b>561</b>	<b>271</b>	<b>196</b>
<b>Centre Day Care</b>	Capital	315	469	669	827	334	211	171	139	452
	Other Metro	447	331	504						451
	Rural	341	798	804	758	409	423			591
	Remote	1,446	2,616	1,161	1,670	991	1,572		295	1,341
	<b>All regions</b>	<b>348</b>	<b>560</b>	<b>711</b>	<b>853</b>	<b>361</b>	<b>340</b>	<b>171</b>	<b>195</b>	<b>505</b>

*(continued)....*

**Table 9 (continued): Level of HACC service received in 1998, per month, per 1,000 persons 70 years and over, by geographic location (based on total HACC clients)**

Type of assistance	Region	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Hours per month</b>										
<b>Home</b>	Capital	29	32	38	35	44	20	82	42	34
<b>Maintenance</b>	Other Metro	28	52	24						30
	Rural	55	95	70	90	47	45			69
	Remote	158	76	94	163	18	208		604	146
	<b>All regions</b>	<b>37</b>	<b>50</b>	<b>50</b>	<b>51</b>	<b>44</b>	<b>35</b>	<b>82</b>	<b>277</b>	<b>45</b>
<b>Other</b>	Capital	66	71	82	53	364	87	172	374	105
	Other Metro	33	257	17						54
	Rural	66	111	26	1	97	63			67
	Remote	95	276	71	127	539	0		687	178
	<b>All regions</b>	<b>62</b>	<b>90</b>	<b>51</b>	<b>47</b>	<b>303</b>	<b>72</b>	<b>172</b>	<b>480</b>	<b>91</b>
<b>Total Hours</b>	Capital	1,152	1,594	1,558	1,887	1,446	1,120	1,658	3,048	1,449
	Other Metro	1,427	2,343	1,012						1,408
	Rural	1,532	2,477	1,685	1,211	1,292	1,604			1,768
	Remote	5,790	4,679	2,944	3,420	3,143	2,981		4,734	3,732
	<b>All regions</b>	<b>1,325</b>	<b>1,873</b>	<b>1,571</b>	<b>1,829</b>	<b>1,435</b>	<b>1,408</b>	<b>1,657</b>	<b>3,543</b>	<b>1,571</b>
<b>Meals per month</b>										
<b>Home Meals</b>	Capital	461	758	793	621	662	546	500	1,582	631
	Other Metro	575	737	554						587
	Rural	758	809	816	646	1,050	814			804
	Remote	2,267	822	1,450	1,830	1,813	788		5,580	1,921
	<b>All regions</b>	<b>569</b>	<b>772</b>	<b>788</b>	<b>681</b>	<b>771</b>	<b>701</b>	<b>499</b>	<b>3,160</b>	<b>696</b>
<b>Centre Meals</b>	Capital	79	82	134	196	98	34	27	272	100
	Other Metro	79	74	90						82
	Rural	57	99	98	198	124	84			91
	Remote	274	506	286	346	570	170		898	372
	<b>All regions</b>	<b>75</b>	<b>88</b>	<b>119</b>	<b>203</b>	<b>111</b>	<b>63</b>	<b>27</b>	<b>517</b>	<b>100</b>
<b>People per month</b>										
<b>Transport</b>	Capital	58	n/a	363	46	53	71	56	243	109
	Other Metro	77	n/a	112						78
	Rural	85	n/a	52	42	108	116			57
	Remote	252	n/a	171	126	158	45		534	194
	<b>All regions</b>	<b>69</b>	<b>0</b>	<b>204</b>	<b>49</b>	<b>67</b>	<b>97</b>	<b>56</b>	<b>348</b>	<b>74</b>

Source: Derived from Department of Health and Aged Care unpublished data.

Data from November 98, except Vic is 5/98; Transport data not collected in VIC.

This pattern is quite similar if meals and transport are examined, although the rural regions do less well with regard to both transport and centre-delivered meals than they do on hours of service overall. The pattern also holds for specific service types measured in hours, with the exception of personal care where rural services do less well than all other areas, paramedical services where there is no such pattern, and the 'other' category where again rural areas do less well.

There are also significant state and territory based differences. Looking at the total hours of service delivered per month, the Northern Territory was by far the highest provider, at 3,543 hours per 1,000 persons aged 70 and over. This finding is not surprising given the high proportion of Indigenous people in the Northern Territory, and their need for aged care services at younger ages than non-Indigenous people. The next highest provider of HACC services was Victoria (a comparatively low provider of residential care) at 1,873 hours per 1,000 persons aged 70 and over, followed by Western Australia (1,829), the Australian Capital Territory (1,657), Queensland (1,571), South Australia (1,435), Tasmania (1,408) and finally New South Wales (1,325). The data suggest some degree of 'complementarity', with states or territories which are high in one service type being average or low in another, or visa versa.

Table 10 categorises the regions (and the states and territories) by the level of provision, classifying regions according to whether the level of provision is higher than average, average, or lower than average. Higher than average providers were those regions where the level of HACC service provision was more than 20% higher than the national average, and lower than average providers were those regions where the level of service provision was more than 20% below the national average. The average providers were those regions which supplied amounts of service which were within 20% of the national average (either plus or minus).

Capital cities had predominantly average supplies of HACC services, with the exception of Sydney (lower than average supply) and Darwin and Perth (higher than average supply). The 'other metropolitan areas' were evenly distributed, with one lower than average supply (Qld), one average supply (NSW) and one higher than average supply (Victoria).

**Table 10: HACC Hours per month per 1,000 persons aged 70 years and over**

Low supply	Average supply	High supply
NSW Capital	NSW Other metropolitan	NSW Remote
	NSW Rural	
	VIC Capital	VIC Other metropolitan
		VIC Rural
		VIC Remote
QLD Other metropolitan	QLD Capital	QLD Remote
	QLD Rural	
WA Rural		WA Capital
		WA Remote
	SA Capital	SA Remote
	SA Rural	
TAS Capital	TAS Rural	TAS Remote
	ACT Capital	NT Capital
		NT Remote



The rural areas fell predominantly into the average category, with one (Western Australia) in the lower than average category and one (Victoria) in the higher than average category. For remote regions, the level of supply was consistently in the higher than average category.

**Table 11: Classification of Areas as having ‘High’, ‘Medium’ or ‘Low’ supplies of aged care services**

	<b>Low residential</b>	<b>Medium residential</b>	<b>High residential</b>
<b>Low HACC</b>	WA Rural	QLD Other metro	NSW Capital TAS Capital
<b>Medium HACC</b>	NSW Other metro NSW Rural VIC Capital SA Rural	QLD Rural TAS Rural	QLD Capital SA Capital ACT Capital
<b>High HACC</b>	NSW Remote VIC Remote SA Remote TAS Remote	VIC Other metro VIC Rural WA Capital	QLD Remote WA Remote NT Capital NT Remote

Table 11 provides a schematic combination of Tables 8 and 10. The table shows that in general, those regions with a lower than average level of residential care provision had either an average or higher than average supply of HACC services, whereas those with a lower than average level of HACC services had either an average or higher than average level of residential care. The only area which was classified as having a lower than average provision of both HACC and residential services was rural Western Australia. Four regions were, however, classified as having a higher than average supply of both—Darwin and the remote regions of Queensland, Western Australia and the Northern Territory. Some rural areas figured in the cell which describes a ‘lower than average residential/average HACC’ combination—the rural regions of New South Wales and South Australia together with New South Wales other metropolitan areas. For the ‘lower than average HACC/average residential’ cell, the only area included was Queensland ‘other metropolitan’.

**Other services**

**‘Nursing home type patients’**

Assistance to older people is also provided in public hospitals, where a proportion of older people are classified as ‘nursing home type patients’. A proportion of these people receive care of the kind delivered in a nursing home, but within the context of a public hospital ward. This pattern of care is believed to be particularly common in rural and remote regions. In 1997-98, there were 1,147,120 nursing home type bed days used in public hospitals, equivalent to 3,143 full year places. These nursing home type bed days were not evenly divided among the four regions examined in this paper – 27% occurred in capital cities, 3% in other metropolitan areas, 61% in rural areas and 9% in remote areas. When these bed days are considered in relation to the size of the population in these regions, it is clear that nursing home type bed days are an important alternative source of residential type care in the rural and remote regions. In the rural areas, there was an average of 4 nursing home type place days per 1,000 persons aged 70 and over, and in the remote zones 11 such places per 1,000 persons aged 70 and over. For capital cities and other metropolitan areas there was less than 1 place day per 1,000 persons aged 70 and over (Tables 12 and 13).

**Table 12: Equivalent places for nursing home type patients, public acute hospitals, 1997-1998 by State/Territory by geographic region<sup>(a)</sup>**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Region</b>	<b>Number</b>								
Capital City	654	87	75	7	10	3	6	3	845
Other Metro	87	2	13	..	..	..	..	..	102
Rural	1,120	112	270	22	303	83	0	0	1,909
Remote	92	2	105	37	49	1	..	1	287
<b>Total</b>	<b>1,952</b>	<b>203</b>	<b>463</b>	<b>66</b>	<b>362</b>	<b>87</b>	<b>6</b>	<b>4</b>	<b>3,143</b>
	<b>Per cent</b>								
Capital City	33.5	42.7	16.2	11.1	2.8	3.0	100.0	75.1	26.9
Other Metro	4.4	1.1	2.9	..	..	..	..	..	3.3
Rural	57.3	55.2	58.3	33.2	83.7	95.4	..	..	60.7
Remote	4.7	0.9	22.7	55.7	13.5	1.7	..	24.9	9.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Regions based on PIE and HSF 1994.

Note: State/Territory refers to the location of the hospital.

.. Not applicable.

Source: AIHW National Public Hospitals Establishments Database.

**Table 13: Equivalent places per 1,000 persons aged 70+ for nursing home type patients public acute hospitals, 1997-1998 by State/Territory by geographic region<sup>(a)</sup>**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Region</b>									
Capital City	2.0	0.3	0.6	0.1	0.1	0.1	0.3	1.7	0.9
Other Metro	1.1	0.1	0.3	..	..	..	..	..	0.7
Rural	7.4	1.0	2.7	0.9	8.4	3.3	..	..	4.2
Remote	23.0	1.4	10.8	6.0	21.9	5.4	..	0.7	11.4
<b>Total</b>	<b>3.4</b>	<b>0.5</b>	<b>1.7</b>	<b>0.5</b>	<b>2.4</b>	<b>2.0</b>	<b>0.3</b>	<b>1.2</b>	<b>2.0</b>

(a) Regions based on PIE and HSF 1994.

Note: State/Territory refers to the location of the hospital.

.. Not applicable.

Source: AIHW National Public Hospitals Establishments Database.

There were substantial variations in state and territory practices with regard to nursing home type patient services. New South Wales was a relatively heavy user of nursing home type patient bed days (1,952 equivalent places of the 3,143 used Australia wide). Victoria was a relatively low user (203 equivalent places). A number of regions had relatively high levels of provision of nursing home type care. These included NSW rural (7 places per 1,000 persons aged 70 and over), NSW remote (23 places per 1,000 persons aged 70 and over), Queensland remote (11 places per 1,000 persons aged 70 and over), Western Australia remote (6 places per 1,000 persons aged 70 and over), South Australia rural (8 places per 1,000 persons aged 70 and over), South Australia remote (22 places per 1,000 persons aged 70 and over) and Tasmania (5 places per 1,000 persons aged 70 and over). The addition of nursing home type patient equivalent places to the cumulative picture being built up in this paper suggests that they complement the relatively low levels of residential care noted earlier in the rural and remote regions of New South Wales and South Australia.

## **Multi-purpose services and services approved under the Aboriginal and Torres Strait Islander Aged Care Strategy**

In 1998 there were 38 multi-purpose services providing 815 residential care places and 61 care packages to support older people. These were predominantly located in Western Australia (276 places and packages), Victoria (240 places), New South Wales (188 places and packages) and South Australia (105 places). There were also 18 services providing 231.5 residential care places and 82.5 care packages to support older Indigenous people. These were predominantly located in South Australia (83 places and packages), Queensland (79 places and packages) and New South Wales (70 places and packages). Places and packages provided by multipurpose services and under the Aboriginal and Torres Strait Islander Aged Care Strategy were included earlier in this paper as part of the discussion of residential care and care package provision (see Tables 2,3, 5 and 6).

### **Importance of other services**

While each of these service types (nursing home type bed days, multi-purpose services and services approved under the Aboriginal and Torres Strait Islander Aged Care Strategy) involves a relatively small number of places, their concentration in rural and remote areas means that together they make an important contribution to geographic equity, particularly in some states or regions. Nursing home type beds were a significant source of assistance to people living in rural and remote regions of New South Wales and South Australia, and remote regions of Queensland, Tasmania and Western Australia. Multi-purpose centres were quite a significant provider of assistance in rural and remote Western Australia, rural and remote Victoria, rural New South Wales and remote South Australia. Places provided under the Aboriginal and Torres Strait Islander Aged Care Strategy are of smaller numbers overall, and were predominantly located in Melbourne, Brisbane, other metropolitan areas of Queensland, Adelaide, rural and remote regions of South Australia and New South Wales, and remote regions of the Northern Territory.

### **Expenditure**

Data on expenditure by region as well as state and territory are available for Commonwealth residential care and care packages, but not for HACC services. Table 14 presents data on Commonwealth recurrent expenditure on residential care and community care packages per 1,000 persons aged 70 and over in each of the four regions by state and territory. Nationally, expenditure is \$2.18 million per 1,000 persons aged 70 and over. However, for capital cities the figure is \$2.31 million, for other metropolitan \$2.09 million, for rural regions \$1.89 million, and for remote regions \$2.73 million.

Areas where expenditure was more than 20% below the national level were rural and remote South Australia, and rural Western Australia. Areas where expenditure was more than 20% above the national average were the Northern Territory, the remote areas of New South Wales and Victoria, and Hobart.

Table 15 presents data on Commonwealth government expenditure per residential aged care place in each of these regions. Overall, expenditure per residential place was lower in the remote regions – \$20,905 per place compared to \$24,072 nationally. Places in rural regions also received less funding per place than the national average at \$23,022, whereas those in other metropolitan regions received more than the national average (\$25,198). This pattern was generally followed in each of the states and territories, except for Victoria, where remote places received the highest level of funding (\$33,720 compared to a state average of

\$23,579). This finding suggests that places in remote regions are lower dependency places, and hence in receipt of lower levels of Commonwealth funding.

**Table 14: Commonwealth payments to residential services and community care package providers per 1,000 persons aged 70 years and over for the period 1998/1999 by geographic location <sup>(a)</sup>**

Region	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	<b>\$1,000,000</b>								
Capital	2.56	2.06	2.20	2.18	2.37	2.80	2.07	2.77	2.31
Other Metro	2.09	2.30	2.02	n/a	n/a	n/a	n/a	n/a	2.09
Rural	1.90	1.89	2.02	1.55	1.44	2.21	n/a	4.36	1.89
Remote	3.63	4.82	2.56	2.07	1.02	10.48	n/a	3.33	2.73
<b>Total</b>	<b>2.33</b>	<b>2.03</b>	<b>2.12</b>	<b>2.06</b>	<b>2.13</b>	<b>2.51</b>	<b>2.07</b>	<b>3.12</b>	<b>2.18</b>

(a) Regions based on PIE & HSH 1994.

Source: Derived from the Department of Health and Aged Care unpublished data.

**Table 15: Commonwealth recurrent funding per place for 1998/1999 by geographic region <sup>(a)</sup>**

Region	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	<b>per place</b>								
Capital	\$26,117	\$23,950	\$22,391	\$22,921	\$24,086	\$25,639	\$22,161	\$29,401	\$24,427
Other Metro	\$26,150	\$25,909	\$23,210	n/a	n/a	n/a	n/a	n/a	\$25,198
Rural	\$24,627	\$22,318	\$21,941	\$22,032	\$19,787	\$26,862	n/a	n/a	\$23,022
Remote	\$20,114	\$33,720	\$19,900	\$20,104	\$18,854	\$23,851	n/a	\$26,994	\$20,905
<b>Totals</b>	<b>\$25,736</b>	<b>\$23,579</b>	<b>\$22,259</b>	<b>\$22,671</b>	<b>\$23,259</b>	<b>\$26,301</b>	<b>\$22,161</b>	<b>\$28,118</b>	<b>\$24,072</b>

(a) Regions based on PIE & HSH 1994.

Source: Derived from Department of Health and Aged Care unpublished data.

## Conclusions

Previous research has documented a number of health and health-related disadvantages which accrue to people living in rural and remote areas of Australia. One important aspect of these analyses has concerned unequal access to health services. This paper has focused on older Australians and their access to aged care services, across state and territories and rural and remote areas.

Most older Australians, like the rest of the population, live in capital cities (62%). A substantial proportion (28%) live in rural areas, and very few (2%) in remote areas. Most residential care is also located in capital cities, with the level of supply substantially higher in capital cities (89 places per 1,000 persons aged 70 and over) and remote areas (88 places per 1,000 persons aged 70 and over) than in other metropolitan (79 places per 1,000 persons aged 70 and over) and rural (81 places per 1,000 persons aged 70 and over) areas. In particular, the areas with a lower than average supply of residential care were rural and remote areas in New South Wales, remote areas of Victoria, rural areas of Western Australia, rural and remote areas of South Australia and rural areas of Tasmania. In addition, Melbourne and other metropolitan regions of New South Wales had a lower than average supply of residential care. Levels of residential care provision were supplemented in remote areas by a relatively high level of care package provision, particularly in Queensland, Western Australia and the Northern Territory.

HACC services which deliver care in the community are an important source of assistance for large numbers of older people, and here the levels of provision are far higher in the remote areas (3,732 hours of assistance per 1,000 persons aged 70 and over) than elsewhere (for example, 1,449 hours of assistance per 1,000 persons aged 70 and over in capital cities). Rural areas (1,768 hours of assistance per 1,000 persons aged 70 and over) also have somewhat higher levels of provision than capital cities or other metropolitan areas. Areas with a higher than average supply of HACC services included several noted above as having a lower than average supply of residential care – these were the remote areas of New South Wales, Victoria, Western Australia and South Australia.

The rural area of Western Australia was the only region with a lower than average level of both HACC and residential care services.

Regions with a lower than average level of residential care and an average level of HACC services included rural areas in New South Wales and South Australia. Residents of these regions would also, however, have had some access to nursing home type patient care in public hospitals. Regions with a lower than average level of HACC services and an average level of residential care did not include any of the rural or remote areas in Australia.

In general the findings presented in this paper suggest a significant level of complementarity among different service types; where low levels of one service type exist there is compensation in the form of higher levels of other service types. The importance of multi-purpose services and nursing home type care in maintaining access to residential type care for people living in rural and remote regions is also clear. In particular, expenditure data reveal that remote regions receive the highest level of payment per 1,000 persons aged 70 and over. There is a lower level of expenditure in rural regions. This may, however, partly be explained by the services (multipurpose services and nursing home type patients) not included in the expenditure data reported here.

Finally, data on residential care expenditure show that beds in rural and remote regions are, in general, cheaper than those in capital cities or other remote areas. Recurrent Commonwealth funding per place in 1998–99 was \$20,900 for places in remote regions, \$23,000 for places in rural regions, \$24,400 for places in capital cities and \$25,200 for places in other metropolitan areas. As funding levels are tied to dependency, these data suggest that the average client dependency of residents in rural and remote areas is lower than that in capital cities and other metropolitan regions. This finding may be a consequence of the higher availability of what were previously hostels, and lower availability of nursing homes, in rural and remote regions.

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