

# Geographic regions

This chapter discusses the provision of health and community services workers across the geographic areas based on location of workplace. There are some factors that must be taken into consideration when comparing the number of health and community services workers across those areas. These include the placement of health care facilities, some blending of the roles of health and community services workers in more remote communities, the demographic characteristics of the populations in different regions of Australia and their patterns of service usage.

Because of the need for cost-effective utilisation of expensive equipment and/or to achieve and maintain clinical competence in complex and costly procedures, it may be feasible to have only a limited number of health care establishments, such as hospitals, providing certain specialised health services. These establishments are invariably located in large population centres, which will increase the number of health workers in those places – but these workers may service patients or clients from a much wider area.

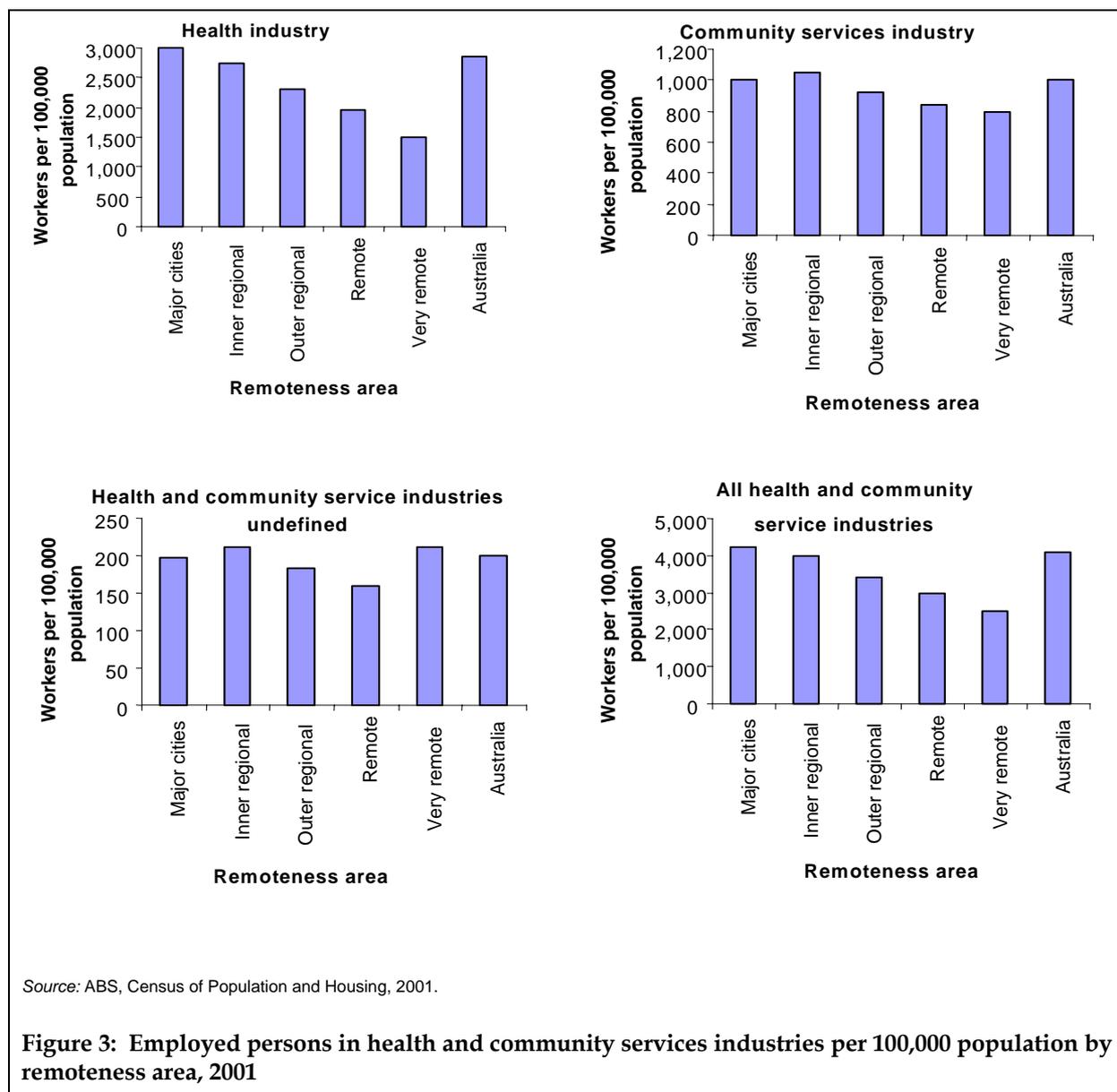
In less accessible areas, some occupations may partially take over some functions of other occupations. For example, certain registered nurses (nurse practitioners) are able to perform some of the functions of generalist practitioners, such as prescribing certain medications.

Patterns of use can vary between regions according to their different age, sex, disease profiles and other characteristics. For example, usage rates for communities with relatively large proportions of elderly people, very young children or women of child-bearing age would be expected to be higher than for, say, communities with high proportions of men and women in early adulthood, such as inner city areas (ABS 1999). The types of services would vary correspondingly – from aged care services and treatment of diseases that are prevalent in older age groups to family support services, obstetric care and paediatrics for young families.

Data in this publication are shown with two different regional classifications – ASGC remoteness areas and detailed statistical region structure (see Explanatory notes). Industry data, which includes employment for all support staff in addition to health and community services professionals, are shown by remoteness area. The data for the 105 identified health and community services occupations in this publication are shown by the more detailed statistical region classification.

## Industry by remoteness areas

In the health industries overall, nationally the Major cities had double the number of persons employed per 100,000 population than Very remote areas in Australia. There is considerable variation among the states and territories, however. It might be expected that the supply of health practitioners would decline with increasing remoteness, but only Western Australia and South Australia showed this pattern. However, Victoria does not have a Very remote area. In the Northern Territory the Remote area, which includes Alice Springs and its immediate hinterland, ranked third nationally behind the areas that include Adelaide and Hobart, and was well above the national average, while Outer regional Australia, which includes Darwin, was below the national average. The Very remote area in the Northern Territory had the lowest supply nationally of persons in health industries (Table A.27).



In the community services industries the national relative distribution of employed persons was much more even, with the greatest employment per 100,000 population in Inner regional areas – about one-third greater than in Very remote areas (Figure 3). Again there were large state variations, with Tasmania having about three times as many employed persons in Inner regional areas as in Remote areas, which had the lowest supply nationally of employed persons per 100,000 population (Table A.27).

When viewed by individual industry, the predominant pattern was for the number of employed persons per 100,000 population to decline with increasing remoteness. The decline was particularly marked for non-psychiatric hospitals (declining from 1,147 per 100,000 population in Major cities to 601 in Very remote areas), nursing homes (from 334 per 100,000 in Major cities to 71 in Very remote areas), general practice services (from 351 to 109 per 100,000), specialist medical services (from 147 to 15), dental services (from 169 to 35), pathology services (from 93 to 11), optometry and optical dispensing (from 53 to 1.7), physiotherapy services (from 48 to 7.2) and child care services (from 311 to 199).

**Table 11: Employed persons per 100,000 population: industry and remoteness, 2001**

| Industry                                 | Major cities of Australia | Inner regional Australia | Outer regional Australia | Remote Australia | Very remote Australia | Total          |
|--|---------------------------|--------------------------|--------------------------|------------------|-----------------------|----------------|
| Health services, undefined               | 215.7                     | 260.3                    | 257.5                    | 307.0            | 319.6                 | 233.8          |
| Hospitals and nursing homes, undefined   | 8.3                       | 10.6                     | 11.0                     | 14.7             | 10.5                  | 9.3            |
| Hospitals (except psychiatric hospitals) | 1,147.2                   | 994.5                    | 890.8                    | 816.0            | 600.9                 | 1,084.8        |
| Psychiatric hospitals                    | 13.0                      | 13.9                     | 5.6                      | 4.0              | 0.0                   | 12.2           |
| Nursing homes                            | 333.7                     | 380.0                    | 321.8                    | 144.1            | 70.9                  | 338.1          |
| Medical & dental services, undefined     | 14.3                      | 9.3                      | 7.7                      | 4.6              | 3.3                   | 12.4           |
| General practice medical services        | 350.5                     | 280.4                    | 227.5                    | 197.5            | 109.1                 | 320.0          |
| Specialist medical services              | 146.7                     | 104.8                    | 59.1                     | 26.4             | 15.0                  | 126.3          |
| Dental services                          | 168.3                     | 127.0                    | 104.3                    | 71.1             | 35.4                  | 151.0          |
| Other health services, undefined         | 15.7                      | 15.4                     | 11.2                     | 12.3             | 6.6                   | 15.1           |
| Pathology services                       | 93.0                      | 64.3                     | 46.7                     | 19.3             | 10.5                  | 80.6           |
| Optometry and optical dispensing         | 52.6                      | 43.8                     | 30.2                     | 14.1             | 1.7                   | 47.7           |
| Ambulance services                       | 36.6                      | 58.6                     | 54.0                     | 55.5             | 31.0                  | 43.8           |
| Community health centres                 | 93.0                      | 103.2                    | 105.3                    | 164.7            | 221.5                 | 99.7           |
| Physiotherapy services                   | 48.3                      | 37.3                     | 27.2                     | 21.8             | 7.2                   | 43.3           |
| Chiropractic services                    | 25.9                      | 30.5                     | 21.3                     | 10.4             | 1.7                   | 26.1           |
| Health services, nec                     | 242.4                     | 195.0                    | 132.8                    | 92.0             | 53.2                  | 218.4          |
| <i>Total health services</i>             | <i>3,005.4</i>            | <i>2,728.9</i>           | <i>2,314.0</i>           | <i>1,975.4</i>   | <i>1,498.2</i>        | <i>2,862.4</i> |
| Community services, undefined            | 76.7                      | 72.1                     | 65.2                     | 84.9             | 216.6                 | 76.6           |
| Child care services                      | 310.6                     | 304.9                    | 292.5                    | 288.6            | 198.8                 | 307.5          |
| Community care services, undefined       | 22.7                      | 20.2                     | 20.3                     | 18.7             | 33.8                  | 22.2           |
| Accommodation for the aged               | 86.7                      | 110.7                    | 98.8                     | 49.4             | 21.0                  | 92.2           |
| Residential care services, nec           | 99.2                      | 100.1                    | 78.2                     | 88.3             | 55.9                  | 97.6           |
| Non-residential care services, nec       | 412.4                     | 441.5                    | 366.1                    | 307.9            | 270.3                 | 413.5          |
| <i>Total community services</i>          | <i>1,008.3</i>            | <i>1,049.6</i>           | <i>921.0</i>             | <i>837.8</i>     | <i>796.4</i>          | <i>1,009.5</i> |
| Health and community services, undefined | 197.6                     | 212.8                    | 183.3                    | 160.7            | 211.6                 | 200.4          |
| <b>Total</b>                             | <b>4,211.4</b>            | <b>3,991.4</b>           | <b>3,418.3</b>           | <b>2,973.9</b>   | <b>2,506.2</b>        | <b>4,072.3</b> |

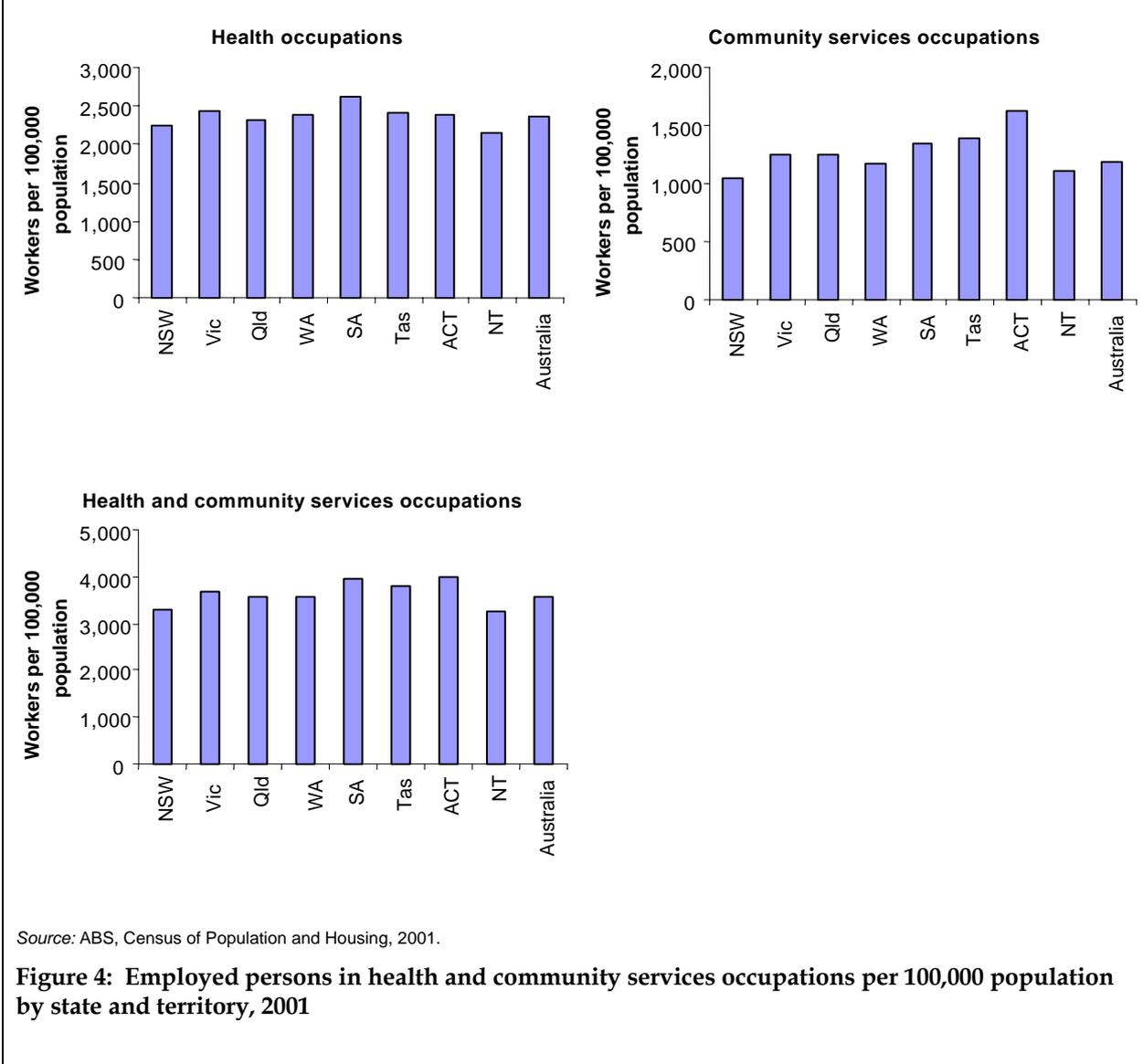
Source: ABS, Census of Population and Housing, 2001.

The pattern of employment decline with increasing remoteness was reversed for community health centres (increasing from 93 per 100,000 in Major cities to 222 per 100,000 in Very remote areas), and health services undefined (from 216 in Major cities to 320 per 100,000 in Very remote areas). For ambulance services, the pattern was different again: employment was higher in higher in the Inner and Outer regional areas and the Remote areas (all over 54 per 100,000) than in the Major cities or Very remote areas (36.6 and 31.0 per 100,000, respectively) (Table 11).

## Occupation by state/territory and region

The national supply of people employed in health occupations in 2001 was 2,354 health workers per 100,000 population. The Northern Territory, with 2,150 health workers per 100,000 population, was 8.7% below the national average, New South Wales with 2,249 per

100,000 was 4.4% below and Queensland with 2,320 was 1.4% below. The other states and territories were all above the national average (Figure 4).



Nationally, there were 1,228 employed persons in the community services occupations per 100,000 population in 2001. New South Wales (1,077 per 100,000) and Western Australia (1,201 per 100,000) were below the national average.

Data are available by statistical region of workplace for the various occupations. The five major capital cities have data available for regions within the city area but Hobart, Darwin and Canberra do not have smaller regions identified within the city.

The central city regions of the major cities had the highest apparent supply of health practitioners, which is likely to be due to the centralisation of major hospitals and specialist services in the inner city core, but these provide services to a much wider geographical area. The 66,700 people living in the very small city core of Brisbane had the highest apparent supply in Australia, with 22,290 practitioners per 100,000 population. There was a similar picture in the other major capital cities, with Central Metropolitan Perth (13,282 per 100,000 population), Inner Melbourne (9,454), Eastern Adelaide (6,551), Western Inner Brisbane

(5,185) and Inner Sydney (4,328). The same inner city regions also had the largest apparent supply of generalist medical practitioners, dentists and retail pharmacists, who supply the hospitals located in the inner city and the large daytime workforce (Table A.32).

Similarly, the supply of community services workers was relatively high in the inner city cores of the five major capital cities, but some areas outside the capital cities also ranked highly. The largest supply of community services workers was in the city core of Brisbane (3,696 per 100,000), and the next largest was in the Central Metropolitan area of Perth (2,657 per 100,000). This was closely followed by Central West Mackay-Fitzroy-Central West in Queensland (2,384 per 100,000), Inner Melbourne (2,188 per 100,000) and Nowra-Bomaderry in New South Wales (2,072 per 100,000).

Because of the propensity for the large hospitals with specialist and teaching facilities to be located in the inner city or older established areas close to the city centres, it is not always appropriate to compare supply in those areas with other areas, including the outer fringes of the cities. This is because the facilities service patients from other parts of the city and the rest of the state. It is, however, valid to compare supply between outer city areas and other areas outside capital cities.

Some of the rapidly growing regions on the outskirts of all five major capital cities (ABS 2000) had the lowest supply (in terms of numbers per 100,000 population) of health and community services professionals of any region within their respective states. The regions with lowest supply of health practitioners were, in ascending order, Beaudesert Shire Part A (Brisbane), Pine Rivers Shire (Brisbane), Gold Coast City Part A, Outer South Western Sydney, Logan City, Illawarra Statistical Division balance (Wingecarribee, part Shoalhaven), North Western Melbourne, Eastern Inner Brisbane, North Metropolitan Perth and Redland Shire (Brisbane).

As noted above, the demographic structure of a region can have an influence on the usage of particular services by the region's population. A region with small numbers of aged and large numbers of children will have different service usage from a region with large numbers of aged persons. The analysis below looks at the regions in each state and territory with the lowest supply of health practitioners and community services workers, with some reference to the population demographics in the region being discussed. For health, the key occupations of generalist medical practitioner, retail pharmacist, dentist, and ambulance officer and intensive care paramedic are used as indicators, and for community services, the child and youth services occupations and the aged or disabled care occupation are used.

Much of the information that follows is sourced from Tables A.32, A.33 and A.34.

## **New South Wales**

In 2001, 20.8% of the New South Wales population was less than 15 years of age and 13.1% was 65 or more years of age. The region of Outer South Western Sydney had the state's highest proportion (26.0%) of those less than 15 years and lowest proportion (6.8%) of those aged 65 or more. It was followed by North Western Sydney (24.6% and 8.1% respectively), and Fairfield-Liverpool (23.8% and 8.7% respectively). All regions outside Sydney and Newcastle had higher proportions of younger and older people than the state average.

The supply of health workers and community services workers overall were each lower in the outer areas of Sydney (2,103 per 100,000 and 941 per 100,000 population, respectively) than in the rest of the state outside Sydney (2,225 and 1,246, respectively) (Table 12). The supply of the key occupations of generalist medical practitioner, retail pharmacist and

dentist in outer city areas were, on the other hand, higher than in the rest of the state, but this masked areas of very low supply in some of the rapidly growing outer areas of Sydney.

For example, the regions of Outer South Western Sydney (Camden, Campbelltown, Wollondilly) and the adjacent rural area of the Illawarra region had the lowest supply of health professionals (1,106 and 1,136 respectively compared to 2,249 per 100,000 population for the state) of any region in New South Wales.

The supply of the key occupations of generalist medical practitioner, retail pharmacist and dentist in Outer Western Sydney (83, 43 and 19 per 100,000 population respectively) were all in the lowest decile nationally. This was in contrast to the relatively high supply of ambulance officers and intensive care paramedics (being in the fourth lowest decile).

**Table 12: Supply of selected health and community services workers per 100,000 population, New South Wales, 2001**

| Occupation                                  | Capital city         |                      | Rest of state <sup>(c)</sup> | Total          |
|---|----------------------|----------------------|------------------------------|----------------|
|   | Inner <sup>(a)</sup> | Outer <sup>(b)</sup> |                              |                |
| Generalist medical practitioner             | 364.7                | 162.5                | 122.8                        | 156.8          |
| Retail pharmacist                           | 116.4                | 70.2                 | 52.1                         | 65.5           |
| Dentist                                     | 118.2                | 43.2                 | 27.0                         | 40.5           |
| Ambulance officer and paramedic             | 78.3                 | 22.6                 | 54.6                         | 37.1           |
| <b>Total health occupations</b>             | <b>4,327.5</b>       | <b>2,102.8</b>       | <b>2,224.8</b>               | <b>2,249.0</b> |
| Child and youth services                    | 566.8                | 485.2                | 496.5                        | 493.1          |
| Aged or disabled care                       | 106.3                | 121.7                | 303.3                        | 188.9          |
| <b>Total community services occupations</b> | <b>1,427.4</b>       | <b>940.5</b>         | <b>1,246.1</b>               | <b>1,076.7</b> |

(a) Comprises the statistical region of Inner Sydney.

(b) Comprises the statistical regions of Eastern suburbs, St George–Sutherland, Canterbury–Bankstown, Fairfield–Liverpool, Outer South Western Sydney, Inner Western Sydney, Central Western Sydney, North Western Sydney, Lower Northern Sydney, Central Northern Sydney, Northern Beaches and Gosford–Wyong.

(c) Comprises all other statistical regions in New South Wales

Source: ABS, Census of Population and Housing, 2001.

The state average supply of community services workers in New South Wales was 1,077 per 100,000 population. Supply overall, and for the key occupations of child and youth services and aged or disabled care, in outer areas of Sydney was much lower than in the rest of the state outside Sydney (Table 12).

The rural regions had above the state average in most categories of community service occupations. The relative numbers of persons employed in aged or disabled care in rural regions ranged up to double the state average (189 per 100,000 population) with only one region in Sydney (Northern Beaches) exceeding the state average. Canterbury–Bankstown, Fairfield–Liverpool, St George–Sutherland and North Western Sydney are the regions in the state with the lowest supply of community services workers in nearly all occupation groups. Fairfield–Liverpool (332 per 100,000 population) and Canterbury–Bankstown (348 per 100,000 population) had the lowest supply in the state of workers providing child and youth services compared to the state average of 493 per 100,000 population.

## Victoria

In Victoria, 20.3% of the population was less than 15 years of age and 13.1% was aged 65 or more years in 2001. The rural regions outside Melbourne had above the average proportion of the young and older population (similar to New South Wales). South Eastern Melbourne had the highest proportion of children (23.7%) and the lowest proportion of older people (9.3%) of any region in the state.

Victoria was comparatively well supplied with health practitioners (2,424 per 100,000) but, as in New South Wales, the overall supply of health workers and community services workers in outer Melbourne (1,866 per 100,000 and 874 per 100,000, respectively) were each lower than in the remainder of Victoria outside Melbourne (2,475 per 100,000 and 1,600 per 100,000, respectively) (Table 13).

For the key health occupations of generalist medical practitioner, retail pharmacist and dentist, overall supply in outer Melbourne was higher than in the rest of the state (but only slightly so for generalist medical practitioners). The supply of ambulance officers and paramedics, on the other hand, was lower in outer Melbourne than in the rest of Victoria (Table 13).

At a more local level, the region of North Western Melbourne, with 1,145 health practitioners per 100,000 population, was in the lowest decile nationally. South Eastern Melbourne (1,292 per 100,000 population), Outer Western Melbourne (1,394 per 100,000 population) and Outer Eastern Melbourne (1,565 per 100,000 population) were also relatively low.

**Table 13: Supply of selected health and community services workers per 100,000 population, Victoria, 2001**

| Occupation                                  | Capital city         |                      | Rest of state <sup>(c)</sup> | Total          |
|---|----------------------|----------------------|------------------------------|----------------|
|   | Inner <sup>(a)</sup> | Outer <sup>(b)</sup> |                              |                |
| Generalist medical practitioner             | 625.1                | 129.1                | 122.9                        | 152.8          |
| Retail pharmacist                           | 133.5                | 63.3                 | 53.1                         | 64.1           |
| Dentist                                     | 127.2                | 34.8                 | 25.2                         | 36.9           |
| Ambulance officer and paramedic             | 31.8                 | 27.2                 | 51.6                         | 34.2           |
| <b>Total health occupations</b>             | <b>9,453.9</b>       | <b>1,866.4</b>       | <b>2,475.1</b>               | <b>2,424.4</b> |
| Child and youth services                    | 868.1                | 386.9                | 497.1                        | 499.9          |
| Aged or disabled care                       | 282.0                | 208.8                | 489.9                        | 290.6          |
| <b>Total community services occupations</b> | <b>2,269.2</b>       | <b>874.0</b>         | <b>1,600.5</b>               | <b>1,298.1</b> |

(a) Comprises the statistical regions of Inner Melbourne and Inner Eastern Melbourne.

(d) Comprises the statistical regions of North Western Melbourne, North Eastern Melbourne, Southern Melbourne, Outer Eastern Melbourne, South Eastern Melbourne and Mornington Peninsula.

(b) Comprises all other statistical regions in Victoria.

Source: ABS, Census of Population and Housing, 2001.

The regions with the lowest supply of generalist medical practitioners in Victoria compared to the state supply of 153 per 100,000 were North Western Melbourne (99), Outer Eastern Melbourne (100), South Eastern Melbourne (110) and Loddon-Mallee (also 110) and Goulburn-Ovens-Murray (108 per 100,000 population).

The state average of retail pharmacists was 64 per 100,000 population and the region with the lowest supply was Barwon-Western District with 49 per 100,000. South Eastern Melbourne

had the lowest supply within Melbourne (52 per 100,000), and the supply of pharmacists in all the rural regions of Victoria were equal to or lower than that.

North Western Melbourne had the lowest supply of dentists (22 per 100,000 population compared to the state figure of 37) with Goulburn–Ovens–Murray, Central Highlands–Wimmera and Gippsland only slightly better at 22, 23 and 23 per 100,000 population, respectively.

North Eastern, Southern and North Western Melbourne had a similar supply of ambulance officers, mostly intensive care paramedics, 12, 12 and 14 per 100,000 population respectively, as the state total of 34 per 100,000.

The key community services occupations of child and youth services, and particularly aged or disabled care, were in lower supply in outer Melbourne areas taken as a whole (387 and 209 per 100,000, respectively), than in the rest of the state (497 and 490 per 100,000, respectively) (Table 13).

The supply of community services occupations overall in rural regions was above the Victoria average of 1,298 per 100,000 population. Aged or disabled care worker supply in rural regions ranged from Loddon–Mallee at 289 per 100,000 population, just below the state average of 291 per 100,000 population, to Central Highlands–Wimmera with 387 per 100,000. The proportion of young people in all rural regions was above the state average, but the supply of child and youth service workers was below or around the state average of 500 per 100,000 population.

South Eastern Melbourne was the region with the lowest supply of community service workers (998 per 100,000 population). North Western Melbourne, Outer Western Melbourne and Mornington Peninsula closely followed it with 1,015, 1,019 and 1,031 per 100,000 population, respectively. Victoria's lowest supply of child and youth service workers of 419 per 100,000 population was in the Barwon–Western District. This closely followed by North Western Melbourne (427), which had an above-average proportion of young people. The lowest supply of aged and disabled carers (129 per 100,000 population) was in South Eastern Melbourne, which had the lowest proportion of older people (9.3%).

## Queensland

The Queensland population in 2001 included 21.6% of people aged less than 15 years and 11.7% of those aged 65 or more years. North West Queensland and Beaudesert Shire Part A were the regions with the highest proportion of young people, 26.6% and 26.4% respectively, and the lowest proportion of older people, 5.9% and 4.7% respectively. Most rural regions of Queensland have a proportion of young people greater than the state average, and of older people less than the state average. The region South and East BSD Balance (Logan City, Gold Coast City Part A, Beaudesert Shire Part A and Redland Shire) had a relatively large proportion of young people and a small proportion of older people.

There were 2,320 health practitioners and 1,275 community services workers per 100,000 population overall in Queensland. Once more, supply in the outer areas of Brisbane was lower than in the rest of the state outside Brisbane, markedly so for health practitioners (1,557 per 100,000 in outer Brisbane compared with 2,106 per 100,000 in the rest of the state), but also for community services workers (1,158 and 1,268 per 100,000, respectively).

For the key health occupations, only retail pharmacists were in greater supply in outer Brisbane areas overall than in the rest of the state. For the key community services occupations, there was a higher supply of child and youth services workers in the outer areas

of Brisbane, the only state where this was the case, but a much lower supply of aged or disabled care workers than in the rest of the state. This reflects the older age profile of the population outside Brisbane and the younger age profile of those living in the rapidly growing suburbs on the outskirts of Brisbane.

**Table 14: Supply of selected health and community services workers per 100,000 population, Queensland, 2001**

| Occupation                                  | Capital city         |                      | Rest of state <sup>(c)</sup> | Total          |
|---|----------------------|----------------------|------------------------------|----------------|
|   | Inner <sup>(a)</sup> | Outer <sup>(b)</sup> |                              |                |
| Generalist medical practitioner             | 342.0                | 111.4                | 123.9                        | 142.5          |
| Retail pharmacist                           | 115.8                | 57.0                 | 50.7                         | 59.8           |
| Dentist                                     | 82.9                 | 31.2                 | 32.4                         | 37.3           |
| Ambulance officer and paramedic             | 31.8                 | 32.6                 | 53.2                         | 43.7           |
| <b>Total health occupations</b>             | <b>5,966.1</b>       | <b>1,557.0</b>       | <b>2,105.8</b>               | <b>2,319.9</b> |
| Child and youth services                    | 740.6                | 618.9                | 602.6                        | 622.9          |
| Aged or disabled care                       | 284.4                | 199.0                | 305.1                        | 265.6          |
| <b>Total community services occupations</b> | <b>1,696.4</b>       | <b>1,158.1</b>       | <b>1,268.2</b>               | <b>1,274.7</b> |

(c) Comprises the statistical regions of Brisbane City Inner Ring (City Core, Northern Inner, Eastern Inner, Southern Inner and Western Inner).

(e) Comprises the statistical regions of Brisbane City Outer Ring (Northern Outer, Eastern Outer, Southern Outer and Western Outer).

(d) Comprises all other statistical regions in Queensland.

Source: ABS, Census of Population and Housing, 2001.

At a more local level, the region South and East Brisbane Statistical Division (BSD) Balance had less than half the national average supply of health practitioners and the lowest overall supply of any region in Australia. There were around 105 generalist medical practitioners per 100,000 population in the region compared to the state average of 143 per 100,000 and the national average of 153.

Beaudesert, Pine Rivers Shire and Logan City had between 26 and 45 pharmacists per 100,000 compared to the state average of 68 and the national average of 73 per 100,000 population. The regions of Fitzroy, Northern and Wide Bay–Burnett also had fewer than 45 pharmacists per 100,000 population.

Logan City was the Queensland region with the lowest supply of dentists at 22 compared to the state average of 37 per 100,000 population. The state average supply of ambulance officers and intensive care medics was 44 per 100,000 population. South and East Moreton (29 per 100,000 population) had the lowest supply in the state. All regions within Brisbane had around 30 ambulance workers per 100,000 population compared to the regions in the rest of the state, which had between 50 and 60 per 100,000 population.

Queensland had a higher overall supply of 1,275 community services workers per 100,000 population than the national average of 1,228 per 100,000 population. North and West Moreton (Caloundra, Ipswich, Gatton, Noosa, Maroochy) with 979 community service workers per 100,000 population was the region with the lowest overall supply. The state supply of child and youth services workers (623 per 100,000 population) was well above the national average and the third highest in Australia. The relative distribution among the regions of child and youth services workers and aged and disabled carers was generally aligned with the distribution of the target populations.

## Western Australia

Western Australia had a very similar population age profile to Queensland. In 2001, 22% of the Western Australia population was aged less than 15 years and 11% was aged 65 years or more. There are only two regions in WA outside Perth – Lower WA and the Remainder of the state. The Remainder of the state has a population of 231,900 scattered over a huge area with population centres separated by large distances – the treatment of this as one region will mask differences in supply between particular small regions. The Remainder of the state had the highest proportion of young people (26%) and the lowest proportion of older people (7.5%) and Central Metropolitan (Perth) had the lowest proportion of young people (16%) and the highest of older people (14%).

In Western Australia, the overall supply of health practitioners was 2,397 per 100,000 and the supply of community services workers was 1,201 per 100,000. As with the other states discussed above, overall supply of both health practitioners and community services workers in the outer suburbs of Perth (1,501 and 1,016 per 100,000, respectively) were lower than in the rest of the state outside Perth (2,049 and 1,314 per 100,000, respectively). For all of the key health occupations, overall supply in the outer regions of Perth was higher than in the rest of the state, but for the key community services occupations the reverse was the case. There were differences, however, between different outer-city areas.

**Table 15: Supply of selected health and community services workers per 100,000 population, Western Australia, 2001**

| Occupation                                  | Capital city         |                      | Rest of state <sup>(c)</sup> | Total          |
|---|----------------------|----------------------|------------------------------|----------------|
|   | Inner <sup>(a)</sup> | Outer <sup>(b)</sup> |                              |                |
| Generalist medical practitioner             | 741.5                | 104.2                | 100.6                        | 143.7          |
| Retail pharmacist                           | 141.1                | 63.9                 | 46.1                         | 64.0           |
| Dentist                                     | 161.7                | 34.3                 | 28.9                         | 40.9           |
| Ambulance officer and paramedic             | 24.9                 | 18.5                 | 17.3                         | 18.6           |
| <b>Total health occupations</b>             | <b>13,281.7</b>      | <b>1,500.6</b>       | <b>2,049.0</b>               | <b>2,397.3</b> |
| Child and youth services                    | 746.7                | 425.3                | 482.1                        | 461.0          |
| Aged or disabled care                       | 560.9                | 226.2                | 364.8                        | 284.8          |
| <b>Total community services occupations</b> | <b>2,657.2</b>       | <b>1,015.9</b>       | <b>1,314.1</b>               | <b>1,200.5</b> |

(e) Comprises the statistical region of Central Metropolitan.

(f) Comprises the statistical regions of East Metropolitan, North Metropolitan, South West Metropolitan and South East Metropolitan.

(f) Comprises all other statistical regions in Western Australia.

Source: ABS, Census of Population and Housing, 2001.

North Metropolitan Perth had the lowest overall supply of health practitioners in Western Australia (1,235 practitioners per 100,000 population) followed by East Metropolitan (1,257 per 100,000). Except for the very high concentration of generalist medical practitioners in Central Metropolitan Perth (742 per 100,000) and South West Metropolitan (143 per 100,000), the distribution was relatively even in the range 85–98 per 100,000. Retail pharmacists were more concentrated in Perth, with Lower Western WA and the balance of Western Australia at 50 and 40 per 100,000 respectively – well below the state average of 64 per 100,000 population. Dentists were relatively evenly distributed among most Perth regions (except Central Metropolitan Perth, with the largest supply, at 162 per 100,000) and Lower Western WA, in the range 30–36 per 100,000, with the Balance of WA having only 23 per 100,000 population.

Western Australia had the lowest supply of ambulance officers and intensive care paramedics of any state and territory at 19 per 100,000 population – this was little more than half the 35 per 100,000 national average, and well behind the ACT and Tasmania (both 28 per 100,000).

Western Australia had an average of 1,201 community service workers per 100,000 population. Community services workers of all occupation groups were relatively evenly distributed among the regions of Western Australia. The exceptions were Central Metropolitan, which had more than twice the state average supply, and North Metropolitan and South West Metropolitan, which had appreciably lower supply than the other regions. The concentration of workers in the ‘other community services’ occupations in Central Metropolitan was the main contributor to the higher overall supply there, raising the state average.

## South Australia

South Australia has the relatively oldest population of any state or territory with 19.6% people aged less than 15 years and 14.7% people aged 65 years or more, compared to the national proportions of 20.5% and 12.6% respectively.

South Australia had the highest supply of health workers overall (2,614 per 100,000, or 11% more than the national average) of all the states and territories, and the fourth highest supply, behind the Australian Capital Territory, the Northern Territory and Tasmania, of community services workers (1,371 per 100,000). The South Australian population has the oldest age profile in Australia and this may mean there is an increased demand for some health services.

**Table 16: Supply of selected health and community services workers per 100,000 population, South Australia, 2001**

| Occupation                                  | Capital city <sup>(a)</sup> | Rest of state <sup>(b)</sup> | Total          |
|---|-----------------------------|------------------------------|----------------|
| Generalist medical practitioner             | 189.7                       | 106.2                        | 167.2          |
| Retail pharmacist                           | 64.5                        | 45.9                         | 59.5           |
| Dentist                                     | 48.7                        | 26.2                         | 42.7           |
| Ambulance officer and paramedic             | 28.4                        | 46.7                         | 33.3           |
| <b>Total health occupations</b>             | <b>2,870.9</b>              | <b>1,916.1</b>               | <b>2,613.5</b> |
| Child and youth services                    | 503.7                       | 486.8                        | 499.2          |
| Aged or disabled care                       | 382.8                       | 538.3                        | 424.7          |
| <b>Total community services occupations</b> | <b>1,353.2</b>              | <b>1,419.2</b>               | <b>1,371.0</b> |

(a) Comprises the statistical regions of Northern Adelaide, Western Adelaide, Eastern Adelaide and Southern Adelaide.

(b) Comprises all other statistical regions in South Australia.

Source: ABS, Census of Population and Housing, 2001.

It was not possible to distinguish between areas in the inner and outer areas of Adelaide, as many of the boundaries incorporated sections of both. Overall supply of health practitioners was higher in the capital city than the rest of the state, while for community services workers supply was marginally lower in Adelaide than in the rest of the state.

Northern Adelaide was the region with the lowest supply of health practitioners in the state – 1,323 per 100,000 population compared to the state average of 2,614 per 100,000 population. This was largely due to the small number of nurses in the region as the supply of most other health practitioners exceeded the supply in the rural regions.

South Australia had an overall supply of 167 generalist medical practitioners per 100,000 population, with North and Western SA the region having the lowest at 92 per 100,000 population. South Australia had the second lowest supply of retail pharmacists at 60 per 100,000 population with Queensland (also 60). Retail pharmacists were concentrated in Eastern and Western Adelaide (95 and 72 per 100,000 respectively) with all other regions below the state average and the supply decreasing with remoteness to a low of 39 per 100,000 in North and Western SA.

There were 43 dentists per 100,000 population in South Australia – above the national average of 39 per 100,000 population. Dentists were concentrated in Eastern Adelaide with all other regions in the range 23–36 per 100,000.

The supply of ambulance officers and intensive care paramedics in Eastern Adelaide at 76 per 100,000 population was in the top decile nationally. The rural areas were relatively well served with ambulance personnel, being around or above the national average, but Northern Adelaide had one of the lowest supplies in Australia with 11 per 100,000 population.

South Australia had an average of 1,371 community services workers in 2001. The distribution of community services workers was relatively even throughout most regions of South Australia. The exception was Eastern Adelaide, which was more than 50% overall above the state average and ranged from 37% above the average in child and youth services to more than twice the state average supply in family services. The rural region of Southern and Eastern South Australia was 30% below the state average and was below in all community services groups.

## Tasmania

The regional populations in Tasmania were relatively homogenous without any region showing a much different age structure. The proportion of Tasmania's population aged 65 or more years (13.9%) was above the national average and second only to South Australia. Unlike South Australia, Tasmania (21.2%) also had above the national average of those aged less than 15 years.

**Table 17: Supply of selected health and community services workers per 100,000 population, Tasmania, 2001**

| Occupation                                  | Capital city   | Rest of state  | Total          |
|---|----------------|----------------|----------------|
| Generalist medical practitioner             | 303.1          | 125.5          | 148.5          |
| Retail pharmacist                           | 135.6          | 57.0           | 66.4           |
| Dentist                                     | 47.0           | 19.6           | 23.0           |
| Ambulance officer and paramedic             | 58.1           | 30.6           | 28.4           |
| <b>Total health occupations</b>             | <b>4,901.7</b> | <b>2,213.9</b> | <b>2,401.1</b> |
| Child and youth services                    | 483.0          | 465.1          | 473.9          |
| Aged or disabled care                       | 426.8          | 512.3          | 470.4          |
| <b>Total community services occupations</b> | <b>1,147.3</b> | <b>1,404.2</b> | <b>1,425.3</b> |

Source: ABS, Census of Population and Housing, 2001.

There were 2,401 health practitioners per 100,000 and 1,425 community services workers per 100,000 overall in Tasmania. The supply of health practitioners was higher in Hobart (4,902 per 100,000) than in the rest of the state (2,214), but the reverse was the case for community services workers (1,147 per 100,000 in Hobart, compared with 1,404 per 100,000 in the rest of Tasmania). Hobart also could not be split into its inner and outer regions for comparison.

Health practitioners were reasonably uniformly distributed across Tasmania compared with the other states and territories.

The Mersey-Lyell region was below the state average of health practitioners (1,847 per 100,000, compared with 2,401 per 100,000) and also across most health occupations except for ambulance officers, where it was just above the state average.

With 1,425 community service workers per 100,000 population, Tasmania was above the national average. Mersey-Lyell was below the state average (below the state average for child and youth services and well below for family services workers), but otherwise the distribution of community services workers was relatively uniform throughout the state.

## Australian Capital Territory

The Australian Capital Territory (ACT) population had close to the national average proportion of people aged less than 15 years, and with 8.5% of the population aged 65 or more years was well below the national average of older people (12.6%). The Australian Capital Territory population was the second youngest nationally in 2001.

**Table 18: Supply of selected health and community services workers per 100,000 population, Australian Capital Territory and Northern Territory, 2001**

| Occupation                                  | ACT            | Northern Territory |                |                |
|---|----------------|--------------------|----------------|----------------|
|   |                | Capital city       | Rest of state  | Total          |
| Generalist medical practitioner             | 175.5          | 201.2              | 118.9          | 156.3          |
| Retail pharmacist                           | 60.6           | 56.2               | 16.6           | 34.6           |
| Dentist                                     | 50.3           | 43.3               | 20.5           | 30.8           |
| Ambulance officer                           | 8.1            | 17.5               | 23.4           | 20.7           |
| Intensive care ambulance paramedic          | 20.0           | 16.4               | 13.6           | 14.9           |
| Ambulance officer and paramedic             | 28.1           | 33.9               | 37.0           | 35.6           |
| <b>Total health occupations</b>             | <b>2,377.8</b> | <b>2,627.6</b>     | <b>1,751.5</b> | <b>2,149.7</b> |
| Child and youth services                    | 891.9          | 717.2              | 597.8          | 661.4          |
| Aged or disabled care                       | 292.3          | 172.6              | 269.9          | 218.0          |
| <b>Total community services occupations</b> | <b>1,694.2</b> | <b>1,467.2</b>     | <b>1,728.6</b> | <b>1,589.3</b> |

Source: ABS, Census of Population and Housing, 2001.

The Australian Capital Territory is treated as a single entity and should be compared with capital cities in the other states and territories. It does not have a sizeable rural population, but is surrounded by the South Eastern region of New South Wales, for which it is the centre for specialist medical services. In 2000-01 some 23.4% of public hospital patients and 20.3% of private hospital patients came from New South Wales (AIHW 2001). The supply of health practitioners in the Australian Capital Territory, at 2,378 per 100,000 population, was just above the national average of 2,354 per 100,000 population.

With 1,694 community services workers per 100,000 population, the Australian Capital Territory had the highest overall supply of any state or territory, but was lower than any other inner capital city region except Sydney. The ACT had a relatively large supply of 892 child and youth services workers per 100,000 population compared to the national average of 524 per 100,000. The ACT also had above the national average supply of aged and disabled carers.

## **Northern Territory**

The Northern Territory population had the youngest age profile in Australia, with 25.8% of the population aged less than 15 years and 3.9% aged 65 or more years. Indigenous people made up 28.8% of the Northern Territory population in June 2001 (ABS 2003a).

Overall supply of health practitioners was 2,150 per 100,000 in the Northern Territory, and there were 1,589 community services workers per 100,000. As with Adelaide and Hobart, Darwin could not be split into its inner and outer regions for comparison. Except for ambulance officers, supply of health practitioners and was higher in Darwin than the rest of the Northern Territory. The opposite was true for community services: except for child and youth services workers, supply of community services workers was lower in Darwin than the rest of the Northern Territory.

The supply of most health practitioners in the Northern Territory was below the national average but the territory was relatively well supplied with generalist medical practitioners. With 172 generalist medical practitioners per 100,000, Darwin was well above the national average (153), and the Balance NT region (137 per 100,000) was higher than most ex-metropolitan regions in the other states.

The supply of dentists in Darwin (37 per 100,000) was just under the national average (39), and well above the supply in the Balance NT region (21).

Retail pharmacists were in relatively short supply in the Northern Territory (35 per 100,000 compared with 63 per 100,000 nationally), and the Balance NT at 16 per 100,000 population was about one-quarter the national average and well below the next lowest region which had 26 per 100,000 population.

The supply of ambulance officers and intensive care paramedics in Darwin was lower than the national average (35), and evenly split between ambulance officers and paramedics at 15 and 14 per 100,000 population respectively. The Balance NT was appreciably higher (41 per 100,000).

The Northern Territory was second to the Australian Capital Territory for overall supply of community services workers and, except for aged and disabled carers, was above the national average in all of the groupings shown in this publication. The Northern Territory had above the national average supply of child and youth services workers and below the national average for aged and disabled carers, as could be expected given the relative proportions of the client groups in the territory's population. Relative to population, Darwin had fewer community services workers, with the exception of child and youth services, than the Balance of the Northern Territory.