3 The pharmacy labour force

3.1 Employed pharmacists

There were 18,853 registrations of pharmacists in Australia in 1999 according to the state and territory registration boards, which included 1,220 multi-state registrations (Figure 1, Table A.1). The pharmacy labour force comprised 15,176 pharmacists, of whom 14,747 (97.2%) were employed, 170 (1.1%) were on extended leave and 259 (1.7%) were looking for work in pharmacy. The 14,747 employed pharmacists equates to 77.7 pharmacists per 100,000 population across Australia (Table 2).

Of the 14,747 employed pharmacists, 11,829 (80.2%) were community (retail) pharmacists, 2,093 (14.2%) were hospital or clinic pharmacists, and 255 (1.7%) were industrial pharmacists. A further 191 (1.3%) were administrators, 98 (0.7%) were teachers or educators and 282 (1.9%) worked in other occupations (Table A.2).

Table 2: Employed pharmacists and full-time equivalent pharmacists, states and territories, 1999

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Population ('000)[(a)]	6,438.6	4,700.7	3,508.6	1,854.4	1,499.2	472.0	313.8	194.2	18,984.2
Employed pharmacists	5,430	3,703	2,531	1,344	996	399	260	83	14,747
FTE(resources) pharmacists	4,559	3,123	2,196	1,111	871	342	229	77	12,508
FTE(supply) pharmacists	5,792	3,891	2,836	1,415	1,080	425	283	92	15,815
				(number per 100,000 population)					
Employed pharmacists	84.3	78.8	72.1	72.5	66.4	84.5	83.0	42.8	77.7
FTE(resources) pharmacists	70.8	66.4	62.6	59.9	58.1	72.4	72.9	39.6	65.9
FTE(supply) pharmacists	90.0	82.8	80.8	76.3	72.0	90.1	90.2	47.4	83.3

(a) Estimated resident population as at 30 June 1999.

Sources: AIHW Pharmacy Labour Force Survey 1999; ABS.

Raw counts of the number of people employed in any occupational group do not, by themselves, give an accurate indication of the labour supply in that occupation, because some people work much shorter hours than others. Between 1996 and 1999 the pharmacy labour force grew by 6.6%, but the average hours worked fell by 1.6% (Table 3).

Table 3: Employed pharmacists: average hours worked per week, 1996 and 1999

Pharmacists/hours worked	1996	1999	Per cent change 1996 to 1999
Number of employed pharmacists	13,834	14,747	6.6
Average number of hours worked	38.4	37.8	–1.6
FTE(supply) pharmacists	14,719	15,815	7.5

Sources: AIHW Pharmacy Labour Force Survey 1996 and 1999.

For this reason, it is more appropriate to assess the supply of labour through numbers of full-time equivalent (FTE) pharmacists, which have been adjusted for the number of hours worked. Using full-time equivalent numbers also allows meaningful comparisons to be made

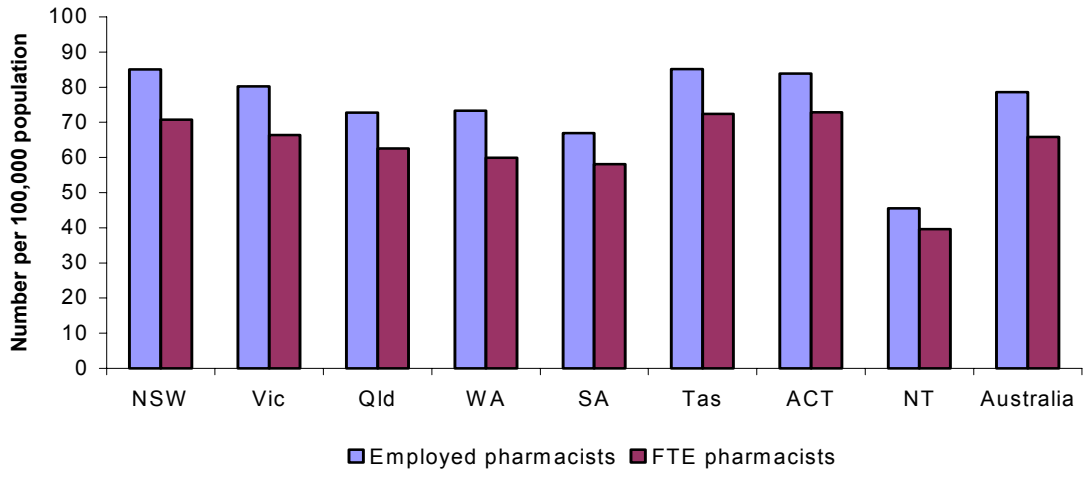
between segments of an occupation or between occupational groups. In this report, two methods are used to calculate FTE. Both are based on the ABS definition of full-time work as being at least 35 hours per week. The first, FTE(resources), counts any pharmacist working 35 hours or more as one FTE, with anything less than this being counted as a proportion of an FTE. For example, a pharmacist working 45 hours represents 1 FTE and a pharmacist working 28 hours represents 0.8 FTE. FTE(resources), therefore, approximates the number of pharmacists, working a standard 35-hour week, available to do the work.

The alternative method, FTE(supply) is based on the total hours worked, divided by 35 hours for all pharmacists. For example, a pharmacist working 70 hours per week represents 2 FTE and one working 21 hours represents 0.6 FTE. This method provides a measure of the actual supply of pharmacists because it takes into account pharmacists working more than 35 hours per week. FTE(supply) measures how many 35-hour-week workloads are being worked by pharmacists. This formula converts head counts to a more reliable measure of labour provision than the first method because there is variation among states and territories in the proportions of pharmacists working more than 35 hours per week.

The main difference between the two forms of FTE is that FTE(actual supply) estimates the actual level of supply provided by the level of staffing measured by FTE(staffing levels). Therefore, the ratio of the two—FTE(actual supply)/FTE(staffing levels)—provides an indication of hours worked in excess of 35 hours per week. For 1999, this ratio is 1.26, only slightly less than the 1996 FTE ratio which was 1.28. This implies a small drop in hours worked in excess of 35 per week.

There were 12,508 FTE(resources) pharmacists in Australia in 1999 and 15,815 FTE(supply) pharmacists. Between 1996 and 1999, both the level of staffing, FTE(resources), and the actual level of supply, FTE(supply), increased, but the increase in actual level of supply did not match the increase in staffing levels (resources). This reflects an increasing tendency for pharmacists to work part-time hours (Table 3, Figure 7).

Calculation of FTE pharmacists per 100,000 population allows comparison across states and territories. There were 65.9 full-time equivalent (FTE) pharmacists per 100,000 population nationally, with the Australian Capital Territory, Tasmania and New South Wales each having a higher supply, at 72.9, 72.4 and 70.8 per 100,000 population respectively, and the Northern Territory having a substantially lower rate, with 39.6 per 100,000 population (Table 2, Figure 2).

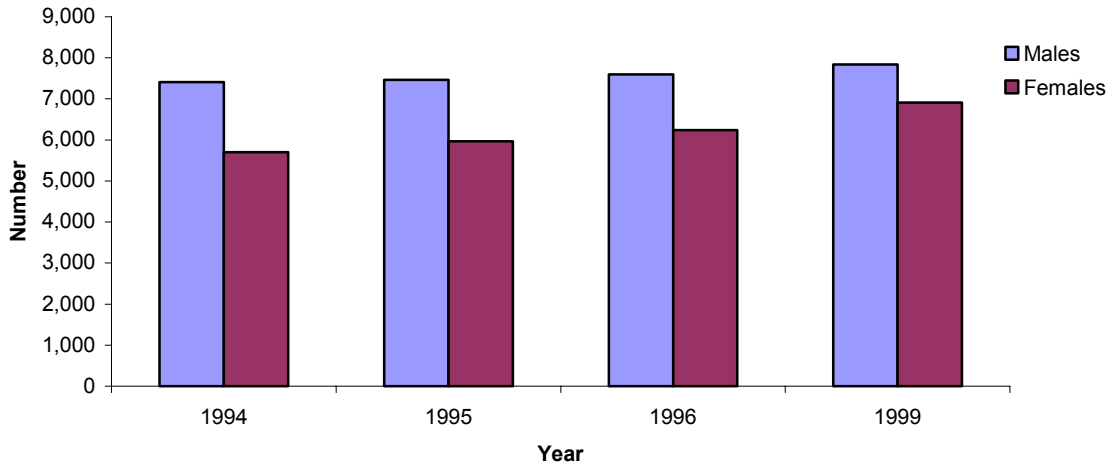


Source: Table 2.

Figure 2: Employed and FTE pharmacists per 100,000 population, states and territories, 1999

3.2 Growth of the pharmacy labour force

Between 1994 and 1999 the pharmacy labour force grew steadily, with an overall increase of 12.5% (Figure 3). This is greater than the 10.4% growth of the medical practitioner labour force over that period, but less than some allied health occupations such as podiatry (up 21.7%) (AIHW 2003a, 2002).



Source: Table A.3.

Figure 3: Employed pharmacists: sex, 1994 to 1999

In 1996 there were 13,834 employed pharmacists in Australia, a rate of 75.6 pharmacists per 100,000 population. This rose to 14,747 pharmacists in 1999 (77.7 per 100,000 population), a growth of 6.6% (Table A.3).

In terms of full-time equivalent pharmacists, there were 12,508 FTE(resources) pharmacists in Australia in 1999, 8.5% more than in 1996 (11,532). Of course, Australia's population has also increased over this time, so the effect of the increase in FTE numbers needs to be considered as a rate per 100,000 population. Table 2 shows that there were 65.9 FTE(resources) pharmacists per 100,000 population in Australia in 1999, a 4.6% increase over the 1996 rate of 63.0.

3.3 Number of pharmacies in Australia

There has been little change in the number of approved pharmacies in Australia over recent years (Table 4). Not including hospital-based pharmacies or doctors approved to dispense, the number varied between 4,958 pharmacies in 1995 and 4,926 in 2002. There was a decrease of 27 pharmacies in the 2-year period 1998 to 2000.

Table 4: Approved pharmacies, states and territories, 1995 to 2002

State/territory	1995	1996(r)	1997(r)	1998	1999	2000	2001	2002	% change 1995 to 2002
New South Wales	1,739	1,731	1,729	1,727	1,724	1,723	1,722	1,727	–0.7
Victoria	1,218	1,200	1,190	1,181	1,169	1,159	1,161	1,159	–4.8
Queensland	930	942	952	959	959	954	951	948	1.9
Western Australia	456	467	470	474	477	478	479	480	5.3
South Australia	385	386	385	383	386	386	387	385	0.0
Tasmania	143	143	144	143	140	140	140	140	–2.1
Australian Capital Territory	61	58	57	58	59	57	57	57	–6.6
Northern Territory	26	26	27	27	28	28	28	30	15.4
Australia	**4,958**	**4,953**	**4,954**	**4,952**	**4,942**	**4,925**	**4,925**	**4,926**	**–0.6**

(r) Revised since the publication of *Pharmacy Labour Force 1995*.

Sources: DoHA annual reports; Pharmacy Guild of Australia.

3.4 Age and sex of the pharmacy labour force

The age distribution of the pharmacist workforce is a workforce planning concern because of its likely effect on retirements. As most retirees are males and most new workforce entrants are females who tend to have different practice patterns, both sex and age need to be monitored.

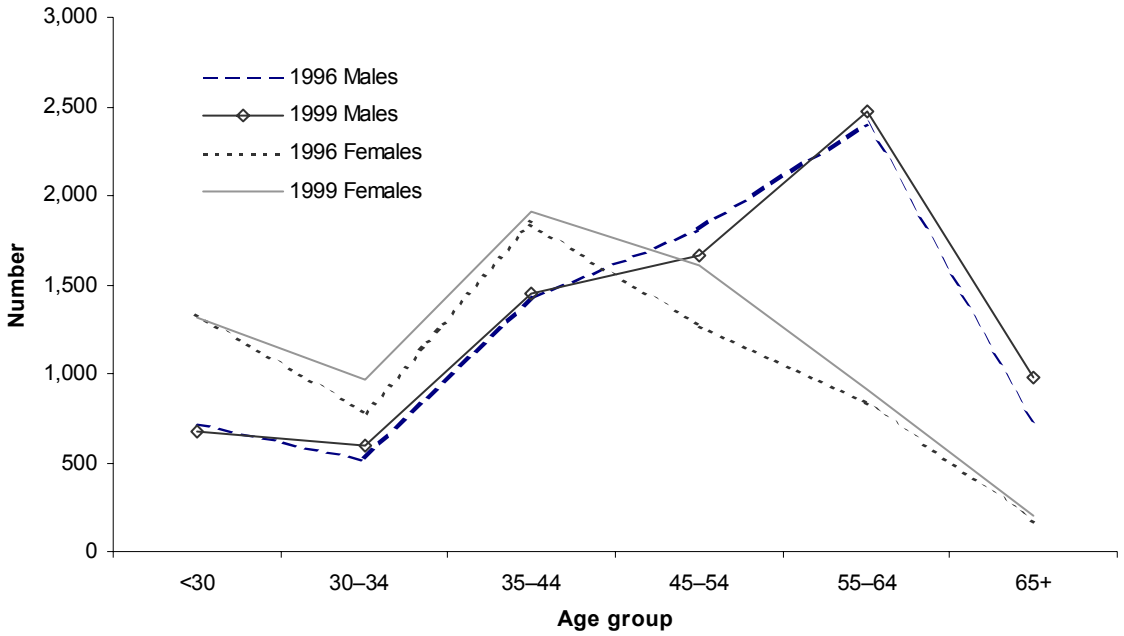
The pharmacy labour force has aged slightly, from an average of 45.1 in 1994 to 45.5 years in 1996 and 46.1 years in 1999. There was a considerable age difference between the sexes. The average age of females in 1999 was 41.7 years, substantially younger than the average age of males (50.0 years). Over 60% of females were aged less than 45 years compared with only 34.7% of males, while 44.1% of males were aged 55 or more compared with only 16.1% of females (Table A.4 and Figure 4).

In 1999, 46.9% of employed pharmacists were females. This is higher than the proportion of the medical labour force (29.4%) and the optometrist labour force (36.1%) but lower than that for nurses (92.1%) and podiatrists (63.7%) (AIHW 2000, 2002, 2003a, 2003b). The proportion of females in the pharmacist labour force has risen steadily, from 43.5% in 1994 to 46.9% in 1999 (Table A.3). The labour force grew by 12.5% over this 5-year period, but the number of male pharmacists rose by 5.8% and females by 21.3%.

In 1999 the Northern Territory had the highest proportion of female pharmacists, with 59.7% of total employed pharmacists. In New South Wales, the Australian Capital Territory and Tasmania the percentages of females were above that for Australia (49.8%, 49.2% and 48.5%, respectively), while Western Australia had the lowest proportion (41.8%) (Table A.2).

The proportion of females varied across the various pharmacy occupations. Females made up 69.6% of hospital and clinic pharmacists, 65.9% of industrial pharmacists, and 59.7% of those in other occupations. They made up fewer community pharmacists (42.3%) and administrators (32.0%) and comprised half (51.2%) of all teachers and educators. (Table A.2).

Female pharmacists were more likely to work part-time than male pharmacists. Of female pharmacists, 46.7% worked part-time compared with 21.5% of males (Table A.8).



Source: Table A.4.

Figure 4: Employed pharmacists: age and sex, 1996 and 1999

Between 1996 and 1999, the number of employed pharmacists increased by 6.6%, with the increase for females (10.8%) being greater than that for males (3.2%). The age groups with the largest increases were the 65 and over, and the 30 to 34 years age groups, while the under 30-years group fell by 3.5% (Table A.4).

Hospital and clinic pharmacists were on average substantially younger than community pharmacists. In 1999, male hospital and clinic pharmacists averaged just 38.9 years compared with 50.1 years for community pharmacists. Female hospital and clinic pharmacists averaged 34.2 years compared with 42 years for community pharmacists (Table A.5).

Pharmacists in remote centres were younger than those elsewhere, with an average age of 42.8. It was the women in these areas that brought down the average age, as males averaged 50.0 years but females averaged only 34.3. Pharmacists in other rural areas and other remote areas were the oldest on average (49.6 and 49.0 years, respectively) (Table A.6).

The proportion of pharmacists aged 65 or more was 11.4% in other rural areas and 11.3% in other metropolitan centres. It was only 3.2% in remote centres (Table A.6).

3.5 Distribution by metropolitan, rural and remote areas

The rate of pharmacists varied substantially from the Australian figure of 77.7 per 100,000 population across geographic regions. In 1999 capital cities had 86.7 pharmacists per 100,000 population, many more than remote centres (38.4) and other remote areas (30.6). Large rural centres were also well supplied, with 81.1 pharmacists per 100,000 population (Table 5). Pharmacists are more evenly distributed than doctors, but less evenly distributed than nurses (AIHW 2003a, 2003b).

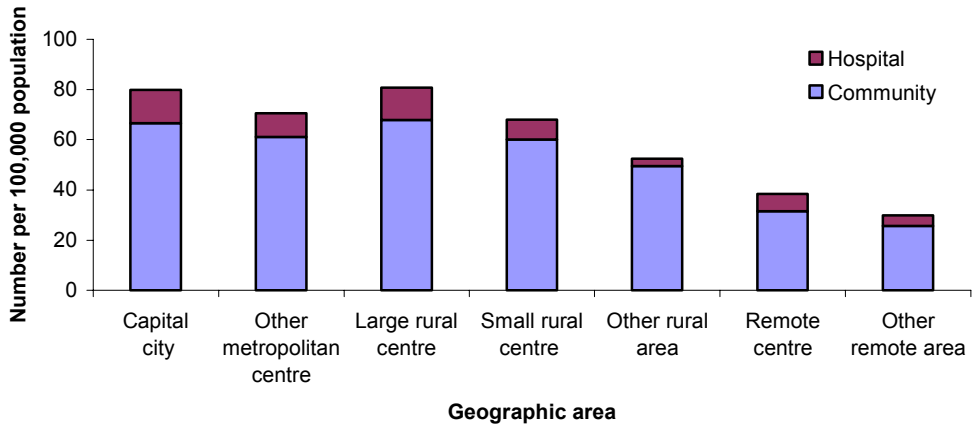
Table 5: Employed pharmacists per 100,000 population, geographic area, 1999

	Geographic area							
	Capital city	Other metro-politan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	Total
Population ('000)[(a)]	12,090.2	1,443.1	1,128.0	1,225.7	2,485.6	224.7	336.8	18,984.2
Pharmacists per 100,000 population								
Community pharmacists	66.6	61.0	67.9	60.0	49.6	31.5	25.6	62.3
Hospital pharmacists	13.3	9.6	12.9	8.0	2.9	6.9	4.2	11.0
Other pharmacists	6.7	0.4	0.4	0.0	0.2	0.0	0.9	4.3
Employed pharmacists	**86.7**	**71.0**	**81.1**	**68.0**	**52.6**	**38.4**	**30.6**	**77.7**

(a) Estimated resident population as at 30 June 1999.

Source: Pharmacy Labour Force Survey 1999; ABS.

Community pharmacists and hospital and clinic pharmacists were not evenly distributed across Australia in 1999 (Table 5 and Figure 5). Community pharmacists tended to be concentrated in large rural centres and capital cities where rates were 67.9 and 66.6 per 100,000 population. The rate of hospital pharmacists was also high in capital cities and large rural centres (13.3 and 12.9 respectively). Remote centres had a rate of 6.9 per 100,000 population, higher than other remote areas (4.2) and other rural areas (2.9).



Source: Table A.7.

Figure 5: Employed pharmacists per 100,000 population, geographic area, 1999

Almost all pharmacists employed in other occupations such as industrial pharmacy, administration and education, lived in capital cities (Table A.7).

There were high proportions of females employed as hospital pharmacists in other metropolitan centres and capital cities (77.6% and 71.3% respectively) compared with 54.9% of those in small rural centres (Table A.7). In capital cities, remote centres and other remote areas, females made up more than the average number of community pharmacists (44.3%, 45.5% and 45.7% respectively). Only 36.1% of community pharmacists in other rural areas were female.

There was a higher percentage of pharmacists aged under 30 years in capital cities and remote centres (15.0% and 20.0% of employed pharmacists, respectively) than in other areas.

Conversely, there was a relatively high proportion of pharmacists aged 65 or over in other metropolitan centres and other rural areas (11.3% and 11.4% respectively). Other remote areas were characterised by a very small proportion of pharmacists under 30 years of age (4.2%) compared to 13.5% nationally (Table A.6).

Community pharmacists in remote areas were far more likely than those in metropolitan areas to have their own business. In other remote areas 54.4% of community pharmacists were sole proprietors, as were 43.4% of those in remote centres. This compares with only 20.9% of those in large rural centres and 25.6% across Australia. Similarly, very few community pharmacists (13.4%) work as permanent assistants or as relievers in other remote areas. In capital cities it was most common for community pharmacists to work as pharmacists-in-charge (32.3%) (Table A.14).

3.6 Hours worked

The 1999 Pharmacy Labour Force Survey showed that pharmacists worked an average of 37.8 hours per week (Table A.8), fewer than medical practitioners (46.9), but more than nurses (30.3) and podiatrists (35.1) (AIHW 2002, 2003a, 2003b). Over half of pharmacists (56.1%) reported working 40 or more hours per week in all jobs (Figure 6). This included 6.9% who worked 60 hours or more.

Source: Table A.8.

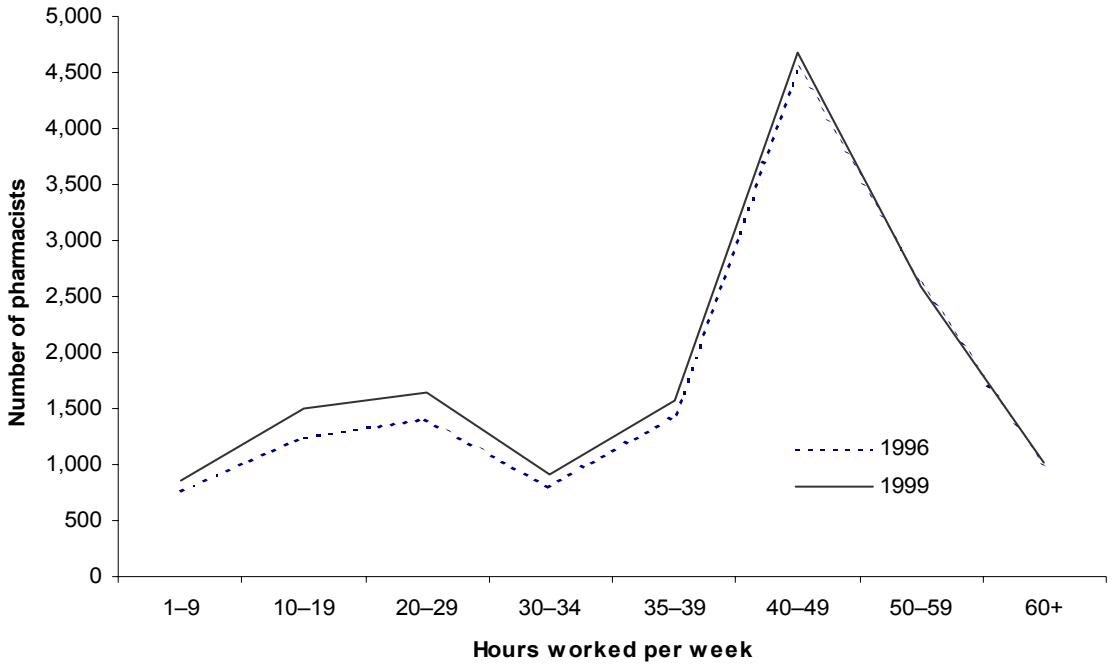
Figure 6: Employed pharmacists: total hours usually worked per week, sex, 1999

There were also differences in the patterns of hours worked: between male and female pharmacists, between different sectors of the workforce and between different geographic regions. Female pharmacists worked an average of 32.8 hours per week, 9 hours less than males (41.9).

Hospital and clinic pharmacists worked the shortest hours, with an average of 36.0 hours per week, and industrial pharmacists worked the longest hours, with an average of 41.2. Community pharmacists worked 38.2 hours while other employed pharmacists worked 38.8 (Table A.9).

Both major groupings—hospital and clinic and community pharmacists—reported working fewer hours than they did in the 1996 Pharmacy Labour Force Survey (36.8 and 38.6 hours per

week, respectively, in 1996) and pharmacists as a whole worked 0.6 hours less per week (Table 3). The decrease in average hours worked is due to the increased number of pharmacists working part-time (Figure 7, Table 3). Between 1996 and 1999, there was very little change in the number of pharmacists working 40 hours or more, but large increases in pharmacists working 10–19 hours (19.1%) and 20–29 hours (16.0%).



Source: Table A.10.

Figure 7: Employed pharmacists: total hours worked in all jobs, 1996 and 1999

The average number of hours that pharmacists worked tended to rise with increasing remoteness. In capital cities the average was 37.7 hours per week and in other metropolitan centres it was 38.0. By contrast, in remote centres and other remote areas the average numbers of hours worked were 42.7 and 43.5 per week, respectively. These higher averages are in part accounted for by the greater tendency for pharmacists to work full-time and to own their own (community pharmacy) business in these locations. Only 19.8% of pharmacists in remote centres and 15.4% of those in other remote areas worked less than 35 hours per week, compared with 33.2% in capital cities and 33.7% in other metropolitan areas (Table A.11).

3.7 Country of birth

All state and territory registration boards except New South Wales asked pharmacists to indicate their country of birth. In those states and territories, 15.2% of pharmacists were born overseas (Table A.12). The proportion born overseas varied considerably across states and territories and ranged from 13.0% of Tasmanian pharmacists to 28.6% of pharmacists in the Northern Territory and 23.1% of those in the Australian Capital Territory. Most common overseas countries of birth were the United Kingdom and Ireland (27.7% of overseas-born pharmacists) and several countries in Asia (37.6%), particularly Malaysia and Hong Kong, and New Zealand (11.1%).