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Number 12

Pharmacy labour force 1995

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Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
FTE	Full-time equivalent
NSW	New South Wales
NT	Northern Territory
OECD	Organisation for Economic Co-operation and Development
PBS	Pharmaceutical Benefits Scheme
Qld	Queensland
RPBS	Repatriation Pharmaceutical Benefits Scheme
SA	South Australia
Tas	Tasmania
UK	United Kingdom
US	United States
Vic	Victoria
WA	Western Australia

1 Overview

Registrations

- There were 17,120 registrations of pharmacists with State and Territory pharmacy registration boards in 1995, compared with 17,292 in the previous year and 16,454 in 1993.
- These represented 16,140 registered pharmacists, after adjusting for pharmacists registered in more than one State or Territory.
- 13,798 were in the pharmacy labour force in Australia and 2,342 were out of the national pharmacy labour force, including 383 working overseas.

Employed pharmacists

- There were 13,479 pharmacists employed in pharmacy in 1995, of whom 7,475 were male (55.4%) and 6,005 were female (44.6%).
- The average age was 48.6 years for males and 40.4 years for females. Male pharmacists comprised 34.0% of the 2,044 pharmacists aged less than 30 years and 80.8% of the 760 aged 65 years or more.
- There were 10,722 community pharmacists and 1,950 hospital or clinic pharmacists, with the remaining 755 pharmacists employed in industrial pharmacy, pharmacy administration, research and education, or other fields of pharmacy practice.
- Australia's 59.4 community pharmacists per 100,000 population in 1995 was similar to the 61.5 per 100,000 population in Canada (for 1991), 65.3 in New Zealand, 59.1 in the United Kingdom (for 1993) and 61.9 in the United States (for 1994).

Pharmacists not employed in pharmacy and looking for work in pharmacy

- There were 318 pharmacists in 1995 who were not employed in pharmacy and who were looking for work in pharmacy. This proportion of the labour force, at 2.3%, was low compared with other occupations. Seventy-three of this group were employed in job fields outside of pharmacy.

Geographic distribution

- Only four States—New South Wales, Queensland, Western Australia and Tasmania—had close to the national average of 59.9 full-time equivalent (FTE) pharmacists per 100,000 population in 1995. Victoria, with 68.2, and the Australian Capital Territory, with 69.3, were well above this provision, while South Australia, with 51.9, and the Northern Territory, with 45.2, were well below.
- The number of pharmacy registrations in New South Wales fell from 6,452 in 1994 to 6,144 in 1995 and the number of employed pharmacists per 100,000 population from 77.9 to 73.8. In 1995, 8.2% of community pharmacists in that State were aged 65 years or more, a higher proportion than in any other State or Territory.
- 67.8% of community pharmacists were employed in capital cities, with a further 7.4% in other metropolitan centres, 23.3% in rural areas and the remaining 1.5% in remote areas. This was similar to the distribution of the overall population—63.2% living in capital cities, 9.1% in other major urban areas, 24.5% in rural areas and 3.1% in remote areas.

Sex

- 61.0% of basic pharmacy degree graduates were female in 1996, similar to the proportions of the previous three years.
- Consequently, the proportion of female pharmacists in the workforce has been steadily rising—up from 37.6% in 1992 to 39.9% in 1995 for community pharmacists, and up from 64.0% to 66.9% for hospital and clinic pharmacists during the same period.
- 16.2% of female registered pharmacists were not in the labour force, compared with 13.1% of males.
- Male community pharmacists averaged 42.9 work hours per week, compared with 30.3 hours for female pharmacists in the area. Male hospital and clinic pharmacists averaged 40.4 hours per week, compared with 35.0 hours for their female counterparts.
- 77.7% and 73.6% of female and male community pharmacists respectively were employed in metropolitan areas.

Community pharmacists

- 1,556 of the 10,722 community pharmacists in 1995 were aged less than 30 years, representing 14.5% of the workforce. 61.5% of this group were female pharmacists and 13.6% worked part time.
- There were 686 community pharmacists aged 65 years or more, representing 6.4% of the workforce—an increase on 6.3% in 1994 and 6.1% in 1993. Of these, 80.1% were male pharmacists and 61.7% worked part time.
- Community pharmacists comprised 2,981 (27.8%) sole proprietors, 2,079 (19.4%) partner proprietors, 2,568 (24.0%) pharmacists-in-charge, 921 (8.6%) permanent assistants and 2,173 (20.3%) relievers at regular or various locations.
- The main job of 72.5% of community pharmacists was located in a shopping complex other than a mall, with 21.3% in a mall shopping centre and 5.8% in a medical centre.

Hospital and clinic pharmacists

- 66.9% of hospital and clinic pharmacists in 1995 were female, compared with 39.9% of community pharmacists.
- 32.2% and 6.3% of female and male hospital and clinic pharmacists respectively worked part time, compared with 52.8% and 19.4% of female and male community pharmacists respectively. The difference occurs partly because few hospital and clinic pharmacists are employed in this role after reaching 65 years of age; those wishing to continue to work boost the numbers of mainly part-time community pharmacists in this age group.
- Hospital and clinic pharmacists comprised 295 (15.2%) directors, 89 (4.6%) deputy directors, 336 (17.2%) senior pharmacists, 439 (22.5%) specialist pharmacists and 791 (40.6%) staff pharmacists.

Migration

- There were 383 Australian-registered pharmacists working overseas in 1995.
- From 1992–93 to 1995–96, 71–125 Australian pharmacists per year temporarily migrated overseas for employment. Twenty-one overseas pharmacists temporarily migrated to Australia for employment in 1995–96.
- Thirty-one Australian pharmacists permanently migrated from Australia in 1995–96, and 119 overseas pharmacists permanently migrated to Australia. The latter

comprised 39 from Asia, 23 from the Middle East and Africa, 20 from the United Kingdom and Ireland, and 12 from New Zealand.

- Pharmacists with qualifications gained in countries other than New Zealand, the United Kingdom and Ireland must have their skills successfully assessed by the Australian Pharmacy Examining Council before gaining approval by State and Territory registering authorities for practice. Twenty-two of 44 passed the preliminary examination in 1996–97, and 10 of 20 passed the final examination.

Education

- There were 441 Australian permanent resident pharmacy students who completed a bachelor degree in 1996—a significant increase on the 392 in 1995 and 355 in 1994. There were also 95 postgraduate completions, almost double those of previous years.
- The proportion of female graduates appears to have stabilised at around 61.0%, after reaching a high of 66.7% in 1991.
- The percentage of Australian permanent resident new graduates born in Australia declined from 73.4% in 1991 to 56.7% in 1996. The proportion of graduates born in Asian countries increased from 10.6% in 1991 to 32.9% in 1996.
- There were 12.1 pharmacy students per 100,000 population with home residences in metropolitan centres in 1995, compared with 5.2 per 100,000 population for large rural centres, 4.3 for small rural centres, 3.7 for other rural areas and 1.6 for remote areas.

Pharmacies

- The number of approved pharmacies declined from 5,569 in 1989 to 4,958 in 1995 and stabilised around that level in 1996 and 1997. The greatest declines occurred in New South Wales, South Australia and the Australian Capital Territory.

Use of pharmaceuticals

- An estimated \$4.0 billion of the total health system costs for diseases and injury of \$31.4 billion in 1993–94 may be attributed to the cost of pharmaceuticals. Respiratory illnesses had the highest disease cost attributed to the use of pharmaceuticals—\$784 million of a total cost of \$2,510 million (*Australia's Health 1998*, pp. 192–96).
- General practitioners in the 1995 Morbidity and Treatment Survey reported managing an average 151.2 problems per 100 encounters and prescribing drugs at an overall rate of 103.4 per 100 encounters (*Australia's Health 1998*, pp. 211–14).
- Based on the results of the 1995 National Health Survey, an estimated 12.4 million Australians (68.8% of the population) used some form of medication (including vitamins, minerals and herbal or natural medicines) in the two weeks before interview. The estimated 10.7 million people who used medications other than vitamins or minerals comprised approximately 62% who did so on medical advice and 51% who required a prescription to obtain the medication (*Australia's Health 1998*, pp. 222–24).
- Approximately 75% of prescriptions dispensed through community pharmacies qualify for benefits under the Commonwealth Government's Pharmaceutical Benefits Scheme (PBS). The remainder are those priced under the general patient co-payment threshold and those not listed on the PBS schedule (that is, private prescriptions). The total cost of pharmaceuticals under the PBS was \$3.1 billion in 1996–97, up from \$1.5 billion in 1991–92. The most significant drug groups in terms of PBS cost were antacids and drugs for treatment of peptic ulcers (accounting for 11.5% of expenditure), anti-asthmatics

(accounting for 9.0% and serum lipid reducing agents (accounting for 7.3%) (*Australia's Health 1998*, pp. 223–26).

- The top three drugs dispensed in community pharmacies in 1996 were amoxicillin, paracetamol and salbutamol (*Australia's Health 1998*, p. 226).

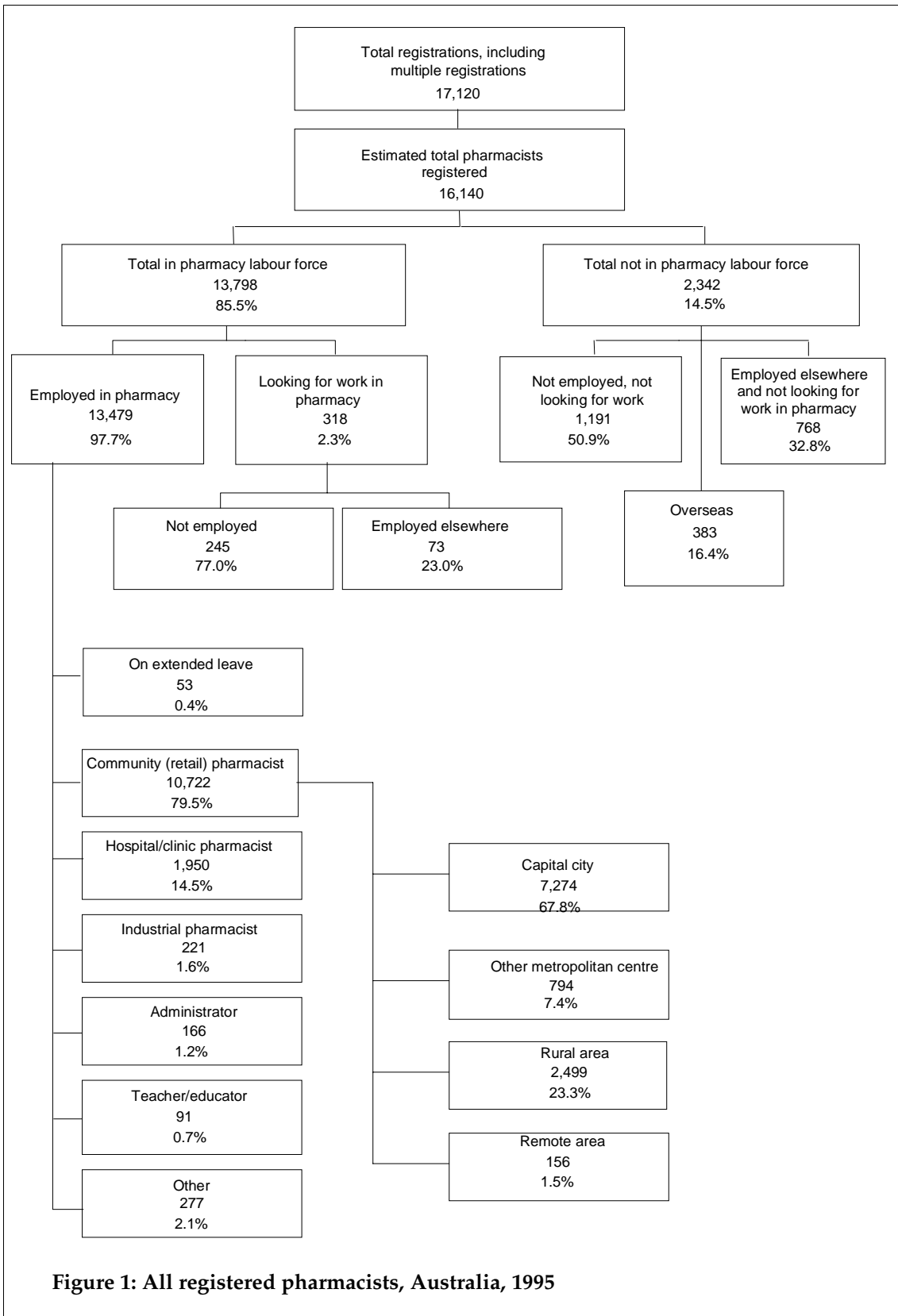


Figure 1: All registered pharmacists, Australia, 1995

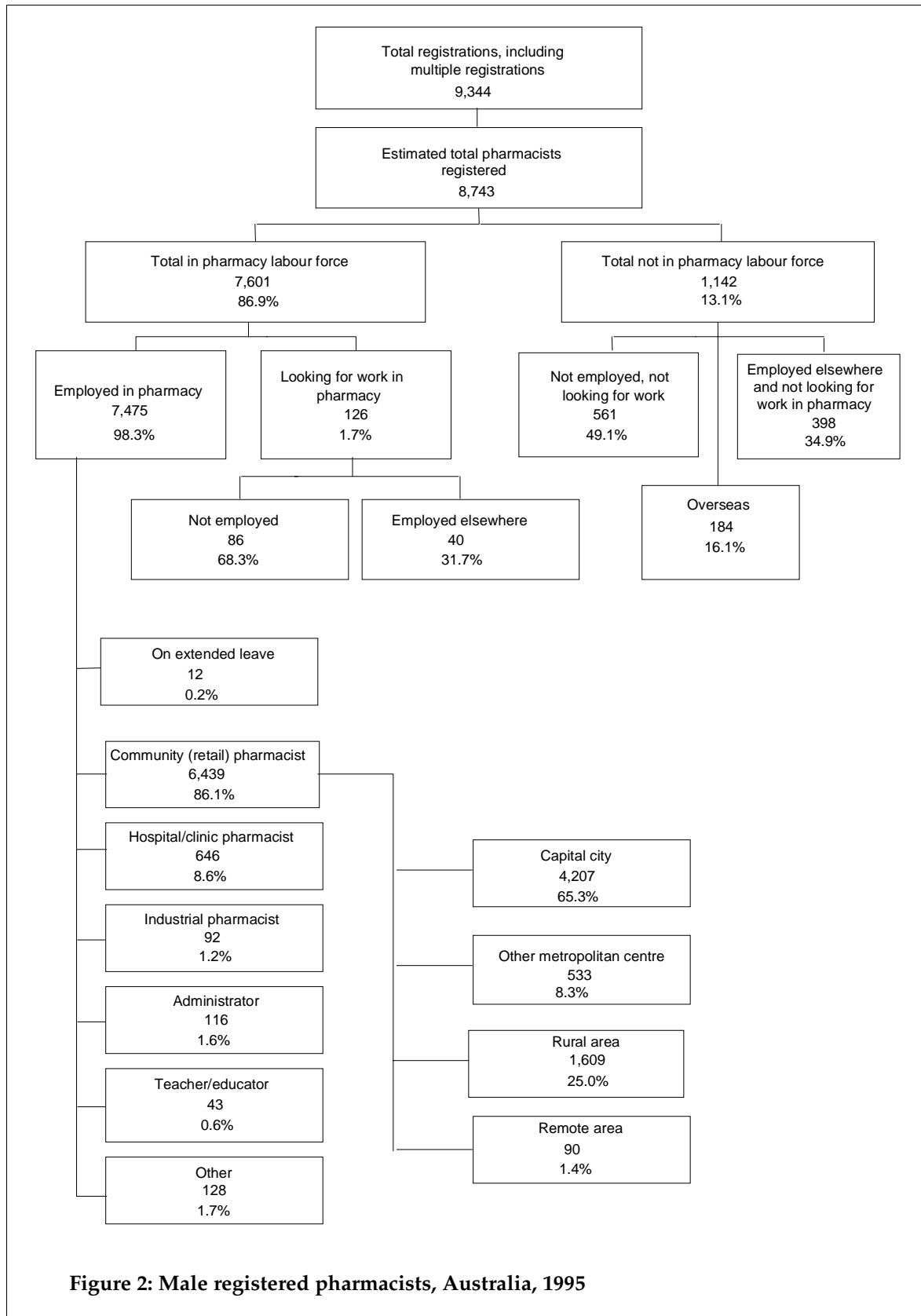


Figure 2: Male registered pharmacists, Australia, 1995

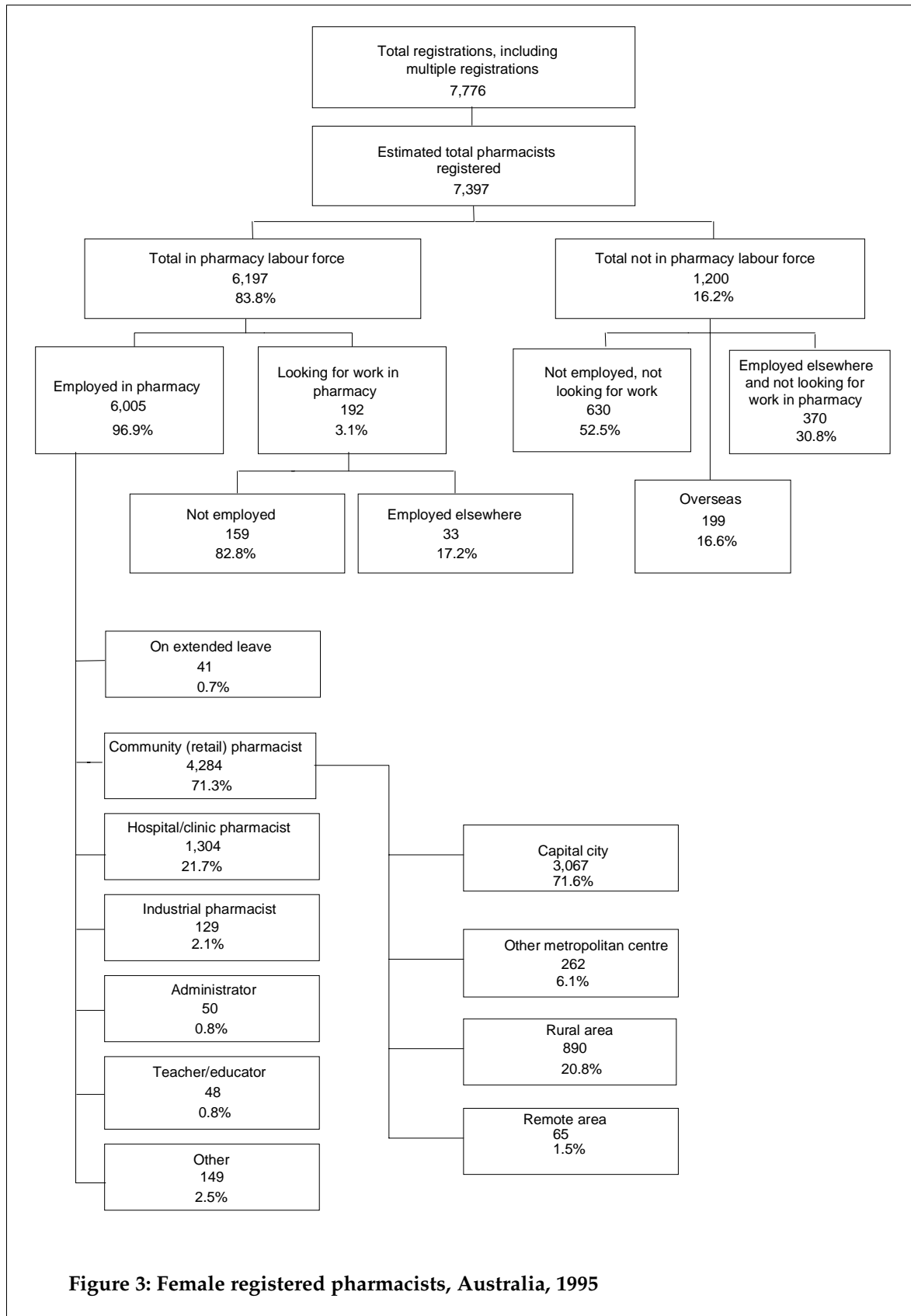


Figure 3: Female registered pharmacists, Australia, 1995

Table 1: All registered pharmacists: employment status and sex, States and Territories, 1995

Employment status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males									
Employed in pharmacy, only or mainly in State/Territory	2,470	1,985	1,349	740	567	188	121	43	7,463
On extended leave ^(a)	n.a.	3	n.a.	9	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy:									
Employed elsewhere	15	12	3	4	3	0	0	3	40
Not employed	40	19	14	3	5	1	3	1	86
<i>Pharmacy labour force</i>	<i>2,524</i>	<i>2,019</i>	<i>1,366</i>	<i>756</i>	<i>575</i>	<i>189</i>	<i>124</i>	<i>47</i>	<i>7,601</i>
Overseas	85	22	52	9	7	6	3	0	184
Not looking for work in pharmacy:									
Employed elsewhere	193	79	56	21	15	14	7	14	398
Not employed	283	75	136	27	17	9	7	7	561
<i>Not in pharmacy labour force</i>	<i>560</i>	<i>176</i>	<i>244</i>	<i>57</i>	<i>39</i>	<i>28</i>	<i>17</i>	<i>21</i>	<i>1,142</i>
<i>Total registered pharmacists</i>	<i>3,084</i>	<i>2,195</i>	<i>1,610</i>	<i>813</i>	<i>614</i>	<i>218</i>	<i>140</i>	<i>68</i>	<i>8,743</i>
Multiple registrations	224	70	158	15	18	16	29	70	602
<i>Total registrations</i>	<i>3,308</i>	<i>2,266</i>	<i>1,768</i>	<i>829</i>	<i>633</i>	<i>233</i>	<i>170</i>	<i>138</i>	<i>9,344</i>
Females									
Employed in pharmacy, only or mainly in State/Territory	2,042	1,771	962	471	391	163	133	30	5,964
On extended leave ^(a)	n.a.	26	n.a.	15	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy:									
Employed elsewhere	14	8	1	1	1	2	0	5	33
Not employed	59	39	29	14	6	5	4	2	159
<i>Pharmacy labour force</i>	<i>2,115</i>	<i>1,844</i>	<i>993</i>	<i>502</i>	<i>399</i>	<i>170</i>	<i>137</i>	<i>38</i>	<i>6,197</i>
Overseas	74	52	35	20	8	2	1	7	199
Not looking for work in pharmacy:									
Employed elsewhere	196	80	53	10	8	6	12	5	370
Not employed	307	110	118	48	18	17	8	5	630
<i>Not in pharmacy labour force</i>	<i>577</i>	<i>242</i>	<i>206</i>	<i>77</i>	<i>33</i>	<i>25</i>	<i>22</i>	<i>17</i>	<i>1,200</i>
<i>Total registered pharmacists</i>	<i>2,691</i>	<i>2,086</i>	<i>1,199</i>	<i>579</i>	<i>432</i>	<i>195</i>	<i>159</i>	<i>55</i>	<i>7,397</i>
Multiple registrations	145	60	59	18	5	15	22	55	379
<i>Total registrations</i>	<i>2,836</i>	<i>2,146</i>	<i>1,258</i>	<i>597</i>	<i>437</i>	<i>210</i>	<i>181</i>	<i>110</i>	<i>7,776</i>
All pharmacists									
Employed in pharmacy, only or mainly in State/Territory	4,511	3,757	2,311	1,211	958	352	254	73	13,426
On extended leave ^(a)	n.a.	29	n.a.	25	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy:									
Employed elsewhere	29	20	5	5	4	2	0	8	73
Not employed	99	58	43	17	11	6	7	4	245
<i>Pharmacy labour force</i>	<i>4,639</i>	<i>3,863</i>	<i>2,359</i>	<i>1,258</i>	<i>974</i>	<i>360</i>	<i>261</i>	<i>85</i>	<i>13,798</i>
Overseas	159	74	88	28	15	8	4	7	383
Not looking for work in pharmacy:									
Employed elsewhere	389	159	109	31	22	19	19	19	768
Not employed	589	185	254	74	35	26	15	12	1,191
<i>Not in pharmacy labour force</i>	<i>1,136</i>	<i>418</i>	<i>450</i>	<i>134</i>	<i>73</i>	<i>53</i>	<i>39</i>	<i>38</i>	<i>2,342</i>
<i>Total registered pharmacists</i>	<i>5,775</i>	<i>4,282</i>	<i>2,809</i>	<i>1,392</i>	<i>1,046</i>	<i>413</i>	<i>300</i>	<i>123</i>	<i>16,140</i>
Multiple registrations	369	130	217	34	24	30	51	125	980
Total registrations	6,144	4,412	3,026	1,426	1,070	443	351	248	17,120

(a) Leave for three months or more. Only collected for Victoria and Western Australia in 1995.

Table 2: Pharmacy labour force: occupation of main job and sex, States and Territories, 1995

Occupation of main job	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males									
Community (retail)	2,212	1,676	1,181	620	485	162	75	28	6,439
Hospital/clinic	138	199	127	92	59	16	4	10	646
Industrial	48	33	5	0	5	0	1	0	92
Administrator	18	28	13	15	6	3	27	5	116
Teacher/educator	12	14	2	7	2	5	1	0	43
Other	42	36	21	7	9	2	12	0	128
<i>Total</i>	<i>2,470</i>	<i>1,985</i>	<i>1,349</i>	<i>740</i>	<i>567</i>	<i>188</i>	<i>121</i>	<i>43</i>	<i>7,463</i>
On extended leave ^(a)	n.a.	3	n.a.	9	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy	55	31	17	7	8	1	3	4	126
Pharmacy labour force	2,524	2,019	1,366	756	575	189	124	47	7,601
Females									
Community (retail)	1,482	1,209	735	364	284	112	83	16	4,284
Hospital/clinic	399	452	199	84	90	36	30	13	1,304
Industrial	69	51	3	0	4	2	0	0	129
Administrator	14	8	8	4	4	5	8	0	50
Teacher/educator	16	12	6	6	5	2	0	0	48
Other	62	40	11	13	5	6	11	2	149
<i>Total</i>	<i>2,042</i>	<i>1,771</i>	<i>962</i>	<i>471</i>	<i>391</i>	<i>163</i>	<i>133</i>	<i>30</i>	<i>5,964</i>
On extended leave ^(a)	n.a.	26	n.a.	15	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy	73	47	31	16	8	7	4	8	192
Pharmacy labour force	2,115	1,844	993	502	399	170	137	38	6,197
All pharmacists									
Community (retail)	3,693	2,885	1,916	984	769	275	158	44	10,722
Hospital/clinic	538	651	326	176	149	52	35	22	1,950
Industrial	117	84	8	0	9	2	1	0	221
Administrator	32	36	21	19	10	8	36	5	166
Teacher/educator	28	26	8	13	8	7	1	0	91
Other	104	75	32	19	14	8	23	2	277
<i>Total</i>	<i>4,511</i>	<i>3,757</i>	<i>2,311</i>	<i>1,211</i>	<i>958</i>	<i>352</i>	<i>254</i>	<i>73</i>	<i>13,427</i>
On extended leave ^(a)	n.a.	29	n.a.	25	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy	128	78	48	23	15	8	7	12	318
Pharmacy labour force	4,639	3,863	2,359	1,258	974	360	261	85	13,798
(per cent)									
Community (retail)	79.6	74.7	81.2	78.2	79.0	76.3	60.6	51.4	77.7
Hospital/clinic	11.6	16.9	13.8	14.0	15.3	14.5	13.3	26.4	14.1
Industrial	2.5	2.2	0.3	0.0	0.9	0.6	0.6	0.0	1.6
Administrator	0.7	0.9	0.9	1.5	1.0	2.2	13.7	6.3	1.2
Teacher/educator	0.6	0.7	0.3	1.0	0.8	1.9	0.6	0.0	0.7
Other	2.2	2.0	1.4	1.5	1.4	2.2	8.7	2.0	2.0
<i>Total</i>	<i>97.2</i>	<i>97.2</i>	<i>98.0</i>	<i>96.2</i>	<i>98.4</i>	<i>97.8</i>	<i>97.3</i>	<i>86.1</i>	<i>97.3</i>
On extended leave ^(a)	n.a.	0.7	n.a.	2.0	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy	2.8	2.0	2.0	1.8	1.6	2.2	2.7	13.9	2.3
Pharmacy labour force	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(females as a percentage of all pharmacists)									
Community (retail)	40.1	41.9	38.3	37.0	36.9	40.9	52.7	36.1	39.9
Hospital/clinic	74.3	69.4	61.0	47.9	60.2	69.6	87.6	56.8	66.9
Industrial	59.3	60.5	42.6	..	43.7	100.0	0.0	..	58.6
Administrator	42.6	23.0	38.7	20.5	38.3	57.2	23.3	0.0	30.3
Teacher/educator	57.0	47.2	71.3	48.7	67.4	33.4	0.0	..	52.4
Other	59.5	52.6	35.5	65.5	37.2	71.4	49.1	100.0	53.9
<i>Total</i>	<i>45.3</i>	<i>47.2</i>	<i>41.6</i>	<i>38.9</i>	<i>40.8</i>	<i>46.5</i>	<i>52.4</i>	<i>41.2</i>	<i>44.4</i>
On extended leave ^(a)	n.a.	90.4	n.a.	61.9	n.a.	n.a.	n.a.	n.a.	n.a.
Looking for work in pharmacy	57.2	60.0	64.1	68.4	50.4	85.7	59.4	65.5	60.5
Pharmacy labour force	45.6	47.7	42.1	39.9	41.0	47.3	52.6	44.6	44.9

(a) Leave for three months or more. Only collected for Victoria and Western Australia in 1995.

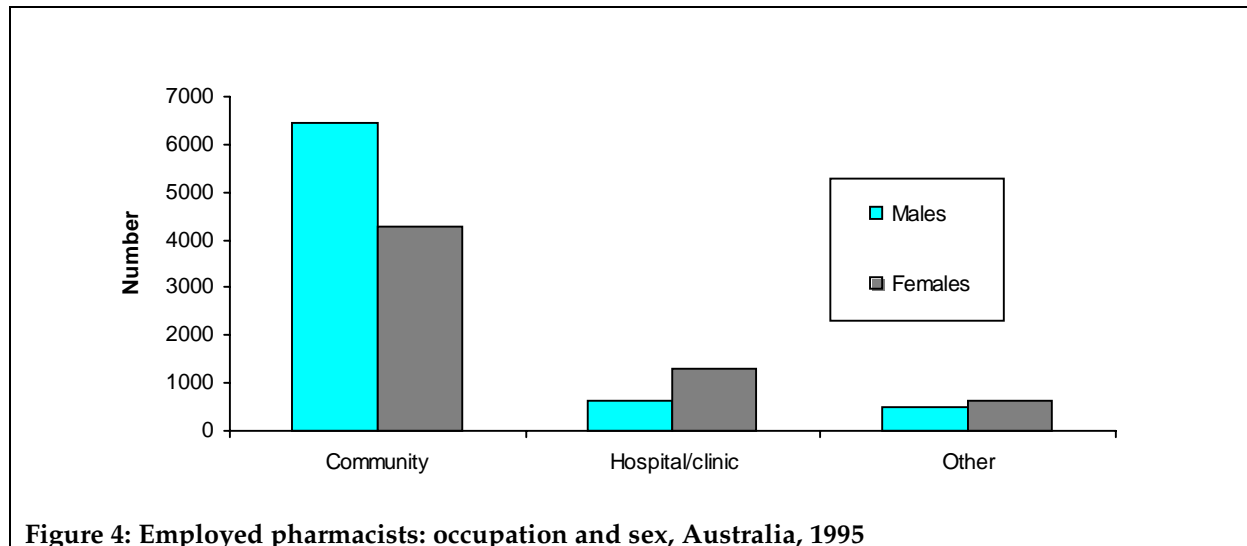


Figure 4: Employed pharmacists: occupation and sex, Australia, 1995

Table 3: Employed pharmacists^(a) and full-time equivalent pharmacists, States and Territories 1995

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Population ('000) ^(b)	6,115.1	4,502.0	3,277.4	1,731.7	1,474.0	473.0	304.1	173.9	18,051.2
Employed pharmacists	4,511	3,757	2,311	1,211	958	352	254	73	13,427
FTE pharmacists ^(c)	3,549.0	3,071.3	1,858.7	1,002.3	765.5	273.9	210.8	78.6	10,810
FTE pharmacists ^(d)	4,504.8	3,916.7	2,444.8	1,314.1	963.8	348.8	267.6	99.2	13,860
	(number per 100,000 population)								
Employed pharmacists	73.8	83.4	70.5	69.9	65.0	74.4	83.5	42.0	74.4
FTE pharmacists ^(c)	58.0	68.2	56.7	57.9	51.9	57.9	69.3	45.2	59.9
FTE pharmacists ^(d)	73.7	87.0	74.6	75.9	65.4	73.7	88.0	57.0	76.8

(a) Persons employed as pharmacists, excluding those on extended leave.

(b) Estimated resident population as at 30 June 1995.

(c) Calculated on the basis that all pharmacists working 35 or more hours per week are counted as one FTE and all those working less than 35 hours per week are a portion of an FTE. This is the formula traditionally used to measure FTEs.

(d) Calculated on the basis that hours worked are divided by 35 for all pharmacists—that is, a pharmacist working 70 hours per week equals two FTEs; one working 21 hours equals 0.6 FTEs. This formula converts head counts to a more reliable measure of labour provision than formula (c) because there is variation among States and Territories in the proportions of pharmacists working more than 35 hours per week. For example, the Northern Territory is below the national average by 43.5% in employed pharmacists, by 41.2% in FTEs using formula (c) but by 31.0% in FTEs using formula (d) because pharmacists in the Territory work longer hours on average.

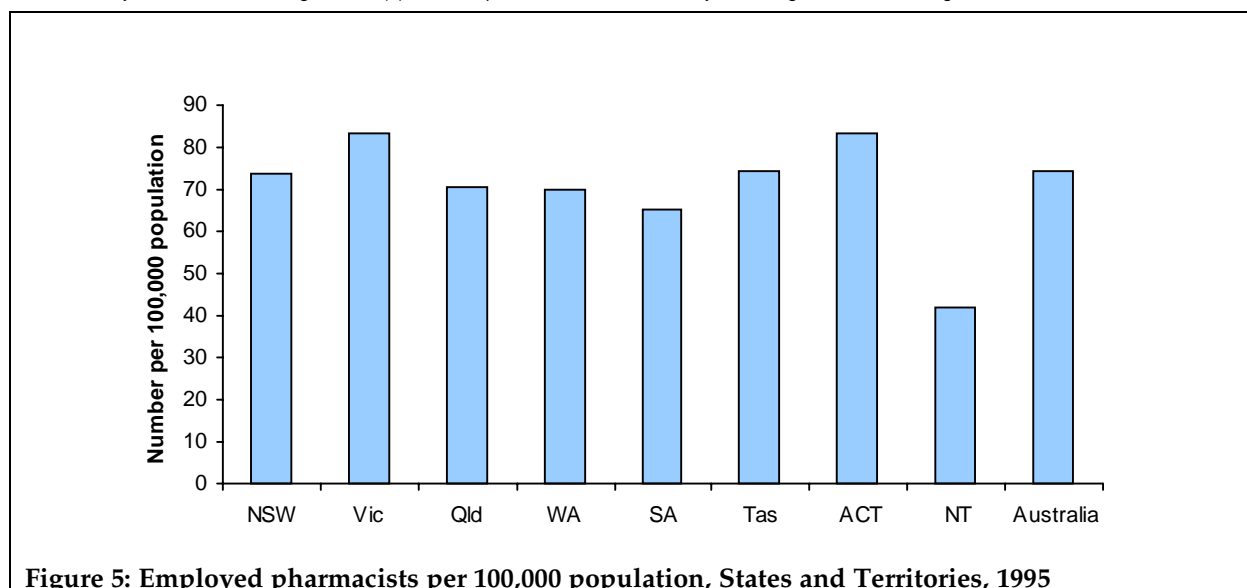


Figure 5: Employed pharmacists per 100,000 population, States and Territories, 1995

Table 4: Registered pharmacists not practising pharmacy in Australia: professional employment status, sex and age, 1995

Professional employment status	Age (years)						Total
	<30	30–39	40–49	50–59	60–69	70+	
	Males						
Practising in pharmacy overseas	36	55	43	39	9	1	184
Looking for work in pharmacy, employed elsewhere	3	5	12	12	7	0	40
Looking for work in pharmacy, not employed	7	6	10	24	35	5	86
Not looking for work in pharmacy, employed elsewhere	9	61	86	161	73	8	398
Not looking for work in pharmacy, not employed	5	21	40	110	238	147	561
<i>Total not working in pharmacy in Australia</i>	<i>60</i>	<i>149</i>	<i>191</i>	<i>346</i>	<i>361</i>	<i>160</i>	<i>1,268</i>
	Females						
Practising in pharmacy overseas	88	76	24	8	3	0	199
Looking for work in pharmacy, employed elsewhere	7	4	18	4	0	0	33
Looking for work in pharmacy, not employed	14	56	42	34	10	4	159
Not looking for work in pharmacy, employed elsewhere	33	85	144	88	18	2	370
Not looking for work in pharmacy, not employed	32	156	107	154	139	43	630
<i>Total not working in pharmacy in Australia</i>	<i>173</i>	<i>377</i>	<i>334</i>	<i>288</i>	<i>169</i>	<i>50</i>	<i>1,392</i>
	All pharmacists						
Practising in pharmacy overseas	125	132	66	47	11	1	383
Looking for work in pharmacy, employed elsewhere	10	10	30	16	7	0	73
Looking for work in pharmacy, not employed	21	62	51	58	45	9	245
Not looking for work in pharmacy, employed elsewhere	41	146	230	250	91	10	768
Not looking for work in pharmacy, not employed	36	177	147	264	377	190	1,191
Total not working in pharmacy in Australia	233	526	526	635	530	210	2,660
	(per cent—males)						
Practising in pharmacy overseas	19.9	30.1	23.3	21.2	4.8	0.7	100.0
Looking for work in pharmacy, employed elsewhere	6.9	13.8	31.0	31.0	17.2	0.0	100.0
Looking for work in pharmacy, not employed	8.3	6.9	11.1	27.8	40.3	5.6	100.0
Not looking for work in pharmacy, employed elsewhere	2.2	15.4	21.7	40.6	18.2	1.9	100.0
Not looking for work in pharmacy, not employed	0.8	3.7	7.2	19.6	42.5	26.2	100.0
<i>Total not working in pharmacy in Australia</i>	<i>4.7</i>	<i>11.7</i>	<i>15.1</i>	<i>27.3</i>	<i>28.5</i>	<i>12.6</i>	<i>100.0</i>
	(per cent—females)						
Practising in pharmacy overseas	44.4	38.4	11.9	4.0	1.3	0.0	100.0
Looking for work in pharmacy, employed elsewhere	20.8	12.5	54.2	12.5	0.0	0.0	100.0
Looking for work in pharmacy, not employed	8.7	34.9	26.2	21.4	6.3	2.4	100.0
Not looking for work in pharmacy, employed elsewhere	8.8	22.9	38.9	23.9	4.9	0.7	100.0
Not looking for work in pharmacy, not employed	5.0	24.8	16.9	24.4	22.0	6.9	100.0
<i>Total not working in pharmacy in Australia</i>	<i>12.5</i>	<i>27.1</i>	<i>24.0</i>	<i>20.7</i>	<i>12.2</i>	<i>3.6</i>	<i>100.0</i>
	(per cent—all pharmacists)						
Practising in pharmacy overseas	32.6	34.4	17.4	12.3	3.0	0.3	100.0
Looking for work in pharmacy, employed elsewhere	13.3	13.2	41.6	22.6	9.4	0.0	100.0
Looking for work in pharmacy, not employed	8.6	25.1	20.9	23.7	18.3	3.5	100.0
Not looking for work in pharmacy, employed elsewhere	5.4	19.0	30.0	32.5	11.8	1.3	100.0
Not looking for work in pharmacy, not employed	3.0	14.9	12.4	22.1	31.6	16.0	100.0
Total not working in pharmacy in Australia	8.8	19.8	19.8	23.9	19.9	7.9	100.0

Table 5: Pharmacy registration and employment trends, States and Territories, 1992–95

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Employed pharmacists									
1992	4,520	3,454	1,951	1,117	795	362	253	73	12,525
1993	4,758	3,490	2,253	1,185	897	358	240	67	13,248
1994	4,714	3,527	2,269	1,206	962	354	227	72	13,331
1995	4,511	3,757	2,311	1,211	958	352	254	73	13,427
% change 1992–95	-0.2	8.8	18.5	8.4	20.5	-2.8	0.4	0.0	7.2
Population ('000s)									
1992	5,962.6	4,455.0	3,030.0	1,658.0	1,456.5	469.8	294.7	168.1	17,494.7
1993	6,004.9	4,472.4	3,109.8	1,677.7	1,460.7	471.7	299.3	170.7	17,667.1
1994	6,060.2	4,487.6	3,187.1	1,703.0	1,466.1	472.9	301.5	173.4	17,854.7
1995	6,127.0	4,517.4	3,265.1	1,733.8	1,469.4	473.7	304.8	177.6	18,071.8
% change 1992–95	2.8	1.4	7.8	4.6	0.9	0.8	3.4	5.7	3.3
Employed pharmacists per 100,000 population									
1992	75.8	77.5	64.4	67.4	54.6	77.1	85.9	43.4	71.6
1993	79.2	78.0	72.4	70.6	61.4	75.9	80.2	39.3	75.0
1994	77.8	78.6	71.2	70.8	65.6	74.9	75.4	41.4	74.7
1995	73.6	83.2	70.8	69.8	65.2	74.3	83.3	41.1	74.3
% change 1992–95	-2.9	7.3	9.9	3.7	19.4	-3.6	-2.9	-5.3	3.8
Registrations									
1992	6,175	4,350	2,845	1,332	886	456	368	273	16,685
1993	6,395	3,713	2,953	1,397	1,008	418	336	234	16,454
1994	6,452	4,340	2,961	1,429	1,068	446	345	251	17,292
1995	6,144	4,412	3,026	1,426	1,070	443	351	248	17,120
% change 1992–95	-0.5	1.4	6.4	7.1	20.8	-2.9	-4.6	-9.2	2.6

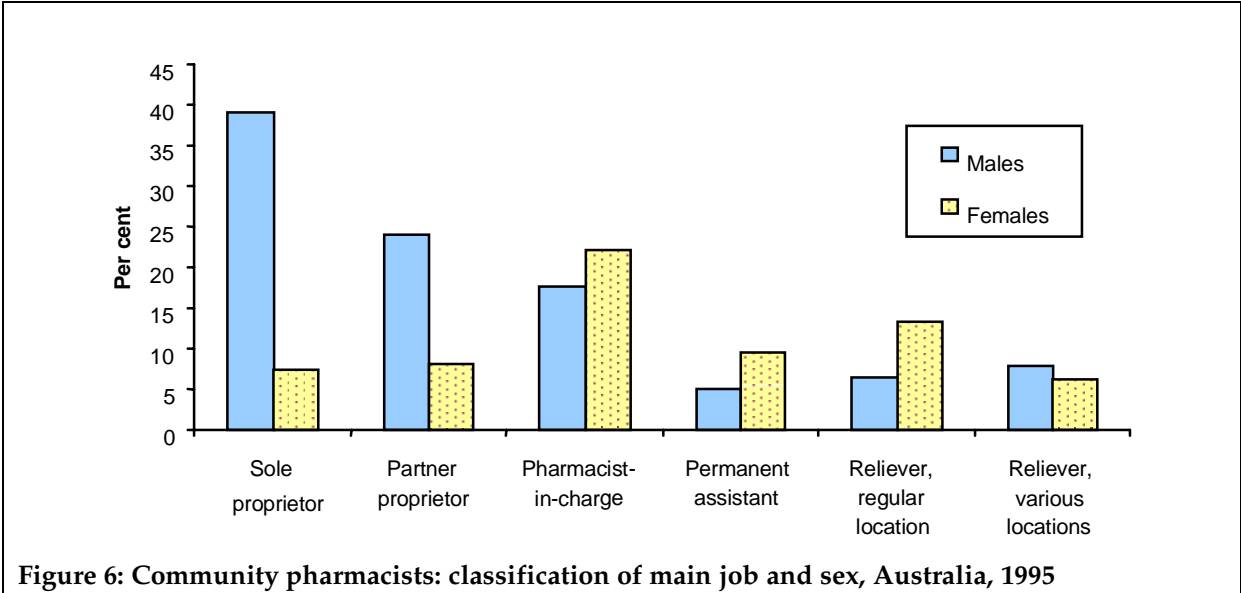
Table 6: Changes in the community and hospital and clinic pharmacy workforce: selected characteristics, Australia, 1992–95

Characteristic	1992	1993	1994	1995
(per cent—community pharmacists)				
Sex				
Female	37.6	38.2	38.7	39.9
Age				
Under 30 years	11.5	13.2	13.0	14.5
30–44 years	32.8	32.4	32.3	31.8
45–64 years	49.6	48.2	48.4	47.3
65 and over	6.1	6.1	6.3	6.4
Classification				
Sole proprietor	30.4	30.3	30.3	27.8
Partner proprietor	20.4	19.6	20.5	19.4
Pharmacist-in-charge	17.4	18.1	20.5	24.0
Permanent assistant	6.8	7.8	8.1	8.6
Reliever, regular location	15.3	15.1	14.4	11.9
Reliever, various locations	9.7	9.1	6.5	8.4
Practice location				
Mall complex	20.5	19.4	19.9	20.0
Non-mall shopping centre	74.5	75.1	75.0	74.3
Medical centre	4.0	5.2	4.8	5.4
Other	1.0	0.3	0.3	0.3
Full-time/part-time status				
Working part time	32.4	32.5	32.3	32.7
(per cent—hospital/clinical pharmacists)				
Sex				
Female	64.0	66.0	67.5	66.9
Age				
Under 30 years	19.8	20.9	21.5	19.7
30–44 years	46.0	44.2	43.0	43.6
45–64 years	33.0	33.7	34.3	35.1
65 and over	1.2	1.2	1.2	1.6
Classification				
Director	19.7	17.3	17.5	15.2
Deputy director	8.1	7.6	7.4	4.6
Senior pharmacist	16.3	18.8	18.7	17.2
Specialist pharmacist	33.3	30.9	26.4	22.5
Staff pharmacist	22.6	25.3	29.9	40.6
Full-time/part-time status				
Working part time	22.1	23.9	23.2	23.6

2 Community pharmacists

In 1995, there were 10,722 pharmacists employed as community pharmacists in their main job, representing 77.7% of all employed pharmacists.

- 39.9% of community pharmacists were female. This proportion varied from a high of 52.7% in the Australian Capital Territory to a low of 36.1% in the Northern Territory.
- The average age of male community pharmacists was 47.4 years—8.0 years older than the average age of female pharmacists.
- Male community pharmacists were predominantly sole proprietors (39.0%) and partner proprietors (24.1%); most females were pharmacists-in-charge (33.4%) and relievers (29.3%). Female pharmacists made up 57.7% of all relievers but just 15.7% of all proprietors and 25.3% of all partner proprietors.
- 52.5% of female community pharmacists worked part time, compared with 19.4% of their male counterparts.
- Community pharmacists worked an average of 37.8 hours per week—42.9 hours for males and 30.3 hours for females. Both male and female pharmacists averaged longer hours—almost 50 hours per week and almost 40 hours per week respectively—in remote areas than in other geographic locations.
- 72.5% of community pharmacists worked in a non-mall shopping centre, 21.3% worked in a mall complex, 5.8% worked in a medical centre and the remaining 0.4% worked in other locations.
- 65.3% and 71.6% of male and female community pharmacists respectively worked in capital cities (which have 63.2% of the population).



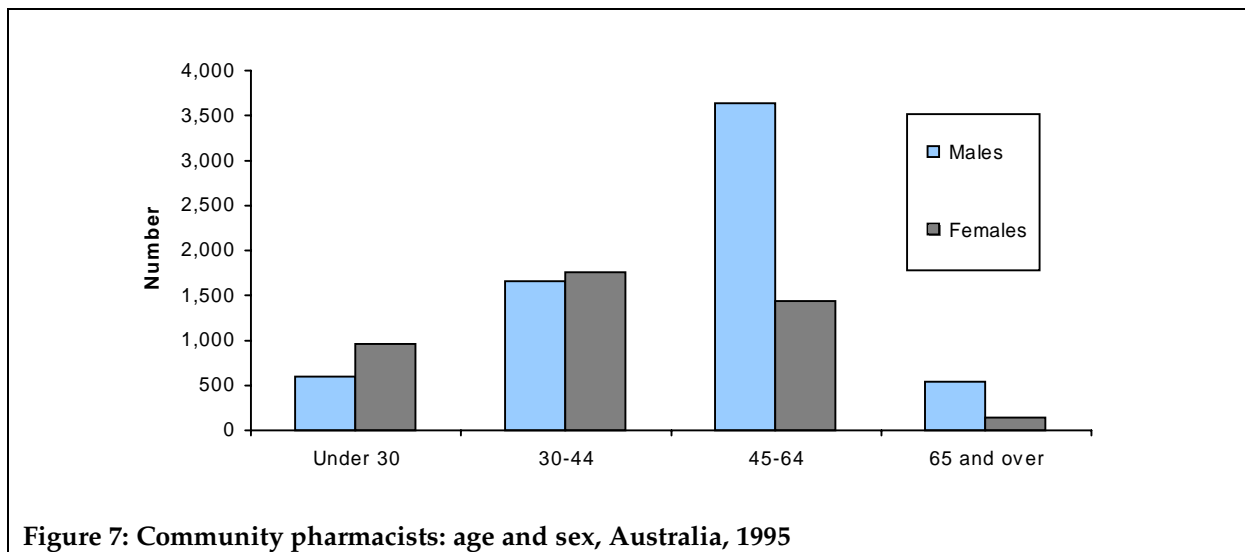


Figure 7: Community pharmacists: age and sex, Australia, 1995

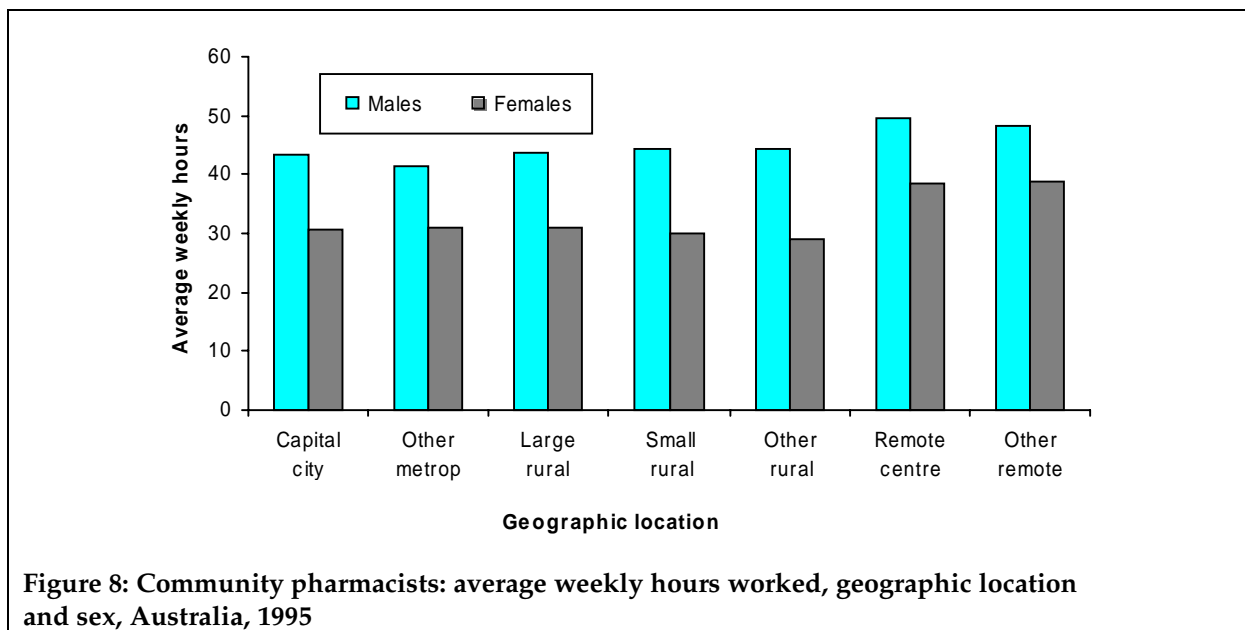


Figure 8: Community pharmacists: average weekly hours worked, geographic location and sex, Australia, 1995

Table 7: Community pharmacists: classification of main job and sex, States and Territories, 1995

Classification	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males									
Sole proprietor	859	627	468	294	146	84	26	7	2,512
Partner proprietor	506	469	255	136	127	37	19	3	1,554
Pharmacist-in-charge	378	281	226	111	108	9	15	10	1,139
Permanent assistant	80	129	56	17	15	6	9	5	315
Reliever, regular location	194	72	68	33	31	11	3	0	414
Reliever, various locations	194	98	108	28	57	15	3	2	505
Total	2,212	1,676	1,181	620	485	162	75	28	6,439
Females									
Sole proprietor	196	98	86	42	21	13	9	5	469
Partner proprietor	202	167	80	34	19	16	6	2	525
Pharmacist-in-charge	408	495	218	142	106	25	31	3	1,430
Permanent assistant	143	256	104	43	35	7	17	0	606
Reliever, regular location	378	130	153	80	74	26	15	2	858
Reliever, various locations	155	63	93	22	28	25	6	3	396
Total	1,482	1,209	735	364	284	112	83	16	4,284
All pharmacists									
Sole proprietor	1,056	725	554	337	167	97	35	12	2,981
Partner proprietor	708	636	335	170	147	53	25	5	2,079
Pharmacist-in-charge	786	776	444	254	214	34	46	14	2,568
Permanent assistant	222	385	160	60	50	13	26	5	921
Reliever, regular location	572	202	222	113	106	38	18	2	1,272
Reliever, various locations	349	162	201	50	86	40	9	5	901
Total	3,693	2,885	1,916	984	769	275	158	44	10,722
(per cent)									
Sole proprietor	28.6	25.1	28.9	34.2	21.7	35.2	22.3	28.0	27.8
Partner proprietor	19.2	22.0	17.5	17.3	19.1	19.5	15.7	12.0	19.4
Pharmacist-in-charge	21.3	26.9	23.2	25.8	27.9	12.5	28.9	32.0	24.0
Permanent assistant	6.0	13.3	8.3	6.1	6.5	4.6	16.3	12.0	8.6
Reliever, regular location	15.5	7.0	11.6	11.5	13.7	13.7	11.2	4.0	11.9
Reliever, various locations	9.5	5.6	10.5	5.1	11.1	14.6	5.5	12.0	8.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(females as a percentage of all pharmacists)									
Sole proprietor	18.6	13.5	15.5	12.5	12.3	13.1	25.1	42.9	15.7
Partner proprietor	28.5	26.2	23.9	20.1	13.1	30.0	22.9	33.4	25.3
Pharmacist-in-charge	52.0	63.8	49.2	56.1	49.4	73.5	67.9	25.0	55.7
Permanent assistant	64.2	66.6	65.2	72.2	70.1	54.8	65.9	0.0	65.8
Reliever, regular location	66.0	64.3	69.2	70.5	70.5	69.9	83.4	100.0	67.5
Reliever, various locations	44.3	39.2	46.2	43.6	33.1	63.1	66.4	66.7	43.9
Total	40.1	41.9	38.3	37.0	36.9	40.9	52.7	36.1	39.9

Table 8: Community pharmacists: age and sex, States and Territories, 1995

Age (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males									
Less than 30	198	175	106	55	38	15	9	4	599
30–44	450	500	274	228	129	59	10	11	1,661
45–64	1,316	908	688	312	270	75	51	11	3,631
65 and over	248	93	114	26	49	14	4	2	549
Total	2,212	1,676	1,181	620	485	162	75	28	6,439
<i>Average age</i>	<i>47.6</i>	<i>46.9</i>	<i>49.5</i>	<i>43.1</i>	<i>48.7</i>	<i>45.4</i>	<i>49.1</i>	<i>43.3</i>	<i>47.4</i>
Females									
Less than 30	292	280	176	109	59	26	13	2	957
30–44	555	473	317	177	135	52	35	9	1,753
45–64	582	422	211	65	84	34	32	5	1,436
65 and over	54	33	30	13	5	0	3	0	137
Total	1,482	1,209	735	364	284	112	83	16	4,284
<i>Average age</i>	<i>40.2</i>	<i>40.5</i>	<i>40.2</i>	<i>31.0</i>	<i>38.4</i>	<i>39.4</i>	<i>40.2</i>	<i>37.2</i>	<i>39.4</i>
All pharmacists									
Less than 30	489	455	282	163	97	41	22	6	1,556
30–44	1,005	973	591	406	264	110	46	20	3,414
45–64	1,898	1,330	900	377	354	109	83	16	5,067
65 and over	301	126	143	38	54	14	7	2	686
Total	3,693	2,885	1,916	984	769	275	158	44	10,722
Average age	44.6	44.2	45.9	38.1	45.0	43.0	44.3	39.4	44.2
(per cent)									
Less than 30	13.3	15.8	14.7	16.6	12.6	15.0	13.8	13.6	14.5
30–44	27.2	33.7	30.9	41.2	34.4	40.2	28.9	44.8	31.8
45–64	51.4	46.1	47.0	38.3	46.0	39.8	52.8	37.6	47.3
65 and over	8.2	4.4	7.5	3.9	7.0	5.0	4.5	4.0	6.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(females as a percentage of all pharmacists)									
Less than 30	59.6	61.5	62.6	66.7	61.0	64.0	59.5	29.5	61.5
30–44	55.2	48.6	53.6	43.7	51.1	46.8	77.5	44.7	51.4
45–64	30.7	31.8	23.5	17.3	23.7	31.4	38.5	32.0	28.3
65 and over	17.8	26.2	20.7	32.7	9.7	0.0	38.7	0.0	19.9
Total	40.1	41.9	38.3	37.0	36.9	40.9	52.7	36.1	39.9

Table 9: Community pharmacists: classification of main job, full-time and part-time status, age and sex, Australia, 1995

Sex/classification	Age (years)				Total	% Total
	Less than 30	30-44	45-64	65 and over		
Full-time						
Males						
Sole proprietor	64	611	1,593	109	2,378	45.8
Partner proprietor	102	496	692	53	1,343	25.9
Pharmacist-in-charge	282	309	353	29	973	18.8
Permanent assistant	78	49	94	4	225	4.3
Reliever, regular location	14	29	40	5	88	1.7
Reliever, various locations	10	21	121	30	182	3.5
<i>Total</i>	<i>550</i>	<i>1,516</i>	<i>2,893</i>	<i>231</i>	<i>5,189</i>	<i>100.0</i>
Females						
Sole proprietor	25	151	199	14	389	19.2
Partner proprietor	27	91	91	7	217	10.7
Pharmacist-in-charge	459	292	129	5	885	43.7
Permanent assistant	222	48	56	4	329	16.3
Reliever, regular location	30	36	38	1	105	5.2
Reliever, various locations	32	35	32	0	99	4.9
<i>Total</i>	<i>794</i>	<i>653</i>	<i>544</i>	<i>32</i>	<i>2,023</i>	<i>100.0</i>
Part-time						
Males						
Sole proprietor	0	22	97	15	134	10.7
Partner proprietor	2	20	136	51	210	16.8
Pharmacist-in-charge	15	31	91	28	165	13.2
Permanent assistant	7	9	54	20	90	7.2
Reliever, regular location	14	42	169	100	326	26.1
Reliever, various locations	11	20	189	103	324	25.9
<i>Total</i>	<i>49</i>	<i>145</i>	<i>738</i>	<i>318</i>	<i>1,250</i>	<i>100.0</i>
Females						
Sole proprietor	0	40	40	0	80	3.5
Partner proprietor	10	155	136	8	309	13.7
Pharmacist-in-charge	61	287	183	13	545	24.1
Permanent assistant	19	149	93	15	277	12.2
Reliever, regular location	55	354	301	44	753	33.3
Reliever, various locations	18	115	140	24	297	13.1
<i>Total</i>	<i>163</i>	<i>1,101</i>	<i>892</i>	<i>105</i>	<i>2,261</i>	<i>100.0</i>
Total						
Males						
Sole proprietor	64	633	1,691	125	2,512	39.0
Partner proprietor	105	516	828	105	1,554	24.1
Pharmacist-in-charge	297	340	444	57	1,139	17.7
Permanent assistant	85	58	148	24	315	4.9
Reliever, regular location	27	72	209	105	414	6.4
Reliever, various locations	20	42	310	133	505	7.8
Total	599	1,661	3,631	549	6,439	100.0
Females						
Sole proprietor	25	191	240	14	469	11.0
Partner proprietor	37	246	226	15	525	12.3
Pharmacist-in-charge	520	579	312	18	1,430	33.4
Permanent assistant	241	197	148	19	606	14.1
Reliever, regular location	85	389	339	45	858	20.0
Reliever, various locations	49	151	171	24	396	9.2
Total	957	1,753	1,436	137	4,284	100.0

Table 10: Community pharmacists: total hours worked per week, geographic location of main job and sex, Australia, 1995

Hours worked per week	Geographic location							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
Males								
1-9	158	21	27	17	47	1	1	272
10-19	206	33	23	12	33	1	1	310
20-29	253	43	20	22	34	1	1	374
30-34	220	32	4	18	18	0	0	293
35-39	311	43	19	32	22	1	0	429
40-49	1,364	161	157	155	233	8	19	2,098
50-59	1,187	156	138	126	273	19	15	1,913
60 and over	507	44	54	45	79	9	11	750
Total	4,207	533	442	428	739	40	50	6,439
<i>Average weekly hours</i>	<i>43.5</i>	<i>41.4</i>	<i>43.7</i>	<i>44.2</i>	<i>44.3</i>	<i>49.7</i>	<i>48.3</i>	<i>42.9</i>
Females								
1-9	322	25	33	26	59	0	4	468
10-19	541	34	39	55	72	5	0	747
20-29	484	53	36	43	48	4	3	670
30-34	273	24	17	20	32	0	0	366
35-39	332	26	16	27	34	1	1	438
40-49	777	70	74	45	92	19	13	1,089
50-59	243	20	25	27	42	5	8	369
60 and over	95	10	8	14	8	0	3	137
Total	3,067	262	247	257	386	34	31	4,284
<i>Average weekly hours</i>	<i>30.5</i>	<i>31.0</i>	<i>30.9</i>	<i>30.0</i>	<i>29.0</i>	<i>38.4</i>	<i>38.8</i>	<i>30.3</i>
All pharmacists								
1-9	480	46	60	43	105	1	5	740
10-19	748	67	62	67	105	6	1	1,057
20-29	737	96	55	65	82	5	4	1,045
30-34	493	55	21	38	51	0	0	659
35-39	644	69	36	59	56	2	1	867
40-49	2,141	231	231	201	325	26	32	3,187
50-59	1,430	175	162	153	314	24	23	2,282
60 and over	601	54	62	59	87	9	14	887
Total	7,274	794	689	685	1,125	74	82	10,722
<i>Average weekly hours</i>	<i>38.0</i>	<i>38.0</i>	<i>39.1</i>	<i>38.8</i>	<i>39.0</i>	<i>44.5</i>	<i>44.5</i>	<i>37.8</i>
(per cent)								
1-9	6.6	5.8	8.6	6.2	9.4	1.9	6.7	6.9
10-19	10.3	8.4	9.1	9.8	9.3	8.5	1.7	9.9
20-29	10.1	12.1	8.0	9.5	7.3	6.8	4.8	9.7
30-34	6.8	7.0	3.1	5.6	4.5	0.0	0.0	6.1
35-39	8.9	8.7	5.2	8.7	4.9	3.4	1.6	8.1
40-49	29.4	29.1	33.5	29.3	28.9	35.5	39.6	29.7
50-59	19.7	22.0	23.6	22.3	27.9	32.1	28.4	21.3
60 and over	8.3	6.9	9.0	8.6	7.7	11.8	17.3	8.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 11: Community pharmacists: year of initial qualification, States and Territories, 1995

Year of initial qualification	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Pre-1940	17	n.a.	8	0	1	1	0	n.a.	n.a.
1940-49	73	n.a.	46	11	24	6	0	n.a.	n.a.
1950-59	730	n.a.	328	100	133	19	27	n.a.	n.a.
1960-69	1,000	n.a.	526	193	184	63	41	n.a.	n.a.
1970-79	732	n.a.	400	208	169	64	27	n.a.	n.a.
1980-89	802	n.a.	455	237	168	74	32	n.a.	n.a.
1990 and later	339	n.a.	151	77	61	34	16	n.a.	n.a.
Not stated	0	2,885	2	158	28	15	16	44	3,147
Total	3,693	2,885	1,916	984	769	275	158	44	10,722
(per cent)									
Pre-1940	0.5	n.a.	0.4	0.0	0.2	0.4	0.0	n.a.	n.a.
1940-49	2.0	n.a.	2.4	1.3	3.2	2.2	0.0	n.a.	n.a.
1950-59	19.8	n.a.	17.1	12.1	17.9	7.1	18.8	n.a.	n.a.
1960-69	27.1	n.a.	27.5	23.3	24.9	24.1	28.7	n.a.	n.a.
1970-79	19.8	n.a.	20.9	25.2	22.8	24.6	18.8	n.a.	n.a.
1980-89	21.7	n.a.	23.8	28.8	22.7	28.6	22.8	n.a.	n.a.
1990 and later	9.2	n.a.	7.9	9.3	8.3	12.9	10.9	n.a.	n.a.
Total	100.0	n.a.	100.0	100.0	100.0	100.0	100.0	n.a.	100.0

Note: Calculations of percentages exclude 'not stated'.

Table 12: Community pharmacists: practice location, States and Territories, 1995

Practice location	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Mall complex	707	433	462	376	195	36	65	24	2,298
Non-mall shopping centre	2,863	2,323	1,204	489	537	231	93	20	7,761
Medical centre	118	112	238	116	31	7	0	0	622
Other	5	17	12	3	5	0	0	0	42
Total	3,693	2,885	1,916	984	769	275	158	44	10,722
(per cent)									
Mall complex	19.1	15.0	24.1	38.2	25.4	13.2	41.3	54.2	21.3
Non-mall shopping centre	77.5	80.5	62.9	49.7	69.8	84.3	58.7	45.8	72.5
Medical centre	3.2	3.9	12.4	11.8	4.1	2.5	0.0	0.0	5.8
Other	0.1	0.6	0.6	0.3	0.7	0.0	0.0	0.0	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 13: Community pharmacists: practice location, classification of main job and sex, Australia, 1995

Classification	Practice location				Total
	Mall complex	Non-mall shopping centre	Medical centre	Other	
Males					
Sole proprietor	436	1,929	144	2	2,512
Proprietor partner	328	1,138	81	6	1,554
Pharmacist-in-charge	312	720	102	5	1,139
Permanent assistant	87	211	14	3	315
Reliever, regular location	84	308	21	0	414
Reliever, various locations	82	412	11	0	505
<i>Total</i>	<i>1,330</i>	<i>4,719</i>	<i>373</i>	<i>16</i>	<i>6,439</i>
Females					
Sole proprietor	64	382	23	0	469
Proprietor partner	94	402	29	0	525
Pharmacist-in-charge	396	900	123	10	1,430
Permanent assistant	159	412	24	10	606
Reliever, regular location	181	644	31	2	858
Reliever, various locations	68	306	19	2	396
<i>Total</i>	<i>963</i>	<i>3,047</i>	<i>249</i>	<i>25</i>	<i>4,284</i>
All pharmacists					
Sole proprietor	501	2,311	167	2	2,981
Proprietor partner	423	1,540	110	6	2,079
Pharmacist-in-charge	708	1,620	225	15	2,568
Permanent assistant	247	624	38	12	921
Reliever, regular location	265	952	52	2	1,272
Reliever, various locations	150	719	30	2	901
<i>Total</i>	<i>2,294</i>	<i>7,766</i>	<i>622</i>	<i>41</i>	<i>10,722</i>
(per cent)					
Sole proprietor	21.8	29.8	26.9	6.1	27.8
Proprietor partner	18.4	19.8	17.7	15.3	19.4
Pharmacist-in-charge	30.9	20.9	36.2	36.2	24.0
Permanent assistant	10.8	8.0	6.1	30.6	8.6
Reliever, regular location	11.6	12.3	8.4	5.8	11.9
Reliever, various locations	6.5	9.3	4.8	6.1	8.4
Total	100.0	100.0	100.0	100.0	100.0
(females as a percentage of all pharmacists)					
Sole proprietor	12.9	16.5	13.8	0.0	15.7
Proprietor partner	22.3	26.1	26.3	0.0	25.3
Pharmacist-in-charge	56.0	55.5	54.8	66.6	55.7
Permanent assistant	64.6	66.1	63.0	79.9	65.8
Reliever, regular location	68.2	67.6	59.4	100.0	67.5
Reliever, various locations	45.4	42.6	63.2	100.0	43.9
Total	42.0	39.2	40.0	60.4	39.9

Table 14: Community pharmacists: practice location, full-time and part-time status, age and sex, Australia, 1995

Practice location	Age (years)				Total	% Total
	Less than 30	30–44	45–64	65 and over		
Full-time						
Males						
Mall complex	164	351	543	18	1,075	20.7
Non-mall shopping centre	332	1,051	2,198	200	3,782	72.9
Medical centre	53	109	144	12	318	6.1
Other	1	5	7	0	14	0.3
<i>Total</i>	<i>550</i>	<i>1,516</i>	<i>2,893</i>	<i>231</i>	<i>5,189</i>	<i>100.0</i>
Females						
Mall complex	204	149	0	8	361	17.8
Non-mall shopping centre	528	460	544	22	1,555	76.9
Medical centre	54	44	0	2	99	4.9
Other	8	0	0	0	8	0.4
<i>Total</i>	<i>794</i>	<i>653</i>	<i>544</i>	<i>32</i>	<i>2,023</i>	<i>100.0</i>
Part-time						
Males						
Mall complex	17	33	147	59	256	20.5
Non-mall shopping centre	26	96	559	255	936	74.9
Medical centre	6	16	29	4	56	4.4
Other	0	0	2	0	2	0.2
<i>Total</i>	<i>49</i>	<i>145</i>	<i>738</i>	<i>318</i>	<i>1,250</i>	<i>100.0</i>
Females						
Mall complex	47	254	134	19	454	20.1
Non-mall shopping centre	109	776	722	86	1,693	74.9
Medical centre	8	67	32	0	107	4.7
Other	0	4	4	0	7	0.3
<i>Total</i>	<i>163</i>	<i>1,101</i>	<i>892</i>	<i>105</i>	<i>2,261</i>	<i>100.0</i>
Total						
Males						
Mall complex	181	384	690	77	1,331	20.7
Non-mall shopping centre	357	1,147	2,758	456	4,718	73.3
Medical centre	59	125	173	16	373	5.8
Other	1	5	10	0	16	0.3
<i>Total</i>	<i>599</i>	<i>1,661</i>	<i>3,631</i>	<i>549</i>	<i>6,439</i>	<i>100.0</i>
Females						
Mall complex	251	403	134	27	815	19.0
Non-mall shopping centre	637	1,236	1,267	108	3,248	75.8
Medical centre	61	111	32	2	206	4.8
Other	8	4	4	0	15	0.3
Total	957	1,753	1,436	137	4,284	100.0
(females as a percentage of all pharmacists)						
Full-time						
Mall complex	55.5	29.8	0.0	29.7	25.1	46.2
Non-mall shopping centre	61.4	30.4	19.8	10.0	29.1	51.3
Medical centre	50.4	28.7	0.0	13.1	23.8	44.5
Other	86.3	0.0	0.0	..	36.4	59.5
Total	59.1	30.1	15.8	12.1	28.0	50.0
Part-time						
Mall complex	73.6	88.4	47.7	24.8	64.0	49.5
Non-mall shopping centre	80.9	89.0	56.4	25.1	64.4	50.0
Medical centre	54.3	80.8	52.2	0.0	65.8	51.5
Other	..	100.0	58.6	..	74.2	61.4
Total	76.9	88.4	54.7	24.8	64.4	50.0

3 Hospital and clinic pharmacists

The main job of 1,950 pharmacists in 1995—or 14.5% of all employed pharmacists—was employment in hospitals and clinics.

- 66.9% of these pharmacists were female. This proportion varied considerably across States and Territories, from 47.9% in Western Australia to 87.6% in the Australian Capital Territory.
- Most male hospital pharmacists were employed as directors (27.3%), senior pharmacists (21.1%) and staff pharmacists (21.6%), while female hospital pharmacists were predominantly employed as staff pharmacists (47.0%) and specialist pharmacists (25.5%). 40.2% of all directors of pharmacy units were female.
- 47.4% of female hospital pharmacists were aged 30–44 years whereas 49.2% of males were aged 45–64 years.
- 32.3% of female hospital pharmacists worked part time, compared with 6.3% of males. Females were more likely to work part time when aged 30–44 years, with 41.6% of females in this age group working less than 35 hours per week.
- 52.1% of female staff pharmacists worked part-time compared with 12.5% of female directors and deputy directors.
- 88.8% of hospital and clinic pharmacists were public sector employees, of whom 91.3% worked in a public hospital (excluding psychiatric hospitals).
- Hospital pharmacists worked an average of 36.8 hours per week (40.4 hours for males and 35.0 hours for females).
- 83.1% of hospital pharmacists worked in capital cities and other metropolitan areas, 15.6% worked in rural areas and the remaining 1.3% worked in remote areas. In comparison, 63.2% of the population lived in capital cities and 16.1% lived in other rural and remote areas.

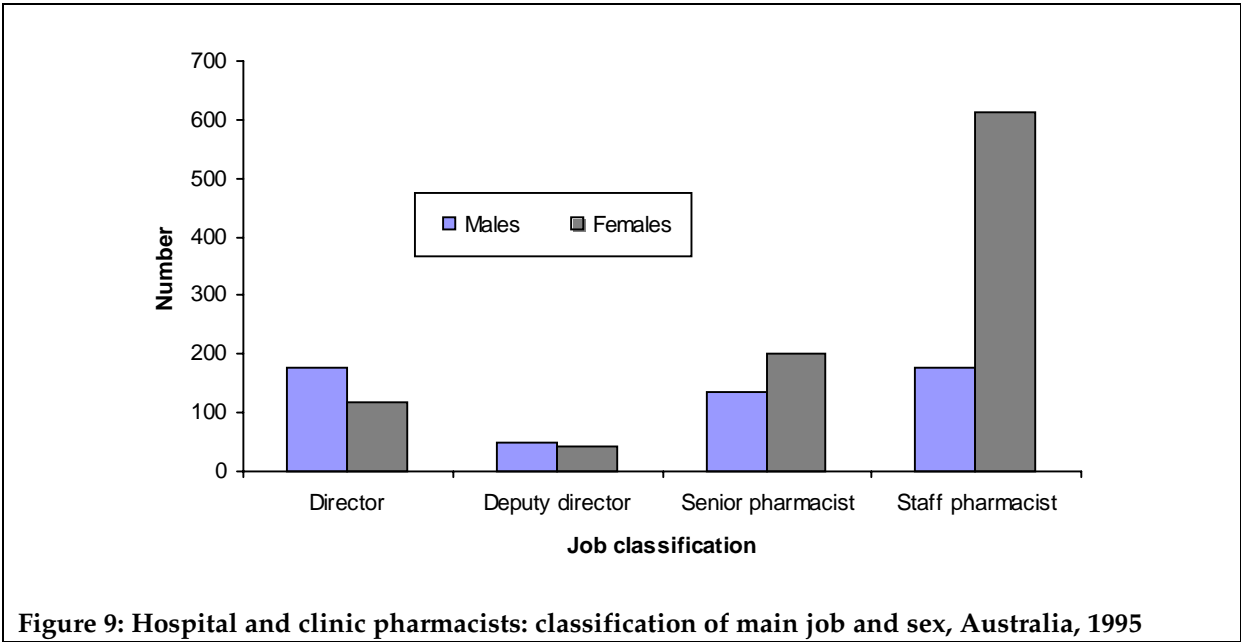


Figure 9: Hospital and clinic pharmacists: classification of main job and sex, Australia, 1995

Table 15: Hospital and clinic pharmacists: classification of main job and sex, States and Territories, 1995

Classification	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males									
Director	42	59	27	27	15	5	0	3	177
Deputy director	12	15	5	7	7	2	0	0	49
Senior pharmacist	15	53	9	29	19	3	1	6	136
Specialist pharmacist	37	32	21	13	n.a.	0	3	n.a.	107
Staff pharmacist	32	40	65	16	19	6	0	0	178
Total	138	199	127	92	59	16	4	10	646
Females									
Director	60	30	16	0	4	1	1	5	119
Deputy director	14	17	2	3	0	1	1	2	40
Senior pharmacist	59	61	25	17	25	3	7	2	200
Specialist pharmacist	109	139	31	34	n.a.	3	15	n.a.	332
Staff pharmacist	157	205	124	29	61	27	6	4	613
Total	399	452	199	84	90	36	30	13	1,304
All pharmacists									
Director	102	89	43	27	19	6	1	9	295
Deputy director	26	32	7	10	7	3	1	2	89
Senior pharmacist	75	114	35	46	43	7	8	8	336
Specialist pharmacist	146	171	52	48	n.a.	3	18	n.a.	439
Staff pharmacist	189	246	189	45	80	33	6	4	791
Total	538	651	326	176	149	52	35	22	1,950
(per cent)									
Director	19.0	13.7	13.3	15.1	12.6	10.9	4.0	38.7	15.2
Deputy director	4.8	4.9	2.2	5.8	5.0	6.5	4.0	8.1	4.6
Senior pharmacist	13.9	17.5	10.7	26.1	29.0	13.0	24.0	36.9	17.2
Specialist pharmacist	27.2	26.2	16.1	27.2	n.a.	6.5	52.1	n.a.	22.5
Staff pharmacist	35.2	37.7	57.8	25.8	53.4	63.1	15.9	16.2	40.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(females as a percentage of all pharmacists)									
Director	59.1	34.2	37.4	0.0	20.8	20.0	100.0	62.8	40.2
Deputy director	53.2	52.0	32.9	33.8	0.0	33.4	100.0	100.0	45.4
Senior pharmacist	79.4	53.5	73.0	37.5	57.1	50.0	82.8	22.0	59.4
Specialist pharmacist	74.5	81.2	59.5	71.8	n.a.	100.0	84.1	n.a.	75.6
Staff pharmacist	83.2	83.5	65.6	64.3	76.7	82.8	100.0	100.0	77.5
Total	74.3	69.4	61.0	47.9	60.2	69.6	87.6	56.8	66.9

Note: The questionnaires for South Australia and the Northern Territory excluded 'Specialist pharmacist' as an option.

Table 16: Hospital and clinic pharmacists: classification of main job, full-time and part-time status, age and sex, Australia, 1995

Sex/classification	Age (years)				Total	% total
	Less than 30	30-44	45-64	65 and over		
Full-time						
Males						
Director	3	56	112	1	171	28.3
Deputy director	0	31	18	0	49	8.0
Senior pharmacist	7	63	56	6	132	21.8
Specialist pharmacist	33	37	29	4	103	17.0
Staff pharmacist	25	43	77	5	150	24.8
<i>Total</i>	<i>68</i>	<i>230</i>	<i>292</i>	<i>16</i>	<i>605</i>	<i>100.0</i>
Females						
Director	6	38	54	1	100	11.3
Deputy director	4	20	15	0	39	4.4
Senior pharmacist	17	113	46	0	176	19.9
Specialist pharmacist	129	84	40	0	253	28.6
Staff pharmacist	146	105	65	0	317	35.8
<i>Total</i>	<i>303</i>	<i>360</i>	<i>220</i>	<i>1</i>	<i>884</i>	<i>100.0</i>
Part-time						
Males						
Director	0	0	5	0	5	12.9
Deputy director	0	0	0	0	0	0.0
Senior pharmacist	0	0	4	0	4	10.5
Specialist pharmacist	0	0	4	0	4	9.2
Staff pharmacist	0	5	13	10	27	67.4
<i>Total</i>	<i>0</i>	<i>5</i>	<i>26</i>	<i>10</i>	<i>41</i>	<i>100.0</i>
Females						
Director	0	11	8	0	19	4.5
Deputy director	0	1	0	0	1	0.3
Senior pharmacist	0	13	11	0	24	5.7
Specialist pharmacist	1	54	23	0	79	18.8
Staff pharmacist	12	177	103	4	297	70.6
<i>Total</i>	<i>14</i>	<i>256</i>	<i>146</i>	<i>4</i>	<i>420</i>	<i>100.0</i>
Total						
Males						
Director	3	56	117	1	177	27.3
Deputy director	0	31	18	0	49	7.5
Senior pharmacist	7	63	60	6	136	21.1
Specialist pharmacist	33	37	33	4	107	16.6
Staff pharmacist	25	48	90	15	178	27.5
<i>Total</i>	<i>68</i>	<i>235</i>	<i>318</i>	<i>26</i>	<i>646</i>	<i>100.0</i>
Females						
Director	6	49	63	1	119	9.1
Deputy director	4	21	15	0	40	3.1
Senior pharmacist	17	125	57	0	200	15.3
Specialist pharmacist	130	139	63	0	332	25.4
Staff pharmacist	159	282	168	4	613	47.0
<i>Total</i>	<i>316</i>	<i>616</i>	<i>366</i>	<i>5</i>	<i>1,304</i>	<i>100.0</i>
All pharmacists						
Director	9	104	180	3	295	15.2
Deputy director	4	52	33	0	89	4.6
Senior pharmacist	24	188	117	6	336	17.2
Specialist pharmacist	163	176	96	4	439	22.5
Staff pharmacist	184	330	258	19	791	40.6
Total	384	851	684	31	1,950	100.0

Table 17: Hospital and clinic pharmacists: classification of main job, full-time and part-time status and industry, Australia, 1995

Industry	Classification of main job					Total
	Director	Deputy director	Senior pharmacist	Specialist pharmacist	Staff pharmacist	
Full-time						
Public sector						
Hospital (excl. psych. hospital)	211	80	255	308	386	1,240
Psychiatric hospital	11	1	9	11	21	54
Nursing home	*	*	*	*	*	*
Medical centre	*	*	*	*	*	*
Defence forces	4	0	6	1	7	17
Other	5	0	4	0	5	14
<i>Total public sector</i>	<i>238</i>	<i>81</i>	<i>277</i>	<i>325</i>	<i>429</i>	<i>1,350</i>
Private sector						
Hospital (excl. psych. hospital)	30	7	28	26	37	127
Other	4	0	3	5	1	12
<i>Total private sector</i>	<i>33</i>	<i>7</i>	<i>31</i>	<i>31</i>	<i>38</i>	<i>140</i>
<i>Total</i>	<i>271</i>	<i>88</i>	<i>308</i>	<i>356</i>	<i>467</i>	<i>1,489</i>
Part-time						
Public sector						
Hospital (excl. psych. hospital)	14	0	20	68	248	351
Psychiatric hospital	2	0	1	3	20	26
Nursing home	*	*	*	*	*	*
Medical centre	*	*	*	*	*	*
Defence forces	0	0	0	0	4	4
Other	1	0	2	3	1	7
<i>Total public sector</i>	<i>18</i>	<i>0</i>	<i>23</i>	<i>75</i>	<i>277</i>	<i>393</i>
Private sector						
Hospital (excl. psych. hospital)	6	1	4	7	40	58
Other	0	0	1	1	7	10
<i>Total private sector</i>	<i>6</i>	<i>1</i>	<i>5</i>	<i>8</i>	<i>47</i>	<i>68</i>
<i>Total</i>	<i>24</i>	<i>1</i>	<i>28</i>	<i>83</i>	<i>324</i>	<i>460</i>
Total						
Public sector						
Hospital (excl. psych. hospital)	226	80	275	376	635	1,591
Psychiatric hospital	14	1	10	14	41	80
Nursing home	5	0	3	1	9	17
Medical centre	1	0	1	5	5	12
Defence forces	4	0	6	1	10	21
Other	6	0	6	3	6	21
<i>Total public sector</i>	<i>256</i>	<i>81</i>	<i>300</i>	<i>400</i>	<i>705</i>	<i>1,742</i>
Private sector						
Hospital (excl. psych. hospital)	36	8	32	33	77	185
Other	4	0	4	6	9	22
<i>Total private sector</i>	<i>40</i>	<i>8</i>	<i>35</i>	<i>39</i>	<i>85</i>	<i>207</i>
Total	295	89	336	439	791	1,950

* Estimate suppressed for confidentiality.

Table 18: Hospital and clinic pharmacists: total hours worked per week, geographic location of main job and sex, Australia, 1995

Hours worked per week	Geographic location							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
Males								
1-9	6	0	0	1	0	0	*	9
10-19	5	1	0	0	1	0	*	7
20-29	14	2	0	2	0	0	*	17
30-34	6	0	0	1	0	0	*	8
35-39	128	9	26	16	13	5	*	198
40-49	236	18	21	33	12	3	*	325
50-59	46	4	6	1	1	0	*	59
60 and over	15	5	2	0	0	0	*	22
Total	456	40	56	55	27	7	5	646
<i>Average weekly hours</i>	<i>41.0</i>	<i>43.8</i>	<i>42.8</i>	<i>38.7</i>	<i>38.5</i>	<i>39.0</i>	<i>32.5</i>	<i>40.4</i>
Females								
1-9	31	3	0	0	1	0	*	35
10-19	95	6	8	6	4	0	*	121
20-29	128	17	9	12	11	0	*	176
30-34	69	11	6	1	1	0	*	89
35-39	239	13	18	17	10	3	*	300
40-49	397	38	28	15	13	3	*	498
50-59	49	5	1	3	0	0	*	58
60 and over	22	1	1	1	0	0	*	25
Total	1,030	94	73	55	40	6	6	1,304
<i>Average weekly hours</i>	<i>35.3</i>	<i>35.2</i>	<i>34.8</i>	<i>34.6</i>	<i>30.6</i>	<i>38.8</i>	<i>34.6</i>	<i>35.0</i>
All pharmacists								
1-9	37	3	0	1	1	0	*	44
10-19	100	8	8	6	5	0	*	129
20-29	141	18	9	13	11	0	*	193
30-34	75	11	6	3	1	0	*	97
35-39	367	22	44	33	23	8	*	499
40-49	633	57	50	48	25	5	6	824
50-59	95	9	8	4	1	0	0	117
60 and over	37	6	4	1	0	0	0	48
Total	1,486	134	128	110	67	13	12	1,950
<i>Average weekly hours</i>	<i>37.0</i>	<i>37.7</i>	<i>38.2</i>	<i>36.6</i>	<i>33.8</i>	<i>38.8</i>	<i>33.7</i>	<i>36.8</i>
(per cent)								
1-9	2.5	1.9	0.0	1.4	2.0	0.0	*	2.3
10-19	6.8	5.7	6.1	5.8	7.7	0.0	*	6.6
20-29	9.5	13.7	7.1	12.1	15.8	0.0	*	9.9
30-34	5.1	8.6	5.1	2.3	2.0	0.0	*	5.0
35-39	24.7	16.5	34.1	29.9	33.6	60.4	*	25.6
40-49	42.6	42.3	38.7	44.0	37.1	39.6	50.0	42.3
50-59	6.4	6.6	6.0	3.5	1.9	0.0	0.0	6.0
60 and over	2.5	4.7	2.9	1.2	0.0	0.0	0.0	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Estimate suppressed for confidentiality.

4 Geographic overview

Key geographic issues for pharmacy workforce planning have been raised at State and national pharmacy workshops in recent years, including:

- the adequacy of pharmacy services to rural and remote areas;
- the impact of the ageing of the existing pharmacy workforce in these areas on the provision of services in the future; and
- whether there will be sufficient younger pharmacists willing to replace retiring rural pharmacists, given that rural pharmacies in small towns are more likely to be single pharmacist practices and the majority of younger pharmacists are women who may be less willing to work full time and in a proprietor role. In medicine, female general practitioners are less likely to practise in rural areas than are males.

The following tables suggest that the full-time equivalent provision of pharmacists per person in large and small rural centres in most States was similar to or exceeded that in non-capital city metropolitan areas. Outside these areas, the dispersed populations and small towns, coupled with lower average per person Medicare consultations with general practitioners, reduce the demand for and financial viability of pharmacy practice. In 1995–96, there were 4,853 general practice Medicare consultations per 1,000 persons in large rural centres, 4,617 in small rural centres, 4,188 in other rural areas and 3,693 in remote centres. The decline in full-time equivalent pharmacists per 100,000 population from 69.6 in small rural centres to 51.0 in other rural areas and 52.0 in remote centres reflected this gradient in demand.

In respect of the age structure of the pharmacy workforce in rural and remote areas (with the exception of remote centres), the percentage of employed pharmacists aged 65 years or more was much higher outside capital cities, although this partly reflected the relatively greater hospital pharmacy employment in capital cities. However, the proportion of pharmacists aged 65 years or more in metropolitan areas outside of the capital cities (9.1%) was higher than the 7.3% in large rural centres and 6.1% in small rural centres.

Of the 215 older pharmacists in rural and remote areas, 182 (84.7%) were males. Three hundred and thirty-four pharmacists in rural and remote areas in 1995 were aged less than 30 years, of whom 221 were female (representing 66.2% of the workforce). This suggests that, unlike medicine, there does not appear to be a problem in attracting female pharmacists to work in rural areas. Whether there are sufficient male and female pharmacists willing to replace retiring, full-time rural pharmacists in one-person pharmacies cannot be evaluated from the data available from the pharmacy labour force survey.

Table 19: Employed pharmacists and full-time equivalent pharmacists per 100,000 population: geographic location of main job, States and Territories, 1995

Geographic location	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Number of pharmacists per 100,000 population^(a)									
Capital city	84.4	89.5	86.1	77.9	73.3	91.3	83.6	72.1	84.3
Other metropolitan centre	59.4	84.4	70.9	..	..	..	..	..	65.7
Large rural centre	68.5	77.6	77.9	..	51.9	74.8	..	..	74.4
Small rural centre	53.7	86.0	71.5	74.9	60.8	76.1	..	..	67.6
Other rural centre	55.1	54.9	38.7	54.3	40.1	49.7	0.0	0.0	49.3
Remote centre	..	..	43.1	45.2	..	..	..	47.1	44.6
Other remote area	33.3	35.4	32.6	24.5	20.6	44.8	..	38.3	30.8
Total	73.8	83.4	70.5	69.9	65.0	74.4	83.5	42.0	74.4
Full-time equivalents^(b) per 100,000 population									
Capital city	66.6	73.2	66.9	63.3	58.4	70.2	69.4	60.5	67.5
Other metropolitan centre	46.8	66.5	58.0	..	..	..	..	..	52.5
Large rural centre	52.8	65.1	61.6	..	43.7	59.7	..	..	59.3
Small rural centre	41.6	71.0	58.6	61.3	46.3	63.0	..	..	54.3
Other rural centre	41.1	43.6	31.8	44.3	31.4	36.6	0.0	0.0	38.5
Remote centre	..	..	37.6	37.1	..	..	..	44.3	38.4
Other remote area	26.8	33.9	26.3	21.0	14.8	41.0	..	32.9	25.5
Total	58.0	68.2	56.7	57.9	51.9	57.9	69.3	45.2	59.9
Full-time equivalents^(c) per 100,000 population									
Capital city	84.0	93.7	86.7	82.4	72.4	86.6	88.1	74.4	85.9
Other metropolitan centre	59.1	81.0	75.9	..	..	..	..	..	66.7
Large rural centre	68.0	81.8	82.7	..	55.6	80.8	..	..	77.6
Small rural centre	53.7	89.0	75.4	78.0	61.8	81.8	..	..	69.6
Other rural centre	54.0	56.0	43.8	61.2	43.0	47.1	0.0	0.0	51.0
Remote centre	..	..	51.6	49.3	..	..	..	60.2	52.0
Other remote area	35.7	45.2	38.0	31.6	19.0	41.0	..	41.9	35.4
Total	73.7	87.0	74.6	75.9	65.4	73.7	88.0	57.0	76.8

(a) Estimated resident population as at 30 June 1995.

(b) Calculated on the basis that all pharmacists working 35 or more hours per week are counted as one FTE and all those working less than 35 hours per week are a portion of an FTE.

(c) Calculated on the basis that hours worked are divided by 35 for all pharmacists—that is, a pharmacist working 70 hours per week equals two FTEs; one working 21 hours equals 0.6 FTEs.

Table 20: Employed pharmacists: age, geographic location of main job and sex, Australia, 1995

Age (years)	Geographic location							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
Males								
Less than 30	529	53	41	40	29	3	0	694
30–44	1,350	121	111	142	205	18	17	1,962
45–64	2,772	343	296	266	461	24	29	4,193
65 and over	362	69	52	38	80	3	9	614
<i>Total</i>	<i>5,013</i>	<i>586</i>	<i>500</i>	<i>486</i>	<i>775</i>	<i>47</i>	<i>55</i>	<i>7,463</i>
<i>Average age</i>	<i>47.6</i>	<i>50.2</i>	<i>49.7</i>	<i>47.8</i>	<i>51.0</i>	<i>47.6</i>	<i>51.0</i>	<i>48.6</i>
Females								
Less than 30	1,067	61	77	61	65	13	5	1,350
30–44	1,860	153	135	142	210	19	15	2,533
45–64	1,440	131	99	100	142	7	16	1,935
65 and over	97	17	8	11	13	0	1	147
<i>Total</i>	<i>4,464</i>	<i>363</i>	<i>319</i>	<i>313</i>	<i>430</i>	<i>39</i>	<i>37</i>	<i>5,964</i>
<i>Average age</i>	<i>39.9</i>	<i>42.6</i>	<i>39.9</i>	<i>41.2</i>	<i>41.9</i>	<i>35.7</i>	<i>43.1</i>	<i>40.4</i>
All pharmacists								
Less than 30	1,596	114	118	101	94	16	5	2,044
30–44	3,210	273	246	283	415	37	32	4,495
45–64	4,212	475	395	365	603	31	45	6,128
65 and over	458	87	60	49	93	3	10	760
Total	9,477	949	819	798	1,205	86	93	13,426
Average age	44.0	47.3	45.9	45.2	47.7	42.1	47.8	45.0
(per cent)								
Less than 30	16.8	12.0	14.4	12.6	7.8	18.5	5.6	15.2
30–44	33.9	28.8	30.1	35.5	34.4	42.4	34.6	33.5
45–64	44.4	50.1	48.2	45.8	50.0	35.6	48.8	45.6
65 and over	4.8	9.1	7.3	6.1	7.8	3.5	11.0	5.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 21: Employed pharmacists: total hours worked per week, geographic location of main job and sex, Australia, 1995

Hours worked per week	Geographic location							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
Males								
1-9	186	22	27	19	49	1	3	307
10-19	221	36	23	12	36	1	1	331
20-29	279	47	20	24	34	1	1	407
30-34	235	32	4	21	19	0	0	311
35-39	486	52	44	48	36	6	1	673
40-49	1,744	189	178	188	248	10	22	2,579
50-59	1,310	160	146	128	274	18	15	2,052
60 and over	551	49	57	45	80	9	11	803
Total	5,013	586	500	486	775	47	55	7,463
<i>Average weekly hours</i>	<i>43.5</i>	<i>42.0</i>	<i>44.1</i>	<i>43.9</i>	<i>44.5</i>	<i>48.2</i>	<i>48.0</i>	<i>43.3</i>
Females								
1-9	367	30	33	26	61	0	4	521
10-19	655	41	47	61	78	5	1	887
20-29	658	73	45	56	60	4	3	898
30-34	359	35	24	21	34	0	0	473
35-39	632	39	34	44	44	4	3	799
40-49	1,313	108	102	60	104	21	17	1,725
50-59	343	25	26	30	41	5	8	478
60 and over	137	12	9	15	8	0	3	183
Total	4,464	363	319	313	430	39	37	5,964
<i>Average weekly hours</i>	<i>32.5</i>	<i>32.4</i>	<i>32.4</i>	<i>31.1</i>	<i>29.6</i>	<i>38.5</i>	<i>39.4</i>	<i>32.3</i>
All pharmacists								
1-9	554	51	60	45	110	1	7	828
10-19	876	77	70	73	113	6	3	1,218
20-29	937	120	65	80	95	5	4	1,305
30-34	594	67	28	42	52	0	0	783
35-39	1,118	91	78	92	79	10	4	1,472
40-49	3,057	297	280	248	352	31	39	4,304
50-59	1,653	185	171	159	315	23	23	2,530
60 and over	688	60	66	60	88	9	14	986
Total	9,477	949	819	798	1,205	86	93	13,426
<i>Average weekly hours</i>	<i>38.3</i>	<i>38.3</i>	<i>39.6</i>	<i>38.8</i>	<i>39.2</i>	<i>43.7</i>	<i>44.4</i>	<i>38.4</i>
(per cent)								
1-9	5.8	5.4	7.3	5.6	9.2	1.6	7.4	6.2
10-19	9.2	8.1	8.5	9.1	9.4	7.3	2.9	9.1
20-29	9.9	12.7	7.9	10.0	7.9	5.9	4.2	9.7
30-34	6.3	7.0	3.4	5.3	4.3	0.0	0.0	5.8
35-39	11.8	9.6	9.6	11.5	6.6	11.7	4.2	11.0
40-49	32.3	31.3	34.2	31.1	29.2	36.2	41.6	32.1
50-59	17.4	19.5	20.9	19.9	26.2	27.3	24.7	18.8
60 and over	7.3	6.4	8.1	7.5	7.3	10.0	15.1	7.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

5 Migration and education

5.1 Migration

There were 383 Australian-registered pharmacists working overseas in 1995. To measure the migration flows of pharmacists to and from Australia, the Department of Immigration and Multicultural Affairs provided data on the numbers of pharmacists who arrived in and left Australia permanently and also temporarily for the purposes of education and employment.

- From 1992–93 to 1995–96, 71–125 Australian pharmacists per year temporarily migrated overseas for employment. Asian countries were the most popular destination in 1995–96. In the same year, 21 overseas pharmacists temporarily migrated to Australia for employment.
- In 1995–96, 31 Australian pharmacists permanently migrated from Australia and 119 overseas pharmacists permanently migrated to Australia. The latter group comprised 39 from Asia, 23 from the Middle East and Africa, 20 from the United Kingdom and Ireland and 12 from New Zealand.

Pharmacists with pharmacy qualifications gained in New Zealand, the United Kingdom and Ireland are automatically recognised for practice by State and Territory pharmacy registration boards. Pharmacists with qualifications gained in other countries must have their skills assessed by the Australian Pharmacy Examining Council in preliminary and final examinations. In 1996–97, 22 of 44 passed the preliminary examination, and 10 of 20 passed the final examination. Eight of the 10 successful pharmacists were female (*1996–97 Annual Report of the Department of Employment, Education, Training and Youth Affairs*, p. 88).

Table 22: Temporary migration of pharmacists to and from Australia, 1992–93 to 1995–96

Purpose/category	1992–93	1993–94	1994–95	1995–96
Temporary migration for employment				
Migration to Australia:				
Long-term stay	10	6	10	15
Short-term stay	4	21	7	6
Migration of Australian residents from Australia:				
Long-term overseas stay				
United Kingdom and Ireland	7	9	3	7
Middle East	9	6	6	3
Asia	17	19	12	22
Other countries	12	19	16	13
Total	45	53	37	45
Short-term overseas stay				
United Kingdom and Ireland	47	8	4	8
Middle East	8	10	4	5
Hong Kong	23	20	3	2
Other Asia	2	6	17	3
Other countries	0	5	7	8
Total	80	49	35	26
Temporary migration for education				
Migration to Australia:				
Long-term stay	16	11	7	9
Short-term stay	6	7	15	6
Migration of Australian residents from Australia:				
Long-term overseas stay	1	6	5	1
Short-term overseas stay	4	1	2	4

Source: AIHW analysis of Department of Immigration and Multicultural Affairs data.

Table 23: Permanent migration of pharmacists to and from Australia, 1992–93 to 1995–96

Category/country	1992–93	1993–94	1994–95	1995–96
Permanent migration to Australia by overseas residents				
Country of previous residence:				
New Zealand	4	4	8	12
United Kingdom and Ireland	10	13	10	20
Other Europe	13	5	14	13
Middle East/Africa	11	14	21	23
Asia	27	32	37	39
North/South America	9	3	6	8
Other countries	3	1	1	4
Total	77	72	97	119
Migration to Australia by Australian residents returning after a long-term overseas stay				
Country of long-term stay:				
New Zealand	2	1	2	4
United Kingdom and Ireland	60	45	50	45
Other Europe	8	10	3	2
Middle East/Africa	8	25	17	8
Asia	20	28	13	27
North/South America	15	9	8	11
Other countries	5	7	5	7
Total	118	125	98	104
Permanent migration from Australia of Australian residents				
Country of future residence:				
New Zealand	4	8	3	9
United Kingdom and Ireland	3	4	7	8
Other Europe	2	0	1	3
Middle East/Africa	0	1	2	3
Asia	3	2	2	4
North/South America	2	4	1	3
Other countries	2	0	0	1
Total	16	19	16	31
Migration from Australia of temporary visitors after long-term stay				
Country of future residence:				
New Zealand	2	2	2	2
United Kingdom and Ireland	2	6	4	3
Other Europe	2	7	4	4
Asia	16	15	12	11
North/South America	1	2	1	1
Other countries	0	5	2	1
Total	23	37	25	22

Note: Long-term movements refer to those involving 12 months or more.

Source: AIHW analysis of Department of Immigration and Multicultural Affairs data.

5.2 Education

The numbers and composition of students undertaking pharmacy degrees in Australia have changed significantly during the 1990s.

- In 1996, there were 441 new bachelor degree graduates who were Australian permanent residents. This represented a significant increase on the 392 graduates in 1995 and 355 in 1994. There were also 95 postgraduate completions—almost double those of previous years. This increase was a response to concerns about shortages arising from high retirement rates by older pharmacists and from lower average hours worked and lower workforce participation by the replacement cohort of pharmacists in their twenties and thirties.
- The proportion of female new graduates appears to have stabilised at around 61.0%, after reaching a high of 66.7% in 1991.
- The percentage of Australian permanent resident new graduates born in Australia fell from 73.4% in 1991 to 56.7% in 1996. The proportion born in Vietnam rose from 3.5% to 16.6% over the same period while the proportion born in Hong Kong increased from 1.6% to 5.4%. The total proportion born in Asian countries increased from 10.6% in 1991 to 32.9% in 1996.
- The number of fee-paying overseas students completing basic pharmacy degrees in Australia increased from 12 in 1988 to 73 in 1996.
- In 1995, there were 12.1 pharmacy students per 100,000 population who had a home residence in metropolitan centres, compared with 5.2 per 100,000 population in large rural centres, 4.3 in small rural centres, 3.7 in other rural areas and 1.6 in remote areas.

Table 24: Australian commencing pharmacy students: course level, Australia, 1989–97

Course level	1989	1990	1991	1992	1993	1994	1995	1996	1997
Postgraduate									
PhD	4	9	12	21	18	18	17	14	21
MSc—research	13	19	11	19	16	10	9	15	7
MSc—course work	2	2	2	2	0	2	5	9	20
PG qualifying	10	9	8	4	6	10	4	7	8
PG diploma (new field)	14	29	13	14	18	13	28	24	17
PG diploma (extends field)	12	0	13	24	30	9	31	31	33
Graduate certificate	0	0	0	0	0	0	3	4	8
<i>Total postgraduate</i>	<i>55</i>	<i>68</i>	<i>59</i>	<i>84</i>	<i>88</i>	<i>62</i>	<i>97</i>	<i>104</i>	<i>114</i>
<i>% female</i>	<i>70.9</i>	<i>52.9</i>	<i>64.4</i>	<i>66.7</i>	<i>59.1</i>	<i>66.1</i>	<i>68.0</i>	<i>69.2</i>	<i>68.4</i>
Undergraduate									
Bachelor honours	0	0	0	1	1	4	7	0	3
Bachelor pass	493	494	487	462	464	504	561	617	664
<i>Total undergraduate</i>	<i>493</i>	<i>494</i>	<i>487</i>	<i>463</i>	<i>465</i>	<i>508</i>	<i>568</i>	<i>617</i>	<i>667</i>
<i>% female</i>	<i>62.1</i>	<i>60.5</i>	<i>63.0</i>	<i>57.5</i>	<i>61.1</i>	<i>58.3</i>	<i>57.0</i>	<i>60.9</i>	<i>62.1</i>
Total	548	562	546	547	553	570	665	721	781
<i>% female</i>	<i>63.0</i>	<i>59.6</i>	<i>63.2</i>	<i>58.9</i>	<i>60.8</i>	<i>59.1</i>	<i>58.6</i>	<i>62.1</i>	<i>63.0</i>

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

Table 25: Australian commencing pharmacy students: university and course level, 1989–97

University	1989	1990	1991	1992	1993	1994	1995	1996	1997
Postgraduate									
Curtin University	15	34	13	9	15	14	6	7	11
Monash University	19	12	19	33	37	9	28	12	24
University of Adelaide	..	..	..	..	..	..	..	10	..
University of Melbourne	..	..	..	..	..	..	23	12	7
University of NSW	..	..	..	..	..	..	..	..	8
University of Queensland	4	5	7	18	16	9	17	17	22
University of South Australia	1	3	3	1	5	6	13	19	0
University of Sydney	16	12	17	21	14	19	8	21	33
University of Tasmania	0	2	0	2	1	5	2	6	9
<i>Total</i>	<i>55</i>	<i>68</i>	<i>59</i>	<i>84</i>	<i>88</i>	<i>62</i>	<i>97</i>	<i>104</i>	<i>114</i>
Undergraduate									
Charles Sturt University	..	..	..	..	..	..	..	..	45
Curtin University	51	64	61	77	78	78	85	90	90
Monash University	145	128	133	112	116	142	115	107	155
University of Queensland	75	89	72	83	81	81	121	132	115
University of South Australia	44	33	36	36	37	42	59	70	65
University of Sydney	157	161	168	138	131	146	160	186	163
University of Tasmania	21	19	17	17	22	19	28	32	34
<i>Total</i>	<i>493</i>	<i>494</i>	<i>487</i>	<i>463</i>	<i>465</i>	<i>508</i>	<i>568</i>	<i>617</i>	<i>667</i>
All students									
Charles Sturt University	..	..	..	..	..	..	..	..	45
Curtin University	66	98	74	86	93	92	91	97	101
Monash University	164	140	152	145	153	151	143	119	179
University of Adelaide	..	..	..	..	..	..	..	10	..
University of Melbourne	..	..	..	..	..	..	23	12	7
University of NSW	..	..	..	..	..	..	..	..	8
University of Queensland	79	94	79	101	97	90	138	149	137
University of South Australia	45	36	39	37	42	48	72	89	65
University of Sydney	173	173	185	159	145	165	168	207	196
University of Tasmania	21	21	17	19	23	24	30	38	43
Total	548	562	546	547	553	570	665	721	781

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

Table 26: Australian commencing pharmacy students: course level and sex, Australia, 1989–97

Course level	1989	1990	1991	1992	1993	1994	1995	1996	1997
Males									
Postgraduate	30.1	25.2	28.6	27.0	27.7	28.1	28.9	29.3	31.9
Undergraduate	18.4	18.4	18.8	19.5	18.9	19.0	19.2	19.5	19.7
Females									
Postgraduate	26.7	27.8	26.3	26.3	27.8	25.9	30.0	28.5	28.3
Undergraduate	18.4	18.5	18.4	18.5	18.7	18.5	18.8	18.8	18.6
All students									
Postgraduate	27.7	26.6	27.1	26.6	27.7	26.6	29.7	28.7	29.4
Undergraduate	18.4	18.5	18.6	19.0	18.8	18.7	19.0	19.1	19.0

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

Table 27: Pharmacy course completions: course level and citizenship, Australia, 1988–96

Course level	1988	1989	1990	1991	1992	1993	1994	1995	1996
Australian students									
Postgraduate									
Higher doctorate or PhD	5	4	9	5	8	7	8	21	20
MSc—research	9	5	10	2	6	6	6	7	14
MSc—course work	1	3	1	0	1	0	0	1	1
Postgraduate qualifying	8	4	4	7	6	3	1	5	4
PG diploma (new field)	7	4	5	8	13	11	10	5	30
PG diploma (extends field)	11	0	12	0	12	19	23	6	26
Graduate certificate	0	0	0	0	0	0	0	1	0
<i>Total postgraduate</i>	<i>41</i>	<i>20</i>	<i>41</i>	<i>22</i>	<i>46</i>	<i>46</i>	<i>48</i>	<i>46</i>	<i>95</i>
% female	58.5	50.0	46.3	54.5	67.4	73.9	70.8	67.4	60.0
Undergraduate									
Bachelor honours	4	6	8	11	17	7	18	19	17
Bachelor pass	407	384	360	358	337	362	337	373	424
<i>Total undergraduate</i>	<i>411</i>	<i>390</i>	<i>368</i>	<i>369</i>	<i>354</i>	<i>369</i>	<i>355</i>	<i>392</i>	<i>441</i>
% female	59.6	67.2	57.1	66.7	65.0	61.0	62.3	61.2	61.0
<i>Total</i>	<i>452</i>	<i>410</i>	<i>409</i>	<i>391</i>	<i>400</i>	<i>415</i>	<i>403</i>	<i>438</i>	<i>536</i>
% female	59.5	66.3	56.0	66.0	65.3	62.4	63.3	61.9	60.8
Overseas students									
Postgraduate									
PhD	0	1	3	2	2	6	4	1	3
MSc—research	2	2	0	2	1	5	3	3	2
MSc—course work	0	1	0	0	0	0	0	0	0
Postgraduate qualifying	0	1	1	0	0	0	1	2	1
PG diploma (new field)	0	0	4	1	0	0	0	1	0
PG diploma (extends field)	0	0	0	0	0	0	1	0	0
<i>Total postgraduate</i>	<i>2</i>	<i>5</i>	<i>8</i>	<i>5</i>	<i>3</i>	<i>11</i>	<i>9</i>	<i>7</i>	<i>6</i>
% female	50.0	80.0	62.5	60.0	33.3	27.3	33.3	71.4	50.0
Undergraduate									
Bachelor honours	1	0	3	0	1	1	4	8	1
Bachelor pass	11	14	18	19	28	52	45	52	72
<i>Total undergraduate</i>	<i>12</i>	<i>14</i>	<i>21</i>	<i>19</i>	<i>29</i>	<i>53</i>	<i>49</i>	<i>60</i>	<i>73</i>
% female	58.3	71.4	47.6	68.4	55.2	73.6	75.5	71.7	72.6
<i>Total</i>	<i>14</i>	<i>19</i>	<i>29</i>	<i>24</i>	<i>32</i>	<i>64</i>	<i>58</i>	<i>67</i>	<i>79</i>
% female	57.1	73.7	51.7	66.7	53.1	65.6	69.0	71.6	70.9
All students									
Postgraduate									
Higher doctorate or PhD	5	5	12	7	10	13	12	22	23
MSc—research	11	7	10	4	7	11	9	10	16
MSc—course work	1	4	1	0	1	0	0	1	1
Postgraduate qualifying	8	5	5	7	6	3	2	7	5
PG diploma (new field)	7	4	9	9	13	11	10	6	30
PG diploma (extends field)	11	0	12	0	12	19	24	6	26
Graduate certificate	0	0	0	0	0	0	0	1	0
<i>Total postgraduate</i>	<i>43</i>	<i>25</i>	<i>49</i>	<i>27</i>	<i>49</i>	<i>57</i>	<i>57</i>	<i>53</i>	<i>101</i>
% female	58.1	56.0	49.0	55.6	65.3	64.9	64.9	67.9	59.4
Undergraduate									
Bachelor honours	5	6	11	11	18	8	22	27	18
Bachelor pass	418	398	378	377	365	414	382	425	496
<i>Total undergraduate</i>	<i>423</i>	<i>404</i>	<i>389</i>	<i>388</i>	<i>383</i>	<i>422</i>	<i>404</i>	<i>452</i>	<i>514</i>
% female	59.6	67.3	56.6	66.8	64.2	62.6	63.9	62.6	62.6
Total	466	429	438	415	432	479	461	505	615
% female	59.4	66.7	55.7	66.0	64.4	62.8	64.0	63.2	62.1

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

Table 28: Australian undergraduate students completing pharmacy courses: country of birth, 1991–96

Country of birth	1991	1992	1993	1994	1995	1996
Australia	271	241	249	219	223	250
New Zealand	2	4	3	0	0	3
Other Oceania	2	6	6	4	4	3
United Kingdom and Ireland	10	9	4	6	8	5
Other Europe and Russia	3	8	8	7	6	11
Middle East and North Africa	3	14	8	14	17	17
Malaysia	11	9	5	8	11	9
Vietnam	13	33	43	53	58	73
Other South-East Asia	6	4	9	9	13	17
Hong Kong	6	12	9	15	23	24
Other North-East Asia	1	4	7	9	13	17
Southern Asia	2	3	4	2	4	5
North/Central/South America	3	2	1	2	4	2
Africa	3	2	5	3	5	5
Not known	33	3	8	4	3	0
Total	369	354	369	355	392	441
			(per cent)			
Australia	73.4	68.1	67.5	61.7	56.9	56.7
New Zealand	0.5	1.1	0.8	0.0	0.0	0.7
Other Oceania	0.5	1.7	1.6	1.1	1.0	0.7
United Kingdom and Ireland	2.7	2.5	1.1	1.7	2.0	1.1
Other Europe and Russia	0.8	2.3	2.2	2.0	1.5	2.5
Middle East and North Africa	0.8	4.0	2.2	3.9	4.3	3.9
Malaysia	3.0	2.5	1.4	2.3	2.8	2.0
Vietnam	3.5	9.3	11.7	14.9	14.8	16.6
Other South-East Asia	1.6	1.1	2.4	2.5	3.3	3.9
Hong Kong	1.6	3.4	2.4	4.2	5.9	5.4
Other North-East Asia	0.3	1.1	1.9	2.5	3.3	3.9
Southern Asia	0.5	0.8	1.1	0.6	1.0	1.1
North/Central/South America	0.8	0.6	0.3	0.6	1.0	0.5
Africa	0.8	0.6	1.4	0.8	1.3	1.1
Not known	8.9	0.8	2.2	1.1	0.8	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
			(per cent—females)			
Australia	67.5	66.0	59.8	58.4	60.1	60.4
New Zealand	100.0	75.0	66.7	0.0	0.0	33.3
Other Oceania	50.0	66.7	66.7	75.0	75.0	33.3
United Kingdom and Ireland	80.0	44.4	25.0	66.7	75.0	100.0
Other Europe and Russia	33.3	62.5	87.5	85.7	50.0	63.6
Middle East and North Africa	66.7	57.1	75.0	57.1	58.8	47.1
Malaysia	81.8	55.6	60.0	62.5	45.5	88.9
Vietnam	53.8	66.7	55.8	69.8	67.2	60.3
Other South-East Asia	100.0	25.0	66.7	88.9	61.5	70.6
Hong Kong	50.0	66.7	33.3	60.0	73.9	66.7
Other North-East Asia	0.0	100.0	100.0	55.6	69.2	70.6
Southern Asia	100.0	66.7	50.0	50.0	0.0	40.0
North/Central/South America	33.3	0.0	100.0	100.0	75.0	50.0
Africa	66.7	100.0	60.0	66.7	20.0	20.0
Not known	57.6	100.0	87.5	75.0	66.7	0.0
Total	66.7	65.0	61.0	62.3	61.2	61.0

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

Table 29: Average age of Australian students completing pharmacy courses: course level and sex, Australia, 1988–96

Course level	1988	1989	1990	1991	1992	1993	1994	1995	1996
Males (years)									
Postgraduate	29.9	34.7	29.3	31.1	28.3	31.6	28.2	31.7	31.4
Undergraduate	20.7	21.0	21.1	20.9	21.4	21.5	21.1	21.2	21.1
Females (years)									
Postgraduate	27.1	33.1	30.3	26.2	27.4	27.7	26.6	27.2	29.5
Undergraduate	20.5	20.4	20.4	20.6	20.6	20.4	21.3	20.9	21.0
All students (years)									
Postgraduate	28.3	33.9	29.7	28.4	27.7	28.7	27.0	28.7	30.3
Undergraduate	20.6	20.6	20.7	20.7	20.9	20.8	21.2	21.0	21.0

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

Table 30: Australian citizen or permanent resident pharmacy students: source geographic area of residence per 100,000 population and sex, Australia, 1995

Sex	Source geographic area of residence						Total
	Metro-politan centre	Large rural centre	Small rural centre	Other rural area	Remote area	Not stated/overseas	
Male students							
Number	645	18	19	31	4	11	728
Per cent	90.0	2.5	2.6	4.3	0.6	..	100.0
Female students							
Number	896	39	33	60	5	25	1,058
Per cent	86.7	3.8	3.2	5.8	0.5	..	100.0
All students							
Number	1,541	57	52	91	9	36	1,786
Per cent	88.1	3.3	3.0	5.2	0.5	..	100.0
Population ('000) ^(a)	12,753.0	1,088.3	1,197.5	2,455.8	556.7	..	18,051.3
Per cent	70.6	6.0	6.6	13.6	3.1	..	100.0
Number of students per 100,000 population	12.1	5.2	4.3	3.7	1.6	..	9.9

(a) Estimated resident population as at 30 June 1995.

Note: Calculations of percentages exclude 'not stated/overseas'.

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

Table 31: All pharmacy students: course level and citizenship, Australia, 1989–97

Course level	1989	1990	1991	1992	1993	1994	1995	1996	1997
Australian students									
Postgraduate									
PhD	10	20	38	52	67	73	80	75	75
MSc—research	46	56	38	45	40	35	32	31	19
MSc—course work	7	6	6	3	0	2	6	15	23
PG qualifying	29	33	28	17	12	18	23	17	21
PG diploma (new field)	20	35	18	20	19	18	34	46	29
PG diploma (extends field)	13	11	13	39	53	34	43	64	58
Graduate certificate	0	0	0	0	0	0	3	4	9
<i>Total postgraduate</i>	<i>125</i>	<i>161</i>	<i>141</i>	<i>176</i>	<i>191</i>	<i>180</i>	<i>221</i>	<i>252</i>	<i>234</i>
% female	52.8	53.4	58.9	63.1	61.8	61.7	61.1	62.3	66.7
Undergraduate									
Bachelor honours	6	8	10	18	10	15	23	15	18
Bachelor pass	1,352	1,394	1,404	1,399	1,398	1,438	1,542	1,726	1,890
<i>Total undergraduate</i>	<i>1,358</i>	<i>1,402</i>	<i>1,414</i>	<i>1,417</i>	<i>1,408</i>	<i>1,453</i>	<i>1,565</i>	<i>1,741</i>	<i>1,908</i>
% female	61.1	59.8	62.4	60.6	60.2	59.5	59.0	59.3	60.5
<i>Total</i>	<i>1,483</i>	<i>1,563</i>	<i>1,555</i>	<i>1,593</i>	<i>1,599</i>	<i>1,633</i>	<i>1,786</i>	<i>1,993</i>	<i>2,142</i>
% female	60.4	59.1	62.1	60.9	60.4	59.7	59.2	59.7	61.2
Overseas students									
Postgraduate									
PhD	10	17	19	22	19	18	15	15	14
MSc—research	8	8	10	8	9	9	6	7	6
MSc—course work	1	0	0	0	0	3	4	3	2
PG qualifying	3	2	1	3	0	2	5	1	3
PG diploma (new field)	1	5	1	0	0	0	1	0	1
PG diploma (extends field)	0	0	0	0	1	1	1	1	2
<i>Total postgraduate</i>	<i>23</i>	<i>32</i>	<i>31</i>	<i>33</i>	<i>29</i>	<i>33</i>	<i>32</i>	<i>27</i>	<i>28</i>
% female	43.5	43.8	38.7	39.4	44.8	48.5	65.6	59.3	57.1
Undergraduate									
Bachelor honours	0	3	1	1	1	4	7	2	9
Bachelor pass	93	98	134	177	211	231	253	242	235
<i>Total undergraduate</i>	<i>93</i>	<i>101</i>	<i>135</i>	<i>178</i>	<i>212</i>	<i>235</i>	<i>260</i>	<i>244</i>	<i>244</i>
% female	59.1	54.5	65.2	68.5	69.8	70.2	64.6	68.9	66.8
<i>Total</i>	<i>116</i>	<i>133</i>	<i>166</i>	<i>211</i>	<i>241</i>	<i>268</i>	<i>292</i>	<i>271</i>	<i>272</i>
% female	56.0	51.9	60.2	64.0	66.9	67.5	64.7	67.9	65.8
All students									
Postgraduate									
PhD	20	37	57	74	86	91	95	90	89
MSc—research	54	64	48	53	49	44	38	38	25
MSc—course work	8	6	6	3	0	5	10	18	25
PG qualifying	32	35	29	20	12	20	28	18	24
PG diploma (new field)	21	40	19	20	19	18	35	46	30
PG diploma (extends field)	13	11	13	39	54	35	44	65	60
Graduate certificate	0	0	0	0	0	0	3	4	9
<i>Total postgraduate</i>	<i>148</i>	<i>193</i>	<i>172</i>	<i>209</i>	<i>220</i>	<i>213</i>	<i>253</i>	<i>279</i>	<i>262</i>
% female	51.4	51.8	55.2	59.3	59.5	59.6	61.7	62.0	65.7
Undergraduate									
Bachelor honours	6	11	11	19	11	19	30	17	27
Bachelor pass	1,445	1,492	1,538	1,576	1,609	1,669	1,795	1,968	2,125
<i>Total undergraduate</i>	<i>1,451</i>	<i>1,503</i>	<i>1,549</i>	<i>1,595</i>	<i>1,620</i>	<i>1,688</i>	<i>1,825</i>	<i>1,985</i>	<i>2,152</i>
% female	59.1	54.5	65.2	61.0	69.8	70.2	64.6	68.9	66.8
Total	1,599	1,696	1,721	1,804	1,840	1,901	2,078	2,264	2,414
% female	60.1	58.5	61.9	61.3	61.3	60.8	60.0	60.7	61.7

Source: AIHW analysis of Department of Education, Training and Youth Affairs data.

6 Pharmacies

During the 1980s the pharmacy profession became increasingly concerned about an oversupply of pharmacies in urban areas. In 1990 the Pharmacy Guild entered into an agreement with the Commonwealth Government to encourage a target of 1,000 suburban pharmacies to exit the industry. This agreement included assistance in redundancies. There were 630 closures and 64 amalgamations, at a cost of \$42 million and \$4 million respectively, by July 1995. During this time, the Pharmacy Restructuring Authority received 365 applications for approval of new pharmacies and approved only 72 (28 under the unmet public needs criteria).

The number of approved pharmacies declined from 5,569 in 1989 to 4,958 in 1995 and stabilised around that level with 4,941 in 1996 and 4,951 in 1997. The greatest declines occurred in New South Wales, South Australia and the Australian Capital Territory. Pharmacies closed in the Australian Capital Territory were mainly small suburban pharmacies in suburbs without district shopping centres or medical centres.

Table 32: Approved pharmacies: States and Territories, 1989–97

State/Territory	1989	1990	1991	1992	1993	1994	1995	1996	1997	% change 1989–97
New South Wales	2,023	2,005	1,995	1,816	1,773	1,753	1,739	1,729	1,726	-14.7
Victoria	1,344	1,369	1,378	1,276	1,247	1,231	1,218	1,202	1,194	-11.2
Queensland	1,025	1,046	1,039	957	938	934	930	936	952	-7.1
Western Australia	475	487	481	462	461	456	456	461	467	-1.7
South Australia	446	444	445	404	395	390	385	387	385	-13.7
Tasmania	158	154	151	146	144	144	143	143	143	-9.5
Australian Capital Territory	74	76	76	62	60	59	61	57	57	-23.0
Northern Territory	24	25	27	27	25	26	26	26	27	12.5
Australia	5,569	5,606	5,592	5,150	5,043	4,993	4,958	4,941	4,951	-11.1

Source: Department of Health and Family Services.

7 Use of pharmaceuticals

Demand for the dispensing services of community and hospital pharmacists is derived from the volume of drugs prescribed by medical practitioners. The Australian Institute of Health and Welfare's publication *Australia's Health 1998* includes analyses of the role of prescribed and non-prescribed medications in the Australian health system. The detailed analyses are not repeated here, but they show the following main findings:

- An estimated \$4.0 billion of the total health system costs for diseases and injury of \$31.4 billion in 1993–94 can be attributed to the cost of pharmaceuticals. Respiratory illnesses had the highest disease cost attributed to the use of pharmaceuticals—\$784 million of a total cost of \$2,510 million (*Australia's Health 1998*, pp. 192–6).
- General practitioners in the 1995 Morbidity and Treatment Survey reported managing an average 151.2 problems per 100 encounters and prescribing drugs at an overall rate of 103.4 per 100 encounters, with treatments other than a drug prescription provided at a rate of 57.7 per 100 encounters. The most frequently prescribed drug was amoxicillin (an antibiotic, 5.1 per 100 encounters), followed by paracetamol (an analgesic, 4.7 per 100), and amoxicillin with clavulanic acid (an antibiotic, 3.0 per 100) (*Australia's Health 1998*, pp. 211–14).
- Based on the results of the 1995 National Health Survey, an estimated 12.4 million Australians (68.8% of the population) used some form of medication (including vitamins, minerals and herbal or natural medicines) in the two weeks before interview. The estimated 10.7 million people who used medications other than vitamins or minerals comprised approximately 62% who did so on medical advice and 51% who required a prescription to obtain the medication (*Australia's Health 1998*, pp. 222–4).
- Approximately 75% of prescriptions dispensed through community pharmacies qualify for benefits under the Commonwealth Government's Pharmaceutical Benefits Scheme (PBS). The remainder are those priced under the general patient co-payment threshold and those not listed on the PBS schedule (that is, private prescriptions). The total cost of pharmaceuticals under the PBS was \$3.1 billion in 1996–97, up from \$1.5 billion in 1991–92 (*Australia's Health 1998*, pp. 223–6).
- The top three drugs dispensed in community pharmacies in 1996 were amoxicillin, paracetamol and salbutamol (*Australia's Health 1998*, p. 226).

Table 33: Pharmaceutical Benefits Scheme: significant drug groups, Australia, 1995–96

Drug group	Prescription volume	Group cost (\$)	% of total cost	% increase over 1994–95
Antacids, drugs for treatment of peptic ulcers	7,356,937	308,089,641	11.5	24.0
Anti-asthmatics	9,514,228	239,387,122	9.0	15.1
Serum lipid reducing agents	4,040,388	194,887,133	7.3	30.4
Other groups	11,984,119	182,010,010	6.8	19.4
Calcium channel blockers	7,179,788	177,664,589	6.7	11.2
Anti-bacterials for systemic use	13,451,656	175,352,139	6.6	-5.3
Psychoanaleptics	5,316,648	167,520,633	6.3	50.2
Sex hormones and modulators	5,296,422	104,202,768	3.9	6.6
Analgesics	9,102,266	87,304,315	3.3	12.8
Drugs used in diabetes	2,271,266	78,874,722	3.0	13.3
Cardiac therapy	3,376,501	67,524,527	2.5	6.0
Psycholeptics	8,188,460	64,094,377	2.4	15.9
Anti-inflammatory and anti-rheumatics	4,679,312	60,122,105	2.3	3.6
Ophthalmologicals	4,742,190	55,082,549	2.1	6.2
Endocrine therapy	305,247	50,033,702	1.9	15.7
Anti-epileptics	1,227,194	49,068,201	1.8	19.8
Beta blocking agents	3,523,607	40,337,389	1.5	-1.4
Anti-virals for systemic use	157,000	33,598,641	1.3	11.2
Diuretics	2,882,648	33,100,929	1.2	1.8
Vaccines	1,863,056	32,885,840	1.2	-11.6
Anti-diarrhoeals, intestinal anti-inflammatory	953,247	23,668,194	0.9	17.9
Nasal preparations	1,250,370	22,507,662	0.8	71.5
Anti-acne preparations	121,406	22,461,415	0.8	15.1
Corticosteroids, dermatological	2,642,978	22,295,108	0.8	11.6
Anti-Parkinson drugs	550,777	22,062,413	0.8	1.0
Anti-spasmodic and anti-cholinergics	1,215,474	20,900,097	0.8	28.9
Diagnostic agents	396,003	17,344,151	0.6	9.8
Anti-fungals for dermatological use	917,779	16,037,342	0.6	4.4
Vitamins	325,397	13,576,349	0.5	27.7
Mineral supplements	1,101,556	12,258,098	0.5	0.8
Total	124,204,860	2,669,346,065	100.0	14.2

Note: Includes patients' contributions and 'Doctor's Bag' but excludes expenditure on miscellaneous items.

Source: Department of Health and Family Services.

8 International comparison

The Organisation for Economic Co-operation and Development (OECD) publishes a range of demographic, health and economic statistics, including the numbers of health professionals for the major registered occupations. Unfortunately, not all OECD countries use the same definition for practising community pharmacists. A footnote has been used to indicate where the definitions are known to differ from the standard OECD definition. These differences make comparisons with the OECD 'average' not meaningful.

In examining Australia against countries for which the data appear to be comparable, Australia's 59.4 community pharmacists per 100,000 population in 1995 was similar to the 61.5 per 100,000 population in Canada (for 1991), 65.3 in New Zealand, 59.1 in the United Kingdom (for 1993) and 61.9 in the United States (for 1994).

Table 34: Practising community pharmacists: OECD countries, 1995

Country	Practising pharmacists ^(a)	Population ('000)	Per cent of population aged 65+	Pharmacists per 100,000 population
Australia	10,722	18,051	11.7	59.4
Austria	4,071	8,045	14.7	50.6
Belgium (1994) ^(b)	13,657	10,116	15.8 (1995)	135.0
Canada (1991)	17,296	28,118	11.2	61.5
Czech Republic ^(c)	3,602	10,263	12.6	35.1
Denmark	934	5,223	15.4 (1994)	17.9
Finland ^(d)	7,204	5,107	14.1	141.1
France (1994)	56,350	57,900	14.7	97.3
Germany	44,696	81,594	15.2	54.8
Greece (1994) ^(e)	8,147	10,426	15.9 (1995)	78.1
Hungary	3,422	10,106	14.0	33.9
Iceland (1994)	261	267	11.0	97.8
Ireland ^(f)	1,151	3,546	11.5	32.5
Italy (1992)	54,693	56,757	16.1 (1995)	96.4
Japan (1994)	106,419	124,960	14.0	85.2
Luxembourg (1992) ^(b)	336	391	14.0 (1995)	85.9
Netherlands (1994) ^(g)	2,484	15,382	13.1	16.1
New Zealand	2,325	3,561	11.4	65.3
Norway (1989)	1,909	4,227	16.3	45.2
Portugal	12,575	9,815	14.8	128.1
Spain (1993) ^(b)	39,608	39,083	14.2	101.3
Sweden	5,945	8,788	17.3	67.6
Switzerland (1990)	3,342	6,712	15.0	49.8
Turkey	18,500	60,838	5.1	30.4
United Kingdom (1993)	34,418	58,191	15.8 (1995)	59.1
United States (1994)	167,678	270,700	12.3	61.9
Total	621,745	907,982	..	68.5

(a) The OECD definition of practising pharmacists is the number of pharmacists self-employed or employed by others including foreign pharmacists licensed to practise. It excludes full-time salaried pharmacists working in hospitals and in pharmaceutical manufacturing corporations as well as pharmacists working abroad.

(b) Refers to pharmacists entitled to practise.

(c) Refers to full-time equivalents.

(d) Refers to pharmacists entitled to practise aged up to 62 years.

(e) Refers to the number of pharmacies.

(f) Refers to pharmacists entitled to practise, including those working in industry, administration and research.

(g) Refers to all registered established pharmacists, physicians with pharmacies, assistant pharmacists and pharmaceutical assistants.

Source: 1997 OECD Health Data File.

9 Explanatory notes

Background

In 1990, the Australian Health Ministers' Advisory Council (AHMAC) commissioned the Australian Institute of Health and Welfare to develop national health labour force statistics about the major registrable health professions. Data collections based on a national minimum data set were developed, addressing the labour force planning needs of the health professions, government, service providers and educational institutions. In addition to pharmacy, published data from the collection are available for medicine, dentistry, nursing, podiatry and physiotherapy.

The National Health Information Management Group of AHMAC reviewed national health labour information requirements in 1997 and decided that collecting and processing timely data within existing State health authority resources would mean conducting future national collections annually for medicine, biannually for nursing, and on a rolling three-year cycle for pharmacy, dentistry and several allied health occupations.

Scope and coverage

The scope of the data is all pharmacists registered with the pharmacy board in each State and Territory and eligible to practise.

The coverage may exclude pharmacists who registered for the first time during the current year. These pharmacists may not be required to renew their registration at the standard renewal date if the initial registration in that State or Territory has occurred within the preceding year.

Method

The main data in this publication were obtained from a pharmacy labour force survey conducted by each State and Territory pharmacy registration board. Each pharmacy board, except for that in the Northern Territory, sent a survey questionnaire to pharmacists as part of the annual registration renewal process. Each State and Territory health authority forwarded a computer file of the survey data to the Institute for aggregation into a national data set.

The Western Australian board dispatches its renewal notices in May; New South Wales and the Australian Capital Territory dispatch in October; Tasmania in November; and South Australia, Victoria and Queensland in December. The Northern Territory board registers pharmacists on application and has no annual renewal process.

The pharmacy boards of Tasmania and the Northern Territory did not conduct the survey in 1995. Data have therefore been estimated for Tasmania and the Northern Territory by using the last available labour force proportions (that is, 1992 data for Tasmania and 1993 data for the Northern Territory) scaled to available registration numbers. Data could not be obtained from Victoria for 1995, so 1996 data have been used, scaled to 1995 registration numbers.

Response rate

Based on the total of the registrations in each State and Territory, the response rate to the survey (excluding Tasmania and the Northern Territory) was 86.0%. The individual response rates were 94.5% for New South Wales, 73.5% for Victoria, 88.5% for

Queensland, 91.4% for Western Australia, 79.4% for South Australia and 73.5% for the Australian Capital Territory. However, complete data were not available for all responding pharmacists, either because not all survey questions were completed or because pharmacy board initial registration data were incomplete or not provided.

The overall response rate can only be estimated and not determined with complete accuracy. It is known that at least some pharmacists who were registered in more than one State or Territory completed a questionnaire in just one State or Territory. The incidence of this occurrence cannot be ascertained because matching survey records among States and Territories is not possible.

Labour force estimates

Pharmacists may register in more than one State or Territory. In estimating the pharmacy labour force, it is therefore important to reduce as much as possible the consequent duplication in statistics.

The estimation of the number and characteristics of currently employed pharmacists in each State and Territory was based on the responses of those pharmacists employed solely or mainly in the State or Territory of registration. Pharmacists who were on leave for three months or more, although employed were excluded from most tables of employed pharmacists because not all States and Territories collected data from pharmacists who were on leave.

Where data were unavailable for Victoria, Tasmania and the Northern Territory in 1995, it was assumed that labour force characteristics were in the same proportion of registrations in 1995 as the labour force characteristics in 1996 for Victoria, 1992 for Tasmania and 1993 for the Northern Territory. The proportions were applied to 1995 registrations to estimate the numbers of pharmacists in the labour force.

It is assumed for all estimates that non-respondents to the survey had the same labour force characteristics as had respondents, and the survey data were scaled up to the registrations in each State and Territory by distributing the non-response numbers on the basis of this assumption. This process may overestimate the number of pharmacists in the labour force in each State and Territory if non-respondents are more likely to be those with multiple registrations not in their home State or Territory or not in the pharmacy labour force. This survey error will be greater in the two Territories, which have a higher proportion of pharmacists registered in other jurisdictions and lower proportions of pharmacists practising solely in the Territories.

Additional data sources

Additional data were obtained as follows:

- data for students enrolled in and completing higher education courses from the Department of Employment, Education, Training and Youth Affairs;
- international migration data from the Department of Immigration and Multicultural Affairs;
- Pharmaceutical Benefits Scheme data from the Department of Health and Family Services;
- data on the number of practising community pharmacists in other countries from the 1997 OECD Health Data File.

Definitions

Arrivals

Foreign citizens arriving in Australia. Excludes Australian citizens and permanent residents returning to Australia.

Departures

Australian citizens and permanent residents departing Australia. Excludes foreign citizens departing Australia.

Geographic classification

The *Rural, Remote and Metropolitan Areas Classification* (RRMA), November 1994, of the Department of Health and Family Services has been used to classify the geographic location of the main job of responding pharmacists in the following seven categories. The data used in determining these categories are based on the 1991 population census.

Metropolitan areas

- *Capital cities* consist of the State and Territory capitals: Sydney, Melbourne, Brisbane, Perth, Adelaide, Hobart, Darwin and Canberra.
- *Other metropolitan centres* consist of one or more statistical subdivisions which have an urban centre of population of 100,000 or more: Newcastle, Wollongong, Queanbeyan (part of Canberra–Queanbeyan), Geelong, Gold Coast–Tweed Heads and Townsville–Thuringowa.

Rural zones

- *Large rural centres* are statistical local areas where most of the population reside in urban centres of population of 25,000 to 99,999: Albury–Wodonga, Dubbo, Lismore, Orange, Port Macquarie, Tamworth, Wagga Wagga (NSW); Ballarat, Bendigo, Shepparton–Mooroopna (Vic); Bundaberg, Cairns, Mackay, Maroochydore–Mooloolaba, Rockhampton, Toowoomba (Qld); Whyalla (SA); and Launceston (Tas).
- *Small rural centres* are statistical local areas in rural zones containing urban centres of population between 10,000 and 24,999: Armidale, Ballina, Bathurst, Broken Hill, Casino, Coffs Harbour, Echuca–Moama, Forster–Tuncurry, Goulburn, Grafton, Griffith, Lithgow, Moree Plains, Muswellbrook, Nowra–Bombaderry, Singleton, Taree (NSW); Bairnsdale, Colac, Echuca–Moama, Horsham, Mildura, Moe–Yallourn, Morwell, Ocean Grove–Barwon Heads, Portland, Sale, Traralgon, Wangaratta, Warrnambool (Vic); Caloundra, Gladstone, Gympie, Hervey Bay, Maryborough, Tewantin–Noosa, Warwick (Qld); Mount Gambier, Murray Bridge, Port Augusta, Port Lincoln, Port Pirie (SA); Albany, Bunbury, Geraldton, Mandurah (WA); and Burnie–Somerset, Devonport (Tas).
- *Other rural areas* are the remaining statistical areas within the rural zone: for example, Cowra Shire, Temora Shire, Guyra Shire (NSW); Ararat Shire, Cobram Shire (Vic); Cardwell Shire, Whitsunday Shire (Qld); Barossa, Pinnaroo (SA); Moora Shire, York Shire (WA); George Town, Ross (Tas); and Coomalie, Litchfield (NT).

Remote zones

These are generally less densely populated than rural statistical local areas and hundreds of kilometres from a major urban centre. Data in this publication are reported for the zone which comprises the two areas shown below.

- *Remote centres* are statistical local areas in the remote zone containing urban centres of population of 5,000 or more: Blackwater, Bowen, Emerald, Mareeba, Moranbah, Mount Isa, Roma (Qld); Broome, Carnarvon, East Pilbara, Esperance, Kalgoorlie–Boulder, Port Hedland, Karratha (WA); and Alice Springs, Katherine (NT).
- *Other remote areas* are the remaining areas within the remote zone: for example, Balranald, Bourke, Cobar, Lord Howe Island (NSW); French Island, Orbost, Walpeup (Vic); Aurukun, Longreach, Quilpie (Qld); Coober Pedy, Murat Bay, Roxby Downs (SA); Coolgardie, Exmouth, Laverton, Shark Bay (WA); King Island, Strahan (Tas); and Daly, Jabiru, Nhulunbuy (NT).

Hours worked

The total number of hours per week worked in all pharmacy related jobs. Excludes time spent on travel between work locations (except travel to call-outs) and unpaid professional and/or voluntary activities.

Full-time: 35 hours or more per week.

Part-time: less than 35 hours per week.

Pharmacy labour force

The pharmacy labour force in each State and Territory consists of:

- pharmacists employed in pharmacy, including the practice of pharmacy, or work which is principally concerned with the discipline of pharmacy, (for example, pharmacy research, administration, or the teaching of pharmacy); plus
- pharmacists not employed in pharmacy who were looking for work in pharmacy.

Pharmacists counted as being employed in pharmacy include those on maternity or other extended leave of more than three months.

Symbols and other interpretations

Data may not add to the totals shown as a result of the estimation process for non-response.

Percentages may not add to 100.0 as a result of rounding.

Percentages printed as 0.0 may denote less than 0.05%.

Italics within a table denote a subtotal.

. . denotes not applicable.

n.a. denotes not available.

Related publications

The following publications relating to the health labour force have been issued by the Australian Institute of Health and Welfare.

National Health Labour Force Series

- No. 1: *Pharmacy Labour Force 1992*
- No. 2: *Podiatry Labour Force 1992*
- No. 3: *Medical Labour Force 1992–93*
- No. 4: *Physiotherapy Labour Force 1993*
- No. 5: *Pharmacy Labour Force 1993*
- No. 6: *Medical Labour Force 1994*
- No. 7: *Podiatry Labour Force 1994*
- No. 8: *Pharmacy Labour Force 1994*
- No. 9: *Nursing Labour Force 1993 and 1994*
- No. 10: *Medical Labour Force 1995*
- No. 11: *Nursing Labour Force 1995*

Australia's Health series

- Australia's Health 1994*
- Australia's Health 1996*
- Australia's Health 1998*

Internet access

A selection of material produced by the Australian Institute of Health and Welfare is published on the Internet at <http://www.aihw.gov.au>.