

# **Pharmacy labour force to 2001**

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# **Pharmacy labour force to 2001**

Australian Institute of Health and Welfare  
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### **Australian Institute of Health and Welfare**

Board Chair  
Professor Janice Reid  
Director  
Dr Richard Madden

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

Labour Force Unit  
Australian Institute of Health and Welfare  
GPO Box 570  
Canberra ACT 2601  
Phone: (02) 6244 1156  
Email: [labourforce@aihw.gov.au](mailto:labourforce@aihw.gov.au)

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## Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
DEST	Department of Education, Science and Training
DEWRSB	Department of Employment, Workplace Relations and Small Business
DIMIA	Department of Immigration and Multicultural and Indigenous Affairs
FTE	Full-time equivalent
NOOSR	National Office of Overseas Skills Recognition
NSW	New South Wales
NT	Northern Territory
PBS	Pharmaceutical Benefits Scheme
Qld	Queensland
SA	South Australia
Tas	Tasmania
Vic	Victoria
WA	Western Australia

## Symbols and other usages

Throughout this publication, data may not add to the totals shown due to the estimation process for non-response.

Throughout this publication, percentages may not add to 100.0 due to rounding.

*Italics* within a table denote a subtotal.

Percentage printed as 0.0 may denote less than 0.05%.

. . . denotes not applicable.

n.a. denotes not available.

– denotes nil.

## **Acknowledgments**

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We thank each state and territory pharmacy board and health authority for providing data used in this publication; the Department of Immigration and Multicultural and Indigenous Affairs for immigration data; the Department of Education, Science, and Training for education data; and the Department of Health and Ageing for Pharmaceutical Benefits Scheme statistics.

Most importantly, we also thank the pharmacists who took the time to complete the survey. Without their cooperation, it would not be possible to maintain this collection, which is used to underpin planning and policy decisions.



# 1 Highlights

- In 1999 there were over 14,000 pharmacists working in Australia, and four out of every five (80.0%) worked as community (retail) pharmacists. Most of the remainder (2,093 or 14.2%) were hospital or clinic pharmacists.
- Since 1994, the pharmacy labour force has grown by 12.5%.
- More pharmacists than ever before are female – 46.9% of employed pharmacists in 1999 – and female pharmacists are more likely to work part-time than male pharmacists. Consequently, the increase in the number of employed pharmacists has been accompanied by a rise in the number of pharmacists working part-time hours. Pharmacists worked an average of 37.8 hours per week in 1999 compared with 38.4 in 1996.
- The growth of the pharmacy labour force and the increased tendency to work part-time resulted in a rise of 3.6% in the actual level of supply of full-time equivalent (FTE) pharmacists per 100,000 population between 1996 and 1999.
- Female pharmacists are younger (41.7 years) than males (50.0 years). The average age of pharmacists has therefore increased only slightly, from 45.1 years in 1994 to 45.5 years in 1996 and 46.1 years in 1999.
- By 2000, the proportion of the student population who are female had risen to 65.9%, indicating that the trend towards more females in the pharmacy labour force will continue.
- In 1999 there were 77.7 pharmacists per 100,000 people in Australia. Capital cities were better served, with 86.7 per 100,000 population, than remote centres and other remote areas (33.7). Pharmacists in remote centres were younger than those elsewhere, with an average age of 42.8. The average number of hours that pharmacists worked tended to rise with increasing remoteness.
- Community pharmacists worked more hours than hospital and clinic pharmacists (38.2 and 36.0 hours per week, respectively).
- It has been established that there is currently a shortage of community and hospital and clinic pharmacists, and it is expected that the shortage will continue beyond 2010 since the demand for pharmacy services is likely to increase in the future. However, the number of students commencing undergraduate pharmacy courses has increased by 57% since 1992.

## 2 Introduction

Pharmacists are licensed to prepare and sell or dispense drugs and compounds and to make up prescriptions. Many also provide primary health care and give drug information. Most are community pharmacists who work in retail outlets. Other pharmacists work in hospitals and clinics, and in industry, and a small number work in administration, education and the armed services.

In 1990, the Australian Health Ministers' Advisory Council (AHMAC) commissioned the Australian Institute of Health and Welfare (AIHW) 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 workforce planning needs of the health professions, government, service providers and educational institutions. A national pharmacy labour force survey commenced in 1993 in conjunction with the annual registration renewal of pharmacists. In addition to pharmacy, published data are available for medicine, dentistry, nursing, podiatry, occupational therapy, optometry and physiotherapy.

In February 1997 AHMAC reviewed national health workforce information requirements and decided that national collections should continue annually for medicine, biannually for nursing, and on a rolling three-year cycle for pharmacy, dentistry and several allied health occupations. National pharmacist labour force collections were undertaken in 1994, 1995, 1996 and 1999.

### 2.1 Pharmacy Labour Force Survey

The AIHW conducted the Pharmacy Labour Force Survey with the assistance of state and territory registration boards. Each pharmacy board sent a survey questionnaire to pharmacists as part of the annual registration renewal process. The pharmacy boards of Victoria and Tasmania conducted the labour force survey towards the end of 1998 while the data for the other states and territories were collected in 1999.

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 occurred within the preceding year. Only those industrial pharmacists who are required to distribute drugs and medicines to the public have to be registered. Therefore other industrial pharmacists who are not registered to dispense are not included in this survey.

#### **AIHW 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 on pharmacists who were on leave.

It was assumed for all estimates that non-respondents to the survey in each state and territory had the same labour force characteristics as had respondents, and the survey data were scaled up to the registration numbers 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 those not in the pharmacy labour force. This survey error will be greater in the two territories, which have higher proportions of pharmacists registered in other jurisdictions, and lower proportions of pharmacists practising solely in their own jurisdiction.

#### *Revisions to 1995 data*

The number of registrations and the estimated workforce in New South Wales in 1995 has been revised as advised in *Pharmacy Labour Force 1998*, following advice from the Pharmacy Board of New South Wales.

#### *Comparability with data for previous years*

Most of the labour force data in this publication are directly comparable with previously published data. However, the survey question concerning classification of main and second job of community pharmacists in New South Wales was changed for the 1996 and 1999 collections, and therefore this data may not be directly comparable with that for 1995.

## **Response rate**

Based on the total number of registrations in each state and territory, the response rate to the survey was 76.3% (Table 1). The estimated state response rate for those surveyed ranged from 65.9% in Victoria and the Australian Capital Territory to 90.6% in South Australia.

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. It is not known how often this occurred because it is not possible to match survey records across states and territories.

**Table 1: Pharmacy labour force survey response, states and territories, 1999**

	<b>NSW</b>	<b>Vic</b>	<b>Qld</b>	<b>WA</b>	<b>SA</b>	<b>Tas</b>	<b>ACT</b>	<b>NT</b>	<b>Total</b>
Responses	5,389	2,977	2,893	1,304	1,056	327	238	207	14,391
Registrations	7,142	4,518	3,331	1,595	1,165	468	361	273	18,853
Response rate (per cent)	75.5	65.9	86.9	81.8	90.6	69.9	65.9	75.8	76.3

*Sources:* AIHW Pharmacy Labour Force Survey 1999; Pharmacy Registration Boards.

Complete data were not available for all responding pharmacists, either because not all survey questions were completed or because pharmacy boards' initial registration data were incomplete or not provided. In these cases, the non-response was distributed over the item categories in the same proportion as responses.

## **2.2 Additional data sources**

Additional data in this report came from a variety of sources:

- the Department of Health and Ageing
- the Department of Education, Science and Training
- the Department of Immigration and Multicultural and Indigenous Affairs

### **The Department of Health and Ageing**

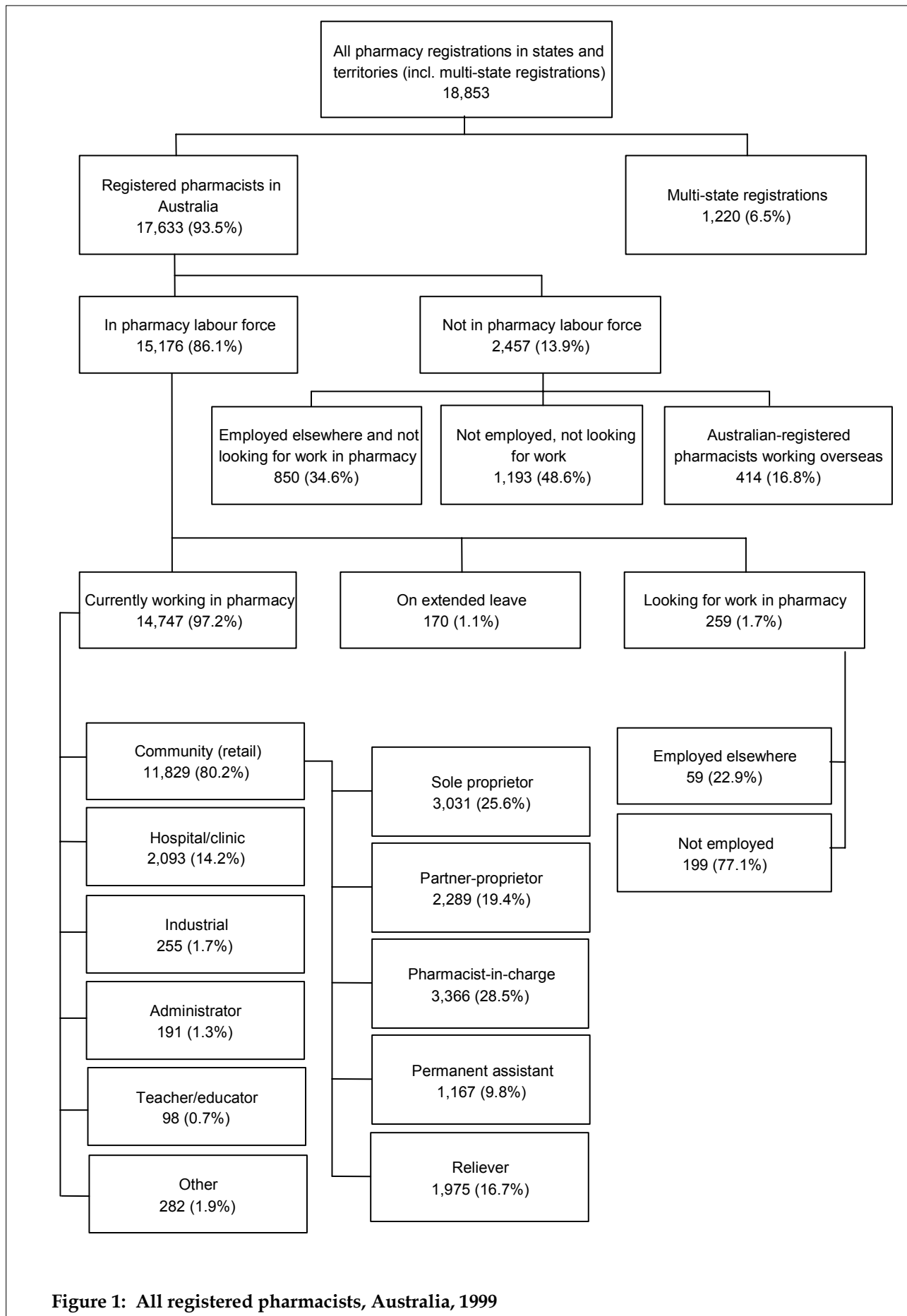
The Department of Health and Ageing (DoHA) publishes Pharmaceutical Benefits Scheme data which includes the number and cost of medicines most commonly prescribed under the scheme.

### **The Department of Education, Science and Training**

The Department of Education, Science and Training (DEST) requires all universities to provide data on students and university course completions. This information provides the number and characteristics of most of the new entrants to the pharmacy labour force.

### **The Department of Immigration and Multicultural and Indigenous Affairs**

The Department of Immigration and Multicultural and Indigenous Affairs (DIMIA) obtains data on the number of pharmacists arriving in Australia to work, and the number of Australian (permanent resident) pharmacists leaving Australia to find employment overseas. This information is retrieved from incoming and outgoing passenger cards distributed to all air and sea passengers.



**Figure 1: All registered pharmacists, Australia, 1999**

# 3 The pharmacy labour force

## 3.1 Employed pharmacists

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

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

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

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

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

Sources: AIHW Pharmacy Labour Force Survey 1999; ABS.

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

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

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

Sources: AIHW Pharmacy Labour Force Survey 1996 and 1999.

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

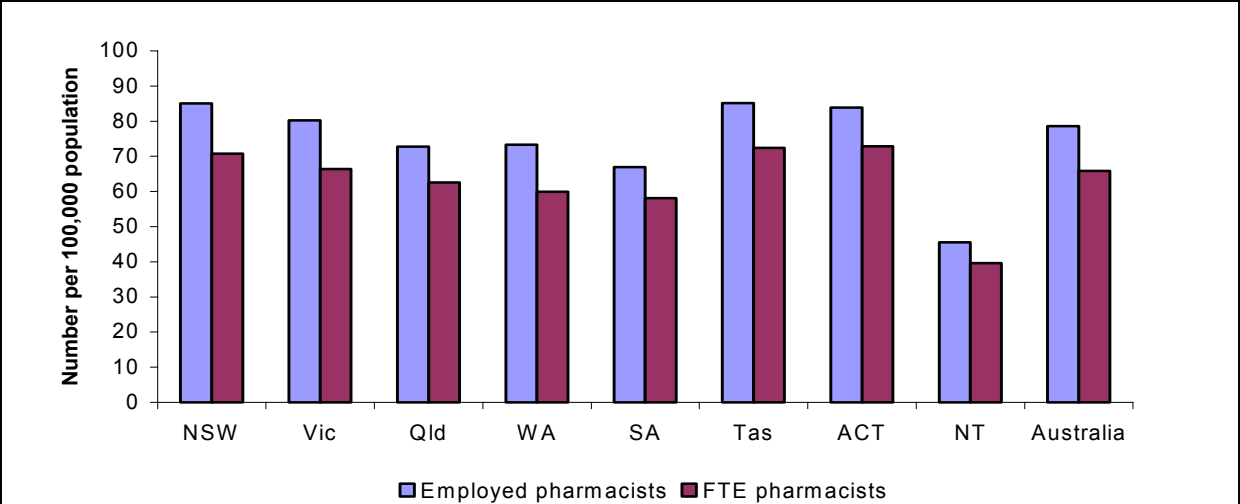
between segments of an occupation or between occupational groups. In this report, two methods are used to calculate FTE. Both are based on the ABS definition of full-time work as being at least 35 hours per week. The first, FTE(resources), counts any pharmacist working 35 hours or more as one FTE, with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

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

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

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

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

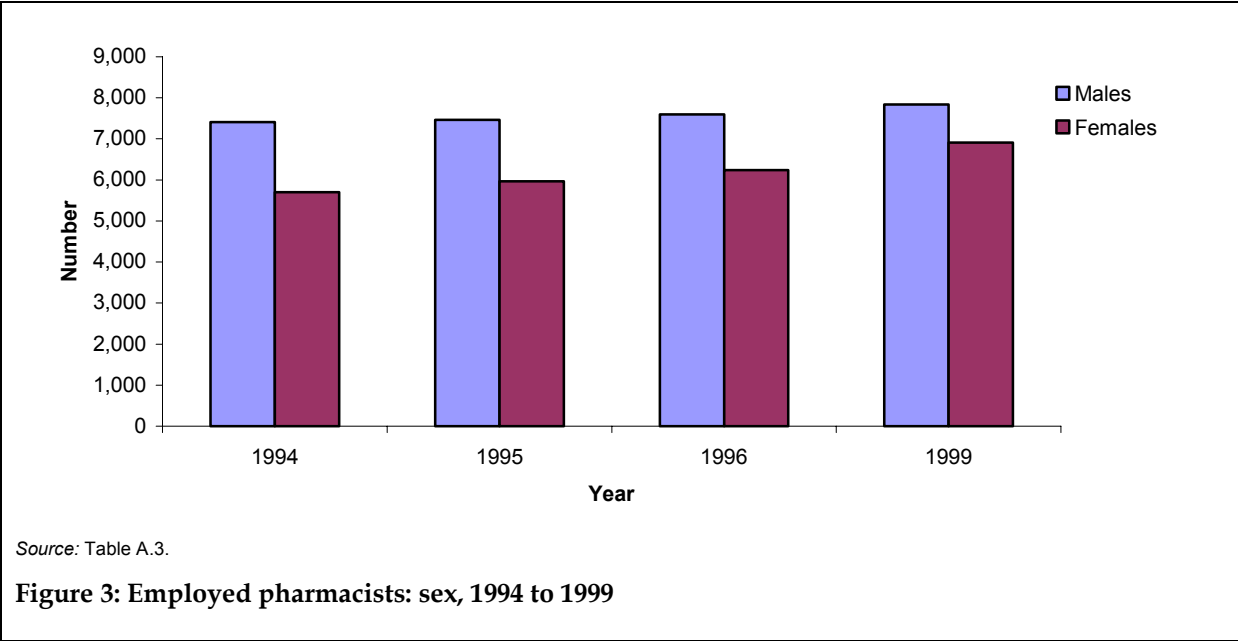


Source: Table 2.

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

### 3.2 Growth of the pharmacy labour force

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



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

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

### 3.3 Number of pharmacies in Australia

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

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

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

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

Sources: DoHA annual reports; Pharmacy Guild of Australia.

### 3.4 Age and sex of the pharmacy labour force

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

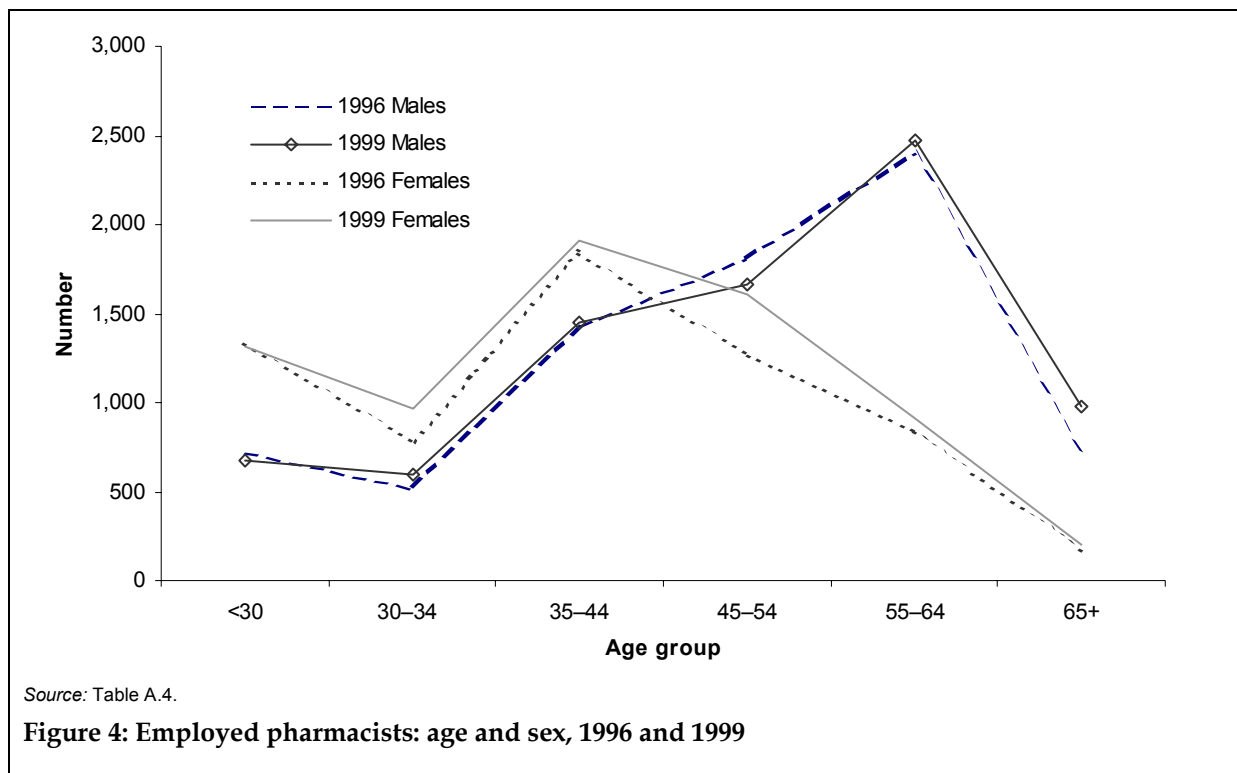
The pharmacy labour force has aged slightly, from an average of 45.1 in 1994 to 45.5 years in 1996 and 46.1 years in 1999. There was a considerable age difference between the sexes. The average age of females in 1999 was 41.7 years, substantially younger than the average age of males (50.0 years). Over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

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

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

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

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



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

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

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

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

### 3.5 Distribution by metropolitan, rural and remote areas

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

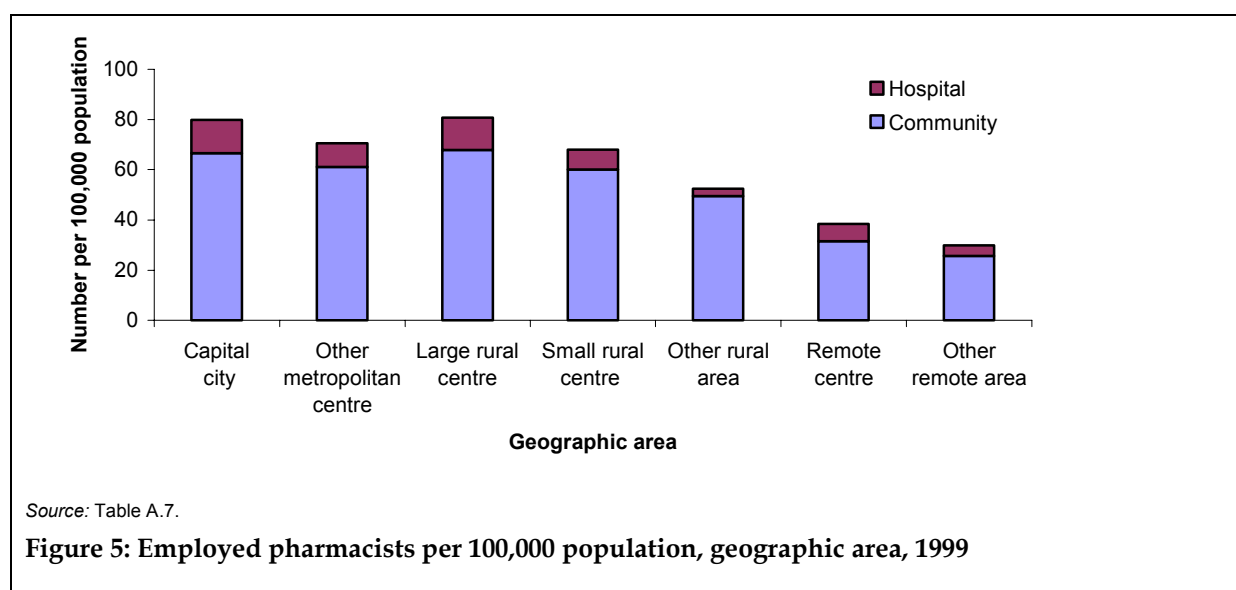
**Table 5: Employed pharmacists per 100,000 population, geographic area, 1999**

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

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

Source: Pharmacy Labour Force Survey 1999; ABS.

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



Source: Table A.7.

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

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

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

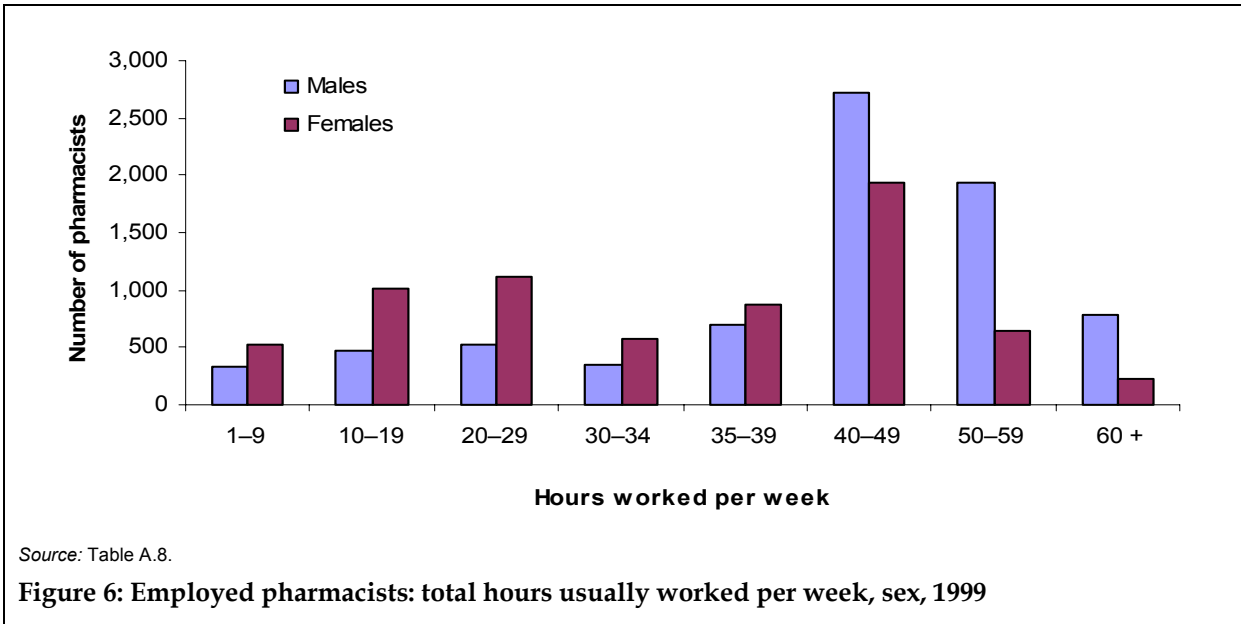
There was a higher percentage of pharmacists aged under 30 years in capital cities and remote centres (15.0% and 20.0% of employed pharmacists, respectively) than in other areas.

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

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

### 3.6 Hours worked

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



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

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

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

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



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

### 3.7 Country of birth

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

# 4 Community and hospital and clinic pharmacists

## 4.1 Community and hospital and clinic pharmacists

The following analysis considers the major occupations of community pharmacists and hospital and clinic pharmacists separately.

Community pharmacists work in retail pharmacies for over-the-counter dispensing of prescriptions. In 1999 there were 11,829 community pharmacists in Australia, 62.3 per 100,000 population, Australia-wide (Tables 6 and A.14). The highest rates were in South Australia (73.1), New South Wales (68.9) and Tasmania (65.7) while the Northern Territory had only 24.7 pharmacists per 100,000 population.

Many people need to visit pharmacies regularly to fill prescriptions or obtain over-the-counter medications. Shopping centres and malls are convenient locations for pharmacies as they allow ready access to the public as they go about their daily activities. The 1999 survey showed that the majority of community pharmacists (69.5%) were located in non-mall shopping centres, while 23.2% were in mall complexes, 6.6% were in medical centres and less than 1% were in other locations (Table A.15).

The proportions of pharmacists working in each location varied considerably across states and territories. In the Northern Territory, 70.3% of community pharmacists were located in mall complexes and only 27.0% in non-mall shopping centres. In Tasmania and Victoria, however, 81.0% and 79.1% of community pharmacists, respectively, were located in non-mall shopping centres. Western Australia and Queensland had a high proportion of community pharmacists attached to medical centres (13.0% and 11.8% respectively), considerably more than the Australian figure (6.6%). As there was no definition of mall complex supplied to respondents, and it was therefore open to individual interpretation, these figures must be treated with caution.

**Table 6: Employed pharmacists per 100,000 population, states and territories, 1999**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Population ('000)	6,438.6	4,700.7	3,508.6	1,854.4	1,499.2	472.0	313.8	194.2	18,984.2
<b>Pharmacists per 100,000 population</b>									
Community pharmacists	68.9	60.6	61.3	42.6	73.1	65.7	48.8	24.7	62.3
Hospital pharmacists	10.1	13.6	9.1	10.2	11.1	12.7	8.9	21.1	11.0
Other pharmacists	5.4	4.6	1.8	3.2	2.6	6.1	21.0	3.6	4.3
<b>Employed pharmacists<sup>(a)</sup></b>	<b>84.3</b>	<b>78.8</b>	<b>72.1</b>	<b>72.5</b>	<b>66.4</b>	<b>84.5</b>	<b>83.0</b>	<b>42.8</b>	<b>77.7</b>

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

Community pharmacists can be classified according to their degree of responsibility within their business. This tends to relate to their level of ownership, which ranges from sole proprietor or part-owner down to relief worker. The classification profile of the main job of community pharmacists varied across states and territories (Table A.13). Almost one-third of community pharmacists worked as sole proprietors in Tasmania and Western Australia

(32.7% and 32.3% respectively) but accounted for only 13.2% and 13.0% of community pharmacists in the Northern Territory and the Australian Capital Territory, respectively. Most community pharmacists in the Northern Territory (47.3%) worked as pharmacists-in-charge, a much higher proportion than for Australia as a whole (28.5%). The Australian Capital Territory had more relievers than other states and territories, with 26.3% compared with the Australian proportion of 16.7%.

Females made up 68.0% of permanent assistant pharmacists and 61.4% of relievers working in regular locations. However, they only comprised 20.9% of sole proprietors and 27.6% of partner-proprietors.

Hospital and clinic pharmacists supply and control medication in hospitals and provide other special services such as overseeing oncology medication. In 1999 there were 2,093 hospital and clinic pharmacists in Australia, 11.0 per 100,000 population (Tables 5 and A.16). The rate varied across states and territories. The Northern Territory had by far the highest rate, with 21.1 hospital and clinic pharmacists per 100,000 population. The Australian Capital Territory and Queensland had the lowest rates (8.9 and 9.1 per 100,000 population).

Hospital and clinic pharmacists also have varying degrees of responsibility. Their jobs are classified according to their seniority, from director down to pharmacist. The 1999 survey showed that the majority of hospital and clinic pharmacists worked in jobs classified as pharmacists (32.9%) (Table A.16). A further 27.5% and 20.3% were specialist pharmacists and senior pharmacists, respectively. The remainder work as directors and deputy directors (13.6% and 4.9%, respectively). Only 3.0% of hospital and clinic pharmacists in Tasmania and 5.8% of those in the Northern Territory were directors, compared with 16.5% of those in New South Wales and 14.9% of those in South Australia. Females made up 81.3% of specialist pharmacists and 74.8% of pharmacists, but only 44.0% of directors.

## 4.2 Access to pharmacy services

Demand for pharmacists is largely related to the volume of prescriptions for drugs made by medical practitioners, and to the use of non-prescribed medicines. There are two main sources of information on drug prescription and use. These are the BEACH survey and reports from the Pharmaceutical Benefits Scheme.

### The BEACH survey

The BEACH (Bettering the Evaluation And Care of Health) report *General Practice Activity in Australia 2000–01* (Britt et al. 2001) presents data collected between April 2000 and March 2001 from a sample of general practitioners. Doctors are asked about themselves and their patient encounters. The survey found that general practitioners reported managing an average of 144.5 problems per 100 patient encounters. They prescribed, supplied or advised over-the-counter drugs at an overall rate of 108.2 per 100 encounters, or 74.8 per 100 problems. Prescriptions were the second most common reason given by patients for encounters, at 6.1% of all reasons, after check-ups at 8.8%.

Of these medications, 85.2% were prescribed, 8.5% advised for over-the-counter purchase, and 6.3% were supplied. The most frequently prescribed drug was paracetamol (an analgesic, at 3.9 per 100 encounters), followed by amoxicillin (an antibiotic, at 3.2 per 100 encounters), then cephalexin (an antibiotic, at 2.2 per 100 encounters) and paracetamol and codeine (an analgesic, also at 2.2 per 100 encounters). (Analgesics are cheaper for health care cardholders if prescribed rather than purchased over the counter.) The most commonly prescribed drug

groups were antibiotics (17.2% of all prescriptions), cardiovascular drugs (14.7%), central nervous system drugs (12.0%) and psychological drugs (8.1%). The most frequently advised over-the-counter drug was paracetamol, at 26.3% of all drugs advised. Vaccines were the most frequently supplied medication, totalling 26.4% of all medications supplied, and celecoxib (a non-steroidal anti-inflammatory drug) was the most commonly supplied single preparation at 4.8%.

## **Pharmaceutical Benefits Scheme**

The Department of Health and Ageing publishes information relating to the government's Pharmaceutical Benefits Scheme (PBS). In 2000-01, there were over 148 million prescriptions dispensed under the PBS. This was a 7.2% increase from 1999-00 and a 19.0% increase in the total cost of PBS prescriptions, to \$4.6 billion. Of this, \$3.8 billion, or 83.7%, was met by the government and \$0.7 billion was met by patient co-payments (DoHA 2001 and Table A.24).

Nationally, 7.7 scripts per head were issued under the PBS in 2000-01, at an average cost per head of \$237.28. Tasmania had the highest number of scripts and cost per capita, at 8.9 and \$259.89 respectively. The Northern Territory had the lowest, at 2.6 scripts and \$86.31 per head, at least partly because of the availability of state-funded medications such as Section 100 drugs in remote areas of Australia (DoHA 2001).

## **4.3 Current and projected shortage of pharmacists**

The Department of Employment and Workplace Relations identified shortages of both retail and hospital pharmacists in 1999 and these occupations were still in demand nationally in 2002 (DEWR 2003). Skill shortages exist when employers are unable to fill, or have considerable difficulty in filling, vacancies for an occupation, or specialised skill needs within that occupation.

The demand for pharmacy services is likely to increase in the future. The PBS data show that the number of prescriptions dispensed has increased considerably in recent years. The rise is not just due to population growth, as there has been an increase in the number of scripts written per head, from 6.8 in 1999-00 to 7.7 in 2000-01. With the ageing of the population and the well-described tendency for the number of prescriptions written to rise with advancing age (AIHW: Britt et al. 2001) it is expected that the numbers of prescriptions to be dispensed will increase in the future. In addition, the role of pharmacists as health providers is expected to expand because of the increasing complexity and diversity of medications. Increasingly, pharmacists will need to provide more 'cognitive' services such as advice on the most appropriate medication and counselling on its use, rather than just supply of product (HCI 2003).

A report commissioned by the Commonwealth Department of Health and Ageing also concluded that there was an undersupply of community and hospital pharmacists in Australia in 1999, and projected that the shortage would continue beyond 2010 (HCI 2003).

# 5 Entry into the pharmacy labour force

It is important to monitor the numbers of pharmacists migrating into and out of Australia and the numbers of pharmacy students being trained, in view of rising rates of prescription dispensing and identified shortages of pharmacists.

## 5.1 Migration

In 1999–00, 155 overseas pharmacists permanently migrated to Australia. Of these, 52 were from Asia, 34 from the Middle East and Africa, 29 from New Zealand and 16 from the United Kingdom and Ireland (Table A.18). The number of overseas pharmacists coming to Australia temporarily for short-term or long-term employment has increased steadily, from 21 in 1995–96 to 82 in 1999–00 (Table A.17). A further 28 people temporarily migrated for education in 1999–00.

However, many of the pharmacists that migrate to Australia each year do not enter the pharmacy labour force. In pharmacy, permanent migrants must have their qualifications assessed by the Australian Pharmacy Examining Council (APEC) before they are allowed to practise in Australia. Migrants other than those who received their qualifications in New Zealand, the United Kingdom or Ireland must complete APEC's examination procedure, which includes two examinations and a period of supervised practice in an approved pharmacy. Those who are assessed as eligible to practise, and who wish to work in pharmacy, must then apply for registration through a state or territory pharmacy registration board.

The number of overseas-trained pharmacists assessed by the Australian Pharmacy Examining Council (and previously by NOOSR) as eligible to practise in Australia varies from year to year. In recent years it has ranged from 10 in 1996–97 to 33 in 2000–01 (Table 7).

Pharmacists also left Australia. In 1999–00, 47 Australian pharmacists permanently migrated from Australia, most to New Zealand, North and South America and the United Kingdom and Ireland. There were 64 who migrated temporarily overseas for employment for 12 months or more. The most popular destination was the United Kingdom and Ireland (Tables A.18 and A.17).

There were 43 pharmacists from the United Kingdom, Ireland and New Zealand who temporarily came to Australia for short-term or long-term employment, and 45 pharmacists who permanently migrated from these countries. Assuming that these pharmacists, as well as the 34 pharmacists who were assessed by APEC as eligible to practise, applied for registration as pharmacists, there was a gain of 11 pharmacists to the labour force due to permanent or temporary migration in 1999–00. However, in that year there were also 133 Australian pharmacists who returned to Australia after a long-term stay.

**Table 7: Assessment of skills of overseas-trained pharmacists for eligibility to practise in Australia, 1995–96 to 2000–01**

Sex/assessment	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01
<b>Males</b>						
Sat preliminary exam	5	15	35	39	39	61
Passed preliminary exam	2	7	16	26	21	29
Sat final exam	7	8	9	16	23	21
<i>Passed final exam</i>	6	2	4	12	18	13
<b>Females</b>						
Sat preliminary exam	23	28	49	58	58	67
Passed preliminary exam	14	14	20	30	34	45
Sat final exam	23	12	22	22	24	33
<i>Passed final exam</i>	14	8	13	18	16	20
<b>Persons<sup>(a)</sup></b>						
Sat preliminary exam	28	44	84	97	97	128
Passed preliminary exam	16	22	36	56	55	74
Sat final exam	30	20	31	40	47	54
<b>Passed final exam</b>	<b>20</b>	<b>10</b>	<b>17</b>	<b>32</b>	<b>34</b>	<b>33</b>

(a) Includes in some years applicants whose sex was not indicated.

Sources: NOOSR in DETYA and DEST annual reports for 1993–94 to 1998–99; Australian Pharmacy Examining Council Inc., for 1999–00 to 2000–01.

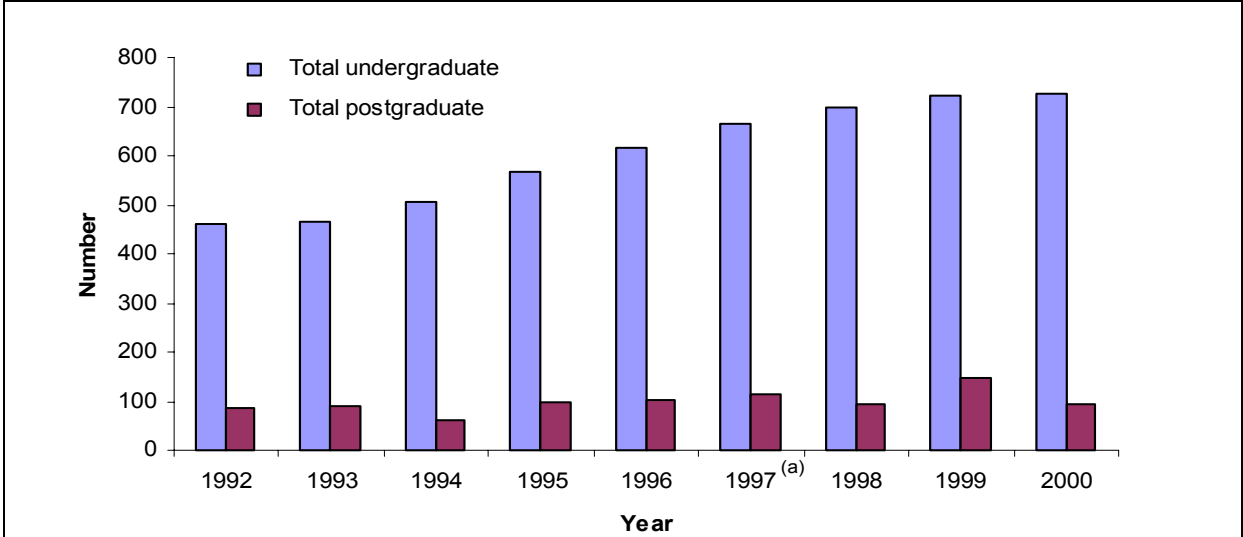
## 5.2 Education

The number of Australian permanent resident students commencing undergraduate courses has increased steadily, from 463 in 1992 to 727 in 2000, a 57% increase (Table A.19 and Figure 8). The increase is mainly due to the introduction of new pharmacy courses at Northern Territory University, Charles Sturt University and La Trobe University.

The number of students commencing postgraduate courses varies considerably from year to year, with the highest number in 1999 (147 students). This was largely due to a big increase in the number of postgraduate students commencing at Monash University (Table A.20 and Figure 8). Over recent years, the numbers of postgraduate completions by Australian students has remained fairly steady, from 79 in 1997 to 73 in 2000 (Table A.21 and Figure 9).

The proportion of the pharmacy student population who are female has risen over the past decade. In 1995, 58.6% of all students commencing courses were females, and this increased to 65.9% in 2000 (Table A.19). This indicates that the trend towards more women in the pharmacy labour force will continue.

In 2001 there were 34.9 commencing pharmacy students per 100,000 of the population aged between 15 and 24 from capital cities, 36.4 from metropolitan centres, 4.3 from large rural centres, 23.0 from small rural centres, 8.6 from other rural areas and 1.3 from remote areas (Table A.22).

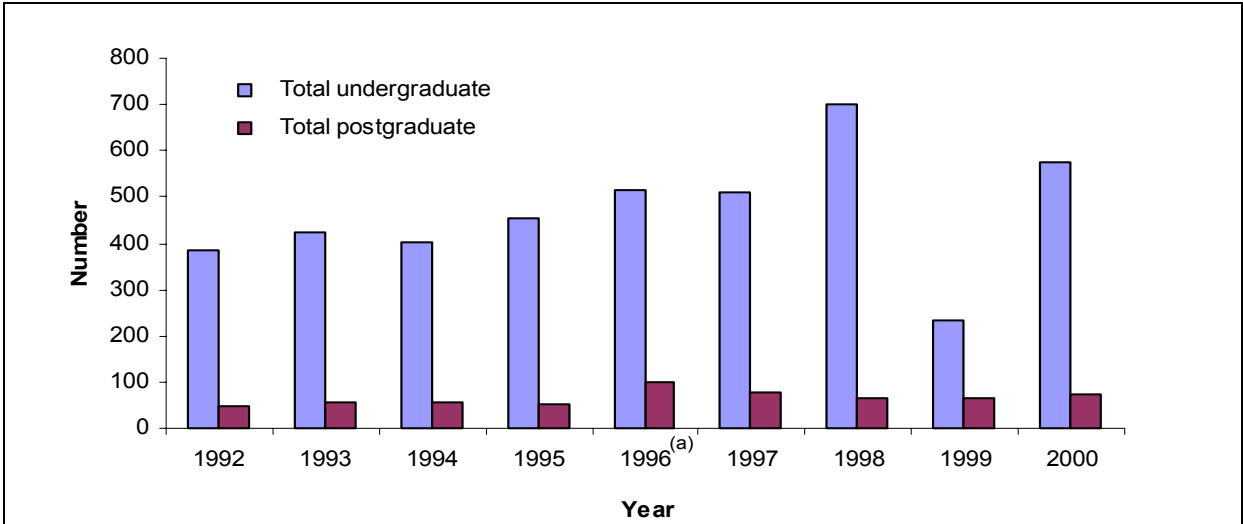


(a) Includes New Zealand citizens, who were included with Australian permanent resident students' data for 1997.

Source: Table A.19.

**Figure 8: Australian permanent residents commencing pharmacy courses: course level, year of enrolment, 1992 to 2000**

The number of Australian permanent resident pharmacy students completing bachelor degrees has also increased over the past decade. There were 649 course completions in 2000. There was a temporary increase in 1998 and then a decrease in the number of students completing courses in 1999 due to the introduction of an extra year of study for pharmacy undergraduate degrees at University of Queensland, University of South Australia, Monash University and University of Sydney (Table A.21 and Figure 9).



(a) Includes New Zealand citizens, who were included with Australian permanent resident students' data for 1996.

Source: Table A.21.

**Figure 9: Australian permanent residents completing pharmacy courses: course level, year of completion, 1992 to 2000**

The number of fee-paying overseas students enrolled in undergraduate pharmacy degrees in Australia increased steadily from 212 in 1993 to 337 in 2001, an increase of 91% (Table A.23). More overseas students also enrolled in postgraduate courses over this time, peaking at 56 students in 2001.

# Appendix A: Detailed tables

Table A.1: All registered pharmacists: employment status, sex, states and territories, 1999

Employment status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
Employed in pharmacy, only or mainly in state/territory	2,725	1,991	1,409	782	559	205	132	34	7,837
On leave for 3 months or more	10	24	2	2	1	—	—	2	41
Looking for work in pharmacy:									
Employed elsewhere	13	6	3	5	1	—	—	—	28
Not employed	32	36	13	8	9	—	—	2	100
<i>Pharmacy labour force</i>	<b>2,780</b>	<b>2,057</b>	<b>1,427</b>	<b>796</b>	<b>570</b>	<b>205</b>	<b>132</b>	<b>38</b>	<b>8,006</b>
Overseas	85	6	50	6	12	6	4	2	171
Not looking for work in pharmacy:									
Employed elsewhere	199	102	55	41	17	9	14	5	443
Not employed	233	126	158	37	25	4	5	7	596
<i>Not in pharmacy labour force</i>	<b>432</b>	<b>228</b>	<b>213</b>	<b>78</b>	<b>42</b>	<b>13</b>	<b>19</b>	<b>12</b>	<b>1,039</b>
<i>Total registered pharmacists</i>	<b>3,212</b>	<b>2,285</b>	<b>1,640</b>	<b>874</b>	<b>612</b>	<b>219</b>	<b>152</b>	<b>51</b>	<b>9,045</b>
Multiple registrations	353	101	225	18	48	28	39	93	905
<b>Total registrations</b>	<b>3,566</b>	<b>2,386</b>	<b>1,865</b>	<b>892</b>	<b>660</b>	<b>247</b>	<b>191</b>	<b>144</b>	<b>9,950</b>
<b>Females</b>									
Employed in pharmacy, only or mainly in state/territory	2,705	1,713	1,123	562	437	194	128	50	6,910
On leave for 3 months or more	39	43	19	13	7	3	3	3	129
Looking for work in pharmacy:									
Employed elsewhere	17	3	5	2	2	—	1	1	31
Not employed	40	37	10	7	1	3	—	1	100
<i>Pharmacy labour force</i>	<b>2,801</b>	<b>1,796</b>	<b>1,156</b>	<b>584</b>	<b>447</b>	<b>199</b>	<b>132</b>	<b>55</b>	<b>7,170</b>
Overseas	97	47	49	17	20	6	1	6	243
Not looking for work in pharmacy:									
Employed elsewhere	229	76	57	19	7	6	12	3	407
Not employed	243	139	122	57	16	4	8	7	597
<i>Not in pharmacy labour force</i>	<b>569</b>	<b>263</b>	<b>227</b>	<b>93</b>	<b>43</b>	<b>16</b>	<b>21</b>	<b>16</b>	<b>1,247</b>
<i>Total registered pharmacists</i>	<b>3,370</b>	<b>2,058</b>	<b>1,384</b>	<b>676</b>	<b>490</b>	<b>215</b>	<b>153</b>	<b>71</b>	<b>8,417</b>
Multiple registrations	207	74	82	27	15	6	17	58	486
<b>Total registrations</b>	<b>3,576</b>	<b>2,132</b>	<b>1,466</b>	<b>703</b>	<b>505</b>	<b>221</b>	<b>170</b>	<b>129</b>	<b>8,903</b>
<b>Persons</b>									
Employed in pharmacy, only or mainly in state/territory	5,430	3,703	2,531	1,344	996	399	260	83	14,747
On leave for 3 months or more	49	67	21	15	8	3	3	5	170
Looking for work in pharmacy:									
Employed elsewhere	29	9	8	6	3	—	1	1	59
Not employed	72	73	23	14	10	3	—	4	199
<i>Pharmacy labour force</i>	<b>5,581</b>	<b>3,852</b>	<b>2,583</b>	<b>1,379</b>	<b>1,017</b>	<b>405</b>	<b>264</b>	<b>94</b>	<b>15,176</b>
Overseas	183	54	98	23	32	12	5	8	414
Not looking for work in pharmacy:									
Employed elsewhere	428	178	112	60	24	15	26	8	850
Not employed	476	265	280	94	41	9	13	15	1,193
<i>Not in pharmacy labour force</i>	<b>1,087</b>	<b>497</b>	<b>490</b>	<b>177</b>	<b>97</b>	<b>35</b>	<b>44</b>	<b>30</b>	<b>2,457</b>
<i>Total registered pharmacists</i>	<b>6,668</b>	<b>4,349</b>	<b>3,073</b>	<b>1,556</b>	<b>1,114</b>	<b>440</b>	<b>309</b>	<b>124</b>	<b>17,633</b>
Multiple registrations	474	169	258	39	51	28	52	149	1,220
<b>Total registrations</b>	<b>7,142</b>	<b>4,518</b>	<b>3,331</b>	<b>1,595</b>	<b>1,165</b>	<b>468</b>	<b>361</b>	<b>273</b>	<b>18,853</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.2: Pharmacy labour force: occupation of main job and sex, states and territories, 1999**

Occupation of main job	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
Community (retail)	2,451	1,680	1,271	660	483	177	81	22	6,824
Hospital/clinic	143	200	107	92	59	17	9	7	635
Industrial	50	33	2	—	1	—	—	—	87
Administrator	27	28	14	16	9	4	27	4	130
Teacher/educator	14	14	1	7	5	5	2	—	48
Other	39	36	13	7	2	2	14	—	114
<i>Total employed</i>	<i>2,725</i>	<i>1,991</i>	<i>1,409</i>	<i>782</i>	<i>559</i>	<i>205</i>	<i>132</i>	<i>34</i>	<i>7,837</i>
On extended leave <sup>(a)</sup>	10	24	2	2	1	—	—	2	41
Looking for work in pharmacy	45	42	16	12	10	—	—	2	128
<b>Pharmacy labour force</b>	<b>2,780</b>	<b>2,057</b>	<b>1,427</b>	<b>796</b>	<b>570</b>	<b>205</b>	<b>132</b>	<b>38</b>	<b>8,006</b>
<b>Females</b>									
Community (retail)	1,982	1,169	880	435	307	133	72	26	5,005
Hospital/clinic	509	437	211	97	108	43	32	20	1,458
Industrial	108	49	4	2	3	3	—	—	168
Administrator	18	8	8	5	3	5	14	—	61
Teacher/educator	17	12	6	8	4	3	—	—	50
Other	70	38	14	15	12	7	9	3	169
<i>Total employed</i>	<i>2,705</i>	<i>1,713</i>	<i>1,123</i>	<i>562</i>	<i>437</i>	<i>194</i>	<i>128</i>	<i>50</i>	<i>6,910</i>
On extended leave <sup>(a)</sup>	39	43	19	13	7	3	3	3	129
Looking for work in pharmacy	57	40	15	8	3	3	1	3	131
<b>Pharmacy labour force</b>	<b>2,801</b>	<b>1,796</b>	<b>1,156</b>	<b>584</b>	<b>447</b>	<b>199</b>	<b>132</b>	<b>55</b>	<b>7,170</b>
<b>Persons</b>									
Community (retail)	4,433	2,849	2,150	1,095	790	310	153	48	11,829
Hospital/clinic	652	637	318	189	167	60	41	28	2,093
Industrial	158	82	6	2	4	3	—	—	255
Administrator	46	36	22	20	12	9	42	4	191
Teacher/educator	31	26	8	15	9	8	2	—	98
Other	109	74	27	23	14	9	23	3	282
<i>Total employed</i>	<i>5,430</i>	<i>3,703</i>	<i>2,531</i>	<i>1,344</i>	<i>996</i>	<i>399</i>	<i>260</i>	<i>83</i>	<i>14,747</i>
On extended leave <sup>(a)</sup>	49	67	21	15	8	3	3	5	170
Looking for work in pharmacy	102	83	31	21	13	3	1	5	259
<b>Pharmacy labour force</b>	<b>5,581</b>	<b>3,852</b>	<b>2,583</b>	<b>1,379</b>	<b>1,017</b>	<b>405</b>	<b>264</b>	<b>94</b>	<b>15,176</b>
<b>(per cent)</b>									
Community (retail)	81.6	76.9	84.9	81.5	79.3	77.7	58.8	57.9	80.2
Hospital/clinic	12.0	17.2	12.6	14.1	16.8	15.1	15.9	33.3	14.2
Industrial	2.9	2.2	0.2	0.1	0.4	0.7	—	—	1.7
Administrator	0.8	1.0	0.9	1.5	1.2	2.3	16.0	5.3	1.3
Teacher/educator	0.6	0.7	0.3	1.1	0.9	1.9	0.6	—	0.7
Other	2.0	2.0	1.1	1.7	1.5	2.3	8.7	3.5	1.9
<i>Total employed</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Employed pharmacists	97.3	96.1	98.0	97.4	97.9	98.6	98.5	88.7	97.2
On extended leave <sup>(a)</sup>	0.9	1.7	0.8	1.1	0.8	0.7	1.0	5.7	1.1
Looking for work in pharmacy	1.8	2.1	1.2	1.5	1.3	0.7	0.5	5.7	1.7
<b>Pharmacy labour force</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(continued)

**Table A.2 (continued): Pharmacy labour force: occupation of main job and sex, states and territories, 1999**

Occupation of main job	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
(females as a percentage of all persons)									
Community (retail)	44.7	41.0	40.9	39.7	38.9	42.9	47.3	54.6	42.3
Hospital/clinic	78.1	68.6	66.2	51.4	64.6	71.3	78.0	73.7	69.6
Industrial	68.3	59.7	62.4	100.0	69.5	100.0	—	—	65.9
Administrator	40.3	22.3	35.6	22.7	22.2	59.2	34.2	—	32.0
Teacher/educator	54.4	46.3	84.7	51.8	46.1	35.2	—	—	51.2
Other	63.9	51.7	52.5	68.3	83.7	73.1	39.8	100.0	59.7
<i>Total employed</i>	<i>49.8</i>	<i>46.2</i>	<i>44.4</i>	<i>41.8</i>	<i>43.8</i>	<i>48.5</i>	<i>49.2</i>	<i>59.7</i>	<i>46.9</i>
On extended leave <sup>(a)</sup>	79.2	64.6	88.9	89.8	86.5	100.0	100.0	53.3	75.8
Looking for work in pharmacy	56.0	48.5	48.3	40.8	26.3	100.0	100.0	53.3	50.6
<b>Pharmacy labour force</b>	<b>50.2</b>	<b>46.6</b>	<b>44.8</b>	<b>42.3</b>	<b>43.9</b>	<b>49.3</b>	<b>49.9</b>	<b>59.0</b>	<b>47.2</b>

(a) On leave for 3 months or more.

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.3: Employed pharmacists: sex, states and territories, 1994 to 1999**

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
1994	2,613	1,906	1,331	734	591	190	n.a.	46	7,406
1995	2,470	1,985	1,349	740	567	188	121	43	7,463
1996	2,668	1,889	1,379	739	565	190	123	43	7,597
1999	2,725	1,991	1,409	782	559	205	132	34	7,837
<b>Females</b>									
1994	2,102	1,621	937	471	371	165	n.a.	41	5,698
1995	2,042	1,771	962	471	391	163	133	30	5,964
1996	2,268	1,698	1,054	485	394	165	143	30	6,237
1999	2,705	1,713	1,123	562	437	194	128	50	6,910
<b>Persons</b>									
1994	4,715	3,527	2,268	1,205	962	355	n.a.	87	13,104
1995	4,512	3,756	2,311	1,211	958	351	254	73	13,427
1996	4,936	3,587	2,433	1,224	959	355	266	73	13,834
1999	5,430	3,704	2,532	1,344	996	399	260	84	14,747
<b>Per cent change 1994 to 1999<sup>(a)</sup></b>									
Males	4.3	4.5	5.9	6.5	-5.4	7.9	9.1	-26.1	5.8
Females	28.7	5.7	19.9	19.3	17.8	17.6	-3.8	22.0	21.3
<b>Persons</b>	<b>15.2</b>	<b>5.0</b>	<b>11.6</b>	<b>11.5</b>	<b>3.5</b>	<b>12.4</b>	<b>2.4</b>	<b>-3.4</b>	<b>12.5</b>

(a) Change is from 1995 to 1999 for the ACT.

Sources: AIHW Pharmacy Labour Force Surveys: 1994, 1995, 1996, 1999.

**Table A.4: Employed pharmacists: pharmacy employment trends: age group and sex, 1996 and 1999**

Sex	Age (years)						Total
	Under 30	30–34	35–44	45–54	55–64	65 and over	
<b>1996</b>							
Males	718	514	1,427	1,810	2,408	720	7,597
Females	1,338	780	1,846	1,264	842	167	6,237
<b>Persons</b>	<b>2,056</b>	<b>1,294</b>	<b>3,273</b>	<b>3,074</b>	<b>3,250</b>	<b>887</b>	<b>13,834</b>
<b>1999</b>							
Males	672	598	1,447	1,666	2,474	982	7,837
Females	1,312	968	1,908	1,610	908	204	6,910
<b>Persons</b>	<b>1,984</b>	<b>1,566</b>	<b>3,355</b>	<b>3,276</b>	<b>3,382</b>	<b>1,186</b>	<b>14,747</b>
<b>Per cent change 1996 to 1999</b>							
Males	-6.4	16.3	1.4	-8.0	2.7	36.4	3.2
Females	-1.9	24.1	3.4	27.4	7.8	22.2	10.8
<b>Persons</b>	<b>-3.5</b>	<b>21.0</b>	<b>2.5</b>	<b>6.6</b>	<b>4.1</b>	<b>33.7</b>	<b>6.6</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.5: Employed pharmacists: age, states and territories, 1999**

Age (years)/type of pharmacist	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
Under 30	239	199	138	12	40	27	11	3	672
30–34	204	155	113	65	37	10	7	6	598
35–44	406	415	266	193	100	53	21	10	1,447
45–54	492	478	285	207	136	48	32	6	1,666
55–64	981	554	416	232	175	45	48	10	2,474
65 and over	403	189	190	73	71	23	13	—	982
<b>Total</b>	<b>2,725</b>	<b>1,991</b>	<b>1,409</b>	<b>782</b>	<b>559</b>	<b>205</b>	<b>132</b>	<b>34</b>	<b>7,837</b>
<b>Average age</b>									
Community	51.5	48.3	49.8	49.8	50.9	47.4	51.1	45.3	50.1
Hospital/clinic	40.1	39.5	37.4	40.6	37.5	32.8	37.0	38.5	38.9
<i>All pharmacists</i>	<i>51.4</i>	<i>48.3</i>	<i>49.5</i>	<i>49.7</i>	<i>50.6</i>	<i>47.6</i>	<i>50.7</i>	<i>44.9</i>	<i>50.0</i>
<b>Females</b>									
Under 30	502	365	233	29	97	41	17	10	1,312
30–34	337	228	167	120	62	29	19	9	968
35–44	671	464	336	212	122	60	29	15	1,908
45–54	688	385	217	134	110	45	35	6	1,610
55–64	414	231	128	50	39	17	27	9	908
65 and over	93	38	42	17	8	1	1	1	204
<b>Total</b>	<b>2,705</b>	<b>1,713</b>	<b>1,123</b>	<b>562</b>	<b>437</b>	<b>194</b>	<b>128</b>	<b>50</b>	<b>6,910</b>
<b>Average age</b>									
Community	43.2	41.7	41.1	41.3	40.4	40.7	43.2	40.8	42.0
Hospital/clinic	34.6	34.7	33.8	30.3	34.7	34.1	35.2	35.2	34.2
<i>All pharmacists</i>	<i>42.8</i>	<i>41.0</i>	<i>40.8</i>	<i>42.1</i>	<i>40.3</i>	<i>39.7</i>	<i>44.1</i>	<i>40.5</i>	<i>41.7</i>
<b>Persons</b>									
Under 30	742	565	371	41	137	67	29	13	1,984
30–34	541	384	280	185	98	39	26	14	1,565
35–44	1,076	880	603	406	221	113	50	24	3,355
45–54	1,181	863	502	341	246	93	66	11	3,275
55–64	1,394	785	544	281	214	62	75	19	3,382
65 and over	496	227	232	90	80	25	14	1	1,186
<b>Total</b>	<b>5,430</b>	<b>3,703</b>	<b>2,531</b>	<b>1,344</b>	<b>996</b>	<b>399</b>	<b>260</b>	<b>83</b>	<b>14,747</b>
<b>Average age</b>									
Community	48.0	45.4	46.3	46.8	46.7	44.3	47.1	42.8	46.8
Hospital/clinic	35.9	36.1	35.1	34.6	35.7	34.0	35.4	36.6	35.6
<b>All pharmacists</b>	<b>47.3</b>	<b>44.7</b>	<b>45.6</b>	<b>46.7</b>	<b>46.1</b>	<b>43.6</b>	<b>46.9</b>	<b>42.3</b>	<b>46.1</b>
<b>(per cent)</b>									
Under 30	13.7	15.2	14.7	3.1	13.7	16.9	11.0	15.6	13.5
30–34	10.0	10.4	11.1	13.8	9.9	9.8	10.0	17.3	10.6
35–44	19.8	23.8	23.8	30.2	22.2	28.2	19.1	29.3	22.8
45–54	21.7	23.3	19.8	25.4	24.7	23.3	25.5	13.7	22.2
55–64	25.7	21.2	21.5	20.9	21.5	15.6	28.9	22.3	22.9
65 and over	9.1	6.1	9.2	6.7	8.0	6.2	5.5	1.8	8.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Pharmacy Labour Force Survey 1999.

Table A.6: Employed pharmacists: age, geographic area, 1999

Age (years)	Geographic area							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
<b>Males</b>								
Under 30	518	49	36	27	36	3	1	672
30–34	450	45	36	36	48	4	4	598
35–44	1,028	89	84	101	153	6	11	1,447
45–54	1,178	107	121	114	165	15	7	1,666
55–64	1,591	198	170	160	289	15	24	2,474
65 and over	548	95	71	65	129	3	6	982
<b>Total</b>	<b>5,314</b>	<b>582</b>	<b>519</b>	<b>503</b>	<b>821</b>	<b>46</b>	<b>54</b>	<b>7,837</b>
Average age	48.9	51.3	51.4	50.8	52.3	50.0	51.5	50.0
<b>Females</b>								
Under 30	1,053	80	73	43	50	14	3	1,312
30–34	764	45	52	39	49	9	6	968
35–44	1,380	131	120	111	147	12	13	1,908
45–54	1,199	106	90	78	124	6	13	1,610
55–64	642	60	48	46	97	—	13	908
65 and over	127	21	12	13	21	—	1	204
<b>Total</b>	<b>5,165</b>	<b>443</b>	<b>395</b>	<b>330</b>	<b>487</b>	<b>40</b>	<b>49</b>	<b>6,910</b>
Average age	41.1	43.0	41.5	43.4	44.9	34.3	46.2	41.7
<b>Persons</b>								
Under 30	1,571	129	110	70	86	17	4	1,984
30–34	1,214	89	89	74	96	13	10	1,565
35–44	2,408	220	203	211	301	17	24	3,355
45–54	2,377	213	211	192	289	21	20	3,275
55–64	2,233	257	218	206	387	15	37	3,382
65 and over	676	116	83	79	149	3	7	1,186
<b>Total</b>	<b>10,479</b>	<b>1,025</b>	<b>914</b>	<b>833</b>	<b>1,308</b>	<b>86</b>	<b>103</b>	<b>14,747</b>
Average age	45.0	47.9	47.3	47.8	49.6	42.8	49.0	46.1
<b>(per cent)</b>								
Under 30	15.0	12.6	12.0	8.4	6.6	20.0	4.2	13.5
30–34	11.6	8.7	9.7	8.9	7.4	14.9	9.7	10.6
35–44	23.0	21.5	22.3	25.4	23.0	19.8	23.6	22.8
45–54	22.7	20.8	23.1	23.0	22.1	24.4	19.5	22.2
55–64	21.3	25.1	23.9	24.8	29.6	17.7	36.0	22.9
65 and over	6.4	11.3	9.1	9.4	11.4	3.2	6.9	8.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.7: Employed pharmacists: occupation of main job, geographic area, 1999**

Occupation	Geographic area							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
<b>Males</b>								
Community pharmacist	4,486	549	459	457	788	39	47	6,824
Hospital pharmacist	462	30	57	45	29	7	6	635
Other pharmacist	372	1	3	—	1	—	1	378
<i>Total</i>	<i>5,314</i>	<i>582</i>	<i>519</i>	<i>503</i>	<i>821</i>	<i>46</i>	<i>54</i>	<i>7,837</i>
<b>Females</b>								
Community pharmacist	3,571	332	307	279	444	32	39	5,005
Hospital pharmacist	1,146	107	88	54	45	8	8	1,458
Other pharmacist	437	5	1	—	3	—	2	448
<i>Total</i>	<i>5,155</i>	<i>444</i>	<i>397</i>	<i>333</i>	<i>492</i>	<i>41</i>	<i>50</i>	<i>6,910</i>
<b>Persons</b>								
Community pharmacist	8,059	881	765	735	1,232	71	86	11,829
Hospital pharmacist	1,609	138	145	98	73	16	14	2,093
Other pharmacist	810	6	4	—	4	—	3	826
<i>Total</i>	<i>10,479</i>	<i>1,025</i>	<i>914</i>	<i>833</i>	<i>1,308</i>	<i>86</i>	<i>103</i>	<i>14,747</i>
<b>(per cent)</b>								
Community pharmacist	76.9	85.9	83.7	88.2	94.2	82.0	83.7	80.2
Hospital pharmacist	15.4	13.5	15.9	11.8	5.6	18.0	13.6	14.2
Other pharmacist	7.7	0.6	0.4	—	0.3	—	2.7	5.6
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<b>(females as a percentage of all persons)</b>								
Community pharmacist	44.3	37.7	40.2	37.9	36.1	45.5	45.7	42.3
Hospital pharmacist	71.3	77.6	60.8	54.9	61.8	54.4	60.5	69.6
Other pharmacist	4.2	0.5	0.1	—	0.2	—	1.6	3.0
<b>Total</b>	<b>49.2</b>	<b>43.3</b>	<b>43.4</b>	<b>39.9</b>	<b>37.6</b>	<b>47.1</b>	<b>48.0</b>	<b>46.9</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.8: Employed pharmacists: total number of hours worked in all jobs, states and territories, 1999**

Hours worked per week	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
1-9	125	79	55	36	23	13	4	—	334
10-19	194	110	87	42	28	13	2	1	476
20-29	218	123	73	57	38	11	6	—	526
30-34	135	71	48	45	29	7	11	—	346
35-39	221	160	100	80	67	33	22	10	693
40-49	807	861	470	241	222	67	47	14	2,729
50-59	696	439	418	196	115	42	28	6	1,940
60 and over	330	147	157	85	37	20	13	3	792
<b>Total</b>	<b>2,725</b>	<b>1,991</b>	<b>1,409</b>	<b>782</b>	<b>559</b>	<b>205</b>	<b>132</b>	<b>34</b>	<b>7,837</b>
Average weekly hours	41.8	41.5	43.3	41.6	41.0	40.8	42.6	43.3	41.9
<b>Females</b>									
1-9	190	136	78	79	21	12	8	3	526
10-19	381	306	133	94	56	23	23	3	1,017
20-29	470	276	171	89	62	28	12	3	1,110
30-34	255	145	78	41	30	14	5	4	572
35-39	311	178	130	63	94	46	33	17	872
40-49	710	526	372	121	122	44	29	17	1,942
50-59	274	115	124	56	38	19	16	3	646
60 and over	115	32	37	19	15	7	1	—	225
<b>Total</b>	<b>2,705</b>	<b>1,713</b>	<b>1,123</b>	<b>562</b>	<b>437</b>	<b>194</b>	<b>128</b>	<b>50</b>	<b>6,910</b>
Average weekly hours	33.1	31.1	34.2	30.6	34.7	34.7	33.2	36.2	32.8
<b>Persons</b>									
1-9	314	215	133	114	44	25	12	3	860
10-19	575	416	219	136	83	36	25	4	1,493
20-29	688	399	244	146	100	39	18	3	1,636
30-34	390	216	126	86	58	21	17	4	918
35-39	532	338	230	144	161	78	56	27	1,565
40-49	1,518	1,387	842	362	344	111	76	31	4,671
50-59	970	554	543	253	153	61	44	8	2,587
60 and over	444	179	194	104	52	27	14	3	1,017
<b>Total</b>	<b>5,430</b>	<b>3,703</b>	<b>2,531</b>	<b>1,344</b>	<b>996</b>	<b>399</b>	<b>260</b>	<b>83</b>	<b>14,747</b>
Average weekly hours	37.6	36.5	39.0	38.5	38.3	37.7	37.2	39.1	37.8

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.9: Employed pharmacists: average hours worked in all jobs, occupation, states and territories, 1999**

Occupation	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
Community pharmacist	42.0	41.8	44.0	41.7	41.2	40.8	42.6	46.6	42.3
Hospital pharmacist	40.8	40.0	38.0	40.5	40.1	32.8	37.8	38.7	39.7
Industrial pharmacist	44.3	40.6	52.5	20.0	42.5	—	—	—	43.6
Other pharmacist	41.7	42.6	38.0	42.3	43.3	50.4	45.5	38.0	42.3
<i>Total</i>	<i>41.8</i>	<i>41.5</i>	<i>43.3</i>	<i>41.6</i>	<i>41.0</i>	<i>40.8</i>	<i>42.6</i>	<i>43.3</i>	<i>41.9</i>
<b>Females</b>									
Community pharmacist	32.0	29.6	34.1	30.4	33.9	33.8	31.2	37.2	32.0
Hospital pharmacist	34.6	34.8	34.3	30.2	36.3	38.5	35.2	35.2	34.5
Industrial pharmacist	40.1	38.9	34.3	45.0	75.0	—	—	—	40.0
Other pharmacist	37.9	33.2	35.3	34.2	37.1	35.8	37.9	32.7	35.9
<i>Total</i>	<i>33.1</i>	<i>31.1</i>	<i>34.2</i>	<i>30.6</i>	<i>34.7</i>	<i>34.7</i>	<i>33.2</i>	<i>36.2</i>	<i>32.8</i>
<b>Persons</b>									
Community pharmacist	37.8	36.7	40.0	39.3	38.4	37.7	36.5	40.9	38.2
Hospital pharmacist	36.0	36.2	35.6	34.8	37.7	37.7	35.6	36.8	36.0
Industrial pharmacist	41.5	39.5	43.4	36.7	53.3	—	—	—	41.2
Other pharmacist	39.6	37.5	36.5	38.0	40.5	42.5	41.7	34.0	38.8
<b>Total</b>	<b>37.6</b>	<b>36.5</b>	<b>39.2</b>	<b>38.5</b>	<b>38.3</b>	<b>37.7</b>	<b>37.2</b>	<b>39.1</b>	<b>37.8</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.10: Employed pharmacists: hours worked in all jobs, 1996 and 1999**

Year	Hours worked per week								Total
	1-9	10-19	20-29	30-34	35-39	40-49	50-59	60+	
(number)									
1996	774	1254	1,410	812	1,450	4,538	2,603	992	13,834
1999	860	1,493	1,636	918	1,565	4,671	2,587	1,017	14,747
(per cent)									
1996	5.6	9.1	10.2	5.9	10.5	32.8	18.8	7.2	100.0
1999	5.8	10.1	11.1	6.2	10.6	31.7	17.5	6.9	100.0
(percentage change)									
1996 to 1999	11.1	19.1	16.0	13.1	7.9	2.9	-0.6	2.5	6.6

Table A.11: Employed pharmacists: total hours worked in all jobs, geographic area, 1999

Hours worked per week	Geographic area							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
<b>Males</b>								
1-9	197	28	26	13	37	1	—	303
10-19	304	50	25	28	50	3	—	460
20-29	361	48	31	23	43	1	—	508
30-34	255	22	25	25	27	—	—	354
35-39	501	44	43	42	43	4	4	682
40-49	1,883	183	178	188	238	10	22	2,702
50-59	1,248	164	141	132	289	15	19	2,008
60 and over	564	43	50	51	92	11	8	819
<b>Total</b>	<b>5,314</b>	<b>582</b>	<b>519</b>	<b>503</b>	<b>821</b>	<b>46</b>	<b>54</b>	<b>7,837</b>
Average per week	42.1	40.5	42.2	43.3	43.9	47.2	49.7	41.9
<b>Females</b>								
1-9	355	23	24	16	61	6	9	494
10-19	762	54	42	49	83	4	4	999
20-29	825	70	75	71	69	—	1	1,111
30-34	412	51	32	30	42	1	1	569
35-39	671	55	48	45	52	6	4	881
40-49	1,509	124	120	67	116	13	16	1,965
50-59	473	45	39	33	51	7	10	658
60 and over	158	20	15	19	13	3	3	232
<b>Total</b>	<b>5,165</b>	<b>443</b>	<b>395</b>	<b>330</b>	<b>487</b>	<b>40</b>	<b>49</b>	<b>6,910</b>
Average per week	33.0	34.5	34.2	33.4	30.5	37.4	36.1	32.8
<b>Persons</b>								
1-9	551	52	50	30	99	7	9	797
10-19	1,066	104	67	77	134	7	4	1,459
20-29	1,186	118	106	95	112	1	1	1,620
30-34	667	72	57	55	69	1	1	922
35-39	1,172	100	91	87	95	10	8	1,564
40-49	3,393	307	298	255	354	23	38	4,667
50-59	1,722	209	180	164	340	22	29	2,666
60 and over	722	63	65	70	106	14	11	1,052
<b>Total</b>	<b>10,479</b>	<b>1,025</b>	<b>914</b>	<b>833</b>	<b>1,308</b>	<b>86</b>	<b>103</b>	<b>14,747</b>
Average per week	37.7	38.0	38.9	39.6	39.0	42.7	43.5	37.8
<b>(per cent)</b>								
1-9	5.3	5.0	5.5	3.5	7.5	8.3	8.4	5.4
10-19	10.2	10.1	7.3	9.2	10.2	8.2	4.2	9.9
20-29	11.3	11.5	11.6	11.4	8.5	1.6	1.4	11.0
30-34	6.4	7.1	6.2	6.6	5.3	1.7	1.4	6.3
35-39	11.2	9.7	10.0	10.4	7.3	11.5	8.2	10.6
40-49	32.4	29.9	32.6	30.7	27.0	26.3	36.9	31.6
50-59	16.4	20.4	19.6	19.7	26.0	26.1	28.6	18.1
60 and over	6.9	6.2	7.1	8.5	8.1	16.2	10.9	7.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.12: Employed pharmacists: country of birth, states and territories, 1999**

Country of birth	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Australia	2,926	1,897	1,021	794	339	195	57	9,483
Overseas:								
NZ	55	66	30	10	6	10	5	247
Other Oceania	—	31	2	—	—	—	—	48
Other	154	—	7	26	2	5	1	251
UK & Ireland	112	125	109	57	41	20	14	618
Other Europe	—	52	30	—	—	—	—	110
Middle East & North Africa	—	20	7	—	—	—	—	36
Asia	363	139	54	90	3	25	3	841
The Americas	—	11	10	—	—	—	—	26
Other Africa	—	17	33	—	—	—	—	59
<i>Total born overseas</i>	<i>683</i>	<i>461</i>	<i>281</i>	<i>183</i>	<i>52</i>	<i>60</i>	<i>24</i>	<i>2,235</i>
<b>Total</b>	<b>3,703</b>	<b>2,531</b>	<b>1,344</b>	<b>996</b>	<b>399</b>	<b>260</b>	<b>83</b>	<b>14,747<sup>(a)</sup></b>
Per cent born overseas	18.5	18.2	20.9	18.4	13.0	23.1	28.6	15.2

(a) Includes 5,430 pharmacists for New South Wales for which country of birth was unavailable.

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.13: Community pharmacists: classification of main job and sex, states and territories, 1999**

<b>Classification</b>	<b>NSW</b>	<b>Vic</b>	<b>Qld</b>	<b>WA</b>	<b>SA</b>	<b>Tas</b>	<b>ACT</b>	<b>NT</b>	<b>Australia</b>
<b>Males</b>									
Sole proprietor	927	557	429	285	116	78	13	4	2,397
Partner-proprietor	539	439	299	190	123	45	29	6	1,657
Pharmacist-in-charge	506	369	275	75	145	19	15	9	1,429
Permanent assistant	122	145	60	14	25	9	5	1	373
Reliever, regular location	132	74	99	44	28	15	6	1	406
Reliever, various locations	226	96	110	52	45	12	13	—	562
<b>Total</b>	<b>2,451</b>	<b>1,680</b>	<b>1,271</b>	<b>660</b>	<b>483</b>	<b>177</b>	<b>81</b>	<b>22</b>	<b>6,824</b>
<b>Females</b>									
Sole proprietor	314	97	99	69	28	24	7	3	634
Partner-proprietor	269	141	110	62	33	14	6	1	632
Pharmacist-in-charge	759	506	320	140	125	45	26	14	1,938
Permanent assistant	294	247	128	49	49	13	13	3	794
Reliever, regular location	180	130	155	97	45	22	13	3	644
Reliever, various locations	166	48	68	19	27	15	8	4	363
<b>Total</b>	<b>1,982</b>	<b>1,169</b>	<b>880</b>	<b>435</b>	<b>307</b>	<b>133</b>	<b>72</b>	<b>26</b>	<b>5,005</b>
<b>Persons</b>									
Sole proprietor	1,241	654	527	354	144	101	20	6	3,031
Partner-proprietor	808	579	408	252	155	59	35	8	2,289
Pharmacist-in-charge	1,265	875	595	215	271	64	41	23	3,366
Permanent assistant	415	392	188	62	74	21	17	4	1,167
Reliever, regular location	312	204	254	142	73	37	19	4	1,050
Reliever, various locations	393	145	178	71	72	27	21	4	925
<b>Total</b>	<b>4,433</b>	<b>2,849</b>	<b>2,150</b>	<b>1,095</b>	<b>790</b>	<b>310</b>	<b>153</b>	<b>48</b>	<b>11,829</b>
<b>(per cent)</b>									
Sole proprietor	28.0	22.9	24.5	32.3	18.2	32.7	13.0	13.2	25.6
Partner-proprietor	18.2	20.3	19.0	23.0	19.7	19.1	22.6	16.0	19.4
Pharmacist-in-charge	28.5	30.7	27.7	19.6	34.3	20.6	26.8	47.3	28.5
Permanent assistant	9.4	13.8	8.7	5.7	9.4	6.9	11.4	7.9	9.9
Reliever, regular location	7.0	7.2	11.8	12.9	9.2	11.9	12.4	7.9	8.9
Reliever, various locations	8.9	5.1	8.3	6.5	9.2	8.7	13.9	7.8	7.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>(females as a percentage of all persons)</b>									
Sole proprietor	25.3	14.8	18.7	19.5	19.6	23.5	35.1	39.3	20.9
Partner-proprietor	33.3	24.3	26.9	24.5	21.1	23.6	16.1	16.3	27.6
Pharmacist-in-charge	60.0	57.8	53.8	65.1	46.3	70.2	64.6	60.5	57.6
Permanent assistant	70.7	63.0	68.2	77.9	66.4	59.0	72.2	66.1	68.0
Reliever, regular location	57.6	63.7	61.0	68.6	61.1	60.5	66.0	66.1	61.4
Reliever, various locations	42.4	33.5	38.1	26.4	37.3	56.9	39.3	100.0	39.2
<b>Total</b>	<b>44.7</b>	<b>41.0</b>	<b>40.9</b>	<b>39.7</b>	<b>38.9</b>	<b>42.9</b>	<b>47.3</b>	<b>54.6</b>	<b>42.3</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.14: Community pharmacists: classification, sex, geographic area, 1999**

Classification	Geographic area							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote centre	Other remote area	
<b>Males</b>								
Sole proprietor	1,591	195	128	142	370	23	29	2,397
Partner-proprietor	1,085	118	142	140	202	4	12	1,657
Pharmacist-in-charge	1,049	125	90	86	91	7	4	1,429
Permanent assistant	259	19	34	23	35	1	—	373
Reliever, regular location	244	43	29	34	36	1	—	406
Reliever, various locations	257	48	36	32	53	1	1	562
<b>Total</b>	<b>4,486</b>	<b>549</b>	<b>459</b>	<b>457</b>	<b>788</b>	<b>39</b>	<b>47</b>	<b>6,824</b>
<b>Females</b>								
Sole proprietor	422	53	31	37	86	7	18	634
Partner-proprietor	424	42	48	43	87	—	6	632
Pharmacist-in-charge	1,553	114	94	85	100	12	6	1,938
Permanent assistant	580	51	64	42	60	6	1	794
Reliever, regular location	446	38	42	39	65	7	6	644
Reliever, various locations	147	34	27	34	46	—	3	363
<b>Total</b>	<b>3,571</b>	<b>332</b>	<b>307</b>	<b>279</b>	<b>444</b>	<b>32</b>	<b>39</b>	<b>5,005</b>
<b>Persons</b>								
Sole proprietor	2,013	248	160	179	456	31	47	3,031
Partner-proprietor	1,509	161	190	183	289	4	18	2,289
Pharmacist-in-charge	2,602	239	185	170	191	19	10	3,366
Permanent assistant	838	70	99	64	96	7	1	1,167
Reliever, regular location	690	81	71	73	101	9	6	1,050
Reliever, various locations	404	82	62	66	99	1	4	925
<b>Total</b>	<b>8,057</b>	<b>881</b>	<b>766</b>	<b>736</b>	<b>1,232</b>	<b>71</b>	<b>86</b>	<b>11,829</b>
<b>(per cent)</b>								
Sole proprietor	25.0	28.1	20.9	24.3	37.0	43.4	54.4	25.6
Partner-proprietor	18.7	18.3	24.8	24.9	23.5	5.8	20.7	19.4
Pharmacist-in-charge	32.3	27.2	24.1	23.2	15.5	26.3	11.4	28.5
Permanent assistant	10.4	7.9	12.9	8.8	7.8	10.2	1.7	9.9
Reliever, regular location	8.6	9.2	9.2	9.9	8.2	12.3	6.8	8.9
Reliever, various locations	5.0	9.3	8.2	8.9	8.0	1.9	4.9	7.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>(females as a percentage of all persons)</b>								
Sole proprietor	21.0	21.2	19.7	20.7	18.8	23.8	37.3	20.9
Partner-proprietor	28.1	26.4	25.2	23.5	30.1	0.0	32.6	27.6
Pharmacist-in-charge	59.7	47.7	51.2	49.6	52.4	62.9	59.2	57.6
Permanent assistant	69.1	73.1	65.4	64.4	63.3	80.9	100.0	68.0
Reliever, regular location	64.6	46.9	59.4	52.9	64.0	84.1	100.0	61.4
Reliever, various locations	36.4	41.0	43.2	52.0	46.2	0.0	68.5	39.2
<b>Total</b>	<b>44.3</b>	<b>37.7</b>	<b>40.1</b>	<b>37.9</b>	<b>36.0</b>	<b>45.5</b>	<b>45.7</b>	<b>42.3</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.15: Community pharmacists: practice location, states and territories, 1999**

<b>Location</b>	<b>NSW</b>	<b>Vic</b>	<b>Qld</b>	<b>WA</b>	<b>SA</b>	<b>Tas</b>	<b>ACT</b>	<b>NT</b>	<b>Australia</b>
	<b>(number)</b>								
Non-mall shopping centre	3,199	2,252	1,358	529	524	251	100	13	8,258
Mall complex	1,010	447	518	416	231	40	53	34	2,723
Medical centre	210	126	254	142	34	16	—	—	778
Other	14	23	20	8	1	3	—	1	69
<b>Total</b>	<b>4,433</b>	<b>2,849</b>	<b>2,150</b>	<b>1,095</b>	<b>790</b>	<b>310</b>	<b>153</b>	<b>48</b>	<b>11,829</b>
	<b>(per cent)</b>								
Non-mall shopping centre	72.2	79.1	63.2	48.3	66.4	81.0	65.3	27.0	69.5
Mall complex	22.8	15.7	24.1	38.0	29.2	12.8	34.7	70.3	23.2
Medical centre	4.7	4.4	11.8	13.0	4.3	5.3	—	—	6.6
Other	0.3	0.8	0.9	0.7	0.2	1.0	—	2.7	0.6
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.16: Hospital pharmacists: classification of main job, states and territories, 1999**

Classification	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
Director	40	55	23	18	19	—	—	2	159
Deputy director	10	7	6	5	6	—	—	1	38
Senior pharmacist	32	52	13	23	20	—	5	1	140
Specialist pharmacist	23	34	18	11	10	9	2	2	108
Pharmacist	36	50	42	31	4	4	2	1	173
<b>Total</b>	<b>143</b>	<b>200</b>	<b>107</b>	<b>92</b>	<b>59</b>	<b>17</b>	<b>9</b>	<b>7</b>	<b>635</b>
<b>Females</b>									
Director	68	26	13	7	6	2	3	—	125
Deputy director	25	20	11	1	4	2	3	—	65
Senior pharmacist	91	80	33	29	33	11	4	4	285
Specialist pharmacist	187	139	58	19	33	16	16	6	467
Pharmacist	138	172	96	41	31	13	6	11	515
<b>Total</b>	<b>509</b>	<b>437</b>	<b>211</b>	<b>97</b>	<b>108</b>	<b>43</b>	<b>32</b>	<b>20</b>	<b>1,458</b>
<b>Persons</b>									
Director	108	81	36	25	25	2	3	2	285
Deputy director	35	27	17	7	10	2	3	1	104
Senior pharmacist	123	132	46	52	53	11	9	5	425
Specialist pharmacist	210	174	76	30	43	25	18	8	575
Pharmacist	174	222	138	72	36	17	8	12	688
<b>Total</b>	<b>652</b>	<b>637</b>	<b>318</b>	<b>189</b>	<b>167</b>	<b>60</b>	<b>41</b>	<b>28</b>	<b>2,093</b>
<b>(per cent)</b>									
Director	16.5	12.8	11.2	13.1	14.9	3.0	7.1	5.8	13.6
Deputy director	5.3	4.2	5.4	3.4	6.0	3.0	7.1	2.9	4.9
Senior pharmacist	18.9	20.7	14.6	27.8	31.8	17.8	21.6	16.3	20.3
Specialist pharmacist	32.2	27.3	24.0	15.8	25.7	41.1	44.5	28.9	27.5
Pharmacist	26.6	34.8	43.3	38.1	21.5	28.0	19.7	43.1	32.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>(females as a percentage of all persons)</b>									
Director	63.3	32.2	35.8	27.1	24.0	100.0	100.0	—	44.0
Deputy director	70.6	74.0	62.8	17.1	44.6	100.0	100.0	—	63.1
Senior pharmacist	74.1	60.8	72.3	55.4	62.1	100.0	49.2	82.1	67.0
Specialist pharmacist	89.1	80.1	76.0	63.7	76.6	65.1	87.6	69.6	81.3
Pharmacist	79.4	77.5	69.3	57.5	87.6	74.3	72.0	93.2	74.8
<b>Total</b>	<b>78.1</b>	<b>68.6</b>	<b>66.2</b>	<b>51.4</b>	<b>64.6</b>	<b>71.3</b>	<b>78.0</b>	<b>73.7</b>	<b>69.6</b>

Source: AIHW Pharmacy Labour Force Survey 1999.

**Table A.17: Temporary migration for employment of pharmacists to and from Australia, 1995–96 to 1999–00**

Category/country	1995–96	1996–97	1997–98	1998–99	1999–00
<b>Temporary migration to Australia</b>					
Long-term stay	15	25	29	55	58
Short-term stay	6	12	14	24	24
<b>Total</b>	<b>21</b>	<b>37</b>	<b>43</b>	<b>79</b>	<b>82</b>
<b>Migration to Australia by Australian residents returning after a long-term overseas stay</b>					
Country of long-term stay:					
New Zealand	4	1	2	1	0
United Kingdom and Ireland	45	47	59	39	1
Other Europe	2	6	8	6	72
Middle East/Africa	8	11	9	6	5
Asia	27	17	29	24	13
North/South America	11	13	9	5	31
Other countries	7	4	5	5	11
<b>Total</b>	<b>104</b>	<b>99</b>	<b>121</b>	<b>86</b>	<b>133</b>
<b>Migration of Australian residents from Australia for a long-term overseas stay</b>					
Country of long-term overseas stay:					
United Kingdom and Ireland	7	17	25	32	30
Middle East	3	6	4	5	1
Asia	22	16	18	22	14
Other countries	13	8	15	7	19
<b>Total</b>	<b>45</b>	<b>47</b>	<b>62</b>	<b>66</b>	<b>64</b>
<b>Temporary visitors departing after a long-term stay in Australia</b>					
Country of future residence:					
New Zealand	2	1	3	3	5
United Kingdom and Ireland	3	14	26	14	31
Other Europe	4	2	3	2	4
Asia	11	19	25	29	57
North/South America	1	—	4	5	6
Other countries	1	2	10	7	6
<b>Total</b>	<b>22</b>	<b>38</b>	<b>71</b>	<b>60</b>	<b>109</b>

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

Source: AIHW analysis of DIMIA data.

**Table A.18: Permanent migration of pharmacists to and from Australia, 1994–95 to 1999–00**

Category/country	1994–95	1995–96	1996–97	1997–98	1998–99	1999–00
<b>Permanent migration of overseas residents to Australia</b>						
Country of previous residence:						
New Zealand	8	12	12	13	23	29
United Kingdom and Ireland	10	20	20	20	16	16
Other Europe	14	13	7	7	6	7
Middle East/Africa	21	23	20	23	27	34
Asia	37	39	33	33	37	52
North/South America	6	8	6	4	7	5
Other countries	1	4	3	1	4	12
<b>Total</b>	<b>97</b>	<b>119</b>	<b>101</b>	<b>101</b>	<b>120</b>	<b>155</b>
<b>Migration from Australia of Australian residents permanently departing</b>						
Country of future residence:						
New Zealand	3	9	6	3	11	12
United Kingdom and Ireland	7	8	8	9	12	9
Other Europe	1	3	1	1	—	5
Middle East/Africa	2	3	1	1	2	2
Asia	2	4	4	2	8	8
North/South America	1	3	4	3	3	10
Other countries	—	1	2	—	2	1
<b>Total</b>	<b>16</b>	<b>31</b>	<b>26</b>	<b>19</b>	<b>38</b>	<b>47</b>

Source: AIHW analysis of DIMIA data.

**Table A.19: Australian permanent resident commencing pharmacy students: course level and year of enrolment, Australia, 1991 to 2000**

Course level	1991	1992	1993	1994	1995	1996	1997 <sup>(a)</sup>	1998	1999	2000
<b>Undergraduate</b>										
Bachelor honours	—	1	1	4	7	—	3	9	15	13
Bachelor pass	487	462	464	504	561	617	664	690	707	714
<i>Total undergraduate</i>	<i>487</i>	<i>463</i>	<i>465</i>	<i>508</i>	<i>568</i>	<i>617</i>	<i>667</i>	<i>699</i>	<i>722</i>	<i>727</i>
Per cent female	63.0	57.5	61.1	58.3	57.0	60.9	62.1	62.8	62.0	66.1
<b>Postgraduate</b>										
PhD and coursework doctorate	12	21	18	18	17	14	21	17	51	18
MSc—research	11	19	16	10	9	15	7	1	8	4
MSc—coursework	2	2	—	2	5	9	20	27	41	32
PG qualifying	8	4	6	10	4	7	8	3	4	6
PG Diploma (new field)	13	14	18	13	28	24	17	9	9	17
PG Diploma (extends field)	13	24	30	9	31	31	33	29	25	1
Graduate certificate	—	—	—	—	3	4	8	9	9	16
<i>Total postgraduate</i>	<i>59</i>	<i>84</i>	<i>88</i>	<i>62</i>	<i>97</i>	<i>104</i>	<i>114</i>	<i>95</i>	<i>147</i>	<i>94</i>
Per cent female	64.4	66.7	59.1	66.1	68.0	69.2	68.4	68.4	68.7	63.8
<b>Total</b>	<b>546</b>	<b>547</b>	<b>553</b>	<b>570</b>	<b>665</b>	<b>721</b>	<b>781</b>	<b>794</b>	<b>869</b>	<b>821</b>
Per cent female	63.2	58.9	60.8	59.1	58.6	62.1	63.0	63.5	62.9	65.9

(a) Includes New Zealand citizens, which were included with Australian permanent resident students data for 1997.

Source: AIHW analysis of DEST data.

**Table A.20: Australian permanent resident commencing pharmacy students: university and course level, Australia, 1992–2000**

<b>University</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997<sup>(a)</sup></b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
<b>Undergraduate</b>									
University of Tasmania	17	22	19	28	32	34	35	34	37
Curtin University	77	78	78	85	89	90	107	101	84
NT University	—	—	—	—	—	—	—	—	12
Charles Sturt University	—	—	—	—	—	45	55	55	59
University of Sydney	138	131	146	160	186	163	179	181	172
University of Queensland	83	81	81	121	132	115	130	131	114
La Trobe University	—	—	—	—	—	—	—	—	24
University of South Australia	36	37	42	59	70	65	73	72	65
Monash University	112	116	142	115	107	155	120	148	160
<i>Total undergraduate</i>	<i>463</i>	<i>465</i>	<i>508</i>	<i>568</i>	<i>616</i>	<i>667</i>	<i>699</i>	<i>722</i>	<i>727</i>
<b>Postgraduate</b>									
University of Tasmania	2	1	5	2	6	9	—	—	1
Curtin University	9	15	14	6	7	11	3	13	9
University of Adelaide	—	—	—	—	10	—	17	7	0
University of New South Wales	—	—	—	—	—	8	18	24	33
University of Sydney	21	14	20	8	21	33	18	23	17
University of Queensland	18	16	9	17	17	22	16	11	18
University of South Australia	1	5	6	13	19	—	11	8	1
Monash University	33	37	9	28	12	24	5	55	10
University of Melbourne	—	—	—	23	11	7	7	6	5
<i>Total postgraduate</i>	<i>84</i>	<i>88</i>	<i>63</i>	<i>97</i>	<i>103</i>	<i>114</i>	<i>95</i>	<i>147</i>	<i>94</i>
<b>All students</b>									
University of Tasmania	19	23	24	30	38	43	35	34	38
Curtin University	86	93	92	91	96	101	110	114	93
NT University	—	—	—	—	—	—	—	—	12
Charles Sturt University	—	—	—	—	—	45	55	55	59
University of Adelaide	—	—	—	—	10	—	17	7	—
University of New South Wales	—	—	—	—	—	8	18	24	33
University of Sydney	159	145	166	168	207	196	197	204	189
University of Queensland	101	97	90	138	149	137	146	142	132
La Trobe University	—	—	—	—	—	—	—	—	24
University of South Australia	37	42	48	72	89	65	84	80	66
Monash University	145	153	151	143	119	179	125	203	170
University of Melbourne	—	—	—	23	11	7	7	6	5
<b>Total</b>	<b>547</b>	<b>553</b>	<b>571</b>	<b>665</b>	<b>719</b>	<b>781</b>	<b>794</b>	<b>869</b>	<b>821</b>

(a) Includes New Zealand citizens, who were included with Australian permanent resident students data for 1997.

Source: AIHW analysis of DEST data.

**Table A.21: Pharmacy course completions: course level, residency and year of completion, Australia, 1992–2000**

Course level	1992	1993	1994	1995	1996 <sup>(a)</sup>	1997	1998	1999	2000
<b>Undergraduate</b>									
Bachelor honours	18	8	22	27	18	22	23	38	31
Bachelor pass	365	414	382	425	496	490	678	195	545
<i>Total undergraduate</i>	<i>383</i>	<i>422</i>	<i>404</i>	<i>452</i>	<i>514</i>	<i>512</i>	<i>701</i>	<i>233</i>	<i>576</i>
Per cent female	64.2	62.6	63.9	62.6	62.6	61.5	60.5	65.2	64.9
<b>Postgraduate</b>									
PhD or coursework doctorate	10	13	12	22	23	9	14	10	23
MSc—research	7	11	9	10	16	5	5	5	6
MSc—coursework	1	—	—	1	1	4	8	11	8
Postgraduate qualifying	6	3	2	7	5	8	4	2	3
PG Diploma (new field)	13	11	10	6	30	22	9	12	9
PG Diploma (extends field)	12	19	24	6	26	26	20	17	19
Graduate certificate	—	—	—	1	—	5	6	8	5
<i>Total postgraduate</i>	<i>49</i>	<i>57</i>	<i>57</i>	<i>53</i>	<i>101</i>	<i>79</i>	<i>66</i>	<i>65</i>	<i>73</i>
Per cent female	65.3	64.9	64.9	67.9	59.4	60.8	66.7	67.7	72.6
<b>Total</b>	<b>432</b>	<b>479</b>	<b>461</b>	<b>505</b>	<b>615</b>	<b>591</b>	<b>767</b>	<b>298</b>	<b>649</b>
Per cent female	64.4	62.8	64.0	63.2	62.1	61.4	61.0	65.8	65.8

(a) Includes New Zealand citizens, which were included with Australian permanent resident students data for 1996.

Source: AIHW analysis of DEST data.

**Table A.22: Australian permanent resident students commencing undergraduate pharmacy courses: sex and source geographic area of residence per 100,000 population aged 15–24, 2001**

Students	Geographic area of residence							Total
	Capital city	Other metropolitan centre	Large rural centre	Small rural centre	Other rural area	Remote area	Not stated	
Male students	198	32	4	14	8	1	—	257
<i>Per cent</i>	<i>77.0</i>	<i>12.5</i>	<i>1.6</i>	<i>5.4</i>	<i>3.1</i>	<i>0.4</i>	<i>—</i>	<i>100.0</i>
Female students	422	44	3	22	17	—	1	509
<i>Per cent</i>	<i>82.9</i>	<i>8.6</i>	<i>0.6</i>	<i>4.3</i>	<i>3.3</i>	<i>—</i>	<i>0.2</i>	<i>100.0</i>
<b>All students</b>	<b>620</b>	<b>76</b>	<b>7</b>	<b>36</b>	<b>25</b>	<b>1</b>	<b>1</b>	<b>766</b>
<i>Per cent</i>	<i>80.9</i>	<i>9.9</i>	<i>0.9</i>	<i>4.7</i>	<i>3.3</i>	<i>0.1</i>	<i>0.1</i>	<i>100.0</i>
Population aged 15–24 ('000)	1,776.0	208.9	161.2	156.8	289.3	74.6	..	2,666.7
<i>Per cent</i>	<i>66.6</i>	<i>7.8</i>	<i>6.0</i>	<i>5.9</i>	<i>10.9</i>	<i>2.8</i>	<i>..</i>	<i>100.0</i>
<b>Number of students per 100,000 population aged 15–24<sup>(a)</sup></b>	<b>34.9</b>	<b>36.4</b>	<b>4.3</b>	<b>23.0</b>	<b>8.6</b>	<b>1.3</b>	<b>..</b>	<b>28.7</b>

(a) Based on estimated resident population as at 30 June 2001.

Source: AIHW analysis of DEST data; ABS.

**Table A.23: All pharmacy students: course level and residency, Australia, 1993 to 2001**

<b>Course level</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997<sup>(a)</sup></b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>Australian citizens and permanent resident students</b>									
Undergraduate									
Bachelor honours	10	15	23	15	18	24	35	54	16
Bachelor pass	1,398	1,438	1,542	1,726	1,890	2,069	2,248	2,773	2,352
<i>Total undergraduate</i>	<i>1,408</i>	<i>1,453</i>	<i>1,565</i>	<i>1,741</i>	<i>1,908</i>	<i>2,093</i>	<i>2,283</i>	<i>2,827</i>	<i>2,368</i>
Per cent female	60.2	59.5	59.0	59.3	60.5	61.2	62.1	63.2	64.1
Postgraduate									
PhD and coursework doctorate	67	73	80	75	75	78	87	81	106
MSc—research	40	35	32	31	19	15	23	21	6
MSc—coursework	—	2	6	15	23	51	66	82	65
PG qualifying	12	18	23	17	21	16	13	12	10
PG Diploma (new field)	19	18	34	46	29	15	15	23	11
PG Diploma (extends field)	53	34	43	64	58	55	47	17	25
Graduate certificate	—	—	3	4	9	10	12	20	22
<i>Total postgraduate</i>	<i>191</i>	<i>180</i>	<i>221</i>	<i>252</i>	<i>234</i>	<i>240</i>	<i>263</i>	<i>256</i>	<i>245</i>
Per cent female	61.8	61.7	61.1	62.3	66.7	69.2	69.6	66.8	64.1
<b>Total</b>	<b>1,599</b>	<b>1,633</b>	<b>1,786</b>	<b>1,993</b>	<b>2,142</b>	<b>2,333</b>	<b>2,546</b>	<b>3,083</b>	<b>2,613</b>
Per cent female	60.4	59.7	59.2	59.7	61.2	62.0	62.8	63.5	64.1
<b>Overseas students</b>									
Undergraduate									
Bachelor honours	1	4	7	2	9	2	2	3	—
Bachelor pass	211	231	253	242	235	258	258	348	337
<i>Total undergraduate</i>	<i>212</i>	<i>235</i>	<i>260</i>	<i>244</i>	<i>244</i>	<i>260</i>	<i>260</i>	<i>351</i>	<i>337</i>
Per cent female	69.8	70.2	64.6	68.9	66.8	70.4	70.4	71.2	70.3
Postgraduate									
PhD and coursework doctorate	19	18	15	15	14	11	9	16	25
MSc—research	9	9	6	7	6	8	9	5	13
MSc—coursework	—	3	4	3	2	4	12	24	17
PG qualifying	—	2	5	1	3	—	—	1	—
PG Diploma (new field)	—	—	1	—	1	2	3	3	—
PG Diploma (extends field)	1	1	1	1	2	—	—	1	1
Graduate certificate	—	—	—	—	—	2	—	—	—
<i>Total postgraduate</i>	<i>29</i>	<i>33</i>	<i>32</i>	<i>27</i>	<i>28</i>	<i>27</i>	<i>33</i>	<i>50</i>	<i>56</i>
Per cent female	44.8	48.5	65.6	59.3	57.1	63.0	57.6	50.0	53.6
<b>Total</b>	<b>241</b>	<b>268</b>	<b>292</b>	<b>271</b>	<b>272</b>	<b>287</b>	<b>293</b>	<b>401</b>	<b>393</b>
Per cent female	66.9	67.5	64.7	67.9	65.8	69.7	68.9	68.6	67.9

(continued)

**Table A.23 (continued): All pharmacy students: course level and residency, Australia, 1993 to 2001**

Course level	1993	1994	1995	1996	1997 <sup>(a)</sup>	1998	1999	2000	2001
<b>All students</b>									
Undergraduate									
Bachelor honours	11	19	30	17	27	26	37	57	16
Bachelor pass	1,609	1,669	1,795	1,968	2,125	2,327	2,506	3,121	2,689
<i>Total undergraduate</i>	<i>1,620</i>	<i>1,688</i>	<i>1,825</i>	<i>1,985</i>	<i>2,152</i>	<i>2,353</i>	<i>2,543</i>	<i>3,178</i>	<i>2,705</i>
Per cent female	69.8	70.2	64.6	68.9	66.8	62.2	62.9	64.1	64.9
Postgraduate									
PhD and coursework doctorate	86	91	95	90	89	89	96	97	131
MSc—research	49	44	38	38	25	23	32	26	19
MSc—coursework	—	5	10	18	25	55	78	106	82
PG qualifying	12	20	28	18	24	16	13	13	10
PG Diploma (new field)	19	18	35	46	30	16	18	26	11
PG Diploma (extends field)	54	35	44	65	60	56	47	18	26
Graduate certificate	—	—	3	4	9	12	12	20	22
<i>Total postgraduate</i>	<i>220</i>	<i>213</i>	<i>253</i>	<i>279</i>	<i>262</i>	<i>267</i>	<i>296</i>	<i>306</i>	<i>301</i>
Per cent female	59.5	59.6	61.7	62	65.7	68.5	68.2	64.1	62.1
<b>Total</b>	<b>1,840</b>	<b>1,901</b>	<b>2,078</b>	<b>2,264</b>	<b>2,414</b>	<b>2,620</b>	<b>2,839</b>	<b>3,484</b>	<b>3,006</b>
Per cent female	61.3	60.8	60.0	60.7	61.7	62.9	63.5	64.1	64.6

(a) Includes New Zealand citizens, who were included with Australian permanent resident students data for 1997.

Source: AIHW analysis of DEST data.

**Table A.24: Pharmaceutical Benefits Scheme: prescriptions by significant drug groups, year ending 30 June 2001**

<b>Drug group</b>	<b>Volume</b>	<b>Total cost (\$m)</b>	<b>% of total cost</b>	<b>% increase over 1999–00 cost</b>
Serum lipid reducing agents	11,430,524	658.2	17.6	20.7
Antacids, drugs for treatment of peptic ulcers	9,137,387	380.6	10.2	1.8
Agents acting on renin-angiotensin system	14,467,440	414.8	11.1	14.1
Anti-asthmatics	10,124,812	332.6	8.9	10.7
Psychoanaleptics	9,536,194	327.9	8.8	20.5
Anti-inflammatory and antirheumatic products	6,920,237	242.4	6.5	326.7
Psycholeptics	7,834,987	194.5	5.2	20.6
Calcium channel blockers	7,420,001	184.6	4.9	-2.7
Antibacterials for systemic use	11,588,437	174.8	4.7	1.5
Antidiabetic therapy	3,856,089	143.2	3.8	14.3
Antineoplastic agents	321,142	101.3	2.7	51.1
Sex hormones and modulators of the genital system	5,865,528	120.6	3.2	13.1
Analgesics	9,767,898	122.8	3.3	12.9
Endocrine therapy	359,071	85.5	2.3	10.6
Other nervous system drugs	429,777	78.4	2.1	1,279.5
Antiepileptics	1,430,920	82.8	2.2	9.6
Ophthalmologicals	5,499,042	89.5	2.4	11.9
Other groups	32,060,871	830.1	18.2	. .
<b>Total</b>	<b>148,050,357</b>	<b>4,564.7</b>	<b>100.0</b>	<b>19.0</b>

Source: DoHA 2001.

# Glossary

## Country

The *Australian Standard Classification of Countries for Social Statistics* (ABS 1990) has been used to classify country of birth, and country of previous and future residence for immigration data.

## Geographic classification

The *Rural, Remote and Metropolitan Areas Classification* (Department of Primary Industries and Energy & Department of Health and Family Services 1994) has been used to classify the geographic area. The geographic boundaries of these categories are based on the 1991 population census. The classes of geographic area are listed below.

### Metropolitan areas

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

### Rural zone

3. *Large rural centres* are statistical local areas where most of the population reside in urban centres of population of 25,000 to 99,999. These centres are: 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).
4. *Small rural centres* are statistical local areas in rural zones containing urban centres of population between 10,000 and 24,999. These centres are 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).
5. *Other rural areas* are the remaining statistical areas within the rural zone. Examples are 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 zone

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

6. *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).
7. *Other remote areas* are the remaining areas within the remote zone. Examples are: 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); Daly, Jabiru, Nhulunbuy (NT).

## **Hours worked**

The total number of hours worked per week as reported by responding pharmacists. Excludes time spent on travel between work locations (except travel to call-outs) and unpaid professional and/or voluntary activities. The ABS definition of full-time and part-time work has been used:

- full-time: 35 hours or more per week;
- part-time: less than 35 hours per week.

## **Occupation**

A description of the job function within the field of pharmacy of a person with pharmacist qualifications. The occupations are:

- community pharmacist: a pharmacist mainly involved in the compounding and dispensing of pharmaceuticals in retail outlets;
- hospital and clinic pharmacist: a pharmacist employed in preparing and dispensing pharmaceuticals, drugs and medicines in hospitals or medical clinics;
- industrial pharmacist: a person undertaking research, testing and analysis related to the development, production, storage, quality control and distribution of drugs;
- administrator: a person mainly employed in pharmacy administration;
- teacher/educator: a person teaching or training persons in pharmacy for their initial qualification or in advanced skills after initial qualification;
- other: a job function in pharmacy which is not one of the above.

## **Pharmacy labour force**

Defined for each state and territory as:

- 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 but looking for work in pharmacy.

Pharmacists counted as being employed in pharmacy include those on maternity or other extended leave of more than 3 months.

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