5 Migration and education

5.1 Migration

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

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

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

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

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

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

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

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

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

5.2 Education

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

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

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

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

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

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

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

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

Course level	1988	1989	1990	1991	1992	1993	1994	1995	1996
			lian stude	ents					
Postgraduate									
Higher doctorate or PhD	5	4	9	5	8	7	8	21	20
MSc—research	9	5	10	2	6	6	6	7	14
MSc—course work	1	3	1	0	1	0	0	1	1
Postgraduate qualifying	8	4	4	7	6	3	1	5	4
PG diploma (new field)	7	4	5	8	13	11	10	5	30
PG diploma (extends field)	11	0	12	0	12	19	23	6	26
Graduate certificate	0	0	0	0	0	0	0	1	0
Total postgraduate	41	20	41	22	46	46	48	46	95
% female	58.5	50.0	46.3	54.5	67.4	73.9	70.8	67.4	60.0
Undergraduate									
Bachelor honours	4	6	8	11	17	7	18	19	17
Bachelor pass	407	384	360	358	337	362	337	373	424
Total undergraduate	411	390	368	369	354	369	355	392	441
% female	59.6	67.2	57.1	66.7	65.0	61.0	62.3	61.2	61.0
Total	452	410	409	391	400	415	403	438	536
% female	59.5	66.3	56.0	66.0	65.3	62.4	63.3	61.9	60.8
				Overs	eas studer	te			
Postgraduate				010130	543 314461	1.5			
PhD	0	1	3	2	2	6	4	1	3
MSc—research	2	2	0	2	1	5	3	3	2
MSc—course work	0	1	0	0	0	0	0	0	0
Postgraduate qualifying	0	1	1	0	0	0	1	2	1
PG diploma (new field)	0	0	4	1	0	0	0	1	0
PG diploma (extends field)	0	0	0	0	0	0	1	0	0
Total postgraduate	2	5	8	5	3	11	9	7	6
% female	50.0	80.0	62.5	60.0	33.3	27.3	33.3	71.4	50.0
Undergraduate									
Bachelor honours	1	0	3	0	1	1	4	8	1
Bachelor pass	11	14	18	19	28	52	45	52	72
Total undergraduate	12	14	21	19	29	53	49	60	73
% female	58.3	71.4	47.6	68.4	55.2	73.6	75.5	71.7	72.6
Total	14	19	29	24	32	64	58	67	79
% female	57.1	73.7	51.7	66.7	53.1	65.6	69.0	71.6	70.9
				All	students				
Postgraduate									
Higher doctorate or PhD	5	5	12	7	10	13	12	22	23
MSc—research	11	7	10	4	7	11	9	10	16
MSc—course work	1	4	1	0	1	0	0	1	1
Postgraduate qualifying	8	5	5	7	6	3	2	7	5
PG diploma (new field)	7	4	9	9	13	11	10	6	30
PG diploma (extends field)	11	0	12	0	12	19	24	6	26
Graduate certificate	0	0	0	0	0	0	0	1	0
Total postgraduate	43	25	49	27	49	57	57	53	101
% female	58.1	56.0	49.0	55.6	65.3	64.9	64.9	67.9	59.4
Undergraduate									
Bachelor honours	5	6	11	11	18	8	22	27	18
Bachelor pass	418	398	378	377	365	414	382	425	496
Total undergraduate	423	404	389	388	383	422	404	452	514
% female	59.6	67.3	56.6	66.8	64.2	62.6	63.9	62.6	62.6
Total	466	429	438	415	432	479	461	505	615
% female	59.4	66.7	55.7	66.0	64.4	62.8	64.0	63.2	62.1

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

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

Country of birth	1991	1992	1993	1994	1995	1996
Australia	271	241	249	219	223	250
New Zealand	2	4	3	0	0	3
Other Oceania	2	6	6	4	4	3
United Kingdom and Ireland	10	9	4	6	8	5
Other Europe and Russia	3	8	8	7	6	11
Middle East and North Africa	3	14	8	14	17	17
Malaysia	11	9	5	8	11	9
Vietnam	13	33	43	53	58	73
Other South-East Asia	6	4	9	9	13	17
Hong Kong	6	12	9	15	23	24
Other North-East Asia	1	4	7	9	13	17
Southern Asia	2	3	4	2	4	5
North/Central/South America	3	2	1	2	4	2
Africa	3	2	5	3	5	5
Not known	33	3	8	4	3	0
Total	369	354	369	355	392	441
			(per cent)		
Australia	73.4	68.1	67.5	, 61.7	56.9	56.7
New Zealand	0.5	1.1	0.8	0.0	0.0	0.7
Other Oceania	0.5	1.7	1.6	1.1	1.0	0.7
United Kingdom and Ireland	2.7	2.5	1.0	1.7	2.0	1.1
Other Europe and Russia	0.8	2.3	2.2	2.0	2.0	2.5
Middle East and North Africa	0.8	2.3 4.0	2.2	2.0 3.9	4.3	2.5
Malaysia	3.0	2.5	1.4 11.7	2.3	2.8	2.0
Vietnam	3.5	9.3	2.4	14.9	14.8	16.6
Other South-East Asia	1.6	1.1		2.5	3.3	3.9
Hong Kong	1.6	3.4	2.4	4.2	5.9	5.4
Other North-East Asia	0.3	1.1	1.9	2.5	3.3	3.9
Southern Asia	0.5	0.8	1.1	0.6	1.0	1.1
North/Central/South America	0.8	0.6	0.3	0.6	1.0	0.5
Africa	0.8	0.6	1.4	0.8	1.3	1.1
Not known	8.9	0.8	2.2	1.1	0.8	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
A	07.5	00.0	(per cent—fen		00.4	00.4
Australia	67.5	66.0	59.8	58.4	60.1	60.4
New Zealand	100.0	75.0	66.7	0.0	0.0	33.3
Other Oceania	50.0	66.7	66.7	75.0	75.0	33.3
United Kingdom and Ireland	80.0	44.4	25.0	66.7	75.0	100.0
Other Europe and Russia	33.3	62.5	87.5	85.7	50.0	63.6
Middle East and North Africa	66.7	57.1	75.0	57.1	58.8	47.1
Malaysia	81.8	55.6	60.0	62.5	45.5	88.9
Vietnam	53.8	66.7	55.8	69.8	67.2	60.3
Other South-East Asia	100.0	25.0	66.7	88.9	61.5	70.6
Hong Kong	50.0	66.7	33.3	60.0	73.9	66.7
Other North-East Asia	0.0	100.0	100.0	55.6	69.2	70.6
Southern Asia	100.0	66.7	50.0	50.0	0.0	40.0
North/Central/South America	33.3	0.0	100.0	100.0	75.0	50.0
Africa	66.7	100.0	60.0	66.7	20.0	20.0
Not known	57.6	100.0	87.5	75.0	66.7	0.0
Total	66.7	65.0	61.0	62.3	61.2	61.0

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

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

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

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

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

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

Course level	1989	1990	1991	1992	1993	1994	1995	1996	1997	
	Australian students									
Postgraduate										
PhD	10	20	38	52	67	73	80	75	75	
MSc—research	46	56	38	45	40	35	32	31	19	
MSc—course work	7	6	6	3	0	2	6	15	23	
PG qualifying	29	33	28	17	12	18	23	17	21	
PG diploma (new field)	20	35	18	20	19	18	34	46	29	
PG diploma (extends field)	13	11	13	39	53	34	43	64	58	
Graduate certificate	0	0	0	0	0	0	3	4	9	
Total postgraduate	125	161	141	176	191	180	221	252	234	
% female	52.8	53.4	58.9	63.1	61.8	61.7	61.1	62.3	66.7	
Undergraduate										
Bachelor honours	6	8	10	18	10	15	23	15	18	
Bachelor pass	1,352	1,394	1,404	1,399	1,398	1,438	1,542	1,726	1,890	
Total undergraduate	1,358	1,402	1,414	1,417	1,408	1,453	1,565	1,741	1,908	
% female	61.1	59.8	62.4	60.6	60.2	59.5	59.0	59.3	60.5	
Total	1,483	1,563	1,555	1,593	1,599	1,633	1,786	1,993	2,142	
	-	-	-	-	60.4	-	-	7,993 59.7	<i>2,142</i> 61.2	
% female	60.4	59.1	62.1	60.9	60.4	59.7	59.2	59.7	01.2	
	Overseas students									
Postgraduate										
PhD	10	17	19	22	19	18	15	15	14	
MSc—research	8	8	10	8	9	9	6	7	6	
MSc—course work	1	0	0	0	0	3	4	3	2	
PG qualifying	3	2	1	3	0	2	5	1	3	
PG diploma (new field)	1	5	1	0	0	0	1	0	1	
PG diploma (extends field)	0	0	0	0	1	1	1	1	2	
Total postgraduate	23	32	31	33	29	33	32	27	28	
% female	43.5	43.8	38.7	39.4	44.8	48.5	65.6	59.3	57.1	
Undergraduate										
Bachelor honours	0	3	1	1	1	4	7	2	9	
Bachelor pass	93	98	134	177	211	231	253	242	235	
Total undergraduate	93	101	135	178	212	235	260	244	244	
% female	59.1	54.5	65.2	68.5	69.8	70.2	64.6	68.9	66.8	
Total	116	133	166	211	241	268	292	271	272	
% female	56.0	51.9	60.2	64.0	66.9	67.5	64.7	67.9	65.8	
70 Terriale					students		• · · ·			
Postgraduate				All	Sludenis					
PhD	20	37	57	74	86	91	95	90	89	
MSc—research	54	64	48	53	49	44	38	38	25	
MSc—course work	8	6	6	3	0	5	10	18	25	
PG qualifying	32	35	29	20	12	20	28	18	24	
PG diploma (new field)	21	40	19	20	19	18	35	46	30	
PG diploma (extends field)	13	11	13	39	54	35	44	65	60	
Graduate certificate	0	0	0	0	0	0	3	4	9	
Total postgraduate	148	193	172	209	220	213	253	279	262	
% female	51.4	51.8	55.2	59.3	59.5	59.6	61.7	62.0	65.7	
Undergraduate		01.0	00.2	00.0	00.0	00.0	01.7	02.0	00.7	
Bachelor honours	6	11	11	19	11	19	30	17	27	
Bachelor pass	1,445	1,492	1,538	1,576	1,609	1,669	1,795	1,968	2,125	
Total undergraduate	1,445 1,451	1,492 1,503	1,536 1,549	1,576	1,609 1,620	1,688 1,688	1,795	1,900 1,985	2,125	
% female	59.1	7,503 54.5	1,549 65.2	61.0	1,620 69.8	7,688	1,825 64.6	68.9		
									66.8	
Total	1,599	1,696	1,721	1,804	1,840	1,901	2,078	2,264	2,414	
% female	60.1	58.5	61.9	61.3	61.3	60.8	60.0	60.7	61.7	