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Number 30

# **Medical labour force 2002**

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

Board Chair

Hon. Peter Collins, AM, QC

Director

Dr Richard Madden

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

Labour Force and Rural Health Unit  
Australian Institute of Health and Welfare  
GPO Box 570  
Canberra ACT 2601

Phone: (02) 6244 1153

E-mail: [labourforce@aihw.gov.au](mailto:labourforce@aihw.gov.au)

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Most importantly, we also thank the medical practitioners 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.

## Symbols and other usages

Throughout this publication, data may not add to the totals shown due to the estimation process for non-response. Percentages may not add to 100.0 due to rounding.

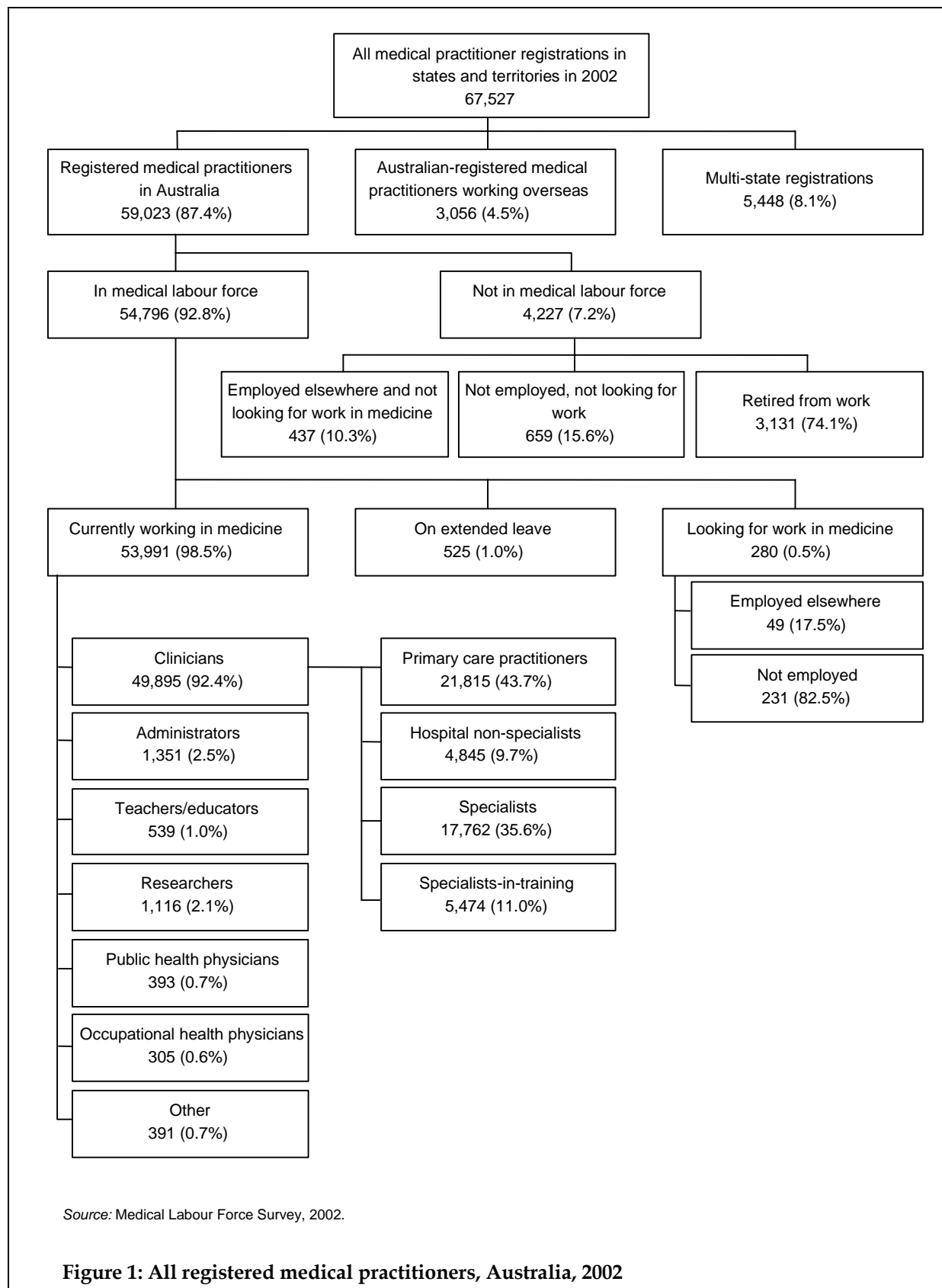
Italics within a table denote a subtotal.

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- n.p. Not publishable

# 1 Main findings

- There were an estimated 59,023 registered medical practitioners in Australia in 2002, of whom 92.8% were in the medical labour force.
- Most of the practitioners working in medicine in 2002 were clinicians (92.4%), of whom the largest proportion (43.7%) were primary care practitioners (mainly general practitioners), approximately one-third (35.6%) were specialists, and the remainder were either specialists-in-training or hospital non-specialists (11.0% and 9.7% respectively).
- Employed medical practitioners were, on average, older in 2002 than in 1997 (46.6 years and 44.7 years, respectively).
- Following longer-term trends, the proportion of female practitioners continued to rise, with 31.6% in 2002 compared with 28.0% in 1997.
- Medical practitioners worked an average week of 44.4 hours in 2002, a decline from 47.6 hours in 1997. In 2002 medical practitioners across all occupations averaged 42.0 hours per week in clinical work.
- In 2002, 44.3% of practitioners worked 50 hours or more per week, a decline over 5 years from 51.1% in 1997. Of clinicians, specialists-in-training (54.4%) and specialists (52.6%) were more likely to work long working weeks in 2002.
- The practitioner rate rose from 260 to 275 practitioners per 100,000 population between 1997 and 2002. However, taking into account the drop in hours worked, the outcome was a decrease in supply of full-time equivalent (FTE) practitioners per 100,000 over the period, from 275 FTE practitioners per 100,000 population in 1997 to 271 in 2002 (based on a 45-hour week).
- Changes in the supply of all practitioners based in each region varied. Slight decreases in the FTE rate (per 100,000 population) occurred in 'Major cities' (down from 315 to 312) and 'Outer regional' areas (down from 147 to 146). Conversely, increases in supply occurred for those based in the remaining regions, with the largest in 'Very remote' areas (up from 112 to 141), followed by 'Remote' areas (up from 129 to 140). There was a slight increase in 'Inner regional' areas (up from 174 to 176).
- Between 1997 and 2002 there was an increase in the number of practitioners in all states and territories. In the Northern Territory (up 48.1%), the Australian Capital Territory (25.1%) and Victoria (23.7%), there were higher percentage increases than experienced nationally (12.0%). When converted to full-time equivalent (FTE) practitioner rates based on a 45-hour week, there was an increase in supply in three jurisdictions: Victoria (from 276 to 301 FTE per 100,000 population), the Northern Territory (from 258 to 346) and the Australian Capital Territory (from 324 to 370). There were decreases in supply in the remaining states, ranging from 3 to 30 FTE per 100,000 population (in South Australia and Queensland, respectively).

## 2 Composition of the medical labour force





## Size

In 2002, there were 53,991 registered medical practitioners working in medicine in Australia (the medical workforce), a rise of 12.0% from 1997 (Table 1). Most of the employed practitioners in 2002 were clinicians (92.4%), of whom the largest proportion (43.7%) were primary care practitioners (mainly general practitioners), just over one-third (35.6%) were specialists, and the remainder were either specialists-in-training or hospital non-specialists (11.0% and 9.7%, respectively). Administrators and researchers made up a large proportion of the non-clinical workforce (33.0% and 27.2%, respectively), which also included teachers/educators, public health physicians and occupational health physicians (13.2%, 9.6% and 7.4%, respectively).

With the survey changes in 2000, it has been possible to identify non-clinicians who spend part of their time in clinical work. In 2002, there were an estimated 2,046 'part-time' clinicians, of whom 59.3% (1,214) were specialists (Table A5). These 'part-time' clinicians represent 3.9% of the total number of practitioners who undertook some clinical work.

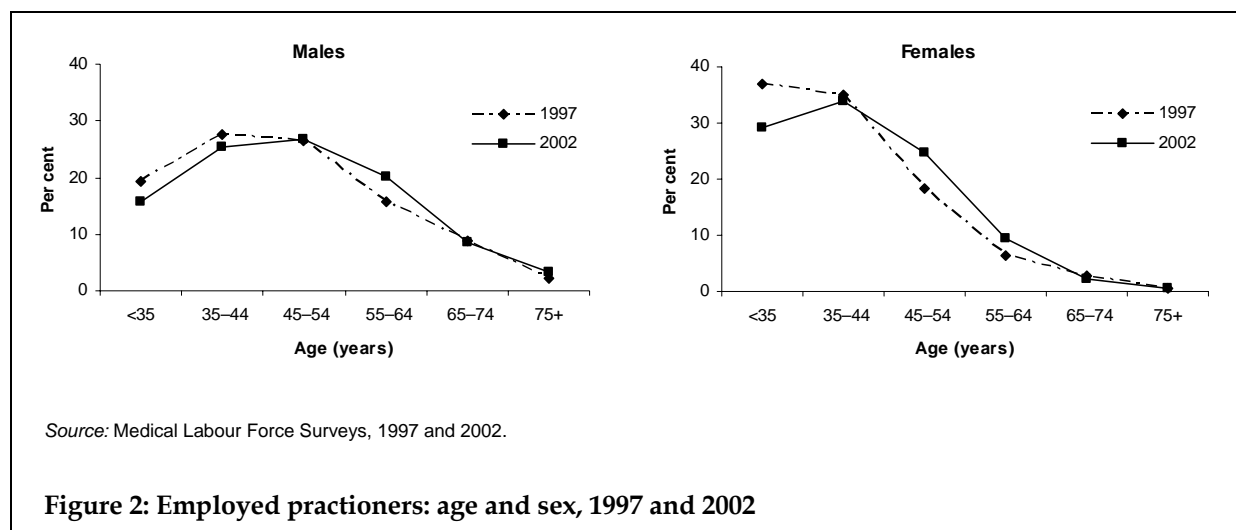
### Break in series

*A change to the reporting method for practitioner activity was introduced in 2000 (see 'Break in series' in Appendix B: Explanatory notes) and this has affected the estimates of practitioners across occupations. The new method is based on the occupation in which the practitioner spent the most hours. In order to provide some comparisons over time, data from earlier surveys have been re-calculated, resulting in figures that are different from previously published estimates. The re-calculation method is an approximation only and this should be kept in mind when comparing pre-2000 data with data collected in 2000, 2001 and 2002.*

## Age and sex

The medical workforce was, on average, older in 2002 (46.6 years) than in 1997 (44.7 years) (Table 1). Just over a quarter (26.7%) of male practitioners were aged 55 years or more in 1997; this rose to 32.0% in 2002 (Figure 2). The proportion of females aged 55 years or more grew from 9.5% to 12.3%. Conversely, the proportions of males and females aged less than 45 years decreased between 1997 and 2002 (from 46.9% to 41.1% for males and from 72.1% to 62.9% for females).

The proportion of females in the medical workforce also continued to increase. In 1997, females formed 28.0% of the medical workforce; the proportion in 2002 was 31.6% (Table 1).



# Occupation

## Clinicians

The number of clinicians grew by 12.9% from 44,194 in 1997 to 49,895 in 2002 (Table 1). Their average age and the proportion female also increased over this period (from 44.5 to 46.3 years and from 27.9% to 31.5% female).

**Table 1: Employed practitioners: selected characteristics, 1997 and 2002**

Main occupation	1997			2002		
	Number	% female	Average age	Number	% female	Average age
<i>Clinician</i>	44,194	27.9	44.5	49,895	31.5	46.3
<i>Primary care</i>	20,134	33.0	46.3	21,815	36.3	48.9
Vocationally registered <sup>(a)</sup>	16,999	31.0	47.7	18,879	34.7	49.8
RACGP trainee	1,140	57.6	31.9	1,080	61.4	35.0
Other	1,994	35.8	42.2	1,856	38.1	47.7
<i>Hospital non-specialist</i>	4,321	41.9	30.6	4,845	42.1	34.4
RMO/intern	3,356	44.1	28.0	2,815	46.2	29.8
Career and other medical officers	965	34.3	39.3	2,030	36.3	40.6
<i>Specialist</i>	15,155	15.6	49.6	17,762	19.8	50.1
Internal medicine	3,830	14.9	48.8	4,660	19.8	48.9
Pathology	696	26.8	49.8	854	30.3	51.1
Surgery	2,813	3.8	51.9	3,078	6.3	52.0
Other specialties	7,816	19.2	49.2	9,171	23.3	50.0
<i>Specialist-in-training</i>	4,584	33.1	31.8	5,474	41.0	32.7
Internal medicine	1,290	42.0	30.9	1,511	45.9	32.0
Pathology	135	41.3	31.9	225	55.5	32.1
Surgery	637	11.5	31.2	833	16.0	32.0
Other specialties	2,523	33.6	32.5	2,906	44.5	33.4
<i>Non-clinician</i>	4,004	29.5	47.5	4,096	31.9	49.2
Administrator	855	27.8	48.8	1,351	29.6	50.2
Teacher/educator	520	25.4	49.9	539	37.8	50.8
Researcher	734	29.9	41.5	1,116	35.0	43.0
Public health physician	528	39.2	42.4	393	40.9	44.7
Occupational health physician	322	19.3	49.7	305	19.7	53.2
Other	1,046	30.8	50.9	391	23.6	61.7
<b>Total</b>	<b>48,198</b>	<b>28.0</b>	<b>44.7</b>	<b>53,991</b>	<b>31.6</b>	<b>46.6</b>

(a) Includes 387 RACGP Fellows in 1997; this category was not available in the 2002 survey.

Source: Medical Labour Force Surveys, 1997 and 2002.

## **Primary care practitioners**

The number of primary care practitioners grew by 8.4% between 1997 and 2002 (from 20,134 to 21,815) (Table 1). This is equivalent to an increase of two primary care practitioners per 100,000 population (from 109 in 1997 to 111 in 2002) (Table 14).

The average age of primary care practitioners increased by 2 years between 1997 and 2002 (from 46.3 years to 48.9 years). This was despite the increased proportion of female primary care practitioners (33.0% in 1997 and 36.3% in 2002) who were, on average, younger than their male colleagues (44.4 years for females and 51.5 years for males in 2002) (Table 12).

## **Hospital non-specialists**

The hospital non-specialist workforce grew by 12.1% and aged by 3.8 years on average between 1997 and 2002 (Table 1). The growth can be attributed to the more than doubling of the number of Career and other medical officers over the period (from 965 to 2,030).

Conversely, the number of RMOs/interns declined (from 3,356 and 2,815). In 2002, there were 25 hospital non-specialists per 100,000 population, a rise of two from 1997 (Tables A3 and A4).

## **Specialists**

The number of specialists increased by 17.2% between 1997 and 2002 (from 15,155 to 17,762), an increase of eight specialists per 100,000 population (from 82 to 90) (Tables 1, A3, A4).

Over the 5 years, all the broad specialty fields experienced growth: Internal medicine by 21.7%, Pathology by 22.7%, Surgery by 9.4% and Other specialties by 17.3%. Surgery remains the most male-dominated specialty, with fewer than one in ten being female (6.3%) in 2002, followed by Internal medicine in which one in five (19.8%) were female (Table 1).

Unlike most other medical occupations, specialists aged only slightly, from 49.6 years in 1997 to 50.1 years in 2002, and this was similar for all the broad specialty areas, except Pathology specialists who aged by 1.3 years (Table 1).

## **Specialists-in-training**

The number of specialists-in-training grew by 19.4% between 1997 and 2002 (from 4,584 to 5,474) (Table 1). Trainees in the fields of Pathology grew by 66.7% and in Surgery by 30.7%. Specialists-in-training were slightly older in 2002 (32.7 years) than in 1997 (31.8 years) and the proportion of females increased (from 33.1% to 41.0%). In the specialist field of Pathology, more than half the trainees were female in 2002 (55.5%). The proportion of female Surgical trainees increased by 4.5 percentage points between the two survey years (from 11.5% to 16.0%), the second lowest growth after Internal medicine (3.9 percentage points), while Surgery remained the specialty field with the lowest proportion of female specialists-in-training.

## **Non-clinicians**

The non-clinical workforce increased slightly (2.3%) between 1997 and 2002 (from 4,004 to 4,096) (Table 1). Among the non-clinical occupations, administrators, researchers and teachers/educators increased in number between 1997 and 2002 (by 58.0%, 52.1% and 3.8%, respectively). Decreases occurred for public health physicians and occupational health physicians (down by 25.6%, and 5.0%, respectively). The average age of non-clinicians rose by 1.7 years (from 47.5 in 1997 to 49.2 in 2002) and the proportion of females increased from 29.5% to 31.9%.

# 3 Working hours

## Occupation

The functions of a medical practitioner can vary, and many allocate their time across more than one medical occupation. The level of clinical work performed by non-clinicians is of particular interest because it contributes to the provision of direct patient care. It is also important to know how much time clinicians spend in non-clinical work. The average hours practitioners spent per week in the different medical occupations show the extent to which this occurred (Table 2).

Medical practitioners across all occupations averaged 42.0 hours per week in clinical work (Table 2). Of clinicians, specialists-in-training tended to average relatively high hours in clinical work (48.8 hours), followed by hospital non-specialists (45.9 hours). Hospital non-specialists spent about 8.7 hours per week on average as administrators and, conversely, administrators spent around 9.4 hours in clinical work. Overall, non-clinicians averaged between 8.8 hours and 13.2 hours per week in clinical work, depending on their main occupation.

Between 1997 and 2002, practitioners reduced their average weekly hours by just over 3 hours (from 47.6 hours to 44.4 hours) (Table 3). This was evident across all the occupations, except researchers whose average working week increased by 3.2 hours (from 40.7 hours to 43.9 hours). Of the rest of the occupations, larger reductions were experienced by teachers/educators (down by 5.6 hours) and hospital non-specialists (down by 4.8 hours). Administrators' weekly hours were relatively stable between 1997 and 2002 (46.7 and 46.2, respectively) although the proportion working 50 or more hours per week rose by 1.5 percentage points (from 52.8% to 54.3%). The proportion of researchers working 50 or more hours also rose over this period (from 40.6% to 44.8%).

**Table 2: Employed practitioners: average weekly hours in all medical occupations, 2002**

Main occupation	All medical occupations							Total
	Clinician	Administrator	Teacher/ educator	Researcher	Public health physician	Occupational health physician	Other	
<i>Clinician</i>	42.6	6.9	4.3	6.3	6.6	6.5	6.4	44.6
Primary care	39.7	6.4	3.9	5.3	6.1	6.3	6.2	41.1
Hospital non-specialist	45.9	8.7	4.1	6.2	7.1	5.9	8.3	46.0
Specialist	43.8	7.2	4.6	6.4	7.0	8.3	6.8	47.1
Specialist-in-training	48.8	5.8	3.6	6.3	7.9	5.2	5.7	49.8
<i>Non-clinician</i>	10.8	27.3	11.9	24.6	30.5	30.1	21.5	41.6
Administrator	9.4	33.3	6.8	8.9	9.3	9.2	9.4	46.2
Teacher/educator	12.4	9.7	22.3	9.9	7.7	8.6	8.2	37.4
Researcher	10.8	8.0	6.1	31.4	10.9	15.0	7.5	43.9
Public health physician	13.2	7.9	5.1	6.8	38.2	10.4	10.0	41.9
Occupational health physician	8.8	10.5	4.8	5.2	15.7	34.0	17.9	38.3
Other	9.1	5.0	3.4	8.6	8.0	6.6	22.7	26.2
<b>All employed practitioners</b>	<b>42.0</b>	<b>9.8</b>	<b>5.3</b>	<b>11.3</b>	<b>18.3</b>	<b>18.7</b>	<b>11.4</b>	<b>44.4</b>

Source: Medical Labour Force Survey, 2002.

Although clinical hours worked have been calculated on slightly different bases in the two survey years (a result of the changed reporting method initiated in 2000), estimates show the average clinical hours worked per week fell by 6.0 hours (from 45.6 hours in 1997 to 39.6 hours in 2002), compared with a reduction of 3.2 hours in practitioners' average total hours (47.6 to 44.4 respectively) (Table 3).

**Table 3: Employed practitioners: average weekly hours worked, and proportion working 50 hours or more, 1997 and 2002**

Occupation	Average weekly total hours	Average weekly clinical hours	% working 50 hours or more	Average weekly total hours	Average weekly clinical hours	% working 50 hours or more
	1997			2002		
<i>Clinician</i>	48.0	46.4	51.9	44.6	40.8	44.5
Primary care	44.7	43.5	43.1	41.1	38.5	35.2
Hospital non-specialist	50.8	50.5	61.1	46.0	44.3	45.0
Specialist	50.0	46.9	56.8	47.1	40.6	52.6
Specialist-in-training	53.8	53.4	66.3	49.8	47.4	54.4
<i>Non-clinician</i>	42.4	12.6	41.8	41.6	10.6	41.7
Administrator	46.7	12.4	52.8	46.2	11.3	54.3
Teacher/educator	43.0	15.3	45.1	37.4	10.3	35.5
Researcher	40.7	12.3	40.6	43.9	10.3	44.8
Public health physician	45.7	8.6	44.3	41.9	9.9	33.2
Occupational health physician	40.7	9.9	36.7	38.3	10.2	31.8
Other	38.7	10.2	32.6	26.2	9.0	13.5
<b>All employed practitioners</b>	<b>47.6</b>	<b>45.6</b>	<b>51.1</b>	<b>44.4</b>	<b>39.6</b>	<b>44.3</b>

Note: Calculation of 'clinical hours' differed between 1997 and 2002, because of changes to the surveys. See 'Break in series' in Appendix B: Explanatory notes.

Source: Medical Labour Force Surveys, 1997 and 2002.

Overall, the proportion of practitioners working 50 hours or more per week declined by 6.8 percentage points (from 51.1% to 44.3%) (Table 3). Primary care practitioners were less likely to work 50 hours or more per week in 2002 (35.2%) than other clinicians, of whom around half worked 50 hours or more. This was similar to the picture in 1997, although proportions working 50 or more hours were higher then: hospital non-specialists working 50 or more hours per week decreased from 61.1% in 1997 to 45.0% in 2002, specialists from 56.8% to 52.6% and specialists-in-training from 66.3% to 54.4%.

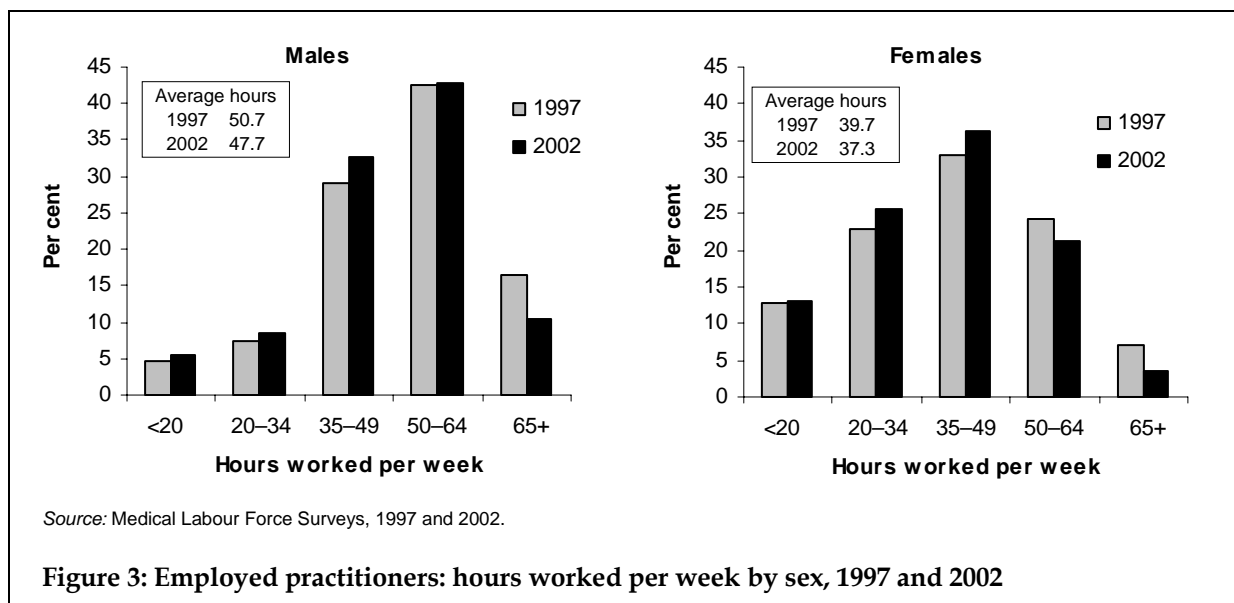
## Sex

Female practitioners have traditionally worked fewer hours than males, a pattern that remained stable over the period from 1997 to 2002. In 1997, males worked an average of 11.0 hours more per week than females (50.7 hours compared with 39.7) and in 2002 they worked an average of 10.4 hours more (47.7 hours compared with 37.3) (Figure 3), a slightly wider gap than in 2001 when males worked an average of 9.6 hours per week more than females (AIHW 2003).

Despite a continued shift towards working fewer hours, the distribution of hours worked by male practitioners remained skewed towards long working weeks. In 2002, more than half (53.2%) of male practitioners worked 50 or more hours per week (albeit 5.8 percentage points lower than 1997) (Figure 3). However, this decline was most evident in the proportion of

male practitioners who worked 65 or more hours per week, where there was a drop between 1997 and 2002 of 5.9 percentage points (from 16.4% to 10.5%).

The distribution of hours worked was less skewed for females than for males. In 2002, a higher proportion of female practitioners worked less than 35 hours per week (38.8% compared with 14.0% for males) (Figure 3). The proportion of female practitioners who worked less than 20 hours per week changed little between 1997 and 2002 (12.9% and 13.1%, respectively), while the proportion working 35 to 49 hours per week increased (from 32.9% in 1997 to 36.4% in 2002).



## Overall supply of practitioners

Data on the size and characteristics of the medical workforce present a valuable profile of doctors, but do not give a picture of the overall level of service they provide. Because medical practitioners tend to average long working weeks, the contribution of these hours to the level of service needs to be taken into account to effectively measure overall practitioner supply.

Supply can be measured by converting the hours worked into a 'full-time equivalent' (FTE) number of practitioners (see box).

This is a useful measure of supply because it takes into account hours worked. For medical practitioners, FTE numbers and rates are generally higher than practitioner numbers and rates, because they work relatively high hours per week.

The number of practitioners per 100,000 population (or the practitioner rate) in 2002 was 275, an increase of 15 since 1997 (Figure 4).

However, when this is converted into an FTE rate, it takes into account the fall in average hours worked between 1997 and 2002. The FTE rate shows that the supply of practitioners was 354 per 100,000 population in 1997 and 349 in 2002, based on a 35-hour week, and 275 and 271, respectively, based on a 45-hour week.

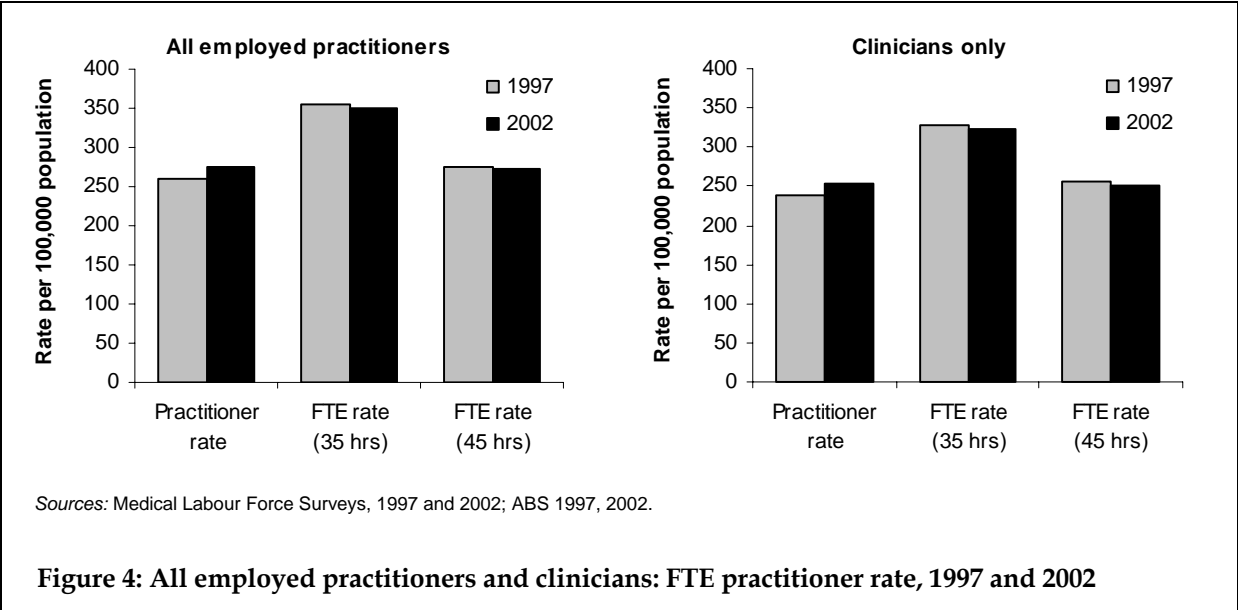
### Full-time equivalent

*The number of full-time equivalent practitioners equals the number of practitioners multiplied by the average weekly hours worked, divided by the number of hours in a 'standard' full-time working week.*

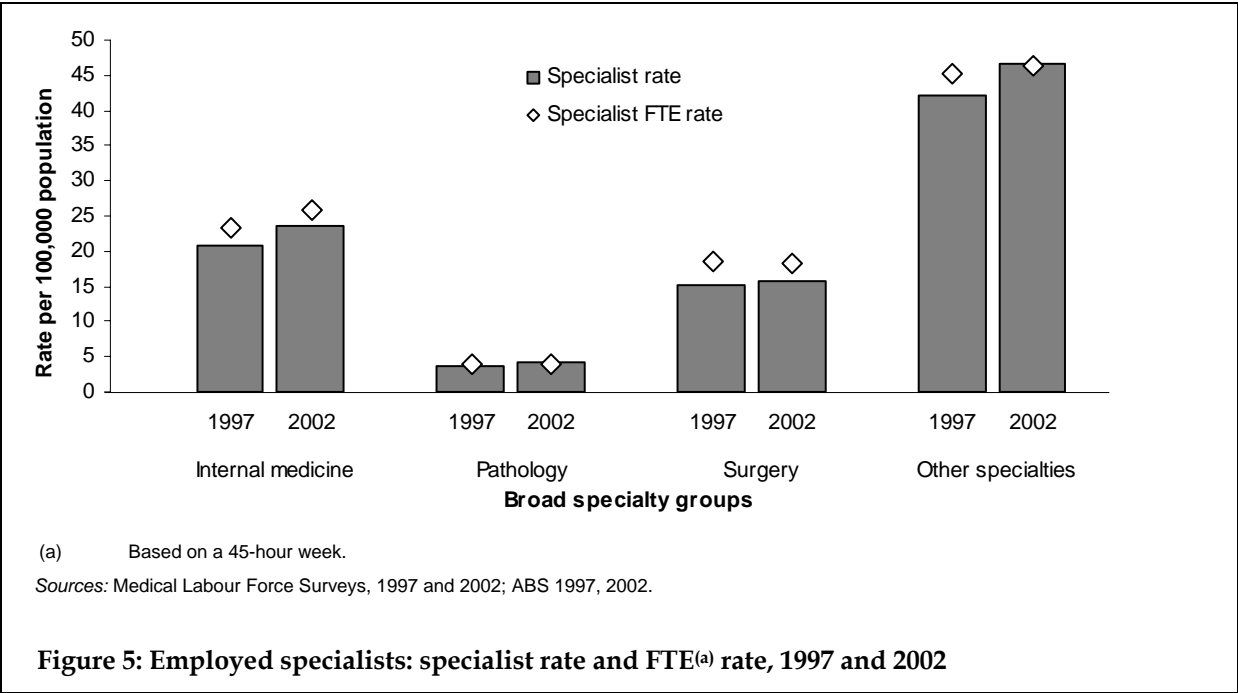
*An example showing two alternatives are provided for a 'standard' working week: 35 hours (the general workforce 'standard') and 45 hours (close to the 'standard' or average worked by medical practitioners). While a 35-hour or 38-hour week is the standard in many industries, the 'typical' working week varies between occupations.*

*The FTE number is converted to a rate per 100,000 population for comparison with the practitioner rate (also expressed per 100,000).*

The practitioner rate for clinicians also increased between 1997 and 2002 (from 239 to 254 per 100,000 population) (Figure 4). Again, there was a slight drop in the FTE rate of clinicians between 1997 and 2002 (328 and 324 per 100,000 population, respectively, based on a 35-hour week; and 255 and 252 per 100,000 population, respectively, based on a 45-hour week).



Across the broad specialty groups, the specialist rate per 100,000 population increased over the 5 years from 1997 to 2002, albeit only slightly in Pathology and Surgery (each up by one practitioner per 100,000 population) (Figure 5). This pattern did not hold true for the specialist FTE rate (or supply of specialists) over the same period. While the FTE rate for Internal medicine specialists increased by three FTE (from 23 to 26 per 100,000 population), the supply of specialists in Pathology remained unchanged (at four FTE per 100,000 population in both 1997 and 2002) and the supply of specialists in Surgery decreased slightly, by one FTE (from 19 to 18 per 100,000 population) (Figure 5).



# 4 Geographic comparisons

## Regions

There were an estimated 19.6 million resident Australians in 2002 (ABS 2002) and around 53,991 medical practitioners providing services to this population. The geographic distributions of these medical practitioners and the services they provide are important for planning equitable access to health care.

### Major cities

In 2002, about 13.03 million (66.3%) Australians lived in Major cities, where some 41,489 (79.5%) medical practitioners provided services. The average age of these practitioners was 46.5 years and they worked an average of 44.1 hours per week. This compares with an average age of 44.8 and an average working week of 47.2 in 1997. Females made up 28.5% in 1997, and 32.3% in 2002.

**Table 4: Employed practitioners in Major cities: FTE rate, 1997 and 2002**

Occupation	FTE rate <sup>(a)</sup>	
	1997	2002
<i>Clinicians</i>	289	288
Primary care	112	105
Hospital non-specialist	29	29
Specialist	110	114
Specialist-in-training	37	40
<i>Non-clinicians</i>	26	24
<b>Total</b>	<b>315</b>	<b>312</b>

### Inner regional

In 2002, about 4.08 million (20.8%) Australians lived in Inner regional areas, where some 7,137 (13.7%) medical practitioners provided services. The average age of these practitioners was 47.1 years and they worked an average of 45.4 hours per week. This compares with an average age of 45.3 and an average working week of 48.6 in 1997. Females made up 24.9% in 1997, and 26.9% in 2002.

**Table 5: Employed practitioners in Inner regional areas: FTE rate, 1997 and 2002**

Occupation	FTE rate <sup>(a)</sup>	
	1997	2002
<i>Clinicians</i>	167	169
Primary care	94	90
Hospital non-specialist	12	14
Specialist	53	55
Specialist-in-training	7	10
<i>Non-clinicians</i>	7	7
<b>Total</b>	<b>174</b>	<b>176</b>

**Figure 6: Australian Standard Geographic Classification (ASGC) Remoteness Areas**





The Remoteness Area Structure of the ASGC has been used to geographically distribute medical practitioners into the following five regions which are classed by remoteness: Major cities, Inner regional, Outer regional, Remote and Very remote.

These areas are mapped (Figure 6) and selected characteristics provide a picture of practitioners by their main working location, relative to the Australian population, across the different regions (Tables 4 to 8).



(a) Rates are per 100,000 population.

Note: The sum of the practitioners in each region (Tables 4 to 8) does not add to the total for Australia (53,991) because 1,816 practitioners did not report the region in which they worked.

### Outer regional

In 2002, about 2.03 million (10.3%) Australians lived in Outer regional areas, where some 2,886 (5.5%) medical practitioners provided services. The average age of these practitioners was 46.0 years and they worked an average of 46.2 hours per week. This compares with an average age of 44.7 and an average working week of 50.0 in 1997. Females made up 26.9% in 1997, and 29.6% in 2002.

**Table 6: Employed practitioners in Outer regional areas: FTE rate, 1997 and 2002**

Occupation	FTE rate <sup>(a)</sup>	
	1997	2002
<i>Clinicians</i>	141	138
Primary care	88	80
Hospital non-specialist	13	15
Specialist	34	35
Specialist-in-training	6	8
<i>Non-clinicians</i>	7	8
<b>Total</b>	<b>147</b>	<b>146</b>

### Remote

In 2002, about 0.32 million (1.7%) Australians lived in Remote areas, where 433 (0.8%) medical practitioners provided services. The average age of these practitioners was 44.7 years and they worked an average of 47.1 hours per week. This compares with an average age of 41.8 and an average working week of 50.4 in 1997. Females made up 30.4% in 1997, and 32.8% in 2002.

**Table 7: Employed practitioners in Remote areas: FTE rate, 1997 and 2002**

Occupation	FTE rate <sup>(a)</sup>	
	1997	2002
<i>Clinicians</i>	121	130
Primary care	86	86
Hospital non-specialist	18	19
Specialist	14	19
Specialist-in-training	3	6
<i>Non-clinicians</i>	8	10
<b>Total</b>	<b>129</b>	<b>140</b>

### Very remote

In 2002, about 0.18 million (0.9%) Australians lived in Very remote areas, where some 231 (0.4%) medical practitioners provided services. The average age of these practitioners was 43.3 years and they worked an average of 49.1 hours per week. This compares with an average age of 40.5 and an average working week of 51.2 in 1997. Females made up 27.8% in 1997, and 38.5% in 2002.

**Table 8: Employed practitioners in Very remote areas: FTE rate, 1997 and 2002**

Occupation	FTE rate <sup>(a)</sup>	
	1997	2002
<i>Clinicians</i>	106	134
Primary care	67	93
Hospital non-specialist	25	28
Specialist	9	10
Specialist-in-training	5	3
<i>Non-clinicians</i>	6	7
<b>Total</b>	<b>112</b>	<b>141</b>

## Distribution

Overall in 2002, practitioners based<sup>1</sup> in Remote and Very remote areas were more likely to be younger and to work more hours per week than practitioners in other regions. Compared with their colleagues based in Major cities, practitioners in Remote and Very remote areas were, on average, 2 to 3 years younger and worked longer by some 3 and 5 hours per week, respectively (Tables 4 to 8).

In 1997 also, practitioners who reported being based in Remote and Very remote regions were on average 3 to 4 years younger than their colleagues based in Major cities and worked longer weeks by some 3 to 3.5 hours, respectively. Within each region, they also worked more hours per week in 1997 than in 2002, with average hours ranging from 47.2 to 51.2 across the regions, compared to 2002 when average hours ranged from 44.1 to 49.1.

The higher average hours worked by practitioners based in less populated (more remote) areas reflect the comparatively fewer practitioners based in these regions. More than three-quarters (79.5%) of practitioners were based in Major cities where two-thirds (66.3%) of the population lived, with the remaining practitioners distributed across the remaining third (33.7%) of the population living in the other regions.

In keeping with the national trend, the proportion of female practitioners increased in all regions during the 5 years from 1997 to 2002. The largest increase (10.7 percentage points) occurred in Very remote areas (up from 27.8% to 38.5%). This compares with slight increases in Inner regional, Outer regional and Remote areas (up 2.0, 2.7, and 2.4 percentage points, respectively) which were below the national increase of 3.5 percentage points (Tables 4 to 8 and Table 1).

Changes in the supply of all practitioners based in each region varied. Slight decreases in the FTE rate (per 100,000 population) occurred in Major cities (down from 315 to 312) and Outer regional areas (down from 147 to 146). Increases in supply occurred for those based in the remaining regions, with the largest in Very remote areas (up from 112 to 141), followed by Remote areas (up from 129 to 140). There was just a slight increase in Inner regional areas (up from 174 to 176).

The pattern of supply of primary care practitioners was different from that for practitioners overall. Only Very remote areas experienced an increase in the FTE rate (from 67 to 93 per 100,000 population). This comparatively large increase was mainly a function of the increase in the primary care practitioner rate (i.e. the number per 100,000 population) in Very remote regions (from 63 in 1997 to 87 in 2002) and stable average hours worked by these practitioners over the same time (Tables 4 to 8 and Tables A2, A3 and A4). While primary care practitioners in Very remote regions slightly increased their average weekly hours over the period, (47.7 in 1997 to 48.4 in 2002), their colleagues in other regions reduced their hours by some 3.5 to 4.4 hours.

As a result, although the primary care practitioner rate increased marginally in the other regions (or remained stable as in Outer regional areas), their respective FTE rates decreased. For example, primary care practitioner rates increased in Major cities (from 116 to 118 per 100,000 population) and average hours reduced from 43.5 to 40.0, resulting in lower supply than in 1997 (Tables A2, A3 and A4).

Specialists and specialists-in-training are generally associated with hospitals and the services that hospitals provide, together with facilities for research, training and advanced equipment

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<sup>1</sup> A practitioner's 'base' was determined by their main working location.

for treatment and are, therefore, more likely to be concentrated in more populated areas. For this reason, only minimal increases in the supply of specialists and specialists-in-training based in less populated areas would be expected. However, counter-intuitively, specialists and specialists-in-training in Remote areas rose by five and three FTE per 100,000 population, respectively, between 1997 and 2002, while their city-based colleagues increased by four and three FTE per 100,000 population and their Inner regional colleagues increased by two and three FTE per 100,000 population over the same period (Tables 4 and 8).

One of the factors affecting supply, the specialist rate (i.e. the number per 100,000 population), increased in all regions between 1997 and 2002, ranging from an increase of ten per 100,000 population in Major cities to three in Outer regional areas (Tables A3 and A4). However, the other factor influencing supply, hours worked by specialists, decreased in all regions except Remote where there was little change (Table A2).

## Inter-regional service delivery in 2002

The above comparisons of changes in regional supply over the 5 years from 1997 to 2002 showed the interaction of working hours and the practitioner rate, and the consequent effect on supply. To enable comparisons between the years, these measures of supply were based on the total hours worked in all locations by practitioners and were presented by region of main working location. The following discussion on inter-regional service delivery aims to draw attention to practitioners' movements between regions and to the fact that this changed the distribution of supply in 2002 (NB: similar data are unavailable for 1997).

When shown by main working location, the practitioner rate and FTE rate for Major cities were higher than in less populated regions. However, when secondary working locations were also considered, this showed the extent to which service provision outside Major cities had been augmented by practitioners delivering inter-regional services.

**Table 9: Number of practitioners<sup>(a)</sup> and average hours per week worked in second work location, by region of main work location, 2002**

Main region	Second work location									
	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Number	Hours	Number	Hours	Number	Hours	Number	Hours	Number	Hours
Major cities	16,789	10.4	761	9.4	147	9.9	25	9.4	10	6.8
Inner regional	502	11.1	1,769	9.3	228	8.1	9	7.2	6	6.4
Outer regional	81	10.7	88	7.0	697	9.9	30	10.8	37	7.7
Remote	9	12.3	6	5.8	18	10.8	65	10.7	23	13.4
Very remote	10	10.0	1	4.0	6	7.3	18	10.7	48	13.2

(a) Excludes 1,816 practitioners who did not report the regions in which they worked.

Source: Medical Labour Force Survey, 2002.

In 2002, some 943 practitioners who were based in Major cities also practised in a less populated region (Table 9). For example, 25 of these city-based practitioners averaged around a day per week (9.4 hours) in Remote areas and 10 averaged a day per week (6.8 hours) in Very remote areas. Similarly, practitioners based in Outer regional areas provided services to Remote areas (where 30 of them averaged 10.8 hours per week) and Very remote areas (where 37 of them averaged 7.7 hours per week). In total, Remote and Very remote areas were provided with services from 116 practitioners based outside these regions and

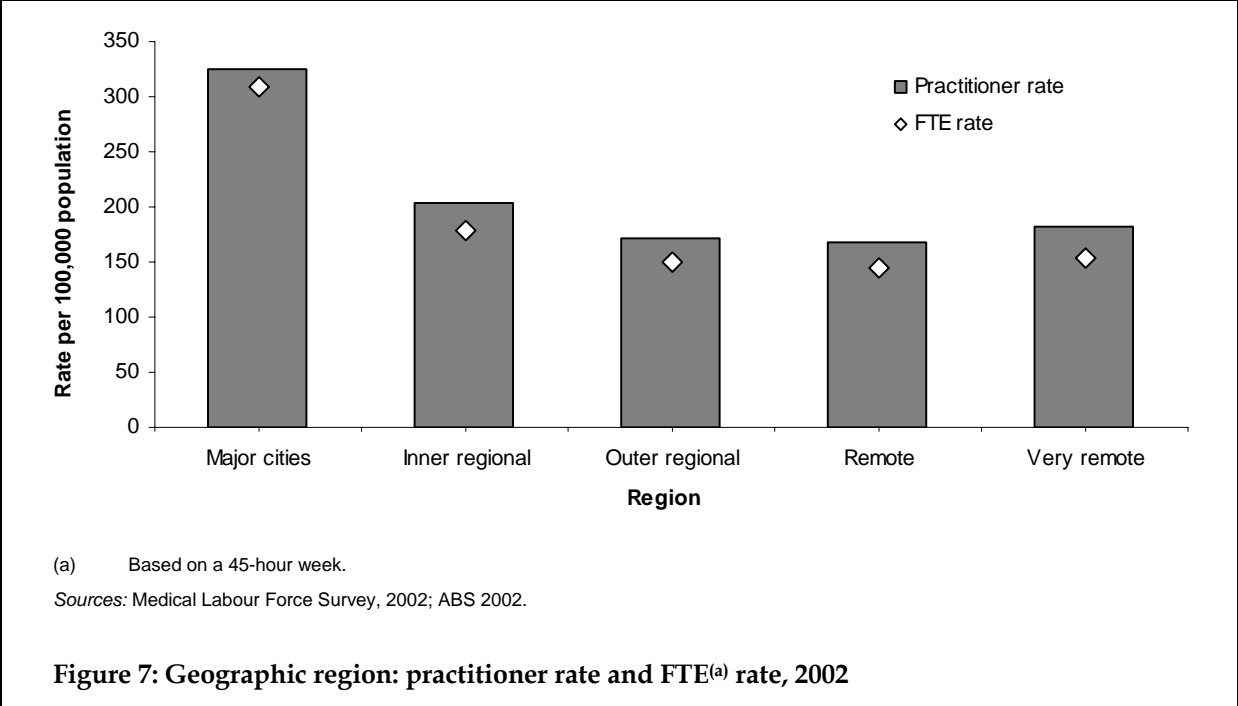
when the hours they worked are factored in, they equated to approximately 22 practitioners working a 45-hour week (a supply increase of nine FTE practitioners per 100,000 population across these two regions).

This example is an approximation rather than a precise measure, because not all practitioners reported the regions in which they worked and some practitioners provide services in more than two regions. However, it is indicative of the contribution inter-regional practices made to remote areas.

Practitioner mobility across regions was not limited to the examples above and included some practising in a second region of higher population than their main work location and others working in a second region of the same type. However, of practitioners who practised in a second region of a different type (1,275), two-thirds (63.3%) did so in a less populated region.

### Regional supply in 2002

When practitioners' hours in all regions are presented by the region in which they provided services in 2002, the apparent regional disparity in supply is reduced. For example, in Major cities the FTE rate became lower when, first, the hours worked by city-based practitioners in another region were subtracted and, second, the hours of practitioners based outside Major cities who worked in Major cities were added (312 FTE per 100,000 reduced to 308) (Table 4 and Figure 7). In contrast, when actual delivery hours were calculated in the same way for Very remote areas, the supply of practitioners increased, from 141 FTE per 100,000 to 154 (Table 8 and Figure 7).



# States and territories

## Distribution

In 2002, there were some variations in practitioners' characteristics across jurisdictions. Practitioners in New South Wales were more likely to be older (47.6 years compared with 46.6 years nationally), whereas those in the Northern Territory were more likely to be younger (39.8 years) than colleagues elsewhere in Australia (Table 10). In 1997, the variation in age across jurisdictions was less apparent than in 2002, with the average age ranging from 40.3 years in the Northern Territory to 45.7 years in the Australian Capital Territory.

Higher proportions of female practitioners were evident in the two territories and South Australia, with the Northern Territory nearing half (45.2%) and the Australian Capital Territory and South Australia just over a third (34.9% and 34.7% respectively), compared with less than a third (31.6%) nationally.

Between 1997 and 2002, there was an increase in practitioner numbers in all jurisdictions. In the Northern Territory (up 48.1%), the Australian Capital Territory (25.1%) and Victoria (23.7%), there were higher percentage increases than experienced nationally (up 12.0%).

**Table 10: Employed practitioners: selected characteristics, states and territories, 1997 and 2002**

Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>1997</b>									
Number	17,026	11,911	8,024	4,385	4,256	1,158	976	462	48,198
% female	27.6	27.1	28.8	29.2	27.9	27.8	32.0	37.5	28.0
Average age	45.2	45.4	43.8	43.9	43.8	44.7	45.7	40.3	44.7
<b>2002</b>									
Number	18,615	14,738	8,159	4,648	4,710	1,217	1,221	684	53,991
% female <sup>(a)</sup>	30.6	31.2	30.3	32.7	34.7	31.7	34.9	45.2	31.6
Average age <sup>(b)</sup>	47.6	45.9	46.7	46.9	44.8	47.0	46.6	39.8	46.6
<b>% increase in practitioner numbers, 1997 to 2002</b>									
	9.3	23.7	1.7	6.0	10.7	5.1	25.1	48.1	12.0

Source: Medical Labour Force Surveys, 1997 and 2002.

## Supply of practitioners

The jurisdictions with highest practitioner rates in 2002 were the Australian Capital Territory and the Northern Territory (380 and 344 per 100,000 population, respectively), followed by South Australia and Victoria (310 and 303 per 100,000 population, respectively) (Table 11). The practitioner rate increased between 1997 and 2002 in all jurisdictions except Queensland (down from 236 to 220 per 100,000 population) and Western Australia (down from 244 to 242). When converted to an FTE rate, there was an increase in supply in three jurisdictions: Victoria (from 276 to 301 per 100,000 population), the Australian Capital Territory (from 324 to 370) and the Northern Territory (from 258 to 346).

**Table 11: Employed practitioners: practitioner and FTE rate, states and territories, 1997 and 2002**

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>Practitioner rate (per 100,000 population)</b>									
1997	271	259	236	244	287	245	316	247	260
2002	281	303	220	242	310	258	380	344	275
<b>FTE practitioner rate (per 100,000 population) based on a 45-hour week</b>									
1997	292	276	247	249	303	253	324	258	275
2002	279	301	217	233	300	237	370	346	271

Sources: Medical Labour Force Surveys, 1997 and 2002; ABS 1997, 2002.

## Primary care practitioners

As the main initial contacts for health care, the supply of primary care practitioners is a useful indicator of the accessibility of health services. Supply of primary care practitioners varied across geographic regions (see above section 'Distribution') and similarly, it is useful to view state and territory differences in access to health care by comparing their primary care practitioner numbers and supply. A comparison of the primary care practitioner rates with the rates for all medical practitioners shows some variation in supply across the jurisdictions and, by implication, some differences in access to the health care system. While these comparisons can be useful, they are limited in that they do not take into account the different levels of urbanisation across the states and territories, or the different population profiles.

## Distribution

In 2002, primary care practitioners were, on average, 2.3 years older than practitioners overall (48.9 compared with 46.6 years) and included a higher proportion of females (36.3% compared with 31.6% for all practitioners) (Tables 12 and 10). This national pattern generally held true across jurisdictions. Between 1997 and 2002, primary care practitioner numbers increased in all jurisdictions except Tasmania, which remained essentially the same (570 and 569 practitioners, in 1997 and 2002, respectively).

**Table 12: Primary care practitioners: selected characteristics, states and territories, 1997 and 2002**

Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>1997</b>									
Number	7,072	5,066	3,324	1,777	1,762	570	372	191	20,134
% female	31.4	32.7	33.7	34.3	33.4	34.6	44.4	41.8	33.0
Average age	47.8	45.6	45.8	45.2	44.9	45.9	46.2	41.7	46.3
Males	50.1	47.8	48.2	47.7	47.0	48.5	48.8	44.1	48.6
Females	42.6	41.1	40.9	40.7	40.7	40.8	43.0	38.3	41.5
<b>2002</b>									
Number	7,614	5,670	3,341	2,000	1,893	569	470	257	21,815
% female <sup>(a)</sup>	34.5	35.2	36.3	38.9	39.9	40.1	41.5	49.7	36.3
Average age <sup>(a)</sup>	50.4	48.2	48.2	49.0	47.2	47.9	49.4	43.2	48.9
Males	52.8	50.6	50.6	52.6	49.4	50.7	51.4	47.0	51.5
Females	45.8	43.6	44.0	43.4	43.9	43.6	46.7	39.5	44.4
<b>% increase in primary care practitioner numbers, 1997 to 2002</b>									
	7.7	11.9	0.5	12.6	7.4	-0.1	26.1	34.3	8.4

(a) Figures for Tasmania are estimates based on the age and sex distribution in 2003 (Appendix B: Explanatory notes).

Source: Medical Labour Force Surveys, 1997 and 2002.

In all jurisdictions in 2002, primary care practitioners worked lower average weekly hours than medical practitioners overall, ranging from 5.3 hours per week less in the Northern Territory to 2.4 hours per week less in New South Wales (Table 13). This is, in part, a reflection of higher proportions of female practitioners in primary care and the fact that female practitioners generally work fewer hours per week than males (Figure 3).

**Table 13: Employed practitioners: average weekly hours worked, states and territories, 1997 and 2002**

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
All practitioners									
1997	48.4	47.9	47.1	45.8	47.5	46.5	46.2	47.0	47.6
2002	44.7	44.7	44.5	43.5	43.5	41.4	43.8	45.3	44.4
Primary care practitioners									
1997	46.4	44.9	43.2	41.7	44.3	43.0	40.4	43.7	44.7
2002	42.3	40.7	41.0	39.5	40.6	38.5	40.5	40.0	41.1

Source: Medical Labour Force Surveys, 1997 and 2002.

The rate for all practitioners in 2002 ranged from 220 per 100,000 population in Queensland to 380 in the Australian Capital Territory (see Table 11), but the range was narrower for primary care practitioner rates (from 90 to 146 per 100,000 again in Queensland and the Australian Capital Territory, respectively) (Table 14).

A comparison of all practitioners with primary care practitioners over time within a jurisdiction can also provide a different picture. In Tasmania, for example, the rate for all practitioners increased between 1997 and 2002 (from 245 to 258 per 100,000 population), whereas the primary care practitioner rate was unchanged (120 per 100,000 population in both years) (Tables 11 and 14).

In Victoria, the FTE rate shows that the supply of primary care practitioners declined slightly between 1997 and 2002 (from 110 to 106 FTE per 100,000 population). This was in contrast to Victoria's FTE rate for all practitioners, which increased (from 276 to 301 per 100,000 population) (Tables 11 and 14).

**Table 14: Primary care practitioners: practitioner and FTE rate, states and territories, 1997 and 2002**

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>Practitioner rate (per 100,000 population)</b>									
1997	113	110	98	99	119	120	121	102	109
2002	115	117	90	104	125	120	146	129	111
<b>FTE practitioner rate (per 100,000 population) based on 45-hour week</b>									
1997	116	110	94	92	117	115	108	99	108
2002	108	106	82	91	112	103	131	115	101
<b>Australian population</b>									
1997	6,276,961	4,597,201	3,394,671	1,794,992	1,481,357	473,605	309,042	186,912	18,517,564
2002	6,634,110	4,857,228	3,710,972	1,924,553	1,518,696	472,612	321,512	198,665	19,640,979

Sources: Medical Labour Force Surveys, 1997 and 2002; ABS 1997, 2002.

# Appendix A: Detailed tables

**Table A1: Employed practitioners: main occupation, 1997 to 2002**

Main occupation	1997	1998	1999	2000	2001	2002
<i>Clinician</i>	44,194	44,684	45,999	47,372	49,392	49,895
Primary care	20,134	20,429	20,616	21,081	21,671	21,815
Hospital non-specialist	4,321	4,172	4,469	5,121	5,169	4,845
Specialist	15,155	15,605	16,460	16,008	17,124	17,762
Specialist-in-training	4,584	4,479	4,455	5,162	5,429	5,474
<i>Non-clinician</i>	4,004	4,233	4,224	3,733	3,991	4,096
Administrator	855	912	890	1,205	1,271	1,351
Teacher/educator	520	524	541	428	452	539
Researcher	734	724	767	950	1,030	1,116
Public health physician	528	540	669	363	374	393
Occupational health physician	322	311	308	298	285	305
Other	1,046	1,222	1,049	490	579	391
<b>Total</b>	<b>48,198</b>	<b>48,917</b>	<b>50,223</b>	<b>51,106</b>	<b>53,384</b>	<b>53,991</b>

Note: Figures for all years before 2002 have been revised. Revisions are a result of changed clinician definition and changes in the survey estimation method (see 'Break in series' in Appendix B: Explanatory notes).

Source: Medical Labour Force Surveys, 1997 to 2002.

**Table A2: Employed clinicians: region of main job, average weekly hours, 1997 and 2002**

Main occupation	Major city		Inner regional		Outer regional		Remote		Very remote		Total	
	1997	2002	1997	2002	1997	2002	1997	2002	1997	2002	1997	2002
Primary care	43.5	40.0	47.0	43.4	49.4	45.0	50.6	46.2	47.7	48.4	44.7	41.1
Hospital non-specialist	50.6	45.3	50.7	47.1	51.4	48.6	53.1	50.3	54.7	56.9	50.8	46.0
Specialist	49.8	46.9	51.7	48.3	51.5	48.3	48.5	48.4	60.1	40.0	50.0	47.1
Specialist-in-training	53.7	49.7	54.0	52.0	54.0	50.1	50.0	46.1	66.8	47.7	53.8	49.8
<b>Total</b>	<b>47.7</b>	<b>44.3</b>	<b>49.0</b>	<b>45.7</b>	<b>50.2</b>	<b>46.4</b>	<b>50.6</b>	<b>47.1</b>	<b>50.8</b>	<b>49.2</b>	<b>48.0</b>	<b>44.6</b>

Note: Figures by region exclude practitioners who did not report the region in which they worked whereas the total includes these practitioners.

Source: Medical Labour Force Surveys, 1997 and 2002.

**Table A3: Employed practitioners: region of main occupation, number and rate<sup>(a)</sup>, 1997**

Main occupation	Major city		Inner regional		Outer regional		Remote		Very remote		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
<i>Clinician</i>	33,409	273	5,833	153	2,484	126	347	108	164	94	44,194	239
Primary care	14,191	116	3,425	90	1,575	80	247	77	110	63	20,134	109
Hospital non-specialist	3,185	26	419	11	228	12	48	15	36	21	4,321	23
Specialist	12,191	100	1,770	46	582	29	42	13	11	7	15,155	82
Specialist-in-training	3,842	31	219	6	99	5	10	3	6	4	4,584	25
<i>Non-clinician</i>	3,338	27	288	8	131	7	24	7	8	5	4,004	22
<b>Total</b>	<b>36,747</b>	<b>300</b>	<b>6,122</b>	<b>161</b>	<b>2,616</b>	<b>133</b>	<b>371</b>	<b>115</b>	<b>172</b>	<b>99</b>	<b>48,198</b>	<b>260</b>
Population	12,240,023		3,810,053		1,971,626		321,571		174,291		18,517,564	

(a) Rates are per 100,000 population.

Note: Figures by region exclude 2,171 practitioners who did not report the region in which they worked whereas the total includes these practitioners.

Sources: Medical Labour Force Survey, 1997; ABS 1997.



**Table A4: Employed practitioners: region of main occupation, number and rate<sup>(a)</sup>, 2002**

Main occupation	Major city		Inner regional		Outer regional		Remote		Very remote		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
<i>Clinician</i>	38,052	292	6,805	167	2,717	134	403	124	219	122	49,895	254
Primary care	15,346	118	3,811	93	1,623	80	271	84	155	87	21,815	111
Hospital non-specialist	3,715	29	537	13	280	14	55	17	39	22	4,845	25
Specialist	14,271	110	2,099	51	662	33	58	18	19	11	17,762	90
Specialist-in-training	4,719	36	358	9	152	7	19	6	5	3	5,474	28
<i>Non-clinician</i>	3,437	26	331	8	169	8	30	9	12	7	4,096	21
<b>Total</b>	<b>41,489</b>	<b>318</b>	<b>7,137</b>	<b>175</b>	<b>2,886</b>	<b>142</b>	<b>433</b>	<b>133</b>	<b>231</b>	<b>129</b>	<b>53,991</b>	<b>275</b>
Population	13,027,549		4,084,511		2,025,447		324,501		178,972		19,640,979	

(a) Rates are per 100,000 population.

Note: Figures by region exclude 1,816 practitioners who did not report the region in which they worked whereas the total includes these practitioners.

Sources: Medical Labour Force Survey, 2002; ABS 2002.

**Table A5: Practitioners who spent some time in clinical work: type of clinical work, 1997 to 2002**

	Primary care	Hospital non-specialist	Specialist	Specialist-in-training	Not stated	Total
<b>1997</b>						
Clinicians	20,134	4,321	15,155	4,584	—	44,194
Non-clinicians	331	67	704	108	64	1,274
<b>Total</b>	<b>20,465</b>	<b>4,388</b>	<b>15,859</b>	<b>4,693</b>	<b>64</b>	<b>45,468</b>
<b>1998</b>						
Clinicians	20,429	4,172	15,605	4,479	—	44,684
Non-clinicians	373	56	767	116	48	1,359
<b>Total</b>	<b>20,802</b>	<b>4,228</b>	<b>16,371</b>	<b>4,594</b>	<b>48</b>	<b>46,043</b>
<b>1999</b>						
Clinicians	20,616	4,469	16,460	4,455	—	45,999
Non-clinicians	327	75	717	121	57	1,296
<b>Total</b>	<b>20,943</b>	<b>4,544</b>	<b>17,176</b>	<b>4,576</b>	<b>57</b>	<b>47,296</b>
<b>2000</b>						
Clinicians	21,081	5,121	16,008	5,162	—	47,372
Non-clinicians	410	124	1,126	157	100	1,917
<b>Total</b>	<b>21,491</b>	<b>5,244</b>	<b>17,135</b>	<b>5,318</b>	<b>100</b>	<b>49,289</b>
<b>2001</b>						
Clinicians	21,671	5,169	17,124	5,429	—	49,392
Non-clinicians	448	170	1,130	166	74	1,987
<b>Total</b>	<b>22,118</b>	<b>5,339</b>	<b>18,253</b>	<b>5,595</b>	<b>74</b>	<b>51,379</b>
<b>2002</b>						
Clinicians	21,815	4,845	17,762	5,474	—	49,895
Non-clinicians	432	122	1,214	172	106	2,046
<b>Total</b>	<b>22,246</b>	<b>4,967</b>	<b>18,976</b>	<b>5,646</b>	<b>106</b>	<b>51,941</b>

Note: Figures for all years before 2002 have been revised. Revisions are a result of changed clinician definition and changes in the survey estimation method (see 'Break in series' in Appendix B: Explanatory notes).

Source: Medical Labour Force Surveys, 1997 to 2002.

**Table A6: Specialists: main specialty of practice and sex, 2002**

Specialty of practice	Clinicians			Non-clinicians	All specialists		
	Number	% female	Mean age	Number	Number	% female	Mean age
<i>Internal medicine</i>	4,660	19.8	48.9	735	5,395	20.8	48.7
Cardiology	612	8.9	49.7	67	679	9.1	49.5
Clinical haematology	152	22.3	49.5	23	175	20.2	49.8
Clinical immunology	87	15.9	51.1	30	117	15.3	50.9
Clinical pharmacology	6	26.0	46.9	23	29	22.1	50.0
Endocrinology	229	28.1	47.9	61	290	26.7	47.9
Gastroenterology	416	10.3	48.1	62	477	12.4	47.7
General medicine	464	13.7	54.2	64	529	14.8	54.8
Geriatrics	228	37.9	46.2	29	257	35.9	46.6
Infectious diseases	112	23.2	44.5	52	164	23.9	44.7
Medical oncology	203	23.4	44.7	34	237	25.4	44.2
Neurology	291	14.4	51.3	43	334	17.4	50.3
Nuclear medicine	145	16.6	47.4	1	146	16.5	47.5
Paediatric medicine	812	29.8	48.9	113	925	31.1	48.7
Renal medicine	186	20.6	48.1	41	227	21.4	47.0
Rheumatology	200	27.4	49.3	27	227	29.3	48.3
Thoracic medicine	285	14.1	48.0	40	325	16.1	47.7
Clinical genetics	46	59.0	46.2	16	62	51.0	46.0
Intensive care (int. med.)	188	11.4	45.5	8	196	12.5	45.5
<i>Pathology</i>	854	30.3	51.1	108	962	29.9	51.5
General pathology	87	16.3	55.3	14	101	18.0	55.3
Anatomical pathology	512	32.7	49.7	23	535	32.5	49.9
Clinical chemistry	51	16.4	51.2	14	65	18.9	51.6
Cytopathology	25	56.1	56.5	1	27	58.3	55.7
Forensic pathology	39	15.8	57.5	3	43	18.7	58.9
Haematology	68	38.8	52.4	25	92	36.3	51.6
Immunology	7	20.5	53.0	7	14	10.4	53.7
Microbiology	65	31.8	49.6	22	87	29.4	50.7
<i>Surgery</i>	3,078	6.3	52.0	172	3,249	6.3	52.5
General surgery	995	6.6	53.7	52	1,047	6.5	53.8
Cardiothoracic surgery	118	5.1	49.7	3	121	5.0	50.0
Neurosurgery	142	8.8	51.2	9	151	8.9	51.8
Orthopaedic surgery	751	2.7	51.7	54	806	2.9	52.6
Paediatric surgery	79	19.7	52.8	4	83	22.5	52.7
Plastic surgery	318	10.2	50.7	7	326	10.3	50.9
Urology	224	8.3	48.7	21	245	7.6	49.5
Vascular surgery	134	9.0	50.6	9	143	8.5	51.3
Otolaryngology (ENT)	316	3.7	52.9	12	328	3.6	53.5
<i>Other specialties</i>	9,171	23.3	50.0	1,076	10,247	23.2	50.3
Anaesthesia	1,946	20.7	48.3	38	1,985	20.7	48.3
Dermatology	317	29.9	50.5	13	330	30.1	51.0
Diagnostic radiology	1,201	17.2	50.7	18	1,219	17.7	50.7
Emergency medicine	450	20.7	41.1	57	507	20.1	41.5
Medical administration	33	19.7	53.7	206	239	26.5	51.5
Obstetrics & gynaecology	1,119	23.0	51.2	53	1,172	22.7	51.5
Occupational medicine	34	8.0	51.0	165	199	12.9	52.7
Ophthalmology	702	13.0	53.0	8	710	13.3	52.9
Psychiatry	2,167	30.5	52.1	200	2,367	30.0	52.0
Public health medicine	34	49.2	52.1	171	205	29.3	50.4
Radiation oncology	186	30.9	46.0	10	196	30.0	46.2
Rehabilitation medicine	214	26.3	49.4	19	233	24.8	49.9
Intensive care (anaesthesia)	545	20.4	48.6	16	561	20.4	48.7
Other	222	36.5	50.6	102	325	30.1	54.0
<b>Total</b>	<b>17,762</b>	<b>19.8</b>	<b>50.1</b>	<b>2,091</b>	<b>19,853</b>	<b>20.1</b>	<b>50.3</b>

Note: The classification of specialists as clinicians or non-clinicians is based on the occupation in which they worked the most hours (see 'Break in series' in Appendix B: Explanatory notes).

Source: Medical Labour Force Survey, 2002.

**Table A7: Specialists-in-training: selected characteristics, 2002**

Specialty of practice	Number	% female	Mean age	Mean hours	% working 50+ hrs	Year training complete					Not stated
						2002	2003	2004	2005	After 2005	
<i>Internal medicine</i>	1,650	46.8	32.0	48.0	53.3	177	303	322	296	429	123
Cardiology	135	19.0	32.6	53.8	76.2	24	29	45	21	12	4
Clinical haematology	47	59.9	31.2	48.7	54.6	10	8	14	9	4	1
Clinical immunology	17	71.5	32.3	44.0	48.2	2	—	5	2	5	5
Clinical pharmacology	7	51.6	33.5	47.1	48.4	2	—	—	4	—	1
Endocrinology	74	55.9	31.8	47.1	44.5	16	21	15	13	5	4
Gastroenterology	55	35.7	33.1	49.0	65.4	15	20	14	4	—	3
General medicine	345	44.0	31.1	48.5	60.8	10	25	31	67	181	31
Geriatrics	78	65.6	33.0	46.0	44.8	9	10	26	17	12	4
Infectious diseases	46	33.6	32.2	47.5	54.2	9	5	5	19	5	3
Medical oncology	55	52.4	32.7	47.2	58.8	8	14	21	7	3	1
Neurology	45	36.1	31.7	53.1	78.0	3	11	18	7	4	1
Nuclear medicine	26	22.8	33.5	45.2	34.7	4	7	6	4	2	3
Paediatric medicine	504	58.9	31.9	45.1	38.4	41	82	65	87	176	54
Renal medicine	51	40.5	31.7	55.3	80.6	8	18	15	7	1	3
Rheumatology	31	50.0	31.4	49.6	39.7	3	12	7	6	1	1
Thoracic medicine	57	30.9	32.3	49.7	70.3	8	18	14	10	4	5
Clinical genetics	15	58.2	34.4	42.1	21.3	2	3	8	—	2	—
Intensive care (int. med.)	60	19.4	33.6	50.9	52.9	3	21	12	12	12	—
<i>Pathology</i>	231	55.2	32.2	45.3	26.6	25	41	36	45	59	25
General pathology	9	66.8	31.2	40.2	34.0	1	—	—	3	2	3
Anatomical pathology	154	58.4	31.2	45.5	23.6	17	18	23	29	48	19
Clinical chemistry	7	63.8	36.2	40.0	—	—	6	—	1	—	—
Cytopathology	—	..	..	..	..	..	..	..	..	..	..
Forensic pathology	2	100.0	32.0	40.0	—	—	2	—	—	—	—
Haematology	40	39.6	32.8	46.9	39.7	5	13	6	9	5	1
Immunology	5	64.8	39.7	47.0	35.2	2	2	—	—	—	1
Microbiology	16	46.8	36.7	45.2	30.5	—	1	7	3	5	—
<i>Surgery</i>	871	15.7	32.0	61.9	88.2	86	140	147	153	282	64
General surgery	352	23.9	31.5	61.7	88.8	28	21	49	63	163	28
Cardiothoracic surgery	28	17.1	35.1	62.4	87.5	1	10	5	4	6	3
Neurosurgery	60	32.2	31.0	67.0	95.8	1	9	5	15	24	5
Orthopaedic surgery	236	4.0	31.9	62.6	87.9	31	41	38	39	71	16
Paediatric surgery	12	—	32.7	70.1	100.0	2	8	1	—	1	—
Plastic surgery	53	14.1	33.3	61.0	89.6	12	12	10	12	5	2
Urology	48	9.6	33.1	56.7	80.7	—	15	22	6	4	—
Vascular surgery	22	7.9	36.0	67.4	87.7	2	7	5	1	2	5
Otolaryngology (ENT)	60	9.0	31.8	56.9	81.9	9	16	12	12	6	5
<i>Other specialties</i>	3,075	45.5	33.5	47.0	45.5	223	652	633	534	866	167
Anaesthesia	596	36.1	32.1	49.0	59.1	34	127	142	105	154	35
Dermatology	76	53.3	34.6	44.3	28.0	9	21	13	14	12	7
Diagnostic radiology	222	38.4	31.5	49.5	54.2	19	51	28	47	59	19
Emergency medicine	616	40.7	33.5	44.1	29.0	54	142	100	93	197	30
Medical administration	32	78.0	42.2	44.4	52.7	3	13	10	4	1	—
Obstetrics & gynaecology	297	61.1	33.2	53.1	73.7	21	40	53	48	120	16
Occupational medicine	46	46.2	38.0	39.1	20.2	12	6	3	10	10	4
Ophthalmology	132	32.2	32.2	50.4	64.8	10	41	36	22	15	9
Psychiatry	587	50.7	35.8	44.0	34.0	23	114	156	105	165	24
Public health medicine	38	87.7	37.2	41.8	25.2	5	14	5	5	3	6
Radiation oncology	64	63.0	31.7	47.1	35.2	5	10	21	16	12	1
Rehabilitation medicine	83	58.1	35.4	43.9	20.3	9	19	16	28	10	2
Intensive care (anaes.)	171	36.0	32.4	48.8	47.0	10	33	38	22	64	4
Other	114	49.1	30.7	48.6	55.8	8	23	13	17	43	10
<b>Total</b>	<b>5,827</b>	<b>41.8</b>	<b>32.8</b>	<b>49.4</b>	<b>53.3</b>	<b>510</b>	<b>1,136</b>	<b>1,138</b>	<b>1,027</b>	<b>1,635</b>	<b>379</b>

Source: Medical Labour Force Survey, 2002.

# Appendix B: Explanatory notes

## Method

Each state and territory medical board conducts an annual renewal of practitioner registration. As part of the registration renewal process, the survey questionnaire was sent to all medical practitioners in all jurisdictions. The results of the 2002 survey relate to the periods when the renewal notices and the surveys were dispatched. Survey data on practice activity refer to the 4-week period before completion of the questionnaire by each medical practitioner.

## Scope and coverage

The scope of the Medical Labour Force Survey is all practitioners registered with the medical board in each state/territory and eligible to practise. Coverage in some states excludes medical practitioners who registered for the first time during the current year and practitioners with a conditional registration.

## Response rate

The responses to the AIHW Medical Labour Force Survey in 2002 represented 69.6% of the medical registrations in all jurisdictions (Table B1).

**Table B1: Estimated survey response rate, states and territories, 2002**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>2002 response rate</b>	65.4	66.7	90.7	60.4	72.1	71.3	68.5	49.3	69.6

Source: Medical Labour Force Survey, 2002.

The overall response rate is an approximation because some medical practitioners were registered in more than one state or territory and may have 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 jurisdictions.

## Break in series

### Changes to the questionnaire

In 2000, significant changes to the survey questionnaire were introduced. They were designed to improve and expand the information collected about the hours worked by medical practitioners. The expanded information on the fields of practice has led to a change in the way clinicians and non-clinicians are defined. Since 2000, practitioners who spent part

of their time in clinical work but the majority of their time working in a non-clinical medical occupation are assigned the occupation in which they worked the most hours. In previous surveys, these practitioners were all assigned the occupation of clinician. In this publication, clinician and non-clinician numbers have been revised for surveys prior to 2000 to enable general comparisons; however, the method used is a close approximation only, not the same measure, and this must be kept in mind when comparing pre-2000 data with data collected from 2000 onwards. As a result of the revision, pre-2000 figures presented in this publication are different from estimates of clinicians and non-clinicians published in the past.

## **Changes to the estimation method**

A different method of survey estimation was introduced in 2000 to improve survey processing. This method was also used to produce estimates for the 2001 and 2002 surveys. For consistency across surveys, estimates for surveys prior to 2000 have been revised using the same method. As a result of the revisions, pre-2000 figures presented in this publication are different from estimates published in the past.

## **Changes to the coding process**

In 2000, a more intensive approach was taken in the coding of written answers to questions on 'practitioner type', 'clinician type' and 'specialist field'. This increased the volume of responses which could be moved from the 'other' category and assigned a label. This method was also used to produce estimates for the 2001 survey and then was further refined for the 2002 survey. As a result of the refinements to the coding process in 2002, estimates for 'specialists' field of practice' show some small movements between categories when compared with the two previous years.

These items have not been revised for surveys prior to 2000 and, therefore, estimates for those years tend to show a higher number of responses assigned to the 'other' categories.

## **Notes on the AIHW labour force estimates**

The figures produced from the Medical Labour Force Survey are estimates. Not all medical practitioners who were sent a questionnaire responded to the survey, and estimates of the whole practitioner population are based on survey data which have been weighted to match the available registration information. In 2002, complete registration data were available for five jurisdictions (but not for Western Australia, Tasmania and the Australian Capital Territory). Where registration data were not available, estimation was made on the basis that survey non-respondents in each state/territory had the same characteristics as respondents.

Due to changes in the registration renewal period in Tasmania, a dataset based on a comparable time period was not available for late 2002. Therefore, estimates in this report are based on 2003 survey data which have been weighted to 2002 registration figures.

Additional estimation has been made for survey respondents who provided incomplete labour force information, again on the basis that survey non-respondents had the same characteristics as respondents.

Rounding of estimates may result in numbers not adding up to totals in some tables.

# Glossary

## **Full-time equivalent (FTE) supply of practitioners**

The number of full-time equivalent practitioners equals the number of practitioners multiplied by the average weekly hours worked, divided by the number of hours in a 'standard' full-time working week. Two alternatives are shown for a 'standard' working week: 35 hours (the workforce 'standard') and 45 hours (close to the 'standard' worked in 2002 by practitioners). While a 35-hour or 38-hour week is the standard in many industries, the 'typical' working week varies between occupations. The FTE number is converted to a rate per 100,000 population for comparison with the practitioner rate (number of practitioners per 100,000).

## **Geographic classification**

There are several classifications used to differentiate between various regions in Australia. The two main ones used in health labour force planning are the Rural, Remote and Metropolitan Areas (RRMA) classification and the Australian Standard Geographical Classification (ASGC). The Remoteness Area Structure of the ASGC, produced by the Australian Bureau of Statistics, has been used in this publication to present regional data for medical practitioners. Prior to 2001, the RRMA classification was used. A brief explanation of the classifications is provided below. For a complete guide to the use of geographic classifications, see *Rural, Regional and Remote Health: A Guide to Remoteness Classifications* (AIHW 2004).

The RRMA classification allocates each Statistical Local Area (SLA) in capital cities and metropolitan centres with a population equal to or greater than 100,000 to the Metropolitan zone and to the RRMA classes of Capital city and Other metropolitan centre respectively. All other SLAs are allocated to either the Rural or Remote zone based on the SLA's score on an index of remoteness.

The Remoteness Area Structure of the ASGC is based on the Accessibility/Remoteness Index of Australia (ARIA+) where the remoteness index value of a point is based on the physical road distance to the nearest town or service in each of five population size classes based on the 2001 Census of Population and Housing. These classes are:

- Major cities of Australia
- Inner regional Australia
- Outer regional Australia
- Remote Australia
- Very remote Australia.

## **Hospital non-specialist**

Medical practitioners mainly employed in a salaried position in a hospital who do not have a recognised specialist qualification and who are not undertaking a training program to gain a recognised specialist qualification. They include resident medical officers (RMOs) and interns, as well as career and other salaried hospital practitioners.

## **Intern**

A resident medical practitioner working in a hospital, usually in the first year of service after graduation from medical school.

## **Occupation**

A description of the job function within the field of medicine:

- clinician: a medical practitioner mainly involved in the diagnosis, care and treatment of individuals including recommending preventative action. In this publication, a medical practitioner who spends most hours engaged in clinical practice is classified as a clinician;
- administrator: a person mainly employed in medical administration;
- teacher/ educator: a person teaching or training persons in medicine;
- researcher: a person primarily engaged in medical research;
- public health physician: a medical practitioner primarily engaged in identifying disease and illness, along with their treatments and any preventive measures that affect the health of the general public;
- occupational health physician: a medical practitioner primarily engaged in identifying disease and illness, along with their treatments and any preventive measures, arising from particular occupations or industries; and
- other: a job function in medicine which is not one of the above – for example, industrial relations.

### **Primary care practitioner**

A practitioner in general practice or in the primary care of patients. This category includes practitioners recognised by Medicare as VRGPs, RACGP Fellows, RACGP trainees (see definitions below) and other practitioners whose main practice is unreferral patient attendances.

### **RACGP**

Royal Australian College of General Practitioners.

### **RACGP trainee**

A medical practitioner under the supervision of an RACGP Fellow in a job recognised as leading to the RACGP Fellowship.

### **Resident medical officer (RMO)**

A medical practitioner undergoing further training in a hospital after completing an internship, but who has not commenced a recognised general practice or specialist practice training program.

### **Specialist**

A medical practitioner with a qualification awarded by, or which equates to that awarded by, the relevant specialist professional college in Australia to treat certain conditions.

### **Specialist-in-training**

A medical practitioner who has been accepted by a specialist medical college into a training position supervised by a member of the college.

### **Vocationally registered general practitioner (VRGP)**

A primary care practitioner who has been registered by the Health Insurance Commission as a recognised general practitioner.

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