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More comprehensive statistics from the 2004 Medical Labour Force Survey and earlier surveys are available from the Institute's website as Excel tables. A list of these tables is provided at the end of this report.

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Symbols and other usages

Throughout this publication, data from the AIHW surveys may not add to the totals shown due to the estimation process used for non-responses (see Appendix C). As a result, numbers of practitioners may be in fractions, but are rounded to whole numbers for publication. Percentages are calculated on the unrounded figures. Where tables contain a 'not stated' category, percentage calculations exclude this category. Percentage distributions may not sum to 100 due to rounding.

Italics within a table denote a subtotal.

– Nil or rounded to zero

.. Not applicable

n.a. Not available

n.p. Not publishable. Cells may be suppressed for confidentiality reasons or where estimates are based on small cells, resulting in low reliability.

Main findings

- In 2004, there were 65,499 medical practitioners registered in Australia and most of these (58,211 or 88.9%) were working in medicine in Australia.
- This represents an overall rise of 13.9% from 2000 in the number of practitioners working in medicine in Australia. In 2000, there were 58,867 registered medical practitioners, of whom 51,106 (or 86.8%) were working in medicine.
- Most of the practitioners working in medicine in 2004 were clinicians (92.7%), of whom 40.8% were primary care practitioners (mainly general practitioners), followed by specialists (35.3%), specialists-in-training (12.4%) and hospital non-specialists (11.5%).
- Medical practitioners worked an average week of 44.0 hours in 2004, a decrease from 45.5 hours in 2000. In 2004, on average, 39.4 of these weekly hours were in clinical work; a decrease from 41.0 hours in 2000.
- The reduction in average weekly hours was more than offset by the rise in practitioner numbers. The result was an increase in supply from 270 to 283 full-time equivalent (FTE) practitioners per 100,000 population between 2000 and 2004 (based on a 45-hour working week).
- Although there was an increase in practitioner supply overall, primary care practitioner supply decreased between 2000 and 2004, from a rate of 102 to 98 FTE per 100,000 population. This was because the 4.4% rise in their numbers did not compensate for the 1.5-hour reduction in their average weekly hours.
- Between 2000 and 2004, overall practitioner supply increased in metropolitan regions and decreased in non-metropolitan regions.
 - In the metropolitan regions (Major cities and Inner regional areas), there was a rise in the rate of supply from 309 to 329 FTE per 100,000 population, and from 172 to 183 FTE per 100,000, respectively.
 - The decreases in the rates of supply in the three non-metropolitan regions were: (per 100,000 population) from 147 to 143 FTE in Outer regional areas, from 152 to 133 FTE in Remote areas and from 138 to 95 FTE in Very remote areas.

Introduction

The primary source for this report is the 2004 Medical labour force census, in which registered medical practitioners were asked about a range of labour force topics. Comparisons have been made with similar data from earlier years, where appropriate. Also included is supplementary information from the source data used for the Australian Institute of Health and Welfare (AIHW) *Australian hospital statistics* publication (AIHW 2006). A brief description of both of these sources is provided below.

Survey of registered medical practitioners

This annual collection obtains information by surveying medical practitioners on labour force aspects such as employment characteristics, work locations and work activity. The survey population is registered medical practitioners and is drawn from the medical registration files maintained by each state and territory medical registration board or council. The collection attempts to survey the complete population and, therefore, is technically a census. However, it is referred to as a 'survey' in the documentation, using that term in its generic sense to describe any collection in which the data are obtained directly from a population of interest (as opposed to a by-product source, such as administrative data), irrespective of whether information is sought from all, or part, of the population.

The surveys, which are conducted by each state and territory government health department each year, use the mail dispatch of annual practitioner registration renewals by their respective medical boards/councils to send questionnaires to those medical practitioners. The responses are then processed by, or on behalf of, the state/territory health departments and subsequently sent to the AIHW for compilation into a national data set.

Although all registered practitioners are sent a questionnaire when their registration renewal is due, not all practitioners respond. The result is a data set based on a very large sample of the medical practitioner population (approximately 71.4% of practitioners – see Appendix C). Because the responding sample is not random or mathematically designed, standard errors are not a suitable means of gauging variability in the survey estimates. However, to adjust for the non-response, data from respondents are weighted to benchmark characteristics (usually age and sex) for the whole population of registered medical practitioners at the time of the survey. Producing estimates for the medical practitioner population in this way adjusts for bias in the responding sample, but only for *known* population characteristics (see Appendix C).

As is usual in surveys, some of the practitioners who do return their questionnaires only partially complete them. Some estimation is made for these missing values using an imputation process, based on the known distribution of response categories being reported by survey respondents (see Appendix C).

Australian Hospital Statistics

The *Australian hospital statistics* (AHS) publication (AIHW 2006) is compiled by the AIHW from a variety of administrative-sourced databases and collections. It presents an overview of hospitals and hospital activity in Australia, comprehensive data on public hospitals, hospital performance indicator data, information on non-admitted patient care provided in public

hospital emergency departments, and summary data on elective surgery waiting times for patients admitted to public hospitals.

Public hospital figures on average full-time equivalent practitioner numbers have been sourced from one of these administrative sources, the AIHW National Public Hospital Establishments Database, in order to complement the medical practitioner survey data in this publication. The database, which contains information covering public acute hospitals, psychiatric hospitals, drug and alcohol hospitals and dental hospitals, covers all public hospitals within the jurisdiction of each state or territory health authority. Information on the classification of public hospitals used to present some of these data is based on that used in the AHS publication.

Medical labour force composition

The number of registered practitioners in the 2004 survey totalled 65,499 (Figure 1). This figure was estimated using practitioner registrations from the registration boards and data from the survey. To remove duplicates (those practitioners registered in more than one jurisdiction), the estimated number of multiple registrations (5,687) was subtracted from the total registrations (71,186).

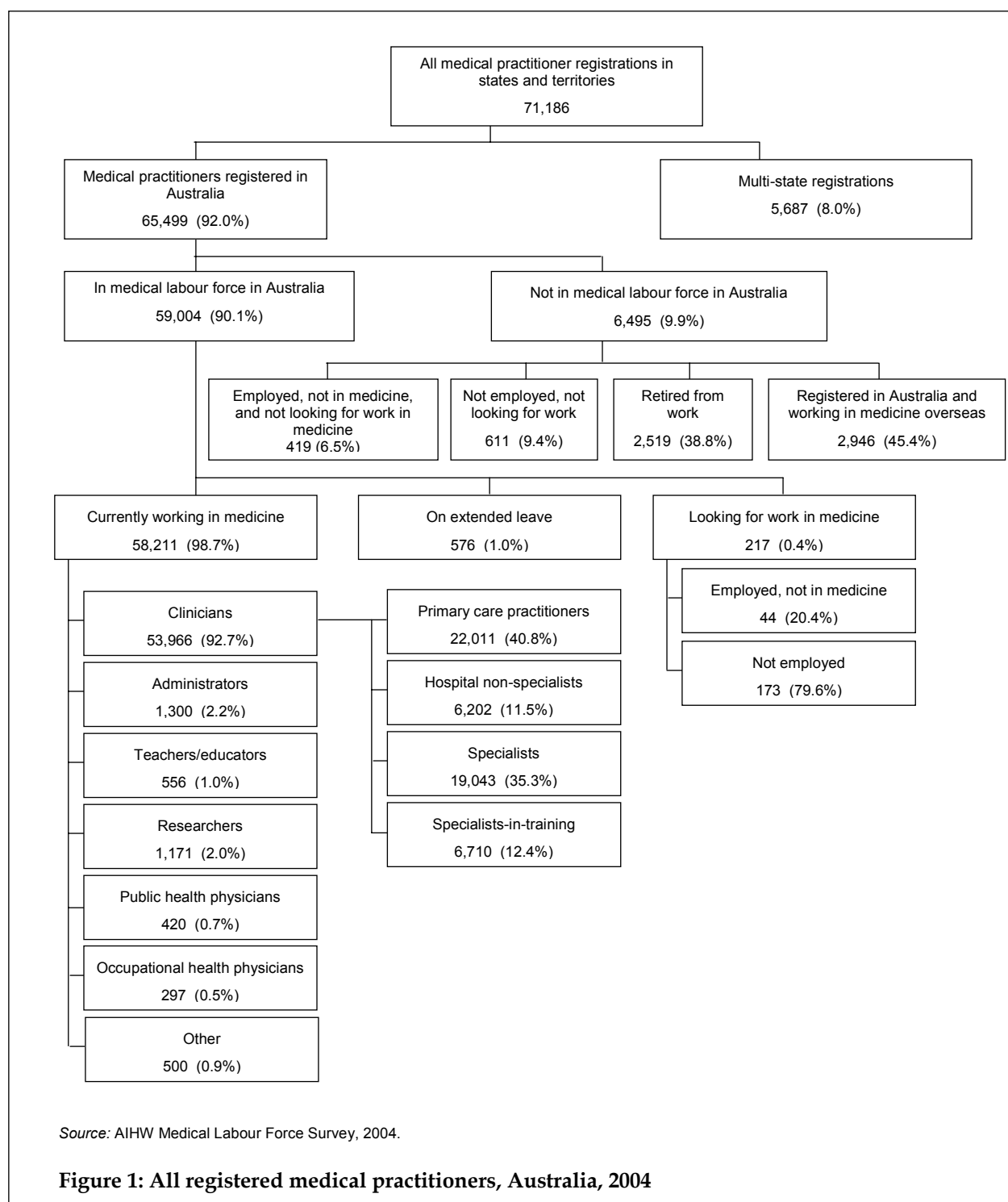


Table 1: Registered medical practitioners: labour force status, 2000 to 2004

Labour force status	2000	2001	2002	2003	2004
Medical labour force	51,773	54,138	54,796	57,049	59,004
Employed in medicine	51,106	53,384	53,991	56,207	58,211
Looking for work in medicine	239	219	280	251	217
Employed elsewhere	24	34	49	50	44
Not employed	207	185	231	201	173
On extended leave	436	535	525	590	576
Not in the medical labour force	7,094	7,092	7,283	6,994	6,495
Working in medicine overseas	2,742	3,181	3,056	2,781	2,946
Not looking for work in medicine	4,352	3,911	4,227	4,213	3,549
Employed, not in medicine	363	414	437	443	419
Not employed	586	591	659	592	611
Retired	3,403	2,906	3,131	3,178	2,519
Total medical practitioners	58,867	61,230	62,079	64,042	65,499
Multiple registrations	5,336	5,366	5,448	5,671	5,687
Total registrations	64,203	66,596	67,527	69,713	71,186
% of practitioners employed in medicine	86.8	87.2	87.0	87.8	88.9

Sources: AIHW Medical Labour Force Surveys, 2000 to 2004.

The number of registered medical practitioners rose steadily between 2000 and 2004, and the proportion working in medicine ranged between 86.8% in 2000 and 88.9% in 2004 (Table 1). Across the states and territories, the proportion employed in medicine in 2004 varied from 85.2% in Tasmania to 92.5% in the Northern Territory (Table 2).

Table 2: Registered medical practitioners: labour force status, states and territories, 2004

Labour force status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Employed in medicine in this state	21,143	15,513	8,632	4,814	4,945	1,392	1,283	487	58,211
On extended leave	165	198	63	67	49	12	13	10	576
Employed in medicine overseas	1,418	515	425	264	183	51	67	24	2,946
Employed, not in medicine	223	106	50	29	26	10	16	n.p.	463
Not employed	335	183	102	81	48	18	16	—	784
Retired	778	481	143	383	472	152	107	4	2,519
Total	24,063	16,996	9,415	5,639	5,723	1,634	1,502	527	65,499
% of practitioners employed in medicine	87.9	91.3	91.7	85.4	86.4	85.2	85.4	92.5	88.9

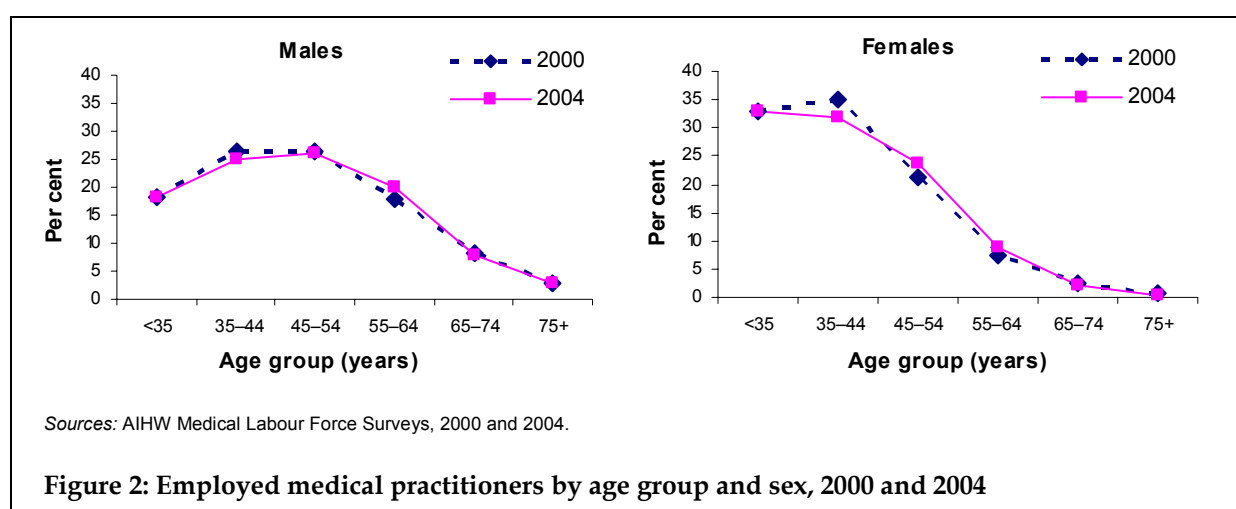
Source: AIHW Medical Labour Force Survey, 2004.

Of the 65,499 registered medical practitioners in 2004, 58,211 were working in medicine in Australia, a rise of 13.9% from 2000 (Table 3). Most of these were clinicians (92.7%), of whom 40.8% were primary care practitioners (mainly general practitioners), followed by specialists (35.3%), specialists-in-training (12.4%) and hospital non-specialists (11.5%) (Figure 1). Of the non-clinical workforce, administrators (30.6%) and researchers (27.6%) were the largest components. Non-clinicians also included teachers/educators, public health physicians and occupational health physicians (13.1%, 9.9% and 7.0%, respectively).

Practitioners employed in medicine

Age and sex

In 2004, the average age of employed medical practitioners (the practitioner workforce) was similar to that in 2000 (45.5 and 45.6 years, respectively). The age profile of male practitioners changed little between 2000 and 2004, whereas for females there was a shift, with the proportion aged 35–44 years decreasing and the proportion aged 45–54 years increasing (Figure 2). The female proportion of the medical labour force also continued to rise, with females forming 30.1% of the medical labour force in 2000 and 32.4% in 2004 (Table 3).



Field of medicine

Field of medicine describes the type of medical work undertaken. The fields are clinician, administrator, teacher/educator, researcher, public health physician, occupational health physician and other. Respondents are asked to provide the number of hours they worked in each field and a main field is later assigned, determined by the one in which they worked the most hours. Clinicians, the largest group, are mainly involved in the diagnosis, care and treatment of individuals, including recommending preventative action, and respondents are asked to nominate the type of clinical sub-field in which they worked. The clinical sub-fields are primary care, hospital non-specialist, specialist and specialist-in-training. Practitioners working in the remaining fields are termed 'non-clinicians' (see Glossary).

Clinicians

The number of clinicians grew by 13.9% from 47,372 in 2000 to 53,966 in 2004 (Table 3). This is equivalent to a rise of 22 clinicians per 100,000 population (from 247 in 2000 to 269 in 2004) (Table A1). Their average age was stable over this period at around 45 years, while the proportion of females rose by 2.3 percentage points. Growth in the number of primary care

practitioners was relatively small (up by 4.4%) compared with rises in other clinician numbers, such as specialists and specialists-in-training which rose by 19.0% and 30.0%, respectively.

Table 3: Employed medical practitioners by main field of medicine: demographics, 2000 and 2004

Main field	2000			2004			% change in number, 2000 to 2004
	Number	% female	Average age	Number	% female	Average age	
<i>Clinician</i>	47,372	30.0	45.4	53,966	32.3	45.3	13.9
<i>Primary care</i>	21,081	34.0	47.8	22,011	36.5	49.0	4.4
Vocationally registered	18,170	32.4	49.0	19,213	35.1	49.9	5.7
RACGP trainee	1,226	49.5	35.2	1,189	58.9	34.6	-3.0
Other	1,686	39.3	42.9	1,609	36.9	48.1	-4.6
<i>Hospital non-specialist</i>	5,121	42.6	32.6	6,202	45.4	32.7	21.1
RMO/intern	3,344	46.3	28.5	4,052	49.8	28.9	21.2
Career and other medical officers	1,776	35.8	39.6	2,150	37.0	40.1	21.0
<i>Specialist</i>	16,008	18.0	49.6	19,043	20.3	49.7	19.0
Internal medicine	4,102	17.9	48.7	5,168	20.8	49.0	26.0
Pathology	853	27.3	49.9	896	30.1	52.0	5.0
Surgery	2,844	6.5	51.5	3,278	5.9	50.9	15.3
Other specialties	8,209	21.0	49.3	9,702	23.9	49.5	18.2
<i>Specialist-in-training</i>	5,162	38.3	32.5	6,710	40.9	32.4	30.0
Internal medicine	1,507	44.3	31.6	1,913	47.1	31.7	27.0
Pathology	162	44.7	33.7	250	51.3	32.1	54.0
Surgery	723	18.8	31.7	1,077	15.5	31.8	49.0
Other specialties	2,770	39.7	33.1	3,470	44.6	33.1	25.3
<i>Non-clinician</i>	3,733	31.6	47.7	4,245	33.7	48.5	13.7
Administrator	1,205	29.9	48.7	1,300	30.1	49.9	7.9
Teacher/educator	428	37.5	49.1	556	41.8	49.6	29.9
Researcher	950	33.3	41.9	1,171	37.3	42.8	23.3
Public health physician	363	38.3	44.4	420	38.0	44.8	15.7
Occupational health physician	298	20.3	50.1	297	22.5	51.7	-0.2
Other	490	29.6	55.6	500	28.7	58.3	2.1
Total	51,106	30.1	45.6	58,211	32.4	45.5	13.9

Note: RACGP = Royal Australian College of General Practitioners; RMO = resident medical officer.

Sources: AIHW Medical Labour Force Surveys, 2000 and 2004.

Primary care practitioners

The 4.4% growth in primary care practitioner numbers between 2000 and 2004 (from 21,081 to 22,011) only slightly exceeded the population growth for the same period (3.5%), resulting in the same primary care practitioner rate in both years (110 per 100,000 population) (tables 3 and A1). The average age of primary care practitioners increased by 1.2 years between 2000 and 2004 (from 47.8 years to 49.0 years). The proportion of female primary care practitioners increased (from 34.0% in 2000 to 36.5% in 2004) and they were, on average, younger than their male colleagues (44.6 years for females and 51.4 years for males in 2004) (Table 14).

Hospital non-specialists

The hospital non-specialist labour force grew by 21.1%, and its age, on average, was almost the same in 2000 and 2004 (32.6 and 32.7 years, respectively) (Table 3). The proportion of females grew from 42.6% in 2000 to 45.4% in 2004. Over this period, the number of resident medical officers (RMOs)/interns (those practitioners undergoing further training in a hospital) grew by a level similar to career and other medical officers (those who mainly work in a hospital after completing their professional training); up by 21.2% and 21.0%, respectively. In 2004, there were 31 hospital non-specialists per 100,000 population; a rise from 27 per 100,000 population in 2000 (Table A1).

Specialists

The 19.0% increase in specialist numbers between 2000 and 2004 (from 16,008 to 19,043) equates to an increase of 11 specialists per 100,000 population (from 84 to 95) (tables 3 and A1). Over the five surveys, there was some variation in the growth across the broad specialty groups (see Table A4 for specialty fields within each broad group). Growth was highest for internal medicine specialist numbers (up by 26.0%) and lowest for pathology specialist numbers (up by 5.0%). For internal medicine specialists, this equated to a rate increase of 5 per 100,000 population, whereas the rate of pathology specialists was the same in both years (4 per 100,000 population) (Table A2). Moderate growth in numbers occurred for surgery specialists (up by 15.3%) and other specialists (up by 18.2%), resulting in an increase of 1 surgery specialist, and 5 other specialists, per 100,000 population.

Specialists-in-training

The number of specialists-in-training grew by 30.0% between 2000 and 2004 (from 5,162 to 6,710) and this equates to a rise of 6 per 100,000 population (tables 3 and A1). Trainee numbers grew by 54.0% in pathology and by 49.0% in surgery. Over the period, the proportion of trainees in surgery who were female declined from 18.8% to 15.5%. This was in contrast to specialists-in-training overall, for which the proportion who were female grew by 2.6 percentage points.

Non-clinicians

The non-clinical labour force increased by 13.7% between 2000 and 2004 (from 3,733 to 4,245) (Table 3). Among the non-clinical fields, teachers/educators and public health physicians increased in number between 2000 and 2004 (by 29.9% and 23.3%, respectively). The average age of non-clinicians increased by 0.8 years and they continued to be older than their clinician colleagues (47.7 years compared with 45.4 in 2000, and 48.5 years compared with 45.3 in 2004). The proportion of non-clinicians who were female increased from 31.6% in 2000 to 33.7% in 2004.

Working hours

The total number of weekly hours worked is self-reported by practitioners, and relates to the number of hours worked in all medical fields. Because the functions of a medical practitioner can vary, and many practitioners allocate their time across more than one medical field, working hours are presented by field of medicine.

Field of medicine

Overall between 2000 and 2004, practitioners reduced their average working week by 1.5 hours (from 45.5 to 44.0 hours) (Table 4). Non-clinicians reduced their average total hours by more (down by 2.9 hours) than did clinicians (down by 1.4 hours). Across the non-clinical fields, teachers/educators reduced their average working week by 4.5 hours and researchers by 4.6 hours. Of clinicians, specialists and specialists-in-training worked 2.1 and 1.6 hours less per week, respectively. Practitioners in all medical fields reduced their average weekly clinical hours, resulting in an overall reduction of 1.6 hours (from 41.0 hours in 2000 to 39.4 hours in 2004). Clinicians reduced their clinical hours overall by 1.7 hours, on average, ranging from 1.3 hours for hospital non-specialists and 2.2 hours for specialists (Table 4).

Table 4: Employed medical practitioners by field of medicine: average weekly hours worked, and proportion working 50 hours or more, 2000 and 2004

Main field	2000			2004		
	Average weekly total hours	Average weekly clinical hours	% working 50 hours or more in total	Average weekly total hours	Average weekly clinical hours	% working 50 hours or more in total
<i>Clinician</i>	45.6	42.2	48.0	44.2	40.5	41.1
Primary care	41.9	39.7	37.7	40.4	37.9	31.2
Hospital non-specialist	47.4	46.1	51.2	46.3	44.8	45.2
Specialist	48.3	42.2	56.4	46.2	40.0	48.1
Specialist-in-training	50.7	48.4	60.2	49.1	46.6	49.5
<i>Non-clinician</i>	44.2	12.2	47.7	41.3	10.7	39.5
Administrator	47.5	12.4	58.4	45.4	11.6	51.5
Teacher/educator	42.3	11.6	41.4	37.8	10.8	35.3
Researcher	48.3	12.2	55.7	43.7	10.4	41.6
Public health physician	44.0	9.7	41.4	41.3	8.5	33.3
Occupational health physician	39.6	11.6	35.5	38.2	8.8	29.6
Other	33.2	12.9	23.6	30.9	9.9	19.1
Total	45.5	41.0	47.9	44.0	39.4	40.9

Sources: AIHW Medical Labour Force Survey, 2000 and 2004.

The proportion of practitioners working 50 or more hours in total per week decreased in all fields between 2000 and 2004 (Table 4), and by 7.0 percentage points overall (from 47.9% to 40.9%). Of clinicians, the largest decrease in the proportion working 50 or more hours per week was 10.7 percentage points for specialists-in-training and the smallest decrease occurred for hospital non-specialists, down 6.0 percentage points. Of non-clinicians, the fall in the proportion of researchers working 50 hours or more (down by 14.1 percentage points) was comparatively high, against the decline of 8.2 percentage points for non-clinicians overall.

Sex

Male practitioners have traditionally worked more hours per week than females; a pattern that continued between 2000 and 2004. Throughout this period, males worked, on average, between 9.5 and 10.4 hours per week more than females (Figures 3 and 4), and males most commonly worked 50–64 hours per week (41.0% in 2004). Despite the shift towards working fewer hours, the distribution of hours worked by male practitioners remained skewed towards long working weeks. Around half (50.1%) of male practitioners worked 50 or more hours per week in 2004, although the proportion had decreased from 55.8% in 2000.

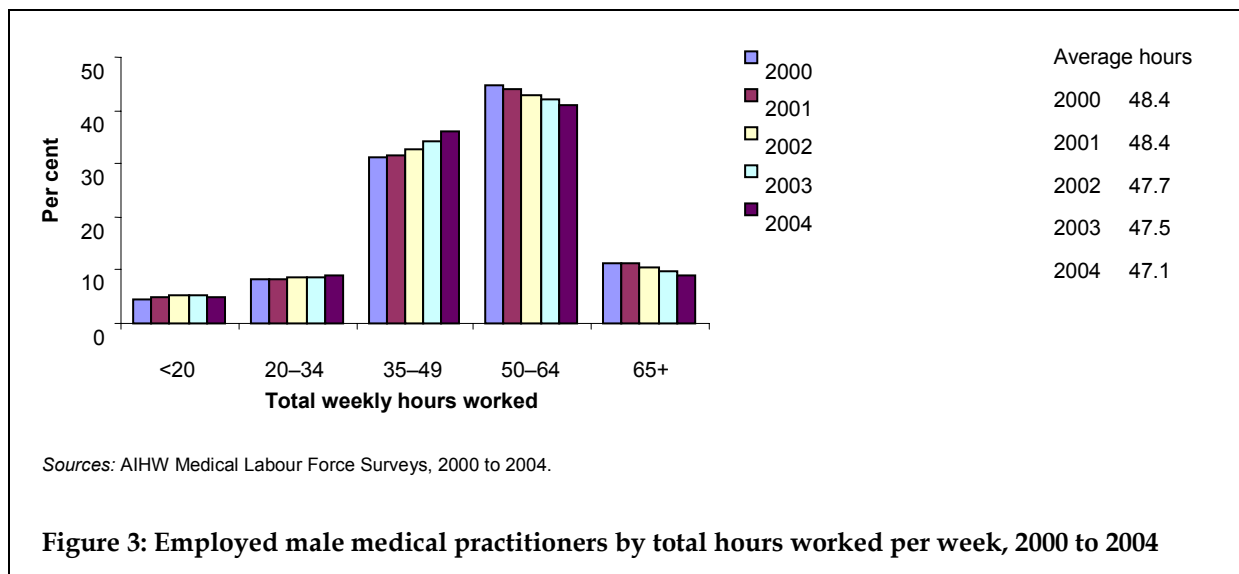


Figure 3: Employed male medical practitioners by total hours worked per week, 2000 to 2004

The distribution of hours worked was not skewed toward longer working weeks for females: rather, they most commonly worked 35–49 hours per week (37.6% in 2004, up from 34.9% in 2000). In 2004, female practitioners were more likely to have worked less than 35 hours per week (38.0%) than males (13.8%). This proportion of female practitioners working less than 35 hours per week was an increase over the period (35.6% in 2000), but down from a peak in 2002 (38.8%). The proportion of females working 50 or more hours per week decreased by 5 percentage points (from 29.5% in 2000 to 24.5% in 2004), similar to the decrease for males (down by 5.7 percentage points).

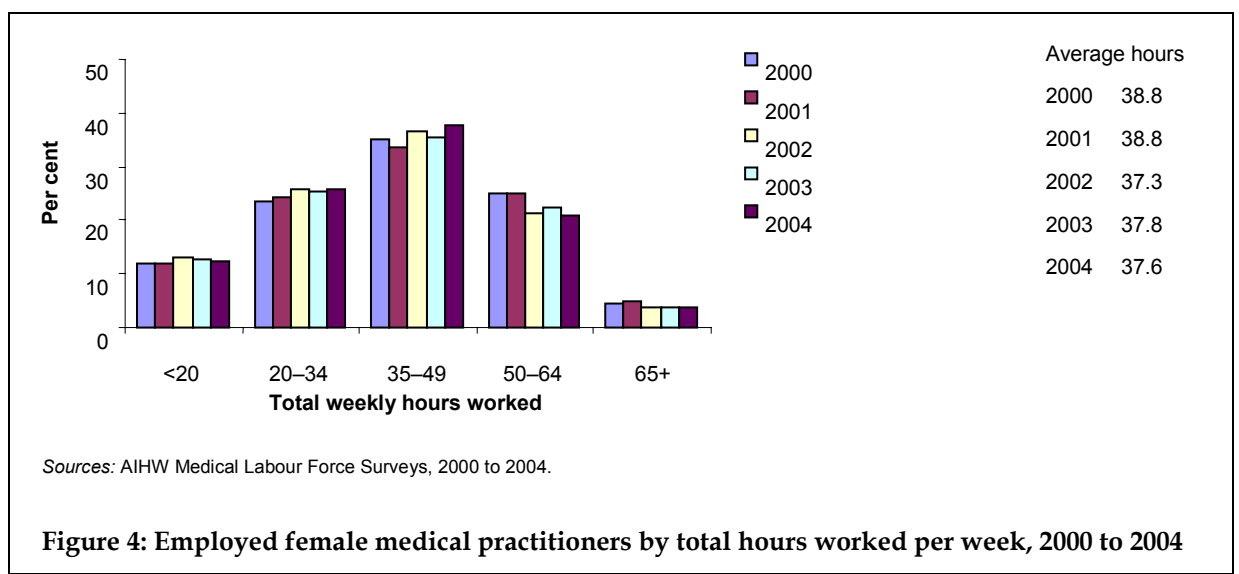


Figure 4: Employed female medical practitioners by total hours worked per week, 2000 to 2004

Age

Practitioners aged under 25 years worked the highest average hours per week in 2000 and 2004 (51.6 and 50.4 hours, respectively), followed by those aged 45–54 years (48.6 and 46.3 hours, respectively) (Figure 5). Practitioners in all age groups under 65 years reduced their average weekly hours, the largest drop being for those aged 45–54 years (down by 2.3 hours between 2000 and 2004). Conversely, practitioners aged 65–74 years decreased their hours by just under half an hour (down by 0.7 hours).

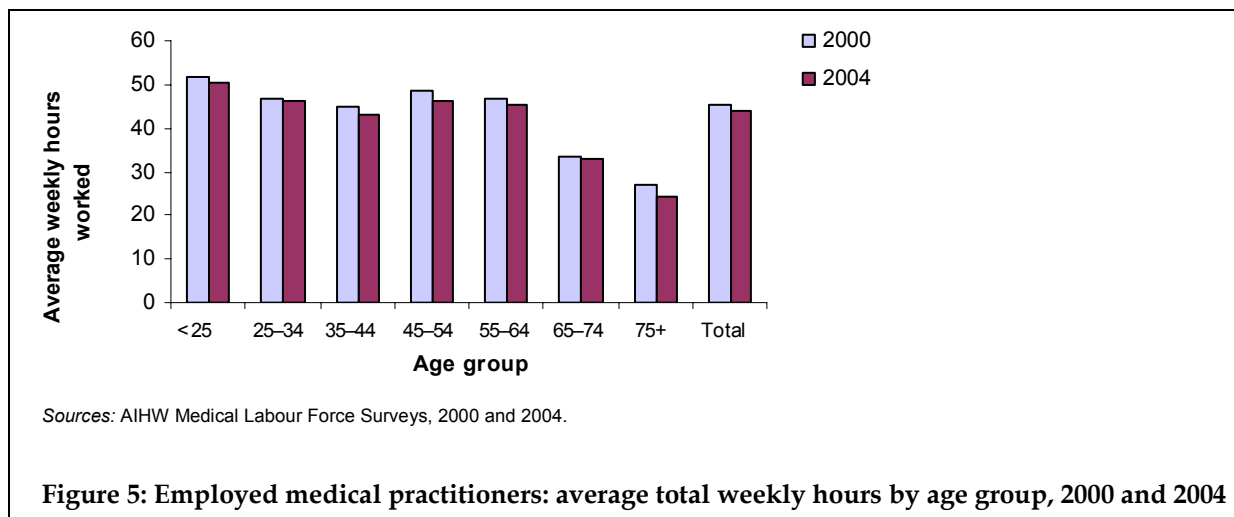


Figure 5: Employed medical practitioners: average total weekly hours by age group, 2000 and 2004

Work setting and sector

Work setting and sector refer to the type of service or facility in which medical practitioners work and whether the facility is a public or private organisation. In 2004, 30,682 practitioners reported working some hours in one or more public sector work settings (a rise of 17.4% from 26,138 in 2000) and 36,578 in one or more private sector work settings (a rise of 10.6% from 33,064 in 2000) (tables 5 and 13).

Overall, practitioners worked slightly fewer weekly hours in the public sector (34.7), on average, than in the private sector (35.5). Across the work settings, similar average weekly hours were worked in public and in private non-residential health facilities (14.1 and 12.3 hours, respectively). In contrast, higher average weekly hours were worked by the 25,656 practitioners in public hospitals (34.3 hours) than the 9,255 practitioners in private hospitals (17.7) (Table 5).

Table 5: Employed medical practitioners: total hours worked by work setting and sector^(a), 2004

Work setting	Public sector		Private sector	
	Number	Average weekly total hours	Number	Average weekly total hours
Private medical practitioners' rooms/surgery	..	..	30,945	33.4
Hospital (including psychiatric hospitals)	25,656	34.3	9,255	17.7
Non-residential health facility, such as ambulatory centre, day surgery, community health centre or outpatient clinic	4,759	14.1	2,357	12.3
24-hour or other medical centre (not included above)	..	..	1,103	22.5
Other residential care facility, such as nursing home or hospice	782	6.6	1,972	5.1
Aboriginal health service	493	17.6	306	10.3
Tertiary education institution	2,544	19.4	720	10.9
Government (including defence forces, laboratory and research organisation)	1,893	22.7	..	..
Other	622	16.4	1,468	18.5
Total^(b)	30,682	34.7	36,578	35.5

(a) Public/private employment sector based on self-reported hours worked in each sector.

(b) Practitioners working in multiple work settings are included in the figures for each setting reported, so the sum of practitioners in each work setting adds to more than the total practitioners. Similarly, practitioners working in both the private and public sectors are included in this table, and will add up to more than the total number of practitioners, as shown in other tables. Those who did not state their hours worked in each sector are excluded.

Source: AIHW Medical Labour Force Survey, 2004.

Supply of practitioners

Overall supply

Data on the size and characteristics of the medical labour force present a valuable profile of doctors, but do not give a picture of the overall level of service provided. Because some medical practitioners tend to have long working weeks and others work part-time, their relative contributions to the level of service need to be taken into account to effectively measure the overall supply.

To do this, the number of employed practitioners and their average hours worked have been used to calculate a 'full-time equivalent' (FTE) number of practitioners, based on a 'standard full-time working week' (see box). This provides the full-time workloads being worked, but does not take account of population differences in those requiring care, such as interregional differences or changes in population size or profile over time.

To allow for population size differences in the measures of supply, the ABS population figures have been used to convert the FTE number to an FTE rate (FTE per 100,000 population).

The FTE rate shows that the overall practitioner supply was higher in 2004 than in 2000 (283 FTE and 270 FTE per 100,000 population, respectively, for a 45-hour week) (Table A3).

Full-time equivalent

The number of full-time equivalent (FTE) 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.

The concept of FTE depends on what may reasonably be regarded as a full-time job, and this varies across occupations. The Australian Bureau of Statistics (ABS) defines full-time work as being at least 35 hours per week, and many FTE calculations are based on this (AIHW 2005). However, people in managerial or professional jobs tend to work more than 35 hours per week (AIHW 2003) and medical practitioners work, on average, around 45 hours per week.

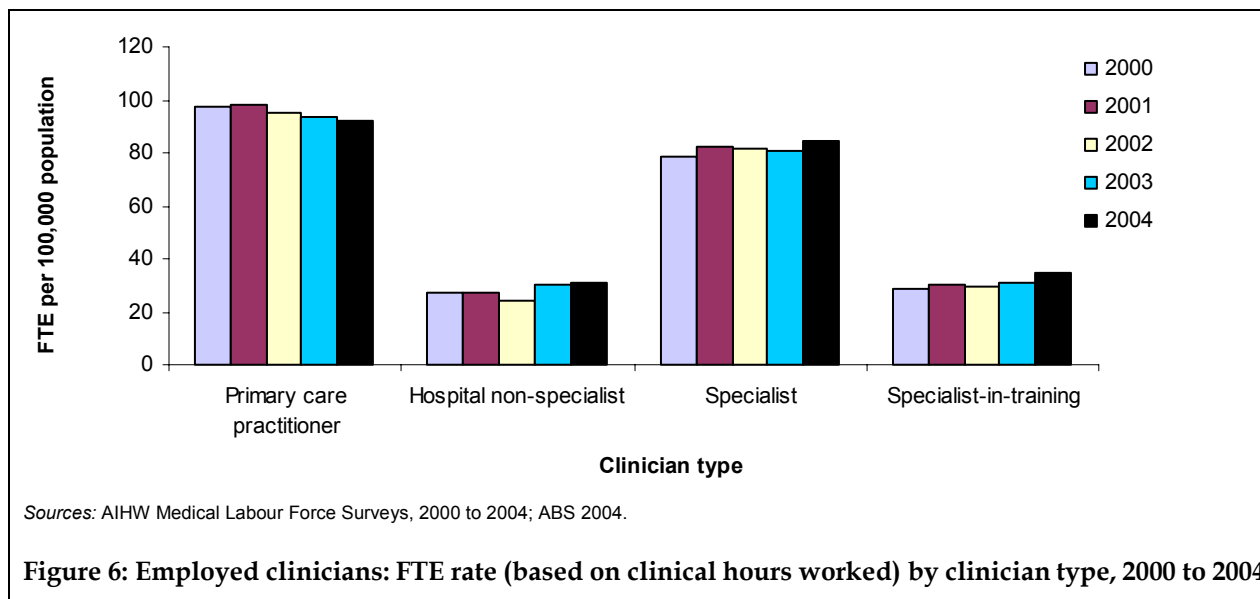
Therefore, in this report a standard week of 45 hours has been used to enable practical FTE measures of service delivery by practitioners. That is, FTE measures the number of 45-hour week workloads provided by the practitioner workforce. This gives a measure of practitioner supply because it takes into account both those working full-time and those working part-time.

Clinicians

It was noted above (see 'Working hours') that many practitioners work in more than one medical field. Over the 2000–2004 period, clinicians spent over 3 hours per week, on average, working in non-clinical areas. In order to gauge the supply of practitioners providing direct patient care, the calculation of supply in this section is based on the average clinical hours worked by clinicians. The pattern shows an increase in supply between 2000 and 2004, from 232 FTE to 242 FTE (per 100,000 population), after a decline in between when the rate went down to 230 FTE in 2002 (Table A5).

Primary care practitioners

Based on clinical hours worked, primary care practitioner supply decreased between 2000 and 2004 from a rate of 97 to 92 FTE per 100,000 population (Figure 6 and Table A5). This is in keeping with the primary care practitioner FTE rate based on average total weekly hours, which decreased from 102 to 98 over the period (Table A3).

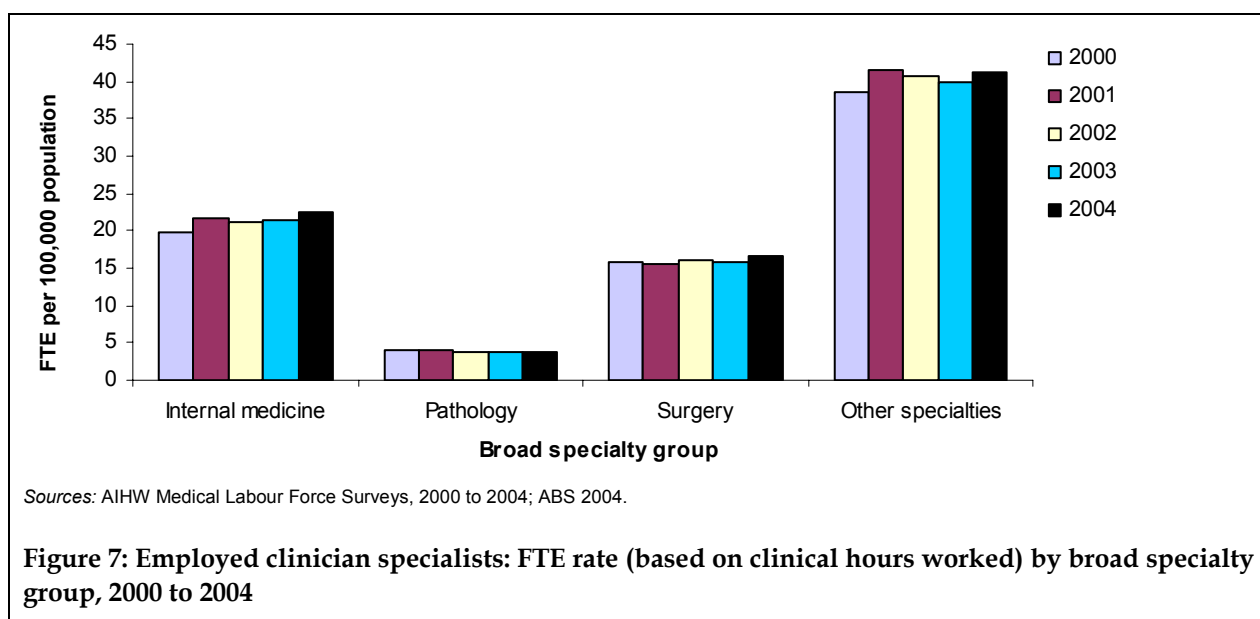


Hospital non-specialists

Between 2000 and 2004, the supply of hospital non-specialists rose from 27 FTE to 31 FTE (per 100,000 population), although supply dipped in 2002 when the rate was lowest over the period (24 FTE per 100,000) (Figure 6 and Table A5).

Specialists

Overall, the supply of specialists increased between 2000 and 2004 (from a rate of 78 to 84 FTE per 100,000 population) (Figure 6 and Table A5). Across the broad specialty groups, supply rose between 2000 and 2004 in all groups except pathology (Figure 7). Between 2000 and 2004, the rate (per 100,000 population) for internal medicine specialists increased from 20 FTE to 23 FTE, surgeons from 16 FTE to 17 FTE, and for other specialties from 39 FTE to 41 FTE. Pathologists, on the other hand, remained steady at a rate of 4 FTE per 100,000 in both years.



Specialists-in-training

Between 2000 and 2003, the supply of specialists-in-training was stable at around 30 FTE (per 100,000 population) before rising in 2004 to 35 FTE (Figure 6 and Table A5).

Practitioners in public hospitals

The AIHW National Public Hospitals Establishments Database is one of the main sources of data for the AIHW Australian Hospital Statistics publication (AIHW 2006). From this database, public hospital figures on average full-time equivalent salaried practitioner numbers by hospital peer group have been used to complement the medical practitioner survey data (see AIHW 2006 for the Public Hospital Peer Group Classification definitions).

Over the period 2000–01 to 2004–05, there was a steady increase overall, in both the FTE number of practitioners and the supply (per 100,000 population) of salaried practitioners in public hospitals. The FTE number of salaried practitioners increased by 11.3% between 2000–01 and 2002–03 and then by 11.0% between 2002–03 and 2004–05 (numbering 17,311, 19,269 and 21,393 FTE practitioners, respectively) (Table 6). This resulted in a supply increase of around 8 FTE per 100,000 population over each of the two intervals.

Across the peer groups, principal referral and specialist women's and children's hospitals employed the majority of salaried practitioners (represented by 17,836 FTE practitioners, or 83.4% of the total FTE number of practitioners in 2004–05), followed by large hospitals (2,004 FTE practitioners, or 9.4% of the total FTE number of practitioners in 2004–05).

Table 6: Salaried medical practitioners in public hospitals: FTE^(a) number and FTE rate^(b) by hospital peer group^(c), 2000–01, 2002–03 and 2004–05

	Public hospital peer group							Total
	Principal referral and specialist women's and children's hospitals	Large hospitals	Medium hospitals	Small acute hospitals	Sub-acute and non-acute hospitals	Unpeered and other hospitals	Psychiatric hospitals	
FTE^(a) practitioner number								
2000–01	14,093	1,870	633	166	218	35	295	17,311
2002–03	15,890	1,989	583	149	311	37	310	19,269
2004–05	17,836	2,004	596	179	327	124	327	21,393
FTE practitioner rate^(b)								
2000–01	72.6	9.6	3.3	0.9	1.1	0.2	1.5	89.2
2002–03	80.0	10.0	2.9	0.7	1.6	0.2	1.6	97.0
2004–05	87.7	9.9	2.9	0.9	1.6	0.6	1.6	105.2

(a) From this data source, FTE staff is derived by adding the on-the-job hours worked and hours of paid leave by/for a staff member divided by the number of hours normally worked by a full-time staff member when on the job under the relevant award/agreement.

(b) Number per 100,000 population.

(c) See AIHW 2006 for the Public Hospital Peer Group Classification definitions.

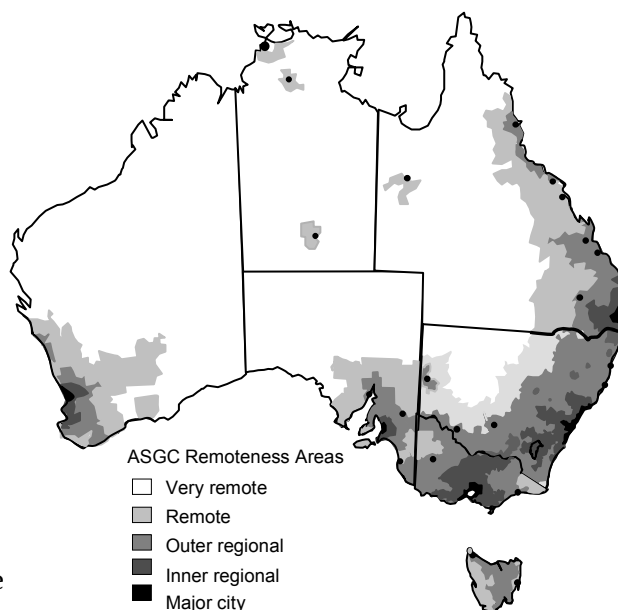
Sources: AIHW 2006, and earlier editions of Australian Hospital Statistics.

Geographic comparisons

Regions

In 2004, there were an estimated 20.1 million resident Australians (ABS 2004), and around 58,211 medical practitioners delivering services to this population. Information on the geographic distribution of these medical practitioners is important for planning equitable access to health care.

This section compares the medical workforce between 2000 and 2004, using the distribution of practitioners by their main work location into the following five regions: Major cities, Inner regional, Outer regional, Remote and Very remote (see map at right and 'Region' in the Glossary)^(a).



Major cities

The number of employed practitioners in Major cities increased by 15.2% between 2000 and 2004, with the largest rise occurring for specialists-in-training (up by 31.7%). Major cities was the only region type in which the average age of practitioners did not increase between 2000 and 2004 (45.5 and 45.3 years, respectively). Also, while there was an overall rise in practitioner supply (by 20 FTE per 100,000 population), primary care practitioner supply decreased by 5 (tables 7, A6 and A7).

Table 7: Employed medical practitioners in Major cities^(a): selected features, 2004

Main field	Number	Average age	% female	Average hours	FTE rate ^(b)
<i>Clinician</i>	41,500	45.1	33.1	44.0	305
Primary care	15,321	49.5	38.0	39.3	100
Hospital non-specialist	4,836	32.1	46.1	46.3	37
Specialist	15,469	49.5	21.3	46.1	119
Specialist-in-training	5,874	32.5	40.8	48.8	48
<i>Non-clinician</i>	3,507	47.9	34.2	41.6	24
Total	45,007	45.3	33.2	43.8	329

Source: AIHW Medical Labour Force Survey, 2004.

Inner regional

Between 2000 and 2004, this region type experienced the largest population growth (6.4%) and the highest overall growth in practitioner numbers (17.9%). Overall supply rose from 172 FTE per 100,000 population to 183, respectively. Specialist numbers rose by 21.0% but the rise in FTE was small (4 FTE per 100,000) because, over the same period, their average working week reduced by 3 hours (tables 8, A6, A7 and A8).

Table 8: Employed medical practitioners in Inner regional areas^(a): selected features, 2004

Main field	Number	Average age	% female	Average hours	FTE rate ^(b)
<i>Clinician</i>	7,509	46.0	28.8	44.5	176
Primary care	4,046	47.4	33.6	42.1	90
Hospital non-specialist	778	34.7	41.7	45.4	19
Specialist	2,233	50.2	14.0	46.6	55
Specialist-in-training	451	31.9	35.9	52.8	13
<i>Non-clinician</i>	377	52.0	24.8	39.8	8
Total	7,886	46.2	28.6	44.2	183

Source: AIHW Medical Labour Force Survey, 2004.

(a) Figures by region exclude 1,890 practitioners who did not provide the region in which they worked.

(b) Number per 100,000 population; FTE based on total weekly hours.

Outer regional

Despite a 3.3% increase in practitioner numbers between 2000 and 2004, there was an overall decrease in practitioner supply (from 147 to 143 FTE per 100,000), after peaking in 2003 at 159. This was partly because the region's population grew by 2.4% and partly because practitioners reduced their average working week by 1.9 hours.

Across all clinicians in all regions, Outer regional hospital non-specialists reduced their weekly hours most (by 3.8 hours per week), while their numbers rose by 12.8% (tables 9, A6, A7 and A8).

Remote

The number of practitioners in Remote regions decreased by 12.6%, and clinicians by 16.5%, between 2000 and 2004. Their average working week changed little over the period (47.6 hours in 2000 and 47.7 in 2004) and there was also little change in the region's population. The result was a fall in supply of all practitioners (from 152 FTE per 100,000 in 2000 to 133 in 2004) and clinicians (143 in 2000 and 120 in 2004) – this was after a peak in 2003 of 163 FTE per 100,000 for all practitioners and 154 for clinicians (tables 10, A6 and A7; AIHW 2005).

Very remote

Between 2000 and 2004, the average age of practitioners in Very remote regions rose more than in other regions (by 4.7 years). Over the period, the largest reduction in average weekly hours worked was made by these practitioners (down by 2.7 hours). Moreover, the practitioner number fell by 26.2% and supply from 138 FTE per 100,000 population in 2000 to 95 in 2004. The main impact was on the number of primary care practitioners, down by 29.4% – they comprise 70.6% of all practitioners in Very remote areas and supply fell by 33 FTE per 100,000 (from 100 in 2000 to 67 in 2004) (tables 11, A6 and A7).

Table 9: Employed medical practitioners in Outer regional areas^(a): selected features, 2004

Main field	Number	Average age	% female	Average hours	FTE rate ^(b)
<i>Clinician</i>	2,698	46.3	28.4	46.1	135
Primary care	1,622	47.8	30.6	45.0	79
Hospital non-specialist	262	34.7	42.0	46.8	13
Specialist	646	50.6	15.3	47.5	33
Specialist-in-training	168	32.3	35.5	49.5	9
<i>Non-clinician</i>	166	48.0	35.4	44.1	8
Total	2,864	46.4	28.8	45.9	143

Source: AIHW Medical Labour Force Survey, 2004.

Table 10: Employed medical practitioners in Remote areas^(a): selected features, 2004

Main field	Number	Average age	% female	Average hours	FTE rate ^(b)
<i>Clinician</i>	366	45.7	28.0	47.8	120
Primary care	252	46.0	30.3	46.5	81
Hospital non-specialist	51	40.0	22.0	50.4	18
Specialist	56	51.1	13.4	50.1	19
Specialist-in-training	8	32.7	100.0	56.2	3
<i>Non-clinician</i>	40	47.4	32.4	46.3	13
Total	406	45.8	28.5	47.7	133

Source: AIHW Medical Labour Force Survey, 2004.

Table 11: Employed medical practitioners in Very remote areas^(a): selected features, 2004

Main field	Number	Average age	% female	Average hours	FTE rate ^(b)
<i>Clinician</i>	155	45.9	31.5	46.5	89
Primary care	115	46.7	30.1	46.9	67
Hospital non-specialist	26	39.9	46.5	53.5	18
Specialist	14	50.8	14.4	29.5	5
Specialist-in-training	—	—	—	—	—
<i>Non-clinician</i>	8	42.2	31.8	64.1	6
Total	163	45.7	31.5	47.2	95

Source: AIHW Medical Labour Force Survey, 2004.

(a) Figures by region exclude 1,890 practitioners in Australia who did not provide the region in which they worked.

(b) Number per 100,000 population; FTE based on total weekly hours.

Regional comparisons

In the main, this section presents comparisons between regions, rather than descriptions of the workforce within regions, as presented in the previous section.

Practitioner distribution

In 2004, the majority of practitioners worked in metropolitan regions (ASGC Major cities and Inner regional – see ‘Region’ in the Glossary). Most practitioners were in Major cities (79.9%), providing services for two-thirds (66.3%) of the Australian population, while those working in Inner regional areas (14.0%) were providing for one fifth (21.0%) of the population (tables 7 to 11; ABS 2004). By comparison, the non-metropolitan regions (Outer regional, Remote and Very remote), had a relatively low proportion of the practitioner workforce, with 6.1% for the remainder (12.7%) of the Australian population. In terms of initial access to health care, primary care practitioners (who are mainly general practitioners) are the main providers and, because they are not likely to be hospital-based, their distribution is slightly nearer to the distribution of the Australian population (approximately 71.8% primary care practitioners in Major cities, 19.0% in Inner regional areas and 9.3% in the non-metropolitan regions).

Practitioner characteristics

In 2004, practitioners in Remote and Very remote regions worked, on average, more hours per week than practitioners in other regions. For example, they worked, on average, some 4 hours per week more than their colleagues based in Major cities. They were, however, similar in age, with practitioners in Major cities aged 45.3 years, on average, and those in Remote and Very remote areas aged 45.8 and 45.7 years, respectively.

The picture in 2000 was different. Practitioners in Remote and Very remote regions were younger than their city-based colleagues by 2.3 and 4.5 years, respectively (tables 7 to 11 and A6). Also, the proportion of female practitioners differed in Remote regions, declining over the period (from 32.0% to 28.5%) (tables 7 to 11 and A6). Elsewhere, the proportions continued to rise in metropolitan regions (from 30.7% to 33.2% in Major cities, and 26.3% to 28.6% in Inner regional areas) and there was little change in Outer regional areas (28.7% female in 2000 and 28.8% in 2004) and Very remote regions (32.0% female in 2000 and 31.5% in 2004).

Practitioner supply

Overall between 2000 and 2004, total practitioner supply rose in metropolitan regions, and fell in non-metropolitan regions, whereas primary care practitioner supply decreased in all regions except Inner regional, where there was little change (tables 7 to 11 and A7). In the two metropolitan regions, practitioner numbers grew, as did their respective general populations (by 5.0% and 6.4%), while practitioners’ total average working week reduced. The result was a rise in supply in Major cities, by 20 FTE (per 100,000 population), and in Inner regional areas, by 11. Across the non-metropolitan regions, practitioner numbers also grew in Outer regional areas, but declined in Remote and Very remote areas. The general population changed little in these three regions, but practitioners reduced their average working week in Outer regional and Very remote areas, and were almost static in Remote areas. The result was a decrease in practitioner supply in each of the non-metropolitan regions (by 4 FTE per 100,000 population in Outer regional areas, by 19 in Remote areas and by 43 in Very remote areas).

Of the decreases in primary care practitioner supply between 2000 and 2004, large decreases occurred in Very remote (by 33 FTE per 100,000 population) and Remote (by 18) regions, with small decreases in Major cities (by 5) and Outer regional areas (by 4). This decrease in their supply happened steadily from 2001 and was reflected in the national figures (Table A3).

States and territories

All employed practitioners

Between 2000 and 2004, practitioner numbers increased in all jurisdictions except the Northern Territory¹ (Table 12). New South Wales (up by 18.1%), Victoria (up by 19.0%) and Tasmania (up by 21.5%) experienced higher percentage rises than the national increase of 13.9% (Table 12).

In 2004, there were some variations in practitioners' characteristics across jurisdictions. Relatively high proportions of female practitioners were evident in the two territories (40.2% in the Northern Territory and 36.4% in the Australian Capital Territory), compared with around a third (32.4%) nationally. However, the Northern Territory was the only jurisdiction where the proportion of females decreased between 2000 (43.3%) and 2004 (40.2%). The largest increase in the proportion of females occurred in Tasmania, up by 6.9 percentage points (from 26.2% to 33.1%).

Table 12: Employed medical practitioners: selected characteristics, states and territories, 2000 and 2004

Characteristic	NSW	Vic	Qld	WA	SA	Tas ^(a)	ACT	NT	Total
2000									
Number	17,907	13,040	8,121	4,648	4,552	1,145	1,134	559	51,106
% female	29.8	29.7	30.3	30.5	29.4	26.2	35.6	43.3	30.1
Average age	45.6	47.1	44.2	45.8	44.7	n.a.	46.3	42.0	45.6
FTE rate ^(b)	283	277	234	245	301	229	357	289	270
2004									
Number	21,143	15,513	8,632	4,814	4,945	1,392	1,283	487	58,211
% female	32.4	32.8	31.6	32.6	30.9	33.1	36.4	40.2	32.4
Average age	45.4	44.8	46.1	46.9	45.2	48.5	46.9	43.0	45.5
FTE rate ^(b)	312	306	217	230	310	268	383	237	283

(a) Average age not available for Tasmania in 2000.

(b) Number per 100,000 population; FTE based on total weekly hours.

Sources: AIHW Medical Labour Force Surveys, 2000 and 2004.

Practitioners in Tasmania were more likely to be older, on average (48.5 years) and those in the Northern Territory were more likely to be younger (43.0 years), than practitioners overall (45.5 years, nationally) (Table 12).

The supply of practitioners increased in New South Wales, Victoria, South Australia, Tasmania and the Australian Capital Territory (up by 29, 29, 9, 39 and 26 FTE per 100,000 population, respectively). In Queensland, Western Australia and the Northern Territory supply decreased (by 17, 15 and 52 FTE per 100,000, respectively) (Table 12).

A comparison between employment sectors across the states and territories shows that, in 2004, average hours worked by practitioners in the public sector were lower than in the private sector (34.7 hours and 35.5 hours, on average, respectively) (Table 13).

¹ The number of practitioners registered in the Northern Territory tends to fluctuate and this has led to large movements in the FTE rate in recent years. Information from the Northern Territory registration board is that the fluctuations in numbers are mainly a result of large changes in practitioner numbers working in the Northern Territory but residing elsewhere and that this may be due to factors such as transient work, and employment in Aboriginal medical services in the more remote health areas, which rarely attract permanently placed doctors.

Practitioners worked fewer hours, on average, in the public sector than in the private sector in all jurisdictions except New South Wales (where there was little difference) and the two territories (where the reverse was the case). The greatest difference in hours worked between the two sectors was in Tasmania (28.2 hours worked in the public sector on average, compared with 34.0 in the private sector) (Table 13).

The higher numbers of practitioners who reported working in the private sector resulted in higher FTE rates in the private sector than in the public sector nationally (144 and 118 FTE per 100,000, respectively), and in all jurisdictions except the two territories. Practitioner supply in the public sector increased from 109 to 118 FTE per 100,000 between 2000 and 2004, but supply in the private sector changed little (145 and 144 FTE per 100,000, respectively).

The average working week of practitioners in 2004 (44.0 hours) was shorter than in 2000 (45.5 hours) (Table 4). This is reflected in declines in the average total weekly hours worked in both the public sector (down by 1.2 hours) and the private sector (down by 2.2 hours) (Table 13).

Table 13: Employed medical practitioners: sector^(a), states and territories, 2000 and 2004

Sector	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Public	2000								
Number	9,055	6,709	3,822	2,507	2,555	459	626	406	26,138
Average weekly hours	37.5	34.4	36.8	35.0	33.6	28.7	36.9	43.3	35.9
FTE rate ^(b)	116	108	88	104	127	62	163	200	109
Private									
Number	11,312	8,798	5,261	2,961	2,960	858	685	229	33,064
Average weekly hours	38.7	36.3	40.2	36.8	35.9	36.2	35.8	32.4	37.7
FTE rate ^(b)	150	150	132	129	157	146	173	84	145
Public	2004								
Number	11,408	8,121	3,641	2,701	2,981	693	804	332	30,682
Average weekly hours	35.2	34.1	38.1	32.4	33.1	28.2	34.6	37.9	34.7
FTE rate ^(b)	133	124	79	98	143	90	191	140	118
Private									
Number	12,957	10,107	5,557	3,058	3,019	978	710	192	36,578
Average weekly hours	35.0	35.2	39.6	33.9	34.5	34.0	33.1	31.6	35.5
FTE rate ^(b)	150	159	126	116	151	153	161	68	144

(a) Public/private employment sector based on self-reported hours worked in each sector.

(b) Per 100,000 population; FTE based on total weekly hours.

Note: The sum of practitioner numbers is greater than the total number of practitioners because those working in both the private and public sectors are included in each sector. The sum of public and private sector FTE rates is less than shown in other tables because those who did not state hours worked in each sector are excluded.

Sources: AIHW Medical Labour Force Surveys, 2000 and 2004; ABS 2004.

Primary care practitioners

It was noted above (see 'Practitioner distribution' section) that primary care practitioners are the main initial contacts for direct health care, and their supply is a useful indicator of people's access to services. Primary care practitioners are more evenly distributed across geographic regions than are other types of practitioners. On the other hand, the supply of primary care practitioners shows some variation across 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.

In 2004, primary care practitioners were, on average, 3.5 years older than medical practitioners overall (49.0 compared with 45.5 years) and included a higher proportion of females (36.5% compared with 32.4% for all practitioners) (tables 3 and 14). This national pattern was generally reflected across jurisdictions. In Tasmania, the Australian Capital Territory and the Northern Territory, the proportions of female primary care practitioners were relatively high (42.6%, 46.8% and 44.1%, respectively) compared with the national figure.

Between 2000 and 2004, primary care practitioner numbers increased in all jurisdictions except Western Australia and the two territories. The decrease was 3.5% in Western Australia (down from 2,007 to 1,936 practitioners), 3.0% in the Australian Capital Territory (down from 451 to 437 practitioners) and 18.6% in the Northern Territory (down from 210 to 171 practitioners).

Because primary care practitioners work mainly in general practice, nearly all of them spend most time working in the private sector. In 2004, in all jurisdictions except the Northern Territory, proportions working mainly in the private sector ranged from 89.6% to 95.3% (Table 14). In the Northern Territory, the proportion was lower, with 67.0% working mainly in the private sector.

At a national level, the supply of primary care practitioners decreased between 2000 and 2004 (from 102 to 98 FTE per 100,000 population) (Table 14). This is in contrast to the FTE rate for all practitioners, which rose (from 270 to 283) (Table 12). Across the states and territories over the five surveys, New South Wales and Victoria were unchanged (107 and 103, respectively, in both years), whereas Tasmania experienced a supply increase of 6 FTE per 100,000 population. There were decreases in primary care practitioner supply in the remaining jurisdictions.

Table 14: Primary care practitioners: selected features, states and territories, 2000 and 2004

Characteristic	NSW	Vic	Qld	WA	SA	Tas ^(a)	ACT	NT	Total
2000									
Number	7,236	5,377	3,408	2,007	1,806	587	451	210	21,081
% female	32.6	33.6	35.7	35.1	33.7	25.3	46.3	49.8	34.0
Average age	49.2	47.4	46.1	47.8	46.9	<i>n.a.</i>	48.0	44.0	47.8
Males	51.7	49.9	48.4	50.6	49.2	<i>n.a.</i>	49.8	48.3	50.3
Females	44.1	42.7	42.0	42.7	42.3	<i>n.a.</i>	45.9	39.7	43.1
% working most hours in private sector ^(b)	94.4	92.7	94.6	86.9	94.0	94.2	84.9	60.4	92.7
FTE rate ^(c)	107	103	90	97	113	109	127	94	102
2004									
Number	7,757	5,744	3,508	1,936	1,809	649	437	171	22,011
% female	35.0	36.4	37.5	36.3	36.2	42.6	46.8	44.1	36.5
Average age	49.5	48.3	48.6	49.8	48.2	49.8	49.7	45.6	49.0
Males	51.9	50.8	51.0	52.9	50.4	52.4	52.5	49.0	51.4
Females	45.2	43.8	44.7	44.4	44.2	46.3	46.5	41.4	44.6
% working most hours in private sector ^(b)	94.4	95.3	95.2	89.6	93.7	90.9	90.0	67.0	93.9
FTE rate ^(c)	107	103	81	84	106	115	115	74	98

(a) Average age not available for Tasmania in 2000.

(b) Public/private employment sector based on where most hours were worked.

(c) Number per 100,000 population; FTE based on total weekly hours.

Sources: AIHW Medical Labour Force Surveys, 2000 and 2004; ABS 2004.

Practitioners in public hospitals

To present public hospital data for the states and territories, figures on average FTE practitioner numbers have been sourced from the AIHW National Public Hospital Establishments Database. This database is one of the main sources of data for the AIHW Australian Hospital Statistics publication (see AIHW 2006).

Over the period 2000–01 to 2004–05, all jurisdictions experienced an increase in the FTE number of salaried hospital practitioners. The largest increase was in Victoria (up by 42.1%), followed by the Australian Capital Territory (up by 30.9%) (Table 15). The smallest increase was in South Australia (up by 0.9%), followed by the Northern Territory (up by 10.0%).

In terms of supply, the increases in the FTE number of salaried hospital practitioners equated to increases in the FTE rate in all jurisdictions, except for South Australia where supply decreased by 1 FTE per 100,000 population.

Levels of supply varied across the states and territories in 2004: Queensland (96 FTE per 100,000 population), Western Australia (99) and Tasmania (91) had lower levels than the national figure (105).

Table 15: Salaried medical practitioners in public hospitals: FTE^(a) number and FTE rate^(b), states and territories, 2000–01, 2002–03 and 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
	FTE^(a) practitioner number								
2000–01	6,104	3,912	3,114	1,625	1,685	346	285	239	17,311
2002–03	6,600	4,973	3,425	1,794	1,599	348	295	235	19,269
2004–05	7,276	5,557	3,787	1,996	1,700	442	373	263	21,393
	FTE practitioner rate^(b)								
2000–01	93	81	86	85	111	73	89	121	89
2002–03	99	101	90	92	105	73	91	118	97
2004–05	107	111	96	99	110	91	115	130	105

(a) From this data source, FTE staff is derived by adding the on the job hours worked and hours of paid leave by/for a staff member divided by the number of hours normally worked by a full-time staff member when on the job under the relevant award/agreement.

(b) Number per 100,000 population.

Sources: AIHW 2006, and earlier editions of Australian Hospital Statistics.

Appendix A

Supplementary tables

Table A1: Employed practitioners: rate^(a), 2000 to 2004

Year	Clinicians					Non-clinicians	All practitioners
	Primary care practitioner	Hospital non-specialist	Specialist	Specialist-in-training	All clinicians		
2000	110	27	84	27	247	19	267
2001	112	27	88	28	254	21	275
2002	111	25	90	28	254	21	275
2003	110	30	91	30	261	22	283
2004	110	31	95	33	269	21	290

(a) Number per 100,000 population

Sources: Medical Labour Force Surveys, 2000 to 2004; ABS 2004.

Table A2: Employed specialists: rate^(a) by broad specialty group, 2000 to 2004

Year	Broad specialty group				
	Internal medicine	Pathology	Surgery	Other	Total
2000	21	4	15	43	84
2001	23	4	14	46	88
2002	24	4	16	47	90
2003	24	5	16	47	91
2004	26	4	16	48	95

(a) Number per 100,000 population.

Sources: Medical Labour Force Surveys, 2000 to 2004; ABS 2004.

Table A3: Employed medical practitioners: FTE^(a) rate by main field, 2000 to 2004

Main field	2000	2001	2002	2003	2004
<i>Clinician</i>	251	258	252	258	264
Primary care	102	104	101	100	98
Hospital non-specialist	28	28	25	31	32
Specialist	90	95	95	95	97
Specialist-in-training	30	32	31	32	36
<i>Non-clinician</i>	19	20	19	21	19
Total	270	277	271	279	283

(a) Number per 100,000 population; FTE based on total weekly hours.

Sources: AIHW Medical Labour Force Surveys, 2000 to 2004; ABS 2004.

Table A4: Specialists: main specialty of practice, sex, age and total hours worked, 2004

Specialty of practice	Clinicians				All specialists			
	Number	% female	Average age	Average weekly hours	Number	% female	Average age	Average weekly hours
<i>Internal medicine</i>	5,168	20.8	49.0	48.4	5,956	21.8	48.7	48.2
Cardiology	683	9.0	49.0	53.9	753	9.9	48.7	53.4
Clinical genetics	52	63.6	45.0	39.9	60	57.7	45.2	41.6
Clinical haematology	181	23.3	49.5	50.1	206	21.2	49.6	48.9
Clinical immunology	79	16.8	51.1	47.0	103	17.4	51.0	49.0
Clinical pharmacology	11	—	50.1	41.8	19	13.0	51.4	40.9
Endocrinology	274	26.4	49.5	46.4	348	29.6	48.4	47.1
Gastroenterology	470	9.7	48.7	50.1	525	11.6	48.4	49.7
General medicine	505	15.2	55.2	46.3	573	15.9	55.1	45.5
Geriatrics	243	39.6	46.9	42.2	277	38.3	46.8	43.6
Infectious diseases	114	23.3	45.6	48.0	175	27.9	45.5	46.8
Intensive care (internal medicine)	194	12.9	45.1	55.2	209	12.7	45.5	54.6
Medical oncology	241	30.6	44.6	50.9	271	29.3	44.8	51.2
Neurology	319	12.3	50.7	49.3	365	13.9	50.3	49.4
Nuclear medicine	182	16.4	47.0	44.5	183	16.3	47.0	44.7
Paediatric medicine	893	33.8	48.6	45.2	1,022	34.6	48.5	45.2
Renal medicine	198	18.5	48.8	51.6	248	21.1	47.7	50.5
Rheumatology	228	27.9	49.9	44.4	266	27.5	49.1	45.3
Thoracic medicine	301	13.0	47.2	50.6	353	14.2	47.0	49.8
<i>Pathology</i>	896	30.1	52.0	41.3	990	29.7	52.2	41.6
Anatomical pathology	533	32.4	51.4	41.2	559	32.1	51.5	41.2
Clinical chemistry	48	19.1	51.8	39.5	66	18.1	52.4	41.3
Cytopathology	23	71.3	56.0	36.6	26	74.2	54.9	38.0
Forensic pathology	36	14.4	53.3	45.0	43	15.8	52.3	45.2
General pathology	72	3.2	53.4	41.6	81	2.9	54.7	40.7
Haematology	78	38.0	52.6	40.4	93	39.0	52.4	42.2
Immunology	16	8.2	59.2	48.6	21	6.2	59.8	45.4
Microbiology	89	36.9	50.7	42.1	101	36.4	51.2	42.8
<i>Surgery</i>	3,278	5.9	50.9	52.0	3,463	6.0	51.4	51.1
Cardiothoracic surgery	129	6.2	48.1	54.0	136	5.9	48.7	53.5
General surgery	1,022	7.1	52.9	51.1	1,085	7.5	53.3	50.5
Neurosurgery	131	7.0	50.6	55.1	142	7.3	51.9	53.3
Orthopaedic surgery	831	2.2	50.1	52.8	885	2.3	51.0	51.2
Otolaryngology	335	6.6	50.7	49.9	345	6.4	51.1	49.4
Paediatric surgery	71	14.2	52.6	48.6	75	15.2	52.8	49.5
Plastic surgery	336	9.4	49.5	51.6	351	9.5	49.6	51.2
Urology	263	5.2	49.0	52.1	276	5.0	49.2	50.9
Vascular surgery	158	4.8	50.6	55.1	170	4.4	51.3	54.4
<i>Other specialties</i>	9,702	23.9	49.5	43.5	10,812	24.0	49.8	43.3
Anaesthesia	2,510	20.3	48.0	44.6	2,554	20.2	48.0	44.6
Dermatology	348	33.7	49.5	42.8	356	33.7	49.8	42.2
Diagnostic radiology	1,321	19.1	49.9	42.4	1,343	19.2	50.1	42.3
Emergency medicine	571	25.4	41.2	42.7	638	24.5	41.7	42.7
Intensive care (anaesthesia)	147	11.2	46.0	52.3	165	10.8	46.9	51.0
Medical administration	33	29.2	49.5	45.2	229	27.9	51.5	44.9
Obstetrics and gynaecology	1,137	24.9	51.3	49.2	1,200	25.2	51.3	48.8
Occupational medicine	41	29.9	51.1	44.8	215	18.1	51.9	41.3
Ophthalmology	733	12.5	51.9	43.4	746	13.0	51.9	43.4
Psychiatry	2,197	29.9	51.8	39.9	2,409	29.7	51.8	40.0
Public health medicine	35	29.7	52.1	42.4	232	31.2	51.1	42.7
Radiation oncology	192	27.7	46.5	48.3	200	27.3	46.7	48.2
Rehabilitation medicine	240	31.9	49.0	41.4	260	31.2	49.7	41.0
Other	198	43.5	50.9	40.1	264	36.6	52.6	38.7
Total	19,043	20.3	49.7	46.2	21,220	20.7	49.9	45.9

Note: The classification of specialists as clinicians or non-clinicians is based on the field in which they worked the most hours.

Source: AIHW Medical Labour Force Survey, 2004.

Table A5: Employed clinicians: FTE rate^(a) based on clinical hours worked and time spent in non-clinical work^(b), 2000 to 2004

Year	FTE rate					Time spent in non-clinical work
	Primary care practitioner	Hospital non-specialist	Specialist	Specialist-in-training	All clinicians	
2000	97	27	78	29	232	3.5
2001	98	27	83	30	238	3.2
2002	95	24	82	29	230	3.2
2003	94	30	81	31	236	3.1
2004	92	31	84	35	242	3.0

(a) FTE per 100,000 population.

(b) Average hours per week spent by clinicians in non-clinical work, calculated from hours spent in non-clinical work, as reported by clinicians.

Sources: Medical Labour Force Surveys, 2000 to 2004; ABS 2004.

Table A6: Employed practitioners: region of main work location, selected characteristics, 2000

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
Average age (years)	45.5	45.7	45.0	43.2	41.0	45.6
% female	30.7	26.3	28.7	32.0	32.0	30.1
Average weekly hours worked	45.2	46.0	47.8	47.6	49.9	45.5

Source: AIHW Medical Labour Force Survey, 2000.

Table A7: Employed medical practitioners: main field by region of main work location, number and FTE rate^(a), 2000

Main field	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Number	FTE rate	Number	FTE rate	Number	FTE rate	Number	FTE rate	Number	FTE rate
<i>Clinician</i>	35,924	285	6,425	166	2,624	139	438	143	206	128
Primary care	14,729	105	3,599	88	1,601	83	308	99	163	100
Hospital non-specialist	3,892	32	682	18	232	13	63	21	32	21
Specialist	12,841	108	1,846	51	614	34	51	17	n.p.	n.p.
Specialist-in-training	4,462	40	299	9	177	10	16	6	8	5
<i>Non-clinician</i>	3,151	25	266	6	149	8	27	10	15	10
Total	39,075	309	6,692	172	2,773	147	465	152	221	138

(a) Number per 100,000 population; FTE based on total weekly hours.

Source: AIHW Medical Labour Force Survey, 2000; ABS 2004.

Table A8: Average weekly hours worked by clinicians: main field by region of main work location, 2000

Main field	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(a)
Primary care	40.8	43.7	46.4	46.8	49.1	41.9
Hospital non-specialist	47.1	47.3	50.6	47.7	51.5	47.4
Specialist	48.1	49.6	49.8	47.4	48.5	48.3
Specialist-in-training	50.6	51.9	50.3	55.3	53.6	50.7
Total	45.3	46.2	47.8	47.4	49.7	45.6

(a) Practitioners who did not provide the region in which they worked are excluded from figures by region but included in the totals.

Source: AIHW Medical Labour Force Survey, 2000.

Appendix B

Additional tables available from the AIHW web site

In addition to the tables in this publication, more detailed tabulations from the 2004 Medical Labour Force Survey are published on the AIHW website: www.aihw.gov.au

Employed practitioners: 13 tables of demographic characteristics (age, sex, citizenship, state/territory), main field of medicine, hours worked per week and full-time equivalent (FTE) supply (employed practitioners per 100,000 population and FTE practitioners per 100,000 population).

Employed practitioners by geographic region of main job: 8 tables by demographic characteristics, main field of medicine, hours worked per week, practitioner rates and full-time equivalent supply (employed practitioners per 100,000 population and FTE practitioners per 100,000 population).

Primary care practitioners: 13 tables of demographic characteristics, hours worked per week, practice size, type of primary care practitioner by state/territory or geographic location of main practice. 1 table by state and territory and 1 table by geographic region for selected characteristics (age, sex, hours worked) by type of primary care practitioner (VRGP, RACGP trainees, other).

Hospital non-specialists: 10 tables of type of hospital non-specialist, demographic characteristics, hours worked per week, work setting and sector by state/territory, or by geographic region of main job.

Specialists and specialists-in-training: 11 tables of specialists by selected characteristics (including demographic), main specialty of practice, clinical hours worked per week, total hours worked per week, other specialties of practice by state/territory.

There are two tables for specialists-in-training: selected characteristics and specialty of training, both by state/territory.

Appendix C

Explanatory notes on the Medical Labour Force Survey

Background

All medical practitioners must be registered with a state or territory medical registration board or council to practise in that state or territory. The registers contain information such as the name, contact details, age, sex and qualifications of practitioners who are registered to practise in that jurisdiction. The registration boards also manage the annual process of renewing the registration of medical practitioners who are qualified and eligible to practise.

Method

The population for the survey is registered medical practitioners and is drawn from the registration files maintained by each state and territory medical registration board or council. Each medical board/council conducts an annual renewal of registration and, as part of this process, questionnaires are sent to medical practitioners on renewal of their registration. The results of the 2004 survey relate to the period when renewal notices and the survey were sent out, with timing dependent on the licence renewal procedure operating in each state/territory. Returned questionnaires were processed by, or on behalf of, the respective health authority. Each state and territory then forwarded a data file of de-identified responses to the AIHW for further cleaning, final coding, collation into a national data set, application of national range and edit checks, estimation for item and population non-response, and finally, analysis (see 'Estimation procedures for non-response', below).

Scope and coverage

The scope of the survey is all practitioners registered with the medical board in each state and territory but coverage excludes practitioners who registered for the first time in the survey year. This is because the survey questionnaire is distributed as part of the registration renewal process and only practitioners who are renewing their registration receive a questionnaire. Practitioners who registered for the first time in the preceding 12 months did not receive a questionnaire, as they were not yet required to renew their registration. To ensure that the survey provides estimates of the total population of registered practitioners, the new registrants are treated in the same way as survey non-respondents in the weighting process (see 'Estimation procedures for non-response', below).

Response rate

Response to the Medical Labour Force Survey in 2004 represented 71.4% of the medical registrations in all jurisdictions (Table C1). 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. However, the number registered in more than one jurisdiction is estimated based on responses to specific questions in the questionnaire. For example, those who are working and are registered in more than one jurisdiction are assigned to the jurisdiction where they worked the most hours.

Table C1: Estimated survey response rate, states and territories, 2000 to 2004

Response rate	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
2000	82.0	67.4	73.7	59.6	73.5	68.2	65.4	59.8	73.2
2001	n.a.	63.9	76.8	36.4	71.3	65.4	71.6	60.3	64.5
2002	66.0	66.2	87.7	59.9	72.0	71.0	67.7	49.1	69.2
2003	76.5	66.0	81.3	61.7	68.6	64.6	70.6	38.8	71.4
2004	71.5	65.4	87.5	65.5	76.1	60.7	67.5	43.8	71.4

Sources: AIHW Medical Labour Force Surveys, 2000 to 2004.

In the lead-up to the 2004 survey, representatives of the (then) Australian Medical Workforce Advisory Council (AMWAC) made efforts to improve response to the survey, which had been in decline. Visits were made to most state and territory registration boards in order to promote the value of the survey data at both the national and jurisdictional levels. Tailored statistical profiles for those jurisdictions were provided to the boards for inclusion with each survey questionnaire, along with a letter explaining to respondents the importance of completing their questionnaire.

At a national level, there was no further decline in the response rate between 2003 and 2004 (71.4% in both years) and compared with earlier surveys, there was some increase (from a low of 64.5% in 2001). At the jurisdiction level, change in response rates over the five surveys was variable, with large fluctuations in some jurisdictions. For example, Western Australia was comparatively low in 2001 (36.4%) and steadily rose over the three subsequent surveys, while the rates for the Northern Territory were low for 2002, 2003 and 2004.

Estimation procedures for non-response

The figures produced from the survey are estimates because not all practitioners who are sent a questionnaire respond (population non-response) and some return partially completed questionnaires (item non-response). A separate estimation procedure is used for each.

Both of these procedures are described below.

Imputation: estimation for item non-response

For item non-response, initially the processes involve a qualitative examination of all information which has been provided by a respondent and followed by, where possible, an assumption about any missing information for that respondent, based on their responses to other survey questions. For example, if a respondent provides information on hours worked and the area in which they work, but leaves the labour force question blank, it is reasonable to assume that they were, in fact, employed. Missing values remaining after this process are considered for their suitability for further imputation. Suitability is based on the level of non-response to that item (5% or less).

Imputation is based on the distribution of responses occurring in the responding sample. Therefore, fundamental to estimating missing values for survey respondents who returned partially completed questionnaires is the assumption that respondents who answer various questions are similar to those who do not. This is because the only characteristics of the

practitioner population known to the AIHW are state/territory of registration (for most states and territories), age and sex and, without having any other characteristics for the *whole* population of interest, the survey data become the basis for imputing missing values.

The process begins with imputation of age or sex values within each state and territory. Age and sex need to be imputed first, to enable records missing these items to subsequently undergo the weighting process. (Where age was missing for a record, an 'age group' was imputed. This age group was used in tables showing age in ranges, whereas for mean age calculations, 'age' in single years was used and only respondents who reported their age were included.) In 2004, 3% of records received an imputed age group and 2% received an imputed sex value.

After age and sex, other variables deemed suitable for this process are imputed. In 2004, these variables were field of medicine, clinician type, specialty of practice, general practitioner type and hospital non-specialist type. Based on the distribution of survey responses, the probabilities of particular responses occurring are used to assign a response category *value* to each record, using a random number generator.

Weighting: estimation for population non-response

For population non-response, each responding record is assigned a weight which is calibrated to align with independent data on the population of interest, referred to as 'benchmarks'. In principle, this weight is based on the population number divided by the number in the sample. The resulting fraction becomes the expansion factor applied to the record, providing an estimate of the population when aggregate output is generated.

The calculation of weights is usually part of the data processing for a sample survey in which the sample is selected before the survey is conducted. In the Medical Labour Force Survey, all registered practitioners, not a sample, are sent a questionnaire when registration renewal is due and therefore, technically, it is a census. However, because not all practitioners respond, the result is a data set based on a very large 'self-selecting sample' of the population and this is how the data are treated for the weighting process. Because the group of respondents in the data set is not random, standard errors are not a suitable means of gauging variability.

The weight for each record is based on particular characteristics which are known for the whole population. Currently for medical practitioners, the population benchmark data provided to AIHW are state of registration, age (or age group) and sex. This information has been provided to varying degrees by the state and territory medical boards' administrative records and so age and sex can be used to weight data for some jurisdictions but not others. In 2004, age and sex for the survey population were provided for New South Wales, Victoria, Queensland, South Australia and the Northern Territory. For Western Australia, Tasmania, and the Australian Capital Territory, neither age nor sex were provided by the registration boards and the calculation of weights was based on the total population figure.

Producing estimates for the population by weighting the data from respondents does adjust for bias in the responding group of practitioners, but only for *known* population characteristics (age and sex, where provided, in the case of the Medical Labour Force Survey). If information for a variable is not known for the whole population, the variable cannot be used in the calculation of weights.

For variables not used in the calculation of weights, (for the Medical Labour Force Survey, that is all variables *other* than state/territory, age and sex) the assumption is that respondents and non-respondents have the same characteristics. If the assumption is incorrect, and non-respondents are different from respondents, then the estimates will have some bias. The extent of this cannot be measured without more detailed information about non-respondents (for example, follow-up interviews of non-respondents). This type of follow-up is not undertaken by the registration boards.

Glossary

Career medical officer (CMO) and other salaried hospital career practitioner

Generally, a medical practitioner who mainly works in a hospital after completing all professional training is referred to as a career medical officer (CMO). Also includes some other salaried practitioners who have completed an internship and are registered to practise under supervision. Also known as hospital medical officer (HMO) in some states.

Field of medicine

A description of the job function in the type of medical work undertaken by a practitioner:

Clinician (defined on the questionnaire): 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 (as a primary care practitioner, hospital non-specialist, specialist or specialist-in-training – see separate Glossary entries) is classified as a clinician.

Non-clinician (not defined on the questionnaire, based on respondent interpretation)

- administrator: employed in medical administration
- teacher/educator: teaching or training persons in medicine
- researcher: engaged in medical research
- public health physician: 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: engaged in identifying disease and illness, along with their treatments and any preventive measures arising from particular fields or industries
- other: a job function in medicine which is not one of the above.

Hours worked

The total number of weekly hours worked is self-reported by practitioners and relates to the number of hours worked in all medical fields. In editing survey responses, maximum hours worked accepted were 125 hours per week. Reported hours greater than 125 are considered unreliable and not included in the analysis. In 2004, 1.2% of employed respondent records were treated this way.

Hospital non-specialist

Self-identified on the questionnaire. A medical practitioner mainly employed in a salaried position in a hospital who does not have a recognised specialist qualification and who is not in training to gain a recognised specialist qualification. They include resident medical officers (RMOs) and interns, as well as career and other salaried hospital practitioners.

Primary care practitioner

Self-identified on the questionnaire. A practitioner in general practice or delivering primary care to patients. Includes practitioners recognised by Medicare Australia as VRGPs, RACGP Fellows, RACGP trainees (see below) and other practitioners whose main practice is unreferral patient attendances.

RACGP trainee

A medical practitioner under the supervision of a Royal Australian College of General Practitioners (RACGP) Fellow in a job recognised as leading to the RACGP Fellowship.

Region

The Remoteness Area Structure within the Australian Standard Geographical Classification (ASGC) produced by the ABS, has been used in this publication to present regional data.

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	}	Described as 'metropolitan' in this report
Inner regional Australia		
Outer regional Australia	}	Described as 'non-metropolitan' in this report
Remote Australia		
Very remote Australia.		

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 (defined in the questionnaire).

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. Self-identified on the questionnaire.

Vocationally registered general practitioner (VRGP)

A primary care practitioner who has been registered by Medicare Australia as a recognised general practitioner. Self-identified on the questionnaire.

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