Medical labour force

2005

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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 A). 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.

Summary

This report provides information on the medical practitioner labour force, based primarily on estimates derived from the 2005 Australian Institute of Health and Welfare (AIHW) Medical Labour Force Survey. This survey collects information on the demographic and employment characteristics of medical practitioners registered in Australia. It is conducted annually by state and territory health departments, with the questionnaire administered by the medical registration boards in each jurisdiction, in conjunction with the registration renewal process.

Estimates of the number of medical practitioners by demographic and labour force characteristics, work locations and work activity are presented in this report. It also provides a picture of variations in the estimated supply of medical practitioners across Australia in 2005, and in comparison to 2001. Data on medical practitioner registrations, general practitioners and salaried medical practitioners in public hospitals, drawn from sources other than the survey, are also provided for comparison purposes.

The main findings of the report are:

- In 2005, there was an estimated 67,890 medical practitioners registered in Australia and most of these (60,252 or 88.7%) were working in medicine in Australia. The other 11.3% were on extended leave, not working, working in an area other than medicine or working in medicine overseas. The number of employed medical practitioners in 2005 was 12.9% higher than in 2001.
- Most employed medical practitioners working in medicine in 2005 were clinicians (93.1%), of whom 40.3% were primary care practitioners, followed by specialists (35.6%), specialists-in-training (12.3%) and hospital non-specialists (11.8%).
- The average age of medical practitioners in 2005 was 45.1 years, compared with 46.1 years in 2001.
- Females continue to increase their share of the medical practitioner workforce. In 2005, 32.9% of medical practitioners were female, compared with 30.7% in 2001. The female share varied considerable within the medical workforce. In 2005, 20.9% of specialists (and 6.2% of surgery specialists) were women. In comparison, 40.9% of specialists-in-training and 48.3% of hospital non-specialists were women.
- Medical practitioners worked an average of 43.7 hours per week in 2005, a decrease from 45.4 hours per week in 2001. In 2005, on average, 38.9 hours were in clinical work, a decrease from 40.9 hours in 2001. Female medical practitioners worked fewer hours, on average, than their male counterparts (37.6 hours per week compared with 46.7).
- Despite a decrease in average hours worked from 2001 to 2005, the supply of employed medical practitioners increased from 277 to 287 Full-Time Equivalent (FTE) medical practitioners per 100,000 population over that period. The supply of primary care practitioner clinicians decreased between 2001 and 2005, from 104 to 98 FTE per 100,000 population.
- In 2005, in Major cities, there were 335 FTE medical practitioners and 100 FTE primary care practitioner clinicians per 100,000 population. In comparison, the respective rates for Inner regional areas were 181 and 88 FTE; in Outer regional areas, 153 and 84 FTE; and in Remote/Very remote regions, 147 and 92 FTE.

For most jurisdictions the survey response rate ranged between 62.0% for Tasmania and 83.8% for Queensland.

Estimates for the Northern Territory should be treated with caution as they are derived from responses to the 2004 Medical labour force survey, weighted to 2005 benchmark figures. The estimated 'response rate' for 2005 is 31.8%.

The estimates in this report may vary from workforce estimates produced by individual jurisdictions as the AIHW takes account of those medical practitioners apparently employed in more than one jurisdiction, and because of differences in imputation and estimation processes.

Introduction

The size, distribution and expertise of the health labour force are the subject of considerable scrutiny by governments, educators, health care providers and the community. There is interest in changes in the size and composition of the various health professions, and the potential impacts on health care as a result of those changes. Access to reliable, comprehensive, timely and nationally consistent trend data is one of the key elements in gaining an understanding of the current health labour force and as a basis for workforce planning.

In recognition of this, the Australian Health Ministers Advisory Council (AHMAC) commissioned the AIHW, initially in 1990, to develop national health labour force statistics on the major registrable health professions. Medical practitioners were identified as one of the key health professions about which ongoing detailed information should be collected for monitoring and planning purposes. These practitioners have been the focus of an annual survey and AIHW report since 1993.

This report provides data on the Australian medical labour force in 2005. The primary source of estimates presented in this report is the 2005 AIHW Medical Labour Force Survey, in which medical practitioners renewing their registration were asked a range of demographic and labour force questions. Where appropriate, and where the data allow, the report also provides some comparisons of 2005 estimates with estimates derived from surveys in previous years. Registration data, data on salaried medical practitioners in public hospitals and Medicare data on general practitioners are also presented to provide additional and comparative information on the medical workforce.

A brief description of the AIHW Medical Labour Force Survey is provided below, with more detailed information provided in Appendix A.

Medical practitioners in Australia

Medical practitioners diagnose physical and mental illnesses, disorders and injuries, provide medical care to patients, and prescribe and perform medical and surgical treatments to promote and restore good health (ABS 2006). They include primary care practitioners (or general practitioners (GPs)), hospital non-specialists, specialists-in-training and specialists (see Glossary).

Medical practitioners undertake several years of on-the-job training once they have completed their medical studies at university. Initial training is undertaken as an intern and then as a resident medical officer, usually in the public hospital system. After this initial training most medical practitioners go on to undertake further more specialised training as a GP or a specialist in one of the large range of recognised medical specialities. Apart from GPs most of this vocational training is undertaken in the public hospital system. GP trainees undertake their training in private GP training practices.

Upon completion of specialist or GP training, the options open to medical practitioners broaden to include private medical practice; a combination of private medical practice with a visiting medical officer (VMO) engagement at one or more public hospitals; and employment as a staff specialist in a public hospital or health facility, with options to undertake limited private practice (AMA 2006).

All medical practitioners must be registered with a state or territory medical registration board or council to practise in Australia. This applies to both those who trained in Australia and to overseas trained medical practitioners (OTDs) (DoHA 2007).

The type of medical registration held by a medical practitioner determines or limits the work that he or she is licensed to undertake in that state or territory. While there is considerable variation across jurisdictions in the specific types of medical registration and the terms used to describe them, they can be generally classified into two broad types: 'general' or 'full' registration and 'conditional' or 'limited' (non-general) registration.

General registration is granted to medical practitioners who have fulfilled the full requirements of the board to practise. It permits a medical practitioner to work unsupervised in their field. If a medical practitioner does not meet the requirements to become a generally registered medical practitioner they may obtain limited or conditional registration. Interns, 'Area of need' medical practitioners (see Appendix B), overseas-trained medical practitioners undertaking postgraduate or supervised training, overseas-trained specialists, non-practising medical practitioners and medical practitioners facing disciplinary action are generally conditionally registered. Overseas-trained medical practitioners usually gain conditional registration when they first practise in Australia. Conditionally registered medical practitioners can gain general registration when they meet the appropriate requirements of that state or territory medical registration board.

AIHW Medical Labour Force Survey

Background

The AIHW Medical Labour Force Survey is an annual survey of medical practitioners that began in 1993. The survey is managed by each of the state and territory health departments, with the questionnaire administered by the medical registration board in each jurisdiction in conjunction with the registration renewal process. Under a current agreement with AHMAC's Health Workforce Principal Committee, the AIHW cleans, collates and weights the state and territory survey results to obtain national estimates of the total medical labour force, and reports the findings.

The survey collects information on the demographics, employment characteristics, work locations and work activity of medical practitioners who are renewing their medical registration with medical registration boards in each state and territory. The same basic survey questionnaire is used across jurisdictions, although there are some variations in design. Some questions may also be added, removed or amended by individual jurisdictions from year to year. While the core data items (such as labour force status) have been collected in the survey since its inception, there have been changes to the questionnaire and estimation methods over time. Whilst every effort is made to maintain a comparable time series, this is not always possible. In addition, previous years' estimates are revised when necessary. As a result, some care should be taken in comparing data from earlier publications with the current one. The most up to date estimates for the years prior to 2005 are available from the internet tables on the AIHW web site.

As the survey questionnaire is sent out with registration renewal papers by the registration boards, the timing of the survey varies, depending on the registration practices in each

jurisdiction. The 2005 estimates provided in this report are based on data collected as part of the 2005 registration renewal process in each state and territory.

The estimates published in this report may differ from other estimates derived from the labour force survey data, such as those derived by some states and territories. This is due to a number of factors. First, the AIHW adjusts state and territory registration figures to account for those medical practitioners who state that they are working 'mainly or only in another jurisdiction', to minimise the possibility of double-counting medical practitioners at a national level. Second, data cleaning, collation and imputation methods may differ. Third, differences in estimates can occur depending on the date of extraction and detail of the registration benchmark figures.

Survey scope

In most jurisdictions, all medical practitioners on the register at the time of the survey are sent a survey form, regardless of their type of registration (conditional or general). The survey is, therefore, technically a census of medical registrants. There are some variations in the scope of the population surveyed across jurisdictions, however. In Queensland, medical practitioners who are conditionally registered do not receive a questionnaire. In Tasmania, conditionally registered non-specialists (such as 'Area of need' practitioners and interns) do not receive a questionnaire.

Derivation of estimates

Medical practitioners registering for the first time and who are not required to renew their registration in the survey year are not surveyed. In addition, not all medical practitioners who receive a survey form respond. Both of these groups are treated as 'non-respondents' for estimation purposes. To account for this non-response in deriving estimates of the total medical labour force, responses to the survey are weighted to benchmark figures provided to the AIHW by state and territory registration boards.

In most jurisdictions the benchmarking figures are the total population of registered medical practitioners at the time of the survey. However, for Queensland and Western Australia the benchmarking figures are for all **general** registered medical practitioners only. The benchmarking figures for Tasmania include general registrants and conditionally registered specialists only. Therefore, the estimates presented for Queensland, Western Australia and Tasmania in this report are under-counts of the total medical labour force in those jurisdictions. National estimates are an under-count as a result.

Estimates in most jurisdictions are made taking the age group and sex of the population of registered medical practitioners and survey respondents into account (see Appendix A).

Non-response

The overall response rate to the 2005 survey is estimated to be 71.3%.

As the response rate to the 2005 survey in the Northern Territory was very low (less than 100 responses), the survey data could not be used to obtain estimates for 2005 for that jurisdiction. In order to provide some estimates for 2005, survey responses to the 2004 Northern Territory Medical labour force survey were weighted to 2005 registration benchmarking figures. The estimated 'response rate' for the Northern Territory, using this approach, is 31.8%. Therefore,

care should be taken when using averages or making comparisons over time for the Northern Territory and in making comparisons between the Northern Territory and other jurisdictions.

As there is no detailed information available on non-respondents or why they have not responded, it is assumed, for the purposes of deriving estimates, that their characteristics do not differ from those of respondents. This may lead to some biases in the estimates and should be taken into account when interpreting the numbers provided in this report.

More detailed information on the survey and estimation processes are provided in Appendix A.

Other sources of data on medical practitioners

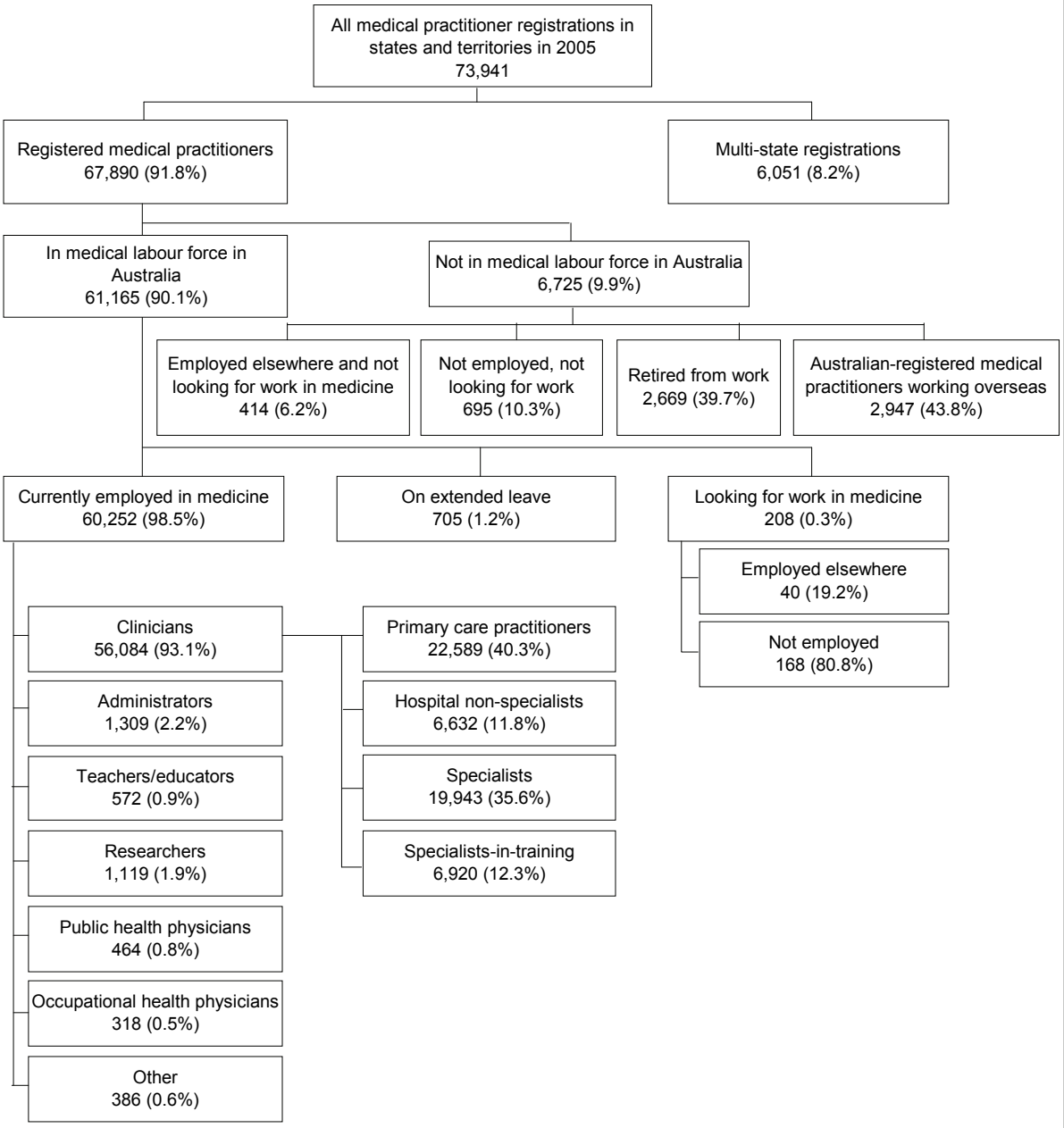
The AIHW Medical Labour Force Survey provides a time series of detailed estimates of the medical labour force, beginning in the early 1990s. It provides data not readily available from most other sources, such as the type of work undertaken by medical practitioners, their specialities and their hours worked. Unlike data collected from administrative sources, the AIHW Medical Labour Force Survey includes data on medical practitioners working in both the private and public sectors. The survey also provides some information on those registered medical practitioners who are not undertaking clinical work, or who are not employed.

There are a range of other data sources that also provide information on the medical labour force, and can provide a different perspective on medical practitioners than can be obtained from the AIHW Medical Labour Force Survey. Data from the following sources are also included in Appendices to this publication:

- registration data (state and territory registration boards) (Appendix B)
- Medicare data (Australian Government Department of Health and Ageing (DoHA)) (Appendix C)
- National Public Hospital Establishments Database (NPHED) (AIHW) (Appendix D).

Registered medical practitioners

The number of registered medical practitioners in 2005 is estimated, from the AIHW Medical Labour Force Survey, to be 67,890 (Figure 1 and Table 1). This figure was derived using practitioner registrations provided by the medical registration boards and responses from the survey. To remove apparent duplicates (those practitioners registered in more than one jurisdiction), the estimated number of multiple registrations (6,051) was subtracted from the total registrations (73,941).



Source: AIHW Medical Labour Force Survey, 2005.

Figure 1: Estimated registered medical practitioners, labour force status, Australia, 2005

Table 1: Registered medical practitioners: labour force status, 2001 to 2005

Labour force status	2001	2002	2003	2004	2005
Medical labour force	**54,138**	**54,796**	**57,049**	**59,004**	**61,165**
Employed in medicine	53,384	53,991	56,207	58,211	60,252
Looking for work in medicine	*219*	*280*	*251*	*217*	*208*
Employed elsewhere	34	49	50	44	40
Not employed	185	231	201	173	168
On extended leave	535	525	590	576	705
Not in the medical labour force	**7,092**	**7,283**	**6,994**	**6,495**	**6,725**
Working in medicine overseas	3,181	3,056	2,781	2,946	2,947
Not looking for work in medicine	*3,911*	*4,227*	*4,213*	*3,549*	3,778
Employed elsewhere (not in medicine)	414	437	443	419	414
Not employed	591	659	592	611	695
Retired	2,906	3,131	3,178	2,519	2,669
Total registered medical practitioners	**61,230**	**62,079**	**64,042**	**65,499**	**67,890**
Apparent multiple registrations	5,366	5,448	5,671	5,687	6,051
Total registrations	**66,596**	**67,527**	**69,713**	**71,186**	**73,941**
Percentage of registered practitioners employed in medicine	87.2	87.0	87.8	88.9	88.7

Sources: AIHW Medical Labour Force Surveys, 2001 to 2005.

The estimated number of registered medical practitioners rose steadily from 2001 and 2005, with an overall increase over the five year period of 10.9% (Table 1).

Of the 67,890 registered medical practitioners in 2005, 60,252 were employed in medicine in Australia. This represents a rise of 12.9% in the estimated number of employed practitioners from 2001. In 2005, 88.7% of registered medical practitioners in Australia were employed in medicine (Table 1). This proportion varied considerably across jurisdictions (Table 2). When comparing across jurisdictions the scope and response rates to the survey should be considered.

Table 2: Registered medical practitioners: labour force status, states and territories, 2005

Labour force status	NSW	Vic	Qld[(a)]	WA[(a)]	SA	Tas[(a)]	ACT	NT[(b)]	Australia
Employed in medicine in this state	21,730	15,831	9,352	*4,881*	*4,938*	1,438	1,363	*719*	60,252
On extended leave	196	225	86	93	43	37	12	13	705
Employed in medicine overseas	1,459	539	421	215	160	52	69	33	2,947
Employed elsewhere, not in medicine	208	81	56	51	32	6	15	3	454
Not employed	308	167	119	158	59	26	27	0	863
Retired	665	470	478	368	433	142	107	5	2,669
Total registered	**24,566**	**17,315**	**10,514**	**5,766**	**5,664**	**1,700**	**1,592**	**773**	**67,890**
Percentage of registered practitioners employed in medicine	88.5	91.4	89.0	84.7	87.2	84.5	85.6	93.1	88.7

(a) The number of medical practitioners in Queensland, Western Australia and Tasmania are underestimates as the benchmark figures did not include all registered medical practitioners (see Appendix A).

(b) Northern Territory estimates for 2005 are based on responses to the 2004 Medical labour force survey weighted to 2005 benchmark figures, giving an estimated response rate of 31.8% (compared to the actual response rate for the 2005 survey of 7.5%). Care should be taken when interpreting these figures.

Source: AIHW Medical Labour Force Survey 2005.

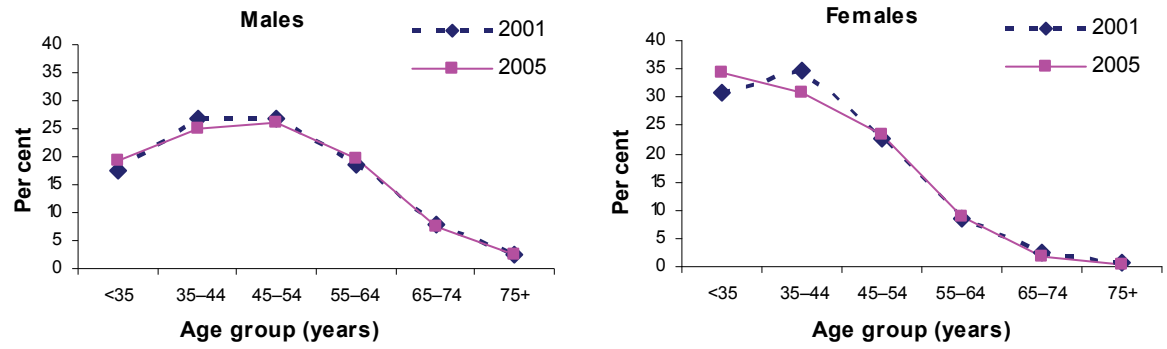
Medical practitioners employed in medicine

A medical practitioner who reported in the AIHW Medical Labour Force Survey that he or she was working mainly, or only, in their state of registration, in medicine, in the four weeks prior to the survey is considered to have been 'employed in medicine', or an 'employed medical practitioner', at the time of the survey (see Glossary). In 2005, there were 60,252 medical practitioners employed in medicine in Australia (Figure 1 and Tables 1 and 2).

The characteristics and supply of these employed medical practitioners are the focus of the remainder of this report.

Age and sex

In 2005, the average age of employed medical practitioners was slightly lower than that estimated from the 2001 AIHW Medical Labour Force Survey (45.1 and 46.1 years, respectively). The age profile of male practitioners changed little between 2001 and 2005, whereas for females there was a shift, with the proportion aged 35–44 years decreasing and the proportion aged less than 35 years increasing (Figure 2). The female proportion of the medical labour force also continued to rise, with females forming 30.7% of the medical labour force in 2001 and 32.9% in 2005 (Table 3).



Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

Figure 2: Employed medical practitioners: age group and sex, 2001 and 2005

Field of medicine

Field of medicine describes the type of medical work undertaken by employed practitioners. The 2005 survey categorised the fields as clinician, administrator, teacher/educator, researcher, public health physician, occupational health physician and other. Respondents were asked to provide the number of hours they worked in each field. A 'main field' was assigned on the basis of the most hours worked.

Clinicians, the largest group, are mainly involved in the diagnosis, care and treatment of individuals, including recommending preventative action. In this publication, a medical

practitioner who reported that they spent most of their total weekly working hours involved in the area of clinical practice (that is, in the diagnosis and/or treatment of patients) is classified as a clinician. Within the clinical group, further sub-fields are identified—primary care, hospital non-specialist, specialist and specialist-in-training. Medical practitioners working in the remaining fields are termed 'non-clinicians' (see Glossary).

Most employed medical practitioners in Australia in 2005 were working as clinicians (93.1%). Of these, 40.3% were primary care practitioners, followed by specialists (35.6%), specialists-in-training (12.3%) and hospital non-specialists (11.8%) (Figure 1 and Table 3). Of the non-clinical workforce, administrators (31.4%) and researchers (26.8%) were the largest components. Non-clinicians also include teachers/educators, public health physicians and occupational health physicians (13.7%, 11.1% and 7.6%, respectively).

Clinicians

Table 3: Employed medical practitioners: main field of medicine and demographics, 2001 and 2005

	2001			2005			% change in number, 2001 to 2005
Main field	**Number**	**% female**	**Average age**	**Number**	**% female**	**Average age**	
Clinician	49,392	30.6	45.9	56,084	32.9	44.9	13.5
Primary care practitioner	*21,671*	*34.9*	*48.3*	*22,589*	*36.5*	*48.6*	*4.2*
Vocationally registered	18,787	33.7	49.3	19,531	35.3	49.6	4.0
RACGP trainee	1,265	46.0	37.2	1,353	55.0	34.4	7.0
Other	1,619	40.1	43.5	1,705	36.7	48.7	5.3
Hospital non-specialist	*5,169*	*44.6*	*34.0*	*6,632*	*48.3*	*32.2*	*28.3*
RMO/intern	3,189	47.6	29.3	4,321	53.2	28.3	35.5
Career and other medical officers	1,980	39.8	40.5	2,310	39.1	39.8	16.7
Specialist	*17,124*	*18.9*	*49.7*	*19,943*	*20.9*	*49.2*	*16.5*
Internal medicine	4,522	19.0	48.5	5,411	21.3	48.8	19.6
Pathology	869	29.1	50.2	919	32.1	50.4	5.8
Surgery	2,814	7.4	51.6	3,421	6.2	50.6	21.6
Other specialties	8,919	21.5	49.7	10,193	24.6	48.8	14.3
Specialist-in-training	*5,429*	*37.1*	*33.1*	*6,920*	*40.9*	*32.2*	*27.5*
Internal medicine	1,434	37.1	32.6	1,919	43.8	31.5	33.9
Pathology	217	58.8	32.4	300	50.9	31.9	38.2
Surgery	876	22.6	32.0	1,190	20.0	31.4	35.7
Other specialties	2,902	39.8	33.7	3,512	45.6	32.9	21.0
Non-clinician	*3,991*	*31.8*	*48.2*	*4,168*	*33.1*	*48.3*	*4.4*
Administrator	1,271	28.8	49.2	1,309	27.7	49.6	3.0
Teacher/educator	452	35.7	50.2	572	39.6	50.9	26.5
Researcher	1,030	34.2	41.4	1,119	36.1	43.0	8.6
Public health physician	374	40.4	44.1	464	42.7	43.2	23.9
Occupational health physician	285	20.8	51.6	318	23.7	50.4	11.6
Other	579	30.9	56.3	386	29.4	59.4	-33.3
Total	**53,384**	**30.7**	**46.1**	**60,252**	**32.9**	**45.1**	**12.9**

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

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

The number of clinicians grew by 13.5% from 49,392 in 2001 to 56,084 in 2005 (Table 3). This is equivalent to an increase of 22 clinicians per 100,000 population (from 254 in 2001 to 275 in 2005) (Table 4).

The average age of clinicians decreased slightly over the five year period, from 45.9 years in 2001 to 44.9 years in 2005. The proportion of clinicians who were females rose over the same period, by 2.3 percentage points, to 32.9% in 2005.

Growth in the number of primary care practitioners from 2001 to 2005 was relatively small (4.2%) compared with that for other clinicians. Hospital non-specialists and specialists-in-training, in particular, experienced relatively high rates of growth (28.3% and 27.5%, respectively). The number of specialists rose by 16.5% from 2001 to 2005.

Table 4: Employed medical practitioner clinicians per 100,000 population, main area of clinical practice, 2001 to 2005

	Main area of clinical practice				
Year	Primary care practitioner	Hospital non-specialist	Specialist	Specialist-in-training	All clinicians
2001	112	27	88	28	**254**
2002	111	25	90	28	**254**
2003	110	30	91	30	**260**
2004	109	31	95	33	**268**
2005	111	32	98	34	**275**

Sources: Medical Labour Force Surveys, 2001 to 2005; ABS 2005.

Primary care practitioners

The 4.2% growth in primary care practitioner numbers between 2001 and 2005 (from 21,671 to 22,589) was slightly less than the growth in the Australian estimated resident population for the same period (5.1%), resulting in little difference between the primary care practitioner rates in both years (112 per 100,000 population in 2001 and 111 per 100,000 population in 2005) (Tables 3 and 4).

The average age of primary care practitioners was also much the same in 2001 and 2005 (48.3 years and 48.6 years respectively) (Table 3). The proportion of primary care practitioners who were female increased slightly over the five year period to 36.5% in 2005. On average, female primary care practitioners were younger than their male colleagues (44.6 years for females and 51.0 years for males in 2005).

Hospital non-specialists

The hospital non-specialist labour force grew by 28.3% from 5,169 in 2001 to 6,632 in 2005 (Table 3). This was equivalent to an increase from 27 hospital non-specialists per 100,000 population in 2001 to 32 per 100,000 population in 2005 (Table 4).

The average age for this group of clinicians in 2005 was 32.2 years, slightly younger than in 2001 (34.0 years) (Table 3). The proportion of females increased from 44.6% in 2001 to 48.3% in 2005. Hospital non-specialists had the highest proportion of females, and were one of the youngest sub-fields, on average, among clinicians.

Specialists

The number of employed specialist clinicians increased 16.5% between 2001 and 2005 (from 17,124 to 19,943) (Table 3). The number per 100,000 population rose from 88 to 98 (Table 5). The average age for specialists was 49.2 years in 2005, making them the oldest of the clinician sub-fields. In 2005, 20.9% of specialists were female, the lowest proportion among the clinician sub-fields.

Table 5: Employed specialist clinicians per 100,000 population, broad specialty group, 2001 to 2005

	Broad specialty group				
Year	Internal medicine	Pathology	Surgery	Other	Total
2001	23	4	14	46	88
2002	24	4	16	47	90
2003	24	5	16	47	91
2004	26	4	16	48	95
2005	27	5	17	50	98

Sources: Medical Labour Force Surveys, 2001 to 2005; ABS 2005.

Growth in the broad specialty groups from 2001 to 2005 was not uniform. Growth in numbers was highest for surgery specialist (up by 21.6%) and lowest for pathology specialist numbers (up by 5.8%) (Table 3). For surgery specialists, this equated to a rate increase of 3 per 100,000 population, whereas the rate of pathology specialists remained relatively steady at around 4 to 5 per 100,000 population (Table 5). Moderate growth in numbers occurred for internal medicine specialists (up by 19.6%) and other specialists (up by 14.3%).

While the average age did not differ greatly among the broad specialist groups, there were major differences in the representation of females. In 2005, 6.2% of surgery specialists were female, compared to 32.1% of pathology specialists (Table 3).

Specialists-in-training

The number of specialists-in-training increased by 27.5% between 2001 and 2005, from 5,429 to 6,920 (Table 3). This equates to a rise of 6 per 100,000 population to 34 per 100,000 in 2005 (Table 4). Trainee numbers in pathology grew by 38.2% while trainees in surgery increased by 35.7%.

In 2005, 40.9% of specialists-in-training were female, almost double the proportion of specialists. The average age of specialists-in-training was relatively young compared to specialists and primary care practitioners (32.2 years in 2005).

From 2001 to 2005 the proportion of trainees in surgery who were female declined from 22.6% to 20.0%. This was in contrast to specialists-in-training overall, for which the proportion that were female grew by 3.8 percentage points.

Non-clinicians

As outlined above, a medical practitioner who reported spending most of their total working hours mainly engaged in clinical practice is classified as a clinician.

A non-clinician is a medical practitioner who reported in the AIHW Medical Labour Force Survey that they worked the majority of their total weekly hours as one of the following:

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

It should be noted that using this definition, a clinician may undertake some non-clinician functions and vice-versa.

In 2005, there were 4,168 employed non-clinician medical practitioners, compared with 56,084 employed clinicians (Table 3).

The number of employed non-clinician medical practitioners increased by 4.4% from 2001 to 2005. Among the non-clinical fields, teachers/educators and public health physicians had the highest increase in numbers (26.5% and 23.9%, respectively).

Non-clinicians were, on average and as a group, slightly older than clinicians (48.3 years compared to 44.9 years in 2005). Around a third were female, similar to the proportion for clinicians.

Table 6: Specialists: main specialty of practice, sex, age and total hours worked, 2005

Specialty of practice (based on field in which most hours were worked)	Clinicians				All specialists			
	Number	% female	Average age	Average weekly hours	Number	% female	Average age	Average weekly hours
Internal medicine	*5,411*	*21.3*	*48.8*	*47.6*	*6,152*	*21.9*	*48.5*	*47.7*
Cardiology	732	7.7	49.1	52.3	789	8.6	48.9	51.9
Clinical genetics	63	59.0	47.6	40.2	83	52.7	47.2	42.5
Clinical haematology	178	18.9	48.8	52.0	205	20.0	48.3	51.5
Clinical immunology	82	13.9	53.6	45.5	104	14.7	52.6	46.9
Clinical pharmacology	9	16.8	56.0	44.5	24	23.4	49.1	46.7
Endocrinology	284	30.2	48.6	45.9	365	29.9	48.0	46.8
Gastroenterology	488	11.9	48.7	49.2	532	11.6	48.2	49.0
General medicine	625	14.0	53.0	45.6	695	14.5	53.0	45.6
Geriatrics	276	40.5	46.5	41.4	309	39.0	46.9	42.1
Infectious diseases	136	24.8	44.4	47.4	182	28.3	44.3	47.2
Intensive care(internal medicine)	217	16.8	44.8	53.6	230	15.9	44.9	53.3
Medical oncology	259	33.8	44.4	50.3	301	32.8	44.5	51.0
Neurology	318	12.0	51.9	47.2	367	12.9	51.3	47.4
Nuclear medicine	192	19.6	47.3	43.1	196	19.2	47.5	43.4
Paediatric medicine	915	31.7	48.1	45.3	1,023	32.1	48.2	45.5
Renal medicine	193	20.8	48.8	50.5	233	23.3	47.7	49.3
Rheumatology	237	27.7	50.1	44.6	268	28.5	49.3	44.9
Thoracic medicine	207	19.3	48.0	49.2	247	21.2	47.0	49.3
Pathology	*919*	*32.1*	*50.4*	*41.9*	*1,001*	*31.6*	*50.7*	*42.0*
Anatomical pathology	562	33.6	49.7	42.0	580	33.2	49.9	41.9
Clinical chemistry	49	16.1	51.8	44.2	59	15.8	51.8	44.7
Cytopathology	23	66.0	53.2	36.2	23	66.0	53.2	36.2
Forensic pathology	45	27.9	51.6	43.2	49	25.6	51.7	43.9
General pathology	68	2.0	55.6	43.5	70	1.9	55.8	42.9
Haematology	84	53.2	48.8	36.7	103	51.5	49.5	37.6
Immunology	7	37.4	47.3	34.7	13	28.5	50.9	43.5
Microbiology	83	27.8	49.9	45.2	105	27.8	51.0	45.1
Surgery	*3,421*	*6.2*	*50.6*	*51.5*	*3,588*	*6.4*	*51.1*	*50.7*
Cardiothoracic surgery	134	2.8	48.8	53.7	138	3.7	49.1	53.1
General surgery	1,119	6.9	52.4	50.8	1,174	7.2	52.8	50.1
Neurosurgery	143	10.0	47.9	57.3	152	10.1	48.9	55.5
Orthopaedic surgery	871	3.0	49.6	51.3	925	3.1	50.5	50.2
Otolaryngology	332	7.8	50.7	48.4	347	8.3	50.9	47.8
Paediatric surgery	73	14.9	52.0	50.4	76	14.2	52.4	50.0
Plastic surgery	322	9.5	49.7	51.9	335	9.2	50.0	51.5
Urology	251	4.4	48.9	52.9	259	4.3	49.5	52.0
Vascular surgery	176	7.1	50.9	54.0	181	6.9	51.0	54.0
Other specialties	*10,193*	*24.6*	*48.8*	*43.1*	*11,212*	*24.7*	*49.0*	*43.2*
Anaesthesia	2,837	22.1	46.7	43.6	2,883	22.0	46.8	43.6
Dermatology	360	32.0	49.4	43.2	367	32.1	49.4	43.1
Diagnostic radiology	1,278	18.3	49.5	41.9	1,303	18.3	49.6	41.9
Emergency medicine	653	24.5	40.8	43.0	721	24.0	41.2	43.3
Intensive care (anaesthesia)	164	8.4	45.5	51.7	168	8.9	45.8	51.7
Medical administration	19	38.3	55.0	48.3	203	28.7	51.9	45.9
Obstetrics and gynaecology	1,233	27.1	50.9	48.5	1,290	27.2	50.9	48.5
Occupational medicine	42	11.6	52.2	46.5	211	15.7	53.0	40.6
Ophthalmology	755	13.6	51.3	43.1	772	13.6	51.5	43.0
Psychiatry	2,239	31.6	51.4	39.5	2,454	31.2	51.3	39.8
Public health medicine	29	49.3	48.3	47.0	193	43.4	49.1	45.0
Radiation oncology	207	29.7	46.7	47.8	215	29.8	46.7	47.7
Rehabilitation medicine	238	29.0	49.6	41.1	256	28.9	50.2	40.7
Other	138	38.5	47.2	41.3	178	34.6	48.8	40.1
Total	**19,943**	**20.9**	**49.2**	**45.7**	**21,953**	**21.3**	**49.3**	**45.6**

Source: AIHW Medical Labour Force Survey, 2005.

Country of first medical qualification

In the 2005 AIHW Medical Labour Force Survey, the country of first medical qualification was collected from employed medical practitioners in all jurisdictions except New South Wales and the Northern Territory. Of those jurisdictions that collected this information, Western Australia had the highest proportion of employed medical practitioners who stated that they had obtained their first qualification in a country outside of Australia (34.5%), whilst Victoria had the lowest (17.5%) (Table 7).

It should be noted that this information relates to all employed medical practitioners, including those who have been resident in Australia for many years and who are generally registered. The group of medical practitioners who stated that they gained their first qualification overseas includes, but is not restricted to, 'overseas-trained doctors' (a term which usually refers to conditionally registered medical practitioners who are either in Australia temporarily or seeking general registration).

As conditionally registered medical practitioners are not included in the survey population in Queensland and conditionally registered non-specialists are not included in Tasmania, care should be taken in interpreting the data on country of first qualification.

Table 7: Employed medical practitioners: country of first qualification, states and territories, 2005

Country of first qualification	NSW[(a)]	Vic	Qld[(b)(c)]	WA[(c)]	SA	Tas[(c)]	ACT	NT[(a)]
Australia	. .	13,050	7,524	3,095	3,777	1,056	980	..
New Zealand	. .	311	243	159	104	39	54	..
UK/Ireland	. .	683	704	688	236	150	73	..
Asia[(d)]	. .	705	358	320	517	—	—	..
North America[(d)]	. .	—	19	12	8	5	3	..
South Africa[(d)]	. .	—	188	210	62	—	—	..
Other countries[(d)]	. .	1,064	269	239	216	177	253	..
Not stated	21,730	19	46	158	18	11	—	719
Total	21,730	15,831	9,352	4,881	4,938	1,438	1,363	719
% Australian trained	n.a.	82.5	80.9	65.5	76.8	74.0	71.9	n.a.

(a) In the 2005 survey, 'Country where first qualification was obtained' was not collected in New South Wales or the Northern Territory.

(b) Conditionally registered medical practitioners are not included in AIHW Medical Labour Force Survey in Queensland.

(c) The number of medical practitioners in Queensland, Western Australia and Tasmania are underestimates as the benchmark figures did not include all registered medical practitioners (see Appendix A).

(d) Not all categories were collected or available in all jurisdictions.

Source: AIHW Medical Labour Force Survey 2005.

Working hours

The total number of hours worked per week, in the four weeks prior to the survey, is self-reported by medical practitioners in the AIHW Medical Labour Force Survey, and relates to the number of hours worked in all medical fields. As many medical practitioners allocate their time across more than one medical field, working hours are presented by field of medicine. Clinical hours are the reported hours worked per week as a clinician.

Field of medicine

In 2005, clinicians worked, on average, a total of 43.9 hours per week, and non-clinicians, 41.6 hours. Of clinicians, specialists-in-training had the longest average hours per week (49.1 hours) and primary care practitioners the lowest (39.9 hours) (Table 8).

From 2001 and 2005, the average total hours worked per week by medical practitioners declined by 1.7 hours. Clinicians' average hours declined from 45.6 to 43.9, while for non-clinicians the decline was from 43.2 to 41.6 hours. There was a similar decline in clinical hours worked.

Table 8: Employed medical practitioners by field of medicine: average weekly hours worked and proportion working 50 hours or more, 2001 and 2005

	2001			2005		
Main field	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
Clinician	*45.6*	*42.1*	*47.5*	*43.9*	*40.1*	*40.3*
Primary care	41.9	39.7	37.3	39.9	37.4	30.0
Hospital non-specialist	47.1	45.4	50.2	46.2	44.7	44.7
Specialist	48.3	42.1	56.2	45.7	39.4	47.2
Specialist-in-training	50.8	48.8	58.3	49.1	46.5	50.3
Non-clinician	*43.2*	*11.6*	*46.6*	*41.6*	*10.0*	*40.5*
Administrator	48.2	12.6	59.2	45.5	10.8	51.6
Teacher/educator	38.1	10.5	36.1	36.6	10.1	32.4
Researcher	45.5	11.2	50.0	44.8	10.0	46.8
Public health physician	44.4	7.2	43.0	43.3	6.6	35.0
Occupational health physician	39.9	11.3	41.4	37.7	6.7	27.8
Other	32.6	12.6	25.2	27.7	8.5	13.6
Total	**45.4**	**40.9**	**47.4**	**43.7**	**38.9**	**40.3**

Sources: AIHW Medical Labour Force Survey, 2001 and 2005.

The proportion of medical practitioners working 50 or more hours in total per week decreased by 7.1 percentage points overall, from 47.4% in 2001 to 40.3% in 2005 (Table 8). A decrease was experienced in all main fields. Of clinicians, the largest decrease in the proportion working 50 or more hours per week was for specialists (from 56.2% to 47.2%) and the smallest was for hospital non-specialists (from 50.2% to 44.7%).

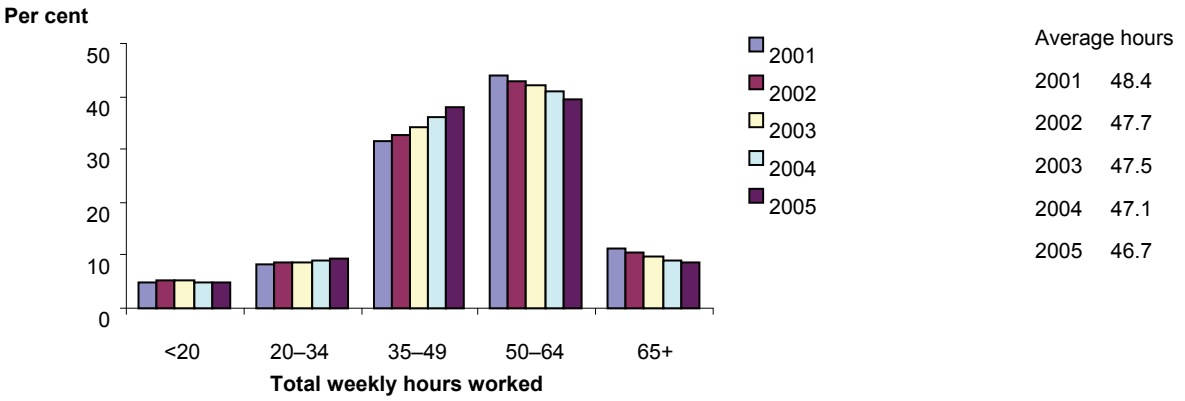
In 2005, the average clinical hours worked per week were 40.1 for clinicians and 10.0 for non-clinicians (Table 8). From 2001 to 2005, the average clinical hours worked per week declined for both clinicians and non-clinicians.

Sex

Male medical practitioners have historically worked more hours per week than females. In 2005 male medical practitioners worked, on average, a total of 46.7` hours per week, while female medical practitioners worked, on average, 37.6 hours per week (Figures 3 and 4). In 2001 and 2005, males worked, on average, 9.1 and 10.4 total hours per week more than

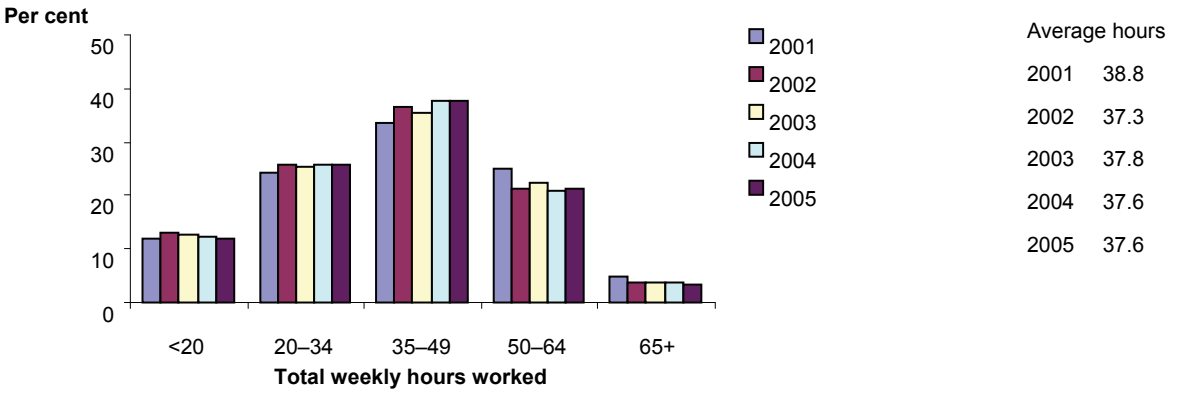
females, respectively. Males were also more likely to work 50–64 hours in total per week than females. Despite the shift towards working fewer hours, the distribution of hours worked by male medical practitioners remained skewed towards long working weeks. Around 48.1% of male medical practitioners worked 50 or more hours per week in 2005, although the proportion had decreased from 55.2% in 2001. The proportion of females working 50 or more hours per week also decreased, from 29.8% in 2001 to 24.5% in 2005.

Females in 2005 most commonly worked a total of 35–49 hours per week (37.7% in 2005, up from 33.7% in 2001). In 2005, female medical practitioners were more likely to have worked less than 35 total hours per week (37.8%) than males (14.0%).



Sources: AIHW Medical Labour Force Surveys, 2001 to 2005.

Figure 3: Employed male medical practitioners by total hours worked per week, 2001 to 2005

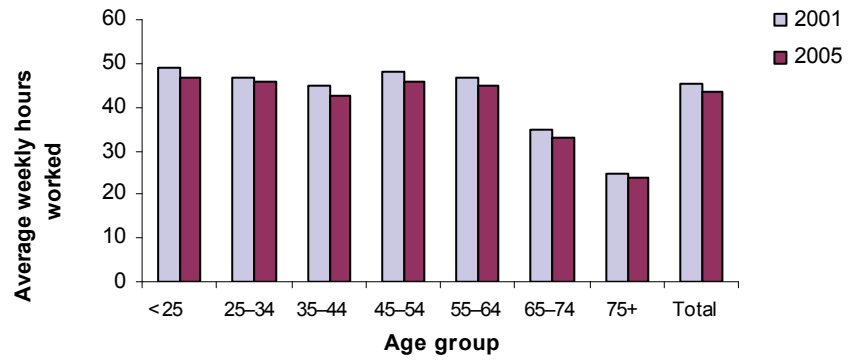


Sources: AIHW Medical Labour Force Surveys, 2001 to 2005.

Figure 4: Employed female medical practitioners by total hours worked per week, 2001 to 2005

Age

Medical practitioners aged under 25 years worked the highest average total hours per week in both 2001 and 2005 (49.1 and 46.9 hours, respectively), followed by those aged 45–54 years (48.3 and 45.6 hours, respectively) (Figure 5). Medical practitioners in all age groups reduced their average weekly total hours over the five year period, the largest drop being for those aged 45–54 years (down by 2.7 hours).



Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

Figure 5: Employed medical practitioners: average total weekly hours by age group, 2001 and 2005

Work setting and sector

Work setting and sector refer to the type of service or facility in which medical practitioners work and whether the care is provided in a public or private organisation. In 2005, 31,101 medical practitioners reported working some hours in one or more public sector work settings (a rise of 12.9% from 27,552 in 2001) and 37,960 in one or more private sector work settings (a rise of 8.2% from 35,098 in 2001) (Table 9).

On average, in 2005, medical practitioners worked fewer weekly hours in the public sector (34.8), than in the private sector (35.3). Higher average weekly hours were worked by medical practitioners in public hospitals (34.7 hours) than in private hospitals (18.7) (Table 9).

Table 9: Employed medical practitioners: total hours worked, work setting and sector[(a)], 2005

	Public sector		Private sector	
Work setting	**Number**	**Average weekly total hours**	**Number**	**Average weekly total hours**
Private medical practitioners' rooms/surgery	. .	. .	32,181	33.1
Hospital (including psychiatric hospitals)	26,480	34.7	9,279	18.7
Non-residential health facility, such as ambulatory centre, day surgery, community health centre or outpatient clinic	4,259	14.7	2,094	12.3
24-hour or other medical centre (not included above)	. .	. .	1,119	24.9
Other residential care facility, such as nursing home or hospice	741	7.6	1,772	5.6
Aboriginal health service	514	19.2	184	18.1
Tertiary education institution	2,269	19.2	1,336	6.6
Government (including defence forces, laboratory and research organisation)	1,479	22.8	. .	. .
Other	486	18.1	1,444	17.3
Total[(a)]	**31,101**	**34.8**	**37,960**	**35.3**
Total 2001[(a)]	**27,552**	**35.4**	**35,098**	**37.6**

(a) Public/private employment sector based on self-reported hours worked in each sector. A medical practitioner may have work hours in both sectors.

Source: AIHW Medical Labour Force Survey, 2005.

Supply of practitioners

Overall supply

Data on the size and characteristics of the medical labour force present a valuable profile of medical practitioners, but do not give a complete picture of the overall level of service provided. As some medical practitioners 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 medical 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' (Box 1). This provides the full-time workloads being worked.

To take account of population differences across Australia, and across time, ABS estimated resident population figures have been used to convert the FTE number to an FTE rate (FTE per 100,000 population).

The FTE rate indicates that the overall supply of medical practitioners was higher in 2005 than in 2001 (287 FTE and 277 FTE per 100,000 population, respectively) (Table 10).

Box 1: Full-time equivalent

The number of full-time equivalent (FTE) medical practitioners is calculated by multiplying the number of medical practitioners by the average weekly hours worked, and dividing by the number of hours in a 'standard' full-time working week.

FTE gives a useful measure of supply as it takes into account both those working full-time and those working part-time.

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 and medical practitioners work, on average, around 45 hours per week (Table 8).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 medical practitioner workforce.

Table 10: Employed medical practitioners: FTE per 100,000 population[(a)], main field of medicine, 2001 to 2005

Main field	2001	2002	2003	2004	2005
Clinician	*258*	*252*	*258*	*263*	*268*
Primary care	104	101	100	98	98
Hospital non-specialist	28	25	31	32	33
Specialist	95	95	95	97	99
Specialist-in-training	32	31	32	36	37
Non-clinician	*20*	*19*	*21*	*19*	*19*
Total	**277**	**271**	**279**	**283**	**287**

(a) FTE based on total weekly hours.

Sources: AIHW Medical Labour Force Surveys, 2001 to 2005; ABS 2005.

Supply of clinicians

A clinician is a medical practitioner mainly involved in the diagnosis, care and treatment of individuals, including recommending preventative action. In this publication, a medical practitioner who reported that they spent most of their total weekly working hours involved in the area of clinical practice (that is, in the diagnosis and/or treatment of patients) is classified as a clinician.

Following a decline in the supply of clinicians from 258 FTE per 100,000 in 2001 to 252 FTE in 2002, there was an increase to 268 FTE per 100,000 population in 2005 (Table 10). This pattern was not consistent across the practitioner fields, however.

Estimated primary care practitioner supply decreased steadily between 2001 and 2005 from a rate of 104 to 98 FTE per 100,000 population (Table 10). Over the same time period, the estimated supply of hospital non-specialists rose from 28 FTE to 33 FTE per 100,000 population (although supply appeared to decline in 2002).

Between 2001 and 2003, the estimated supply of specialists-in-training was stable at around 32 FTE per 100,000 population before rising to 37 FTE in 2005. Similarly, the estimated supply of specialists was stable at 95 FTE per 100,000 from 2001 to 2003, but increased to 99 FTE per 100,000 population in 2005.

Estimated supply across the broad specialty groups is provided in Table 11.

Table 11: Employed specialist clinicians: FTE per 100,000 population[(a)], broad speciality group, 2001 to 2005

Broad specialty group	2001	2002	2003	2004	2005
Internal medicine	26	26	26	28	28
Pathology	4	4	4	4	4
Surgery	17	18	18	19	19
Other specialties	47	46	46	47	48
Total	**95**	**95**	**95**	**97**	**99**

(a) FTE based on total weekly hours.

Sources: Medical Labour Force Surveys, 2001 to 2005; ABS 2005.

Regional comparisons

Australian Standard Geographical Classification (ASGC) regions

The distribution of medical practitioners in Australia is of considerable interest to both government and communities. Information on the work location of medical practitioners is collected in the AIHW survey, providing a means, in combination with other data on hours and population, for examining variability in the supply of practitioners across Australia. Using the postcode of the practitioner's main work location, they are allocated to one of the following ASGC regions: Major cities, Inner regional, Outer regional and Remote/Very remote regions (see Glossary).

In 2005, of the 60,252 estimated employed medical practitioners in Australia, information on the region of their main work location in the four weeks prior to the survey was available for 58,443. Of these, 79.7% reported that the location of their main job was in a Major city, 13.7% in the Inner regional area, 5.4% in the Outer regional area, and 1.2% in the Remote/Very remote region. Of the 21,950 primary care practitioner clinicians who reported their main work location in 2005, 71.1% were working mainly in Major cities, 18.7% in Inner regional areas, 8.1% in Outer regional areas and 2.1% in Remote/Very remote locations. In comparison, the respective proportions of the estimated resident population in each region at 30 June 2005 were 66.2%, 21.1%, 10.2% and 2.5%.

Table 12: Employed medical practitioners: selected features, Australia 2001 and 2005

Main field	Number	Average age	% female	Average hours	FTE rate[(a)]
			2001		
Clinician	49,392	45.9	30.6	45.6	*258*
Primary care	21,671	48.3	34.9	41.9	104
Hospital non-specialist	5,169	34.0	44.6	47.1	28
Specialist	17,124	49.7	18.9	48.3	95
Specialist-in-training	5,429	33.1	37.1	50.8	32
Non-clinician	3,991	48.2	31.8	43.2	*20*
Total	**53,384**	**46.1**	**30.7**	**45.4**	**277**
			2005		
Clinician	56,084	44.9	32.9	43.9	268
Primary care	22,589	48.6	36.5	39.9	98
Hospital non-specialist	6,632	32.2	48.3	46.2	33
Specialist	19,943	49.2	20.9	45.7	99
Specialist-in-training	6,920	32.2	40.9	49.1	37
Non-clinician	4,168	48.3	33.1	41.6	19
Total	**60,252**	**45.1**	**32.9**	**43.7**	**287**

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

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

The following section provides a comparison of the medical workforce in the regions and with the national data (Table 12). Some care should be taken in comparing the regional figures, as not all medical practitioners in 2005 reported their main work location. Nationally, in 2005, 1,809 employed medical practitioners could not be allocated to a region.

This number, while small relative to the total number of employed medical practitioners is larger than the number who reported that their main work location was in a Remote/Very remote location (707). It should also be noted that, because of the missing values, the national figures for numbers and rates, in Table 12, are greater than the sum of the individual regions (Tables 13 to 16).

In 2005, the overall supply of medical practitioners in Australia was estimated to be 287 FTE per 100,000 population (Table 12). This varied considerably across regions, estimated to be 335 FTE per 100,000 population in Major cities, 181 FTE in Inner regional, 153 in Outer regional and 147 in Remote/Very remote regions (Tables 13 to 16). For primary care practitioner clinicians, however, supply was less varied. In 2005, it is estimated that there were 100 FTE primary care practitioners employed per 100,000 population in Major cities, 88 in Inner regional, 87 in Outer regional and 90 in Remote/Very remote regions.

Major cities

Of the medical practitioners employed in Major cities in 2005, 92.5% were clinicians. Of employed clinicians, 37.5% were specialists, 36.2% were primary care practitioners, 14.0% specialists-in-training and 12.2% hospital non-specialists (Table 13). The proportion of specialists and specialists-in-training was higher in this region than any other region.

Table 13: Employed medical practitioners in Major cities[a]: selected features, 2001 and 2005

Main field	Number	Average age	% female	Average hours	FTE rate[b]
			2001		
Clinician	*37,525*	*46.0*	*31.3*	*45.2*	*293*
Primary care	15,140	48.8	36.9	40.7	106
Hospital non-specialist	3,880	33.7	45.3	46.8	31
Specialist	13,856	49.6	19.3	48.0	115
Specialist-in-training	4,649	33.0	37.1	50.5	41
Non-clinician	*3,392*	*47.9*	*31.7*	*43.3*	*25*
Total	**40,916**	**46.1**	**31.3**	**45.1**	**319**
			2005		
Clinician	*43,105*	*44.5*	*33.8*	*43.7*	*311*
Primary care	15,614	49.1	37.9	38.9	100
Hospital non-specialist	5,273	31.6	49.7	46.2	40
Specialist	16,180	48.9	21.9	45.5	122
Specialist-in-training	6,038	32.1	41.0	49.0	49
Non-clinician	*3,475*	*48.0*	*32.9*	*41.8*	*24*
Total	**46,579**	**44.7**	**33.7**	**43.5**	**335**

(a) In 2001, 2,013 employed medical practitioners did not report the region they worked in, compared to 1,803 in 2005. Hence the number of employed medical practitioners stated by region is an underestimate.

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

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

Around one-third (33.7%) of medical practitioners in 2005 were female, the highest proportion in the four ASGC regions. The average age of medical practitioners was 44.7 years, the lowest of the four regions. These differences reflect, in part, the different fields of practise in Major cities compared to other regions, with a relatively high proportion of specialists-in-training and hospital non-specialists (who are younger, on average, and more often female than other medical practitioners).

The number of employed medical practitioners in Major cities increased by 13.8% from 2001 to 2005. For clinicians, overall, the increase was 14.8%. Amongst clinicians, the largest increase over the period occurred for hospital non-specialists (35.9%).

There was also a rise in the supply of medical practitioners of 16 FTE per 100,000 population, and of clinicians of 18 FTE per 100,000 population, from 2001 to 2005. However, primary care practitioner clinician supply decreased by 6 FTE per 100,000 to 100 FTE per 100,000 population in 2005. This drop is largely a result of a decline in the average hours worked by primary care practitioners in this region.

Inner regional

In 2005, 95.6% of employed medical practitioners in Inner regional areas reported working at least some clinical hours. As with Major cities a relatively high proportion of these clinicians were specialists (30.2% in 2005). However, this region had a much higher proportion who were primary care practitioners (53.9%) and a lower proportion who were specialists-in-training (6.1%) and hospital non-specialists (9.8%) than Major cities.

In 2005, medical practitioners employed in Inner regional areas worked, on average, very similar hours to the national average. However, they were slightly older, with an average age of 46.3 compared to 45.1 nationally. They were also less likely to be female (28.2% compared to 32.9%). In 2005, 53.8% of clinicians in Inner regional areas were primary care practitioners, a much higher proportion than for Australia as a whole (40.3%).

Between 2001 and 2005, Inner regional areas experienced the largest population growth (6.9%) and the highest overall growth in practitioner numbers (13.9%) of the four regions (Table 14). Despite the growth in numbers of practitioners, overall supply only rose marginally, from 179 FTE per 100,000 population to 181 FTE, as a result of a fall in average hours worked per week (from 46.3 to 43.8).

Table 14: Employed medical practitioners in Inner regional areas[(a)]: selected features, 2001 and 2005

Main field	Number	Average age	% female	Average hours	FTE rate[(b)]
			2001		
Clinician	*6,715*	*46.3*	*26.3*	*46.5*	*172*
Primary care	3,749	47.1	28.7	43.8	91
Hospital non-specialist	666	36.2	37.4	47.5	17
Specialist	1,944	50.0	15.6	49.9	54
Specialist-in-training	357	33.4	38.5	54.9	11
Non-clinician	*290*	*51.9*	*27.9*	*42.1*	*7*
Total	**7,005**	**46.5**	**26.4**	**46.3**	**179**
			2005		
Clinician	*7,638*	*46.1*	*28.2*	*44.0*	*174*
Primary care	4,113	47.3	33.4	41.2	88
Hospital non-specialist	752	34.5	39.2	46.2	18
Specialist	2,305	50.5	13.2	46.9	56
Specialist-in-training	467	32.4	38.4	51.3	12
Non-clinician	*344*	*50.7*	*28.1*	*39.4*	*7*
Total	**7,982**	**46.3**	**28.2**	**43.8**	**181**

(a) In 2001, 2,013 employed medical practitioners did not report the region they worked in, compared to 1,803 in 2005. Hence the number of employed medical practitioners stated by region is an underestimate.

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

Source: AIHW Medical Labour Force Surveys, 2001 and 2005.

Outer regional

In 2005, 94.0% of employed medical practitioners in Outer regional areas were categorised as clinicians. Of these, 59.3% of were primary care practitioners, 25.1% were specialists, 6.3% specialists-in-training and 9.2% hospital non-specialists.

Of all employed medical practitioners, 30.4% were female, slightly lower than the national average of 32.9%. They were also older, on average (46.4 years compared to 45.1 years).

Medical practitioners in Outer regional areas in 2005 worked, on average, 1.3 hours per week more than the national average (45.0 and 43.7 hours, respectively). Primary care practitioner clinicians in Outer regional areas, in particular, worked longer weekly hours than the national average (44.4 and 39.9 hours, respectively).

In the Outer regional region from 2001 to 2005, there was a 12.5% increase in practitioner numbers but only a 2.9% increase in estimated resident population. The average total hours worked per week by medical practitioners declined from 47.6 to 45.0 hours over this period. As a result of the combination of these factors there was an overall increase in practitioner supply of 6 FTE per 100,000 (from 148 to 153 FTE per 100,000) (Table 15).

Table 15: Employed medical practitioners in Outer regional areas[(a)]: selected features, 2001 and 2005

Main field	Number	Average age	% female	Average hours	FTE rate[(b)]
			2001		
Clinician	*2,689*	*45.3*	*29.3*	*47.8*	*142*
Primary care	1,698	46.6	30.6	46.5	87
Hospital non-specialist	233	33.3	48.4	48.5	12
Specialist	593	50.2	16.8	50.3	33
Specialist-in-training	165	32.9	32.7	51.1	9
Non-clinician	*132*	*46.8*	*34.7*	*44.8*	*7*
Total	**2,822**	**45.4**	**29.5**	**47.6**	**148**
			2005		
Clinician	*2,986*	*46.2*	*29.4*	*45.3*	*145*
Primary care	1,772	47.7	31.9	44.4	84
Hospital non-specialist	276	34.8	49.2	44.6	13
Specialist	749	50	16.2	47.0	38
Specialist-in-training	189	33.5	30.3	47.8	10
Non-clinician	*189*	*48.3*	*45.7*	*40.6*	*8*
Total	**3,175**	**46.4**	**30.4**	**45.0**	**153**

(a) In 2001, 2,013 employed medical practitioners did not report the region they worked in, compared to 1,803 in 2005. Hence the number of employed medical practitioners stated by region is an underestimate.

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

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

Remote / Very remote

The majority of employed medical practitioners in Remote/Very remote regions in 2005 were clinicians working in primary care. In 2005, 70.2% of all employed clinicians, and 63.5% of all employed medical practitioners, in the region were primary care practitioners. The other main field for clinicians in this region was hospital non-specialist, accounting for 15.8%. In 2005, 11.5% of employed medical practitioners in Remote/Very remote regions were specialists and 2.6% specialists-in-training.

The average age of all employed medical practitioners in the Remote / Very remote region in 2005 was 45.2 years, the same as the national average. The proportion of females was also very similar to the national average (32.2%).

Medical practitioners working in Remote/Very remote areas worked, on average, 3.4 hours per week more than the national average (47.1 compared to 43.7 hours). Primary care practitioners, in particular, worked longer average hours in Remote/Very remote areas than in other areas of Australia. In 2005, this group of clinicians in Remote/Very remote areas worked, on average, 6.2 hours per week more than the national average (46.1 compared to 39.9 hours).

However, from 2001 to 2005 the average total weekly hours worked by medical practitioners in these regions declined by 2.5 hours. For primary care practitioner clinicians, the average hours worked per week declined by 2.7 hours.

Between 2001 and 2005, the number of employed medical practitioners in Remote/Very remote regions is estimated to have increased by 13.6%. The FTE rate rose from 138 per 100,000 to 148 per 100,000 over this period. The supply of primary care practitioner clinicians was 90 FTE per 100,000 in 2001 and 92 in 2005.

Some care should be taken in interpreting changes in the Remote/Very remote region due to the relatively small number of employed medical practitioners who stated that their main job was located in this region, and the estimation method and low response rate for the Northern Territory in 2005 (see Explanatory notes).

Table 16: Employed medical practitioners in Remote / Very remote areas[(a)]: selected features, 2001 and 2005

Main field	Number	Average age	% female	Average hours	FTE rate[(b)]
			2001		
Clinician	592	42.2	35.5	49.7	130
Primary care	416	42.9	34.5	48.8	90
Hospital non-specialist	96	37.1	41.0	51.3	22
Specialist	63	48.2	28.5	51.0	14
Specialist-in-training	18	31.5	53.9	57.7	5
Non-clinician	35	48.5	35.4	48.3	8
Total	**627**	**42.6**	**35.5**	**49.6**	**138**
			2005		
Clinician	644	45.1	32.1	47.0	133
Primary care	452	46.1	35.0	46.1	92
Hospital non-specialist	102	38.2	27.5	49.8	22
Specialist	74	51.4	17.6	48.1	16
Specialist-in-training	17	32.8	47.6	50.6	4
Non-clinician	67	45.6	33.2	48.3	14
Total	**712**	**45.2**	**32.3**	**47.1**	**148**

(a) In 2001, 2,013 employed medical practitioners did not report the region they worked in, compared to 1,803 in 2005. Hence the number of employed medical practitioners stated by region is an underestimate.

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

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

States and territories

The following should be noted when comparing state and territory estimates derived from the AIHW Medical labour force:

- Northern Territory estimates for 2005 are based on a low response rate of 31.8%. In 2001, the estimated response rate for Western Australia was low (36.3%) (see Table A1).
- Western Australia, Queensland and Tasmania figures are underestimates of the total medical labour force due to the benchmarking figures used in those jurisdictions (see Appendix A).
- The scope of the survey also varies across jurisdictions, with conditionally registered medical practitioners in Queensland, and conditionally registered non-specialists in Tasmania, not being included. In other jurisdictions, all medical practitioners renewing their registration in the survey year were included in the survey scope.

Between 2001 and 2005, the estimated number of employed medical practitioners increased in all jurisdictions (Table 17). The Australian Capital Territory, Tasmania and New South Wales experienced larger increases than the national average of 12.9% (20.5%, 18.6% and 16.3% respectively). The estimated FTE rate increased in all jurisdictions except Queensland, Western Australia and South Australia.

Table 17: Employed medical practitioners: selected characteristics, states and territories, 2001 and 2005

Characteristic	NSW	Vic	Qld[a]	WA[a]	SA	Tas[a][b]	ACT	NT[c]	Total[b]
					2001				
Number	18,677	14,147	8,453	4,529	4,586	1,212	1,131	647	53,384
Percentage female	30.4	30.7	30.4	31.9	29.7	25.6	34.8	44.9	30.7
Average age	*45.8*	*48.2*	*45.3*	*46.1*	*45.2*	*n.a.*	*46.5*	*40.7*	*46.1*
Males	47.8	49.8	47.4	48.5	47.1	n.a.	48.8	43.0	48.1
Females	41.2	44.0	40.6	40.8	40.8	n.a.	42.4	37.9	41.5
FTE rate[d]	289	297	238	237	302	247	353	331	277
					2005				
Number	21,730	15,831	9,352	4,881	4,938	1,438	1,363	719	60,252
Percentage female	32.9	32.8	32.1	33.9	31.8	32.6	37.5	41.7	32.9
Average age	*44.4*	*44.1*	*46.7*	*46.8*	*45.5*	*49.0*	*47.0*	*41.1*	*45.1*
Males	46.6	46.3	48.8	49.4	47.4	51.5	48.9	43.7	47.3
Females	39.9	39.5	42.4	41.7	41.3	43.8	43.7	37.3	40.6
FTE rate[d]	319	304	227	223	302	268	393	337	287

(a) The number of medical practitioners in Queensland, Western Australia and Tasmania are underestimates as the benchmark figures did not include all registered medical practitioners (see Appendix A).

(b) Data on average age are not available for Tasmania in 2001. Total average age is calculated excluding Tasmania.

(c) Northern Territory estimates for 2005 are based on responses to the 2004 Medical labour force survey weighted to 2005 benchmark figures, giving an estimated response rate of 31.8% (compared to the actual response rate for the 2005 survey of 7.5%). Care should be taken when interpreting these figures.

(d) FTE per 100,000 population. FTE based on total weekly hours.

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005.

The number of medical practitioners working at least one hour per week in the public and private sectors, the average hours worked by those medical practitioners in each of those sectors, and the FTE rate by sector are provided, by state and territory, in Table 18. It should be noted that the sum of practitioner numbers working in the public and private sectors in each jurisdiction (Table 18) are greater than the total estimated number of practitioners in each jurisdiction (Table 17). Medical practitioners who reported working at least one hour in both sectors are counted in each and are, therefore, 'double-counted'. However, as not all medical practitioners reported their hours worked by sector, these figures will be an underestimate of the actual numbers in each sector.

The sum of the public and private sector FTE rates in each jurisdiction (Table 18) are less than the totals (Table 17) as those medical practitioners who did not report hours worked by sector could not be allocated to a sector, and are thus not included in the FTE calculation for that sector.

Table 18: Employed medical practitioners: sector[a], states and territories, 2001 and 2005

Sector	NSW	Vic	Qld[b]	WA[b]	SA	Tas[b]	ACT	NT[c]	Total
Public					**2001**				
Number	9,622	7,584	3,773	2,424	2,509	531	645	463	**27,552**
Average weekly hours worked in sector	35.7	34.3	38.1	34.9	33.6	28.0	36.5	43.0	**35.4**
FTE rate[d]	116	120	88	99	124	70	164	224	**112**
Private									
Number	12,341	9,551	5,475	2,940	2,998	880	660	254	**35,098**
Average weekly hours worked in sector	37.3	36.4	41.2	38.0	36.9	37.1	35.0	31.2	**37.6**
FTE rate[d]	156	161	138	131	163	154	161	89	**151**
Public					**2005**				
Number	11,599	8,412	4,181	2,156	2,886	690	672	505	**31,101**
Average weekly hours worked in sector	35.3	34.4	36.9	33.1	33.1	27.4	36.3	38.2	**34.8**
FTE rate[d]	135	127	86	79	137	86	164	207	**118**
Private									
Number	13,586	10,256	5,940	2,978	3,051	1,054	827	268	**37,960**
Average weekly hours worked in sector	34.7	34.9	38.8	33.5	34.7	33.9	37.0	31.8	**35.3**
FTE rate[d]	155	157	128	110	151	163	206	92	**146**

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

(b) The number of medical practitioners in Queensland, Western Australia and Tasmania are underestimates as the benchmark figures did not include all registered medical practitioners (see Appendix A).

(c) Northern Territory estimates for 2005 are based on responses to the 2004 Medical labour force survey weighted to 2005 benchmark figures, giving an estimated response rate of 31.8% (compared to the actual response rate for the 2005 survey of 7.5%). Care should be taken when interpreting these figures.

(d) FTE per 100,000 population. FTE is calculated as: the number of medical practitioners who reported working at least one hour in the sector, multiplied by the average weekly total hours worked in the sector (as reported by medical practitioners), divided by 45.

Note: The sum of practitioner numbers is greater than the total number of practitioners because those who reported working at least one hour in both the private and public sectors are counted in both sectors. As not all medical practitioners reported hours worked by sector, these figures will be an underestimate of the actual numbers in each sector. The sum of the public and private sector FTE rates is less than the total shown in other tables as those medical practitioners who did not report hours worked by sector are not included in this table.

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005; ABS 2005.

In 2005, the average weekly hours worked in the public and private sectors, by medical practitioners who reported at least one hour of total work per week in that sector in the four weeks prior to the survey, were similar in all jurisdictions except Tasmania and the Northern Territory (Table 18). In Tasmania the average weekly hours were higher in the private sector (33.9 compared to 27.4 hours), while in the Northern Territory the average weekly hours worked were higher in the public sector (38.2 compared to 31.8 hours). Given the estimation method in 2005 and low response rate for the Northern Territory, this result should be interpreted with care (see Explanatory notes).

The FTE rate for the private sector was higher than the FTE rate for the public sector in all jurisdictions other than the Northern Territory in 2005.

Table 19: Primary care clinicians: selected features, states and territories, 2001 and 2005

Characteristic	NSW	Vic	Qld	WA	SA	Tas[a]	ACT	NT[b]	Total
					2001				
Number	7,522	5,612	3,455	1,957	1,830	615	420	259	**21,671**
% female	33.7	35.3	35.7	36.5	33.4	26.4	46.8	50.0	**34.9**
Average age	49	48.7	47	48.2	47.2	n.a.	48.8	44	**48.3**
Males	51.2	50.9	49.3	51.3	49.3	n.a.	52	46.1	**50.6**
Females	44.6	44.6	42.9	42.8	42.9	n.a.	45.2	41.8	**43.9**
FTE rate[c]	109	106	90	94	114	119	116	116	**104**
					2005				
Number	7,929	5,776	3,675	1,958	1,886	677	450	238	**22,589**
% female	35.3	35.4	38.0	37.1	36.2	41.2	48.7	45.1	**36.5**
Average age	48.7	47.7	49.2	50.1	48.3	50.1	50.1	44.5	**48.7**
Males	50.9	49.8	51.5	53.2	50.6	53.0	52.5	47.6	**51.0**
Females	44.6	44.1	45.3	44.9	44.2	46.0	47.6	40.7	**44.6**
FTE rate[c]	109	99	82	80	107	115	113	99	**98**

(a) Average age not available for Tasmania in 2005.

(b) Northern Territory estimates for 2005 are based on responses to the 2004 Medical labour force survey weighted to 2005 benchmark figures, giving an estimated response rate of 31.8% (compared to the actual response rate for the 2005 survey of 7.5%). Care should be taken when interpreting these figures.

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

Sources: AIHW Medical Labour Force Surveys, 2001 and 2005

From 2001 to 2005, all jurisdictions, except the Northern Territory, also experienced an increase in the estimated number of primary care practitioners who reported working mainly as clinicians in the four weeks prior to the survey (Table 19). However, the average weekly hours worked by primary care practitioners declined in all jurisdictions from 2001 to 2005. As a result of these factors, and population growth, primary care practitioner supply either declined or remained the same in all jurisdictions between 2001 and 2005. At a national level, the estimated supply of primary care practitioners decreased between 2001 and 2005 (from 104 to 98 FTE per 100,000 population) (Table 19).

Appendix A: Explanatory notes on the AIHW Medical Labour Force Survey

Background

All medical practitioners must be registered with a state or territory medical registration board to practise in that state or territory. The registers contain information such as the name, contact details, age, sex and qualifications of medical 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 survey population is drawn from the medical Registers maintained by each state and territory medical registration board or council.

Each medical board conducts an annual renewal of registration and, as part of this process, questionnaires are sent to medical practitioners on the register at that time. The results of the 2005 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 or 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).

The questionnaire is a paper based form (see example of a questionnaire below). States and territories have agreed on the core content of the questionnaires, but there is some variation in actual questions asked and in the format of the questionnaire.

Scope and coverage

As the survey questionnaire is distributed as part of the registration renewal process, only practitioners who are on the register at the time of the survey and who are required to renew their registration receive a questionnaire. Medical practitioners registering for the first time and who are not required to renew their registration in the survey year are not surveyed.

The survey questionnaire is sent to all registrants in New South Wales, Victoria, Western Australia, South Australia, the Australian Capital Territory and the Northern Territory. It is sent to only general registrants in Queensland. In Tasmania, only general registrants and conditionally registered specialists are surveyed.

In deriving estimates of the total population of registered practitioners, registrants who do not receive a form are treated in the same way as survey non-respondents in the weighting process (see 'Estimation procedures', below).

As the response rate to the 2005 survey in the Northern Territory was very low (7.5%), the survey data could not be used to obtain estimates for 2005 for that jurisdiction. In order to

provide some estimates for 2005, survey responses to the 2004 Northern Territory Medical labour force survey were weighted to 2005 registration benchmarking figures. Therefore, care should be taken when using averages or making comparisons over time for the Northern Territory and in making comparisons between the Northern Territory and other jurisdictions.

Estimation procedures

The AIHW use the data collected in the Medical Labour Force Survey to derive estimates of the total medical labour force. In deriving the estimates, two sources of non-response to the survey are accounted for:

- population non-response, which occurs because not all registered practitioners who receive a questionnaire respond, and new registrants do not receive a questionnaire
- item non-response, which occurs as some respondents return partially completed questionnaires.

A separate estimation procedure is used for each. Weighting is used to account for population non-response and imputation for item non-response.

Both of these procedures are described below.

Weighting: estimation for population non-response

Each survey record (a record equates to a respondent) 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.

Benchmark data are usually provided to the AIHW by the state and territory medical registration boards and councils. Where data is not available from the boards, benchmark figures are obtained from other sources, such as medical registration board annual reports.

The total number of registered medical practitioners is used to benchmark the survey in New South Wales, Victoria, South Australia, the Australian Capital Territory and the Northern Territory. The number of general registered medical practitioners is used as a benchmark figure in Queensland and Western Australia. In Tasmania, the total number of general registrants and conditionally registered specialists is used as the benchmark for the survey. Benchmarking data for Western Australia are not available from the registration board and so figures published in the board's annual report are used by the AIHW.

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 within scope, not a sample, are sent a questionnaire when registration renewal is due. Therefore, technically, it is a census. However, because not all renewing practitioners in scope respond, the result is a data set based on a very large 'self-selecting sample' of the population. 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 that are known for the whole population. The population benchmark data provided to the AIHW for most jurisdictions are state of registration, age (or age group) and sex. In 2005, benchmark figures by age and sex were provided for New South Wales, Victoria, Queensland, South Australia

and the Northern Territory. For Western Australia, Tasmania, and the Australian Capital Territory, age and sex breakdowns of benchmarks were not 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 and cannot be used in the adjustment process.

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) it is assumed, for estimation purposes, 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. However, as registrants who do not renew are probably less likely to respond to the survey, and as conditionally registered medical practitioners are not surveyed in some jurisdictions, it is likely that there will be some bias in estimates.

Response rate

The estimated overall response rate to the AIHW Medical Labour Force Survey in 2005 was 71.3%. That is, the number of responses to the survey represented 71.3% of the medical registration figures used for benchmarking purposes (Table A1). At a national level, there was a decline of 0.1% in the response rate between 2004 and 2005 (71.4% and 71.3%, respectively) and, compared with earlier surveys, there was some increase (from a low of 64.5% in 2001).

Table A1: Estimated survey response rate, states and territories, 2001 to 2005

Response rate	NSW	Vic	Qld[(a)]	WA[(b)]	SA	Tas[(c)]	ACT	NT[(d)]	Total
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**
2005	72.4	68.6	83.8	66.6	69.9	62.0	67.1	31.8	**71.3**

(a) Based on general registrants only.

(b) This is likely to be an over-estimate of the actual response rate as the survey is administered to both general and conditional registrants but benchmark figures are for general registrants only.

(c) Based on general registrations and conditional registered specialists only.

(d) Northern Territory response rate for 2005 is based on responses to the 2004 Medical labour force survey divided by 2005 benchmark figures, giving an estimated response rate of 31.8% (compared to the actual response rate for the 2005 survey of 7.5%).

Sources: AIHW Medical Labour Force Surveys, 2001 to 2005.

For individual jurisdictions, change in response rates over the five surveys was variable, with large fluctuations in some jurisdictions. Low response rates indicate that care should be taken in interpreting the estimates for that jurisdiction in that year.

It should be noted that some medical practitioners are 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.

Imputation: estimation for item non-response

The imputation process involves an initial examination of all information which has been provided by a respondent. If possible, an assumption is made 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. Imputation is usually only applied in cases where the proportion of missing values is less than 5% of the total.

In imputation, the known probabilities of particular responses occurring are used to assign a response category *value* to each record, using a random number generator. Imputed values are 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.

Age group and sex values within each state and territory are first imputed to account for missing age and sex values. In 2005, 0.9% of records (474) received an imputed age group and 0.37% (197) received an imputed sex value. Other variables deemed suitable for this process are then imputed. In 2005, these variables were field of medicine (clinician, administrator etc.), clinician type (GP, specialist etc), specialty of practice (cardiology, general pathology etc.), general practitioner type (vocational registered GP, Fellow RACGP etc), and hospital non-specialist type (intern, RMO etc).

Accounting for multi-state registrations

Medical practitioners may be registered and practise in more than one state or territory. To minimise double-counting of these medical practitioners, those who responded in the survey that they were working mainly or only in another state in the survey (referred to as 'apparent multi-state registrations') are not included in the count of total registered medical practitioners (as it is assumed that they will be counted in the registration figures of the jurisdiction in which they 'mainly or only' work).

Only those medical practitioners who responded in the survey that they were working mainly or only in the state or territory of registration are included as employed medical practitioners.

2005 Medical labour force survey questionnaire

The questionnaires used by jurisdictions in the 2005 AIHW Medical Labour Force Survey questionnaire are provided on the AIHW web site. In some jurisdictions, the form has been modified from the nationally agreed template to suit local preferences. As a result the actual survey form used in each jurisdiction differs in format and in the wording of some questions. Where necessary and possible, the AIHW maps responses to provide nationally comparable estimates.

Appendix B: Medical registration data

Medical registration boards are statutory authorities established in each jurisdiction to register medical practitioners, investigate complaints about medical practitioners and develop guidelines for the profession. They maintain a Register of medical practitioners who are licensed to practise in their jurisdiction. All medical practitioners must be registered to practise in Australia.

As outlined in Appendix A, responses to the AIHW Medical Labour Force Survey are weighted to benchmarking figures provided by state and territory registration boards from their medical registers. Registration boards also publish data on the number of registered medical practitioners in their annual reports. This includes information, not currently collected in the AIHW survey, on the type of registration.

Registration numbers

The numbers of medical practitioner registrations reported by state and territory registration boards and councils in their 2004–05 annual reports are provided in Table B1. In total there were 78,986 registrations reported for 2004–05. This is higher than the benchmark number for the AIHW 2005 labour force survey (73,941) (Tables 1 and B2). The main reasons for this difference are:

- The benchmark figures provided by Queensland and Western Australia are for general registrations only and do not include conditionally registered medical practitioners (see Glossary). Benchmark figures for Tasmania do not include all conditionally registered medical practitioners (only conditionally registered specialists).
- The registration numbers published by the jurisdictions are a snapshot of the number of registered medical practitioners at a particular point in time. Typically, the point-in-time used is the end of the financial year (30 June). For benchmarking purposes, the AIHW attempts to obtain more detailed registration numbers (by age group and sex) from the medical boards to match the timing of the survey.

Of the medical registrations reported by the boards and councils in their 2004–05 annual reports, 84.4% were reported as general registrations and 15.6% as conditional/limited/non-general registrations (Table B1). The proportion of general registrations varied across jurisdictions, from 80.7% in Tasmania to 89.9% in the Australian Capital Territory.

Table B1: General and conditional medical practitioner registrations reported by state and territory registration boards, 2004-05

Registration type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
General registrations	22,307	15,655	11,866	6,238	5,648	1,817	1,840	1,267	66,638
Conditional registrations	4,782	3,009	1,783	1,028	838	435	206	267	12,348
Area of need registrations	247	146	1,148	443	n.a.	n.a.	28	244	n.a.
Total registrations	**27,089**	**18,664**	**13,649**	**7,266**	**6,486**	**2,252**	**2,046**	**1,534**	**78,986**
					Per cent of total registrations				
General registrations	82.3	83.9	86.9	85.9	87.1	80.7	89.9	82.6	84.4
Conditional registrations	17.7	16.1	13.1	14.1	12.9	19.3	10.1	17.4	15.6
Area of need registrations	1.1	0.9	9.7	7.1	n.a.	n.a.	1.5	19.3	n.a.
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Sources: State and territory medical registration board annual reports. Northern Territory provided the information via correspondence.

Table B2: Registration numbers provided as benchmarks for the AIHW Medical Labour Force Survey, 2004 and 2005

AIHW benchmark	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
2004	26,024	17,818	10,280	6,107	6,089	1,978	1,945	945	71,186
2005	26,612	18,243	11,378	6,238	6,032	2,097	2,044	1,300	73,941

Sources: State and territory medical registration boards. Western Australia data were obtained from the Board's annual report.

'Area of need' medical practitioners

The term 'temporary resident doctor' (TRD) is used informally to refer to medically qualified persons holding a temporary resident medical practitioner visa to enter Australia for temporary employment or training purposes. To obtain the relevant visa requires employment sponsorship and conditional registration by the state or territory medical registration board.

TRDs include 'Area of need' TRDs, occupational trainee TRDs as well as 'other' TRDs. It excludes overseas-trained and Australian-trained medical practitioners with permanent resident or Australian citizenship status (AMWAC 1999).

The 'Area of need' program enables the temporary recruitment of suitably qualified overseas-trained medical practitioners into declared 'Area of need' positions. The determination that there is a need to have a TRD employed because of an identified shortfall in the local medical workforce is made by the relevant state or territory health department (AMWAC 1999, NSW Health 2007). The term 'Area of need' applies to a medical position rather than a geographical area and may be within a public or private service or hospital. It includes general practitioner, hospital non-specialist and specialist positions. 'Area of need' medical practitioners are conditionally registered.

Data on the number of 'Area of need' medical practitioners is of interest to workforce planners as it is an indication of the level and type of shortages in the Australian medical workforce. To have a position identified as 'Area of need' an employer must first

demonstrate that it cannot readily fill the position from the Australian labour market (NSW Health 2007).

Data on the number of 'Area of need' registrants is available from the medical registration board's annual reports for 2004–05 in all jurisdictions, except South Australia and Tasmania (Table B1). In 2004–05, the proportion of registered medical practitioners in Australia who were reported as Area of need medical practitioners varied significantly amongst reporting jurisdictions, from 0.9% in Victoria to 19.3% in the Northern Territory.

Appendix C: Medicare data

Medicare Australia (formerly known as the Health Insurance Commission) collects data on the activity of all providers that make claims through the Medicare scheme. Information collected includes the type of service provided (as indicated by the Medicare item number) and the type of practitioner who performed the service. This information is provided to the Department of Health and Ageing (DoHA) for a range of purposes, including the monitoring of the general practice workforce.

The Medicare data presented in the following section are for general practitioners (GPs) only, and were obtained from the DoHA website. According to Medicare, a GP is someone whose major speciality at 30 June of the reference year was as a GP or other medical practitioner (OMP), and who provided at least one Medicare service during the year (DoHA 2006).

General Practitioner numbers

Based on Medicare data on GP headcounts, there were 25,146 GPs who provided at least one Medicare service during the 2005–06 reference year. It includes several thousand medical practitioners who provide only small numbers of services through Medicare each year (DoHA 2006).

The number of GPs in 2005–06 is an increase of 3.4% on the number in 2001–02 (Table C1). There were increases in all jurisdictions, with the greatest being in the Northern Territory (17.8%) and the smallest in New South Wales and South Australia (both 0.9%).

Table C1: General practitioner numbers (Medicare) compared with the estimated number of employed general practitioners whose main field of work is clinician (derived from the AIHW Medical Labour Force Survey), states and territories, 2001 and 2005

Data source	NSW	Vic	Qld[a]	WA[a]	SA	Tas[a]	ACT	NT[b]	Total	*Total excluding WA and Qld*
Medicare										
2001–02	7,991	5,887	4,713	2,353	2,023	653	406	281	**24,307**	*17,241*
2005–06	8,062	6,065	5,107	2,435	2,042	669	425	331	**25,146**	*17,604*
% change	0.9	3.0	8.4	3.5	0.9	2.5	4.7	17.8	3.5	*2.1*
AIHW Medical Labour Force Survey estimates										
2001	7,522	5,612	3,455	1,957	1,830	615	420	259	**21,671**	*16,259*
2005	7,929	5,776	3,675	1,958	1,886	677	450	238	**22,589**	*16,956*
% change	5.4	2.9	6.4	0.1	3.1	10.1	7.1	-8.1	4.2	*4.3*
% difference Medicare and AIHW estimates										
2001	-5.9	-4.7	-26.7	-16.8	-9.5	-5.8	3.4	-7.7	**-10.8**	*-5.7*
2005	-1.6	-4.8	-28.0	-19.6	-7.6	1.2	5.9	-28.2	**-10.2**	*-3.7*

(a) AIHW figures are an underestimate as benchmark figures exclude conditional registrants in Queensland and Western Australia and conditionally registered non-specialists in Tasmania (see Appendix A).

(b) In 2005, Northern Territory estimates are based on a response rate of 31.8%. Caution should be taken when interpreting these figures.

Sources: DoHA 2006. AIHW Medical Labour Force Surveys, 2001 and 2005.

Comparison with AIHW Medical Labour Force Survey data

For both 2001 and 2005, the total estimated numbers of employed general practitioner clinicians derived from the AIHW Medical Labour Force Survey are lower than the number of GPs who provided services under Medicare in the relevant financial year (10.8% and 10.2%, respectively) (Table C1). The differences are not consistent across jurisdictions, with the AIHW estimates for Queensland and Western Australia being much lower than Medicare numbers in both years. AIHW estimates for the number of GPs for the Australian Capital Territory are higher than Medicare estimates in both years. These differences may be explained by the following:

Method of data collection and estimation

Estimates of GPs/primary care practitioners from the AIHW Medical Labour Force Survey are derived from data collected in an annual survey of medical practitioners who are renewing their registration with the state and territory medical registration boards. The survey is conducted at a particular point in time each year in each jurisdiction, with timing determined by the registration renewal process. Estimates of GPs are derived from survey responses, using state and territory medical practitioner registration figures as benchmarks. As estimates are based on survey responses, they are subject to some variability where small populations are concerned (such as with GPs in Northern Territory and Australian Capital Territory). As this variability in the survey is not due to sampling error, it cannot be readily measured.

The estimated number of medical practitioners in Queensland, Western Australia and Tasmania, derived from the AIHW Medical Labour Force Survey, are known to be underestimates, due to the benchmarking data used. While in other jurisdictions survey responses are benchmarked to all registrations, in Queensland and Western Australia the benchmark figures do not include conditionally registered medical practitioners, and in Tasmania they do not include conditionally registered non-specialists (see Appendix A).

In contrast, the Medicare data are an administrative data collection relating to Medicare services provided over an entire financial year.

Definitions

For the purposes of this report on the AIHW Medical Labour Force Survey, a primary care practitioner is defined as a medical practitioner who reported that they were employed at the time of the survey, spent most of their time working as a clinician in the four weeks prior to the survey (based on hours worked per week), and their main area of clinical practice was GP/primary care practitioner. Those employed medical practitioners who did not provide data on hours worked by field of practice (that is, as a clinician or non-clinician) are assumed to be clinicians, and are included in the count of primary care practitioners if they indicated that their main area of clinical practice was GP/primary care practitioner. Medical practitioners who stated that most of their time was spent working as an educator, administrator, researcher, public health physician, occupational health physician or other are not included. Some of these may, however, have undertaken some clinical work (and therefore, probably billed Medicare). As a result, the number of primary care practitioners reported by the AIHW will underestimate those primary care practitioners who spent less time on clinical work than in other medical fields.

Medicare define a GP as someone whose major speciality at 30 June of the reference year was as a GP or other medical practitioner (OMP), and who provided at least one Medicare service

during the financial year. DoHA notes that the headcount figures include several thousand medical practitioners who provide only small numbers of services through Medicare each year (DoHA 2006).

Anomalies at the state and territory level may be due to different methods of allocating GPs to a state, although both attempt to allocate the GP to the state or territory where they undertake most of their work. In the AIHW collection, to be allocated to a state or territory a GP must be registered in that state or territory, and indicate in the survey that they are mainly or only working in that state or territory *at the time of the survey*. With Medicare data on GP headcounts, the GP is allocated to the state or territory where most of their services were provided *over the whole financial year.*

Appendix D: National public hospital establishments data

Data on the number of full-time equivalent salaried medical practitioners working in public hospitals are collected by the AIHW from the state and territory health departments, as part of the National Public Hospital Establishments Database (NPHED) collection. The scope of the NPHED is all public hospitals within the jurisdiction of each state or territory health authority, including public acute hospitals, psychiatric hospitals, drug and alcohol hospitals and dental hospitals.

Data from this collection are published annually in the *Australian hospital statistics* publication (AIHW 2007). Detailed descriptions of the data and definitions are available in that publication.

Table D1: Salaried medical practitioners in public hospitals: FTE[(a)] number and FTE rate[(b)] by hospital peer group[(c)], 2001–02, 2003–04 and 2005–06

	Public hospital peer group							
	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	Total
	FTE[(a)] medical practitioner number							
2001–02	15,177	2,036	631	184	276	26	296	**18,626**
2003–04	16,369	2,191	697	172	342	84	308	**20,164**
2005–06	19,167	2,054	617	190	272	160	400	**22,859**
Percentage change 01–02 to 05–06	20.8	0.9	-2.3	3.1	-1.7	83.6	26.1	**18.5**
	FTE medical practitioner rate[(b)]							
2001–02	78	10	3	1	1	0	2	**96**
2003–04	82	11	4	1	2	0	2	**101**
2005–06	94	10	3	1	1	1	2	**112**

(a) 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. This definition differs from the definition of FTE used to report results from the AIHW Medical Labour Force Survey.

(b) Number per 100,000 population.

(c) See AIHW 2007:317–318 for Public Hospital Peer Group Classification definitions.

Source: National Public Hospital Establishments Database.

Based on data in the NPHED, in 2005–06 there were 22,859 FTE salaried medical practitioners in public hospitals in Australia (Tables D1 and D2). Most were working in principal referral and specialist women's and children's hospitals.

This number is lower than the estimated number of medical practitioners working in public hospitals (including psychiatric) in 2005, derived from the AIHW Medical Labour Force Survey (26,480) (Table 9). The AIHW Medical Labour Force Survey figure refers to numbers (rather than FTE) and includes all medical practitioners who reported working any hours in

a public hospital in the four weeks prior to the survey. The average hours worked per week, reported by medical practitioners working in public hospitals in 2005, was 34.7 (Table 9). The NPHED data refers to the FTE number of salaried medical practitioners who worked in public hospitals (in scope in the NPHED collection), in the 2005–06 financial year.

Nationally, the number of FTE salaried medical practitioners increased by 18.5% from 2001–02 to 2005–06 (Table D1). The largest increases were in the Unpeered and other hospitals, psychiatric hospitals and in the principal referral and specialist women's and children's hospitals. Medium hospitals and sub-acute and non-acute hospitals experienced a decline in the number of FTE salaried medical practitioners over that period.

Table D2: Salaried medical practitioners in public hospitals: FTE[(a)] number and FTE rate[(b)], states and territories, 2001–02, 2003–04 and 2005–06

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					FTE[(a)] medical practitioner number				
2001–02	6,481	4,521	3,320	1,702	1,714	347	290	253	**18,626**
2003–04	6,700	5,389	3,602	1,883	1,662	367	317	246	**20,164**
2005–06	7,760	5,738	4,072	2,118	1,994	472	400	304	**22,859**
% change 01–02 to 05–06	16.5	21.2	18.5	19.7	14.0	26.5	27.7	16.8	**18.5**
					FTE medical practitioner rate[(b)]				
2001–02	99	94	91	90	113	73	91	128	**96**
2003–04	100	109	94	96	109	77	97	123	**101**
2005–06	115	114	102	105	128	97	121	147	**112**

(a) 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. This definition differs from the definition of FTE used to report results from the AIHW Medical Labour Force Survey.

(b) Number per 100,000 population.

Source: National Public Hospital Establishments Database.

Tasmania and the Australian Capital Territory had the largest increase in the number of FTE salaried medical practitioners working in public hospitals, while South Australia and the Northern Territory had the lowest increase in numbers (Table D2).

The FTE practitioner rate (that is, the number of FTE salaried medical practitioners per 100,000 population) increased nationally from 96 in 2001–02 to 112 in 2005–06. In 2005–06, the jurisdiction with the highest medical practitioner rate was the Northern Territory (147) while Tasmania had the lowest (97).

It should be noted that the FTE measure reported in the NPHED differs to that used for data from the AIHW Medical Labour Force Survey (see Box 1 in text). The Medical Labour Force Survey FTE measure is based on total hours worked, with 45 hours equalling one FTE. In the NPHED data, FTE figures are reported by states and territories, with one FTE equivalent to 'the number of hours normally worked by a full-time staff member when on the job under the relevant award/agreement'.

Appendix E: Additional tables available from the AIHW web site

In addition to the tables in this publication, more detailed tabulations from the 2005 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.

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.

Conditional registration

If a medical practitioner does not meet the requirements to become a generally registered medical practitioner they may obtain limited or conditional registration. Interns, 'Area of need' medical practitioners (see Appendix B), overseas-trained medical practitioners undertaking postgraduate or supervised training, overseas-trained specialists, non-practising medical practitioners and medical practitioners facing disciplinary action are generally conditionally registered.

Employed medical practitioner

A medical practitioner who reported in the survey working mainly, or only, in their state of registration, in medicine, in the four weeks prior to the survey. Working in medicine includes the practice of medicine, or work that is principally concerned with the discipline of medicine (including medical research, administration, or teaching of medicine). Data on employed medical practitioners, in this report, include those on leave for three months or longer.

Field of medicine

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

Clinician: In this publication, a medical practitioner who spends most of the total weekly working hours mainly engaged in clinical practice (that is, diagnosis and/or treatment including recommending preventative action to patients) is classified as a clinician.

Non-clinician: A medical practitioner who is not a clinician. It includes:

- 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.

Full-time equivalent (FTE)

A measure of the workforce that takes into account both the absolute number of workers and the average hours per week that they work. In this report 45 total hours per week is assumed to be equivalent to one FTE.

General practitioner

See Primary care practitioner

General registration

General registration is granted to medical practitioners who have fulfilled the full requirements of the medical registration board in that jurisdiction to practise. It permits a medical practitioner to work unsupervised in their field.

Hospital non-specialist

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 interns, resident medical officers (RMOs), hospital medical officers (HMOs) and interns, as well as career medical officers (CMOs) and other salaried hospital practitioners.

Hospital medical officers (HMOs)

A type of hospital non-specialist. A HMO is 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. These are often referred to as PGY2 (post-graduation year 2) and PGY3.

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.

Intern

A type of hospital non-specialist. Medical practitioners in their first year of medical work after completing their undergraduate or postgraduate medical degree. These are often referred to as PGY1 (post-graduation year 1).

Medical registration boards

Medical registration boards (or councils in some jurisdictions) are statutory authorities established under specific legislation, in each state and territory. The principal purpose of the board is to protect the health and safety of the public of the jurisdiction by providing mechanisms designed to ensure that medical practitioners are fit to practise medicine. They achieve this by ensuring that only properly trained medical practitioners are registered, and that registered medical practitioners maintain proper standards of conduct and competence.

Primary care practitioner

Also referred to as a general practitioner or GP. In the AIHW Medical Labour Force Survey, GPs/primary care practitioners who identify as such are asked to further identify themselves as a vocationally registered GP, a RACGP Fellow, an RACGP trainee, or other.

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

Inner regional Australia

Outer regional Australia

Remote/Very remote Australia (including migratory).

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. These are often referred to as PGY2 and PGY3.

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.

Specialty

The specialty area of medicine in which a specialist practises. A specialty is an area of work for which the specialist is qualified for recognition under the Health Insurance Act.

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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