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Australian Institute of Health and Welfare

Board Chair

Hon. Peter Collins, AM, QC

Director

Penny Allbon

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

Janice Miller

Australian Institute of Health and Welfare

GPO Box 570

Canberra ACT 2601

Phone: (02) 6244 1285

Email: labourforce@aihw.gov.au

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Contents

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Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
AMWAC	Australian Medical Workforce Advisory Committee
DoHA	Australian Government Department of Health and Ageing
FRACGP	Fellow of the Royal Australian College of General Practitioners
FTE	full-time equivalent
FWE	full-time workload equivalent
GP	general practitioner
MLFS	Medical Labour Force Survey
NPHED	National Public Hospital Establishments Database
RA	Remoteness Area
RACGP	Royal Australian College of General Practitioners

Symbols and other usages

Throughout this publication, data from the AIHW Medical Labour Force Surveys may not add to the totals shown due to the estimation process used for non-responses (see *Appendix A*). As a result of this process the estimated 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.

<	less than
+	or more
. .	not applicable
n.a.	not available
n.p.	not published (data cannot be released due to quality issues, confidentiality or permission not granted).

Summary

This report presents information on the medical practitioner labour force, based primarily on estimates derived from the 2007 Australian Institute of Health and Welfare (AIHW) Medical Labour Force Survey. This survey collects information on the demographic and employment characteristics of medical practitioners who were registered in Australia at the time of the survey. It is conducted annually by state and territory health authorities, with the questionnaire administered by the medical boards (or councils) in each jurisdiction, in conjunction with the registration renewal process. The main findings of the report are as follows:

- In 2007, the total number of medical practitioners identified by the Medical Labour Force Survey (after adjusting for multi-state registrations) was estimated to be 77,193. The number of practitioners increased by 20.5% between 2003 and 2007.
- Between 2003 and 2007, the number of medical practitioners actually employed in medicine increased by 19.6% from 56,207 to 67,208. In 2007, 93.2% (62,652) were working as clinicians, of whom 38.5% were primary care practitioners and 34.6% were specialists.
- The average weekly hours worked by employed medical practitioners decreased from 44.4 hours in 2003 to 43.1 hours in 2007. Over the same period average hours worked by male practitioners decreased from 47.5 to 45.9 hours, while average hours worked by female practitioners remained steady at 37.6 hours between 2004 and 2007.
- Despite a decrease in average hours worked from 2003 to 2007, the overall supply of employed medical practitioners increased from 279 to 305 full-time equivalent medical practitioners per 100,000 population over that period due to an overall increase of 19.6% in numbers.
- Medical practitioner supply across regions ranged from 332 full-time equivalents per 100,000 population in *Major cities* to 157 in *Outer regional* areas. In contrast, the variation in the supply of primary care practitioners was smaller between *Major cities* and *Outer regional* areas (95 and 84 full-time equivalents per 100,000 population, respectively).
- The average age of medical practitioners in 2007 was the same as that estimated in 2003, at 45.9 years. The age profile of male practitioners changed little between 2003 and 2007. Whereas for female practitioners the proportion aged 55–74 years increased and the proportion aged less than 45 years decreased.
- Females continued to increase their share of the medical practitioner workforce, making up 34.0% of employed practitioners in 2007 (up from 31.9% in 2003). Among clinicians, in 2007, the female share varied between types of clinical practice, accounting for 47.2% of hospital non-specialists compared with 23.0% of specialists.
- The overall response rate to the 2007 survey was estimated to be 69.9%. The national rate has gradually declined over time, from the 71.4% response rate achieved in 2003. Estimates for some jurisdictions should be interpreted with caution due to the relatively low response rate to the survey.

Estimates in this report may vary from workforce estimates produced by individual jurisdictions, as the AIHW removes medical practitioners apparently employed in more than one jurisdiction, and due to differences in imputation and estimation processes.

1 Introduction

This report provides data on the Australian medical labour force in 2007. The primary source of estimates presented in this report is the 2007 AIHW Medical Labour Force Survey, in which medical practitioners renewing their registration were asked a range of demographic and labour force questions. In this report, registered medical practitioners who state that they are working 'mainly or only in another jurisdiction' have been excluded to ensure apparent multi-state registrations are accounted for.

Where the data allow, the report also provides some comparisons of 2007 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.

The report is arranged according to the following structure. Chapter 1 describes the role of medical practitioners, briefly describes the AIHW Medical Labour Force Survey and directs readers to further information on other medical labour force data sources. Chapter 2 describes the medical practitioner labour force, including their clinical or non-clinical role and labour force status. Chapter 3 examines various characteristics of the medical labour force including age and sex, field of medicine, country of first qualification, working hours and work setting. Chapter 4 describes overall supply and the supply of clinicians. Chapter 5 includes regional comparisons for the Australian Standard Geographical Classification areas and states and territories. The appendixes contain explanatory notes and further information and comparison with other medical labour force data sources.

1.1 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 may be clinicians, who include primary care practitioners (mostly general practitioners), hospital non-specialists, specialists-in-training, specialists and other clinicians. Medical practitioners may also be non-clinicians, and work as administrators, teachers/educators, researchers, public health physicians or occupational health physicians (See *Box 1* in *Introduction*, and *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 do more specialised training as a general practitioner or a specialist in the large range of recognised medical specialties. Apart from general practice training, most of this vocational training is undertaken in the public hospital system. General practice trainees do their training in private general practices.

Upon completion of specialist or general practice training, the options open to medical practitioners broaden to include: private medical practice; a combination of private medical practice with a visiting medical officer 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 2008).

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

The type of medical registration held by a medical practitioner determines or limits the work they are licensed to do 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 practice. 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 doing postgraduate or supervised training, overseas-trained specialists whose specialist qualifications and experience have been recognised by the relevant Australian specialist college or institution (DoHA 2009b), non-practising medical practitioners, and medical practitioners facing disciplinary action are generally classed as conditional registrants. 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 requirements of that state or territory medical board (or council).

Box 1: What is a medical practitioner?

*A **medical practitioner** (commonly referred to as a doctor) is a person whose primary employment role is to diagnose physical and mental illnesses, disorders and injuries and prescribe medications and treatment to promote or restore good health.*

Medical practitioners can be further classified as either a clinician or non-clinician according to the primary field of medicine they practise.

*A **clinician** is a medical practitioner who reported spending the majority of his or her total weekly working hours involved in the area of clinical practice. The clinical group comprises of further subfields – primary care practitioner (mostly general practitioners), hospital non–specialist, specialist, specialist-in-training and other clinicians.*

*A **non-clinician** is a medical practitioner who reported spending the majority of his or her total weekly working hours not involved in the area of a clinical practice. This can include working as an administrator, teacher/educator, researcher, public health physician or occupational health physician.*

1.2 AIHW Medical Labour Force Survey

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 in workforce planning. 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 to the size and composition of the various health professions, and the potential impacts on health care as a result of those changes.

Recognising this, the Australian Health Ministers Advisory Council 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 for which ongoing information should be collected for monitoring and planning purposes. These practitioners have been the focus of an annual survey and AIHW report since 1993.

The AIHW Medical Labour Force Survey is managed by each state and territory health authority, with the questionnaire administered by the medical board (o council) in each jurisdiction as part of the registration renewal process. Under agreement with the Australian Health Ministers Advisory Council'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 provides detailed time series estimates of the medical labour force. It provides data not readily available from most other sources, such as the type of work done by medical practitioners, their specialties and hours worked, and covers those working in both the private and public sector. The survey also provides some information on those registered medical practitioners who are not undertaking clinical work or who are not employed.

The 2007 questionnaire was sent to all renewing registrants in Western Australia, South Australia, the Australian Capital Territory and the Northern Territory. It was sent only to financial registrants holding general, conditional specialist, limited prescribing or non-practising registration in New South Wales. Victoria sent questionnaires to general, specific and provisional registrants only. Only medical practitioners holding general or specialist registration and non-practising medical practitioners in Queensland received a questionnaire. In Tasmania, only general registrants, conditional specialists and non-practising practitioners were surveyed.

The overall response rate in 2007 was 69.9%. Only New South Wales had a higher response rate at 84.3%. The Northern Territory had the lowest response rate at 27.1%, and its estimates should be treated with caution.

Responses to the survey are weighted to benchmark figures to account for non-response. These benchmarks are the number of registered practitioners in each state and territory, provided by the respective medical boards (or councils), and referred to as 'benchmarks' to distinguish them from figures reported in the annual reports of the medical boards. Due to the coverage of the benchmark population for New South Wales, Queensland and Tasmania being less than actual registered medical practitioner numbers, the estimates for these jurisdictions are undercounts. National estimates are an undercount as a result. Estimates in most jurisdictions take the age and sex of the population of registered medical practitioners and survey respondents into account.

While the core data items (such as labour force status) have been collected since the survey's inception, there have been changes to the questionnaire and estimation methods over time.

Although every effort is made to maintain comparable time series, this is not always possible. As a result, care should be taken in comparing data from earlier publications with the current one. The most up-to-date estimates for the years before 2007 are available from the internet tables on the AIHW website.

The estimates published in this report may differ from other estimates derived from the 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. 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 benchmark figures.

A detailed description of the AIHW Medical Labour Force Survey, including a summary of changes to the 2007 survey questionnaire and data collected, is provided in *Appendix A*.

1.3 Other sources of data on medical practitioners

A range of other data sources 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 included in appendixes to this publication:

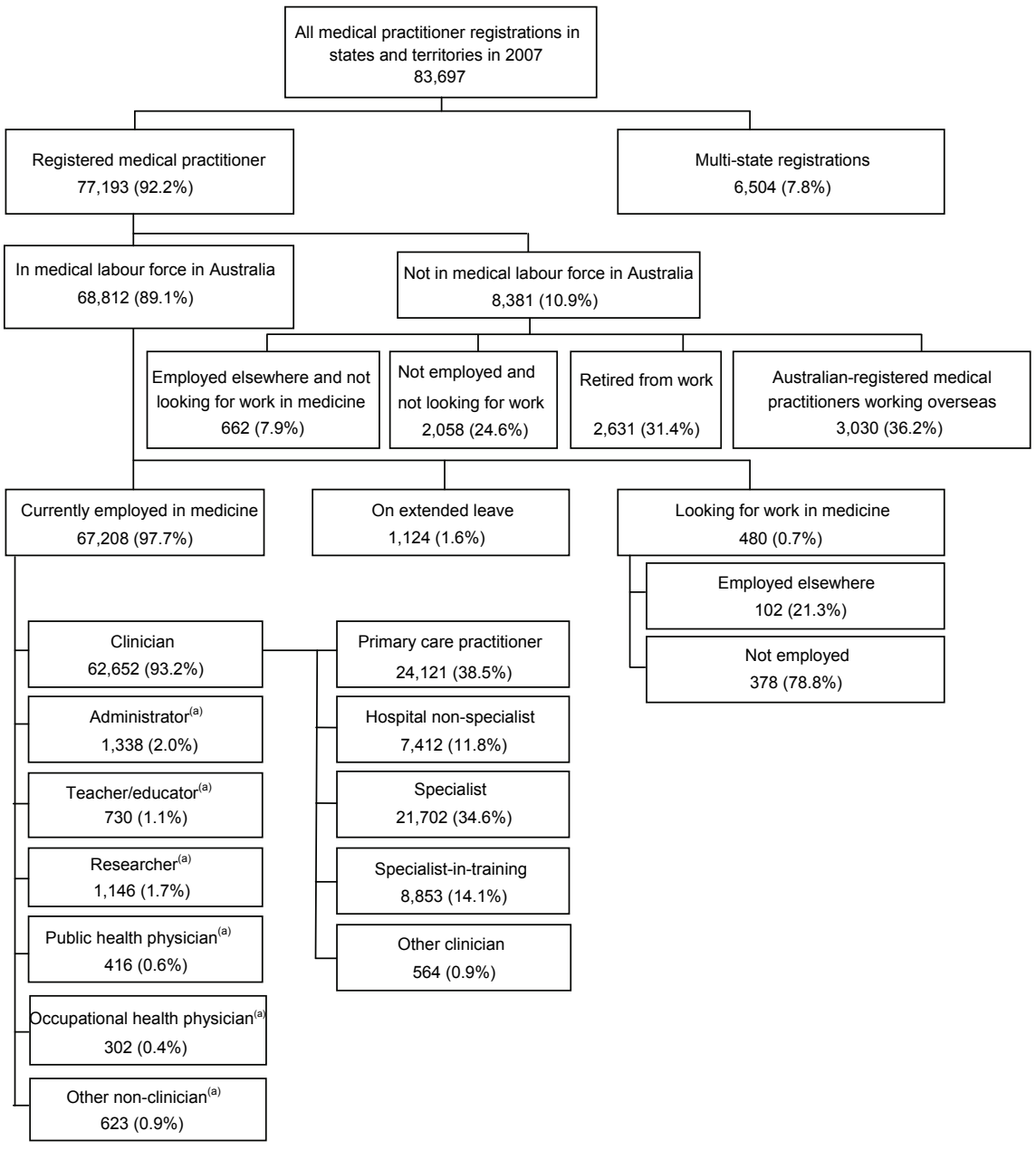
- medical practitioner registration numbers (state and territory medical boards and councils) (*Appendix B*)
- Medicare data (Australian Government Department of Health and Ageing) (*Appendix C*)
- National Public Hospital Establishments Database (AIHW) (*Appendix D*).

1.4 Additional information

An electronic version of this report is available from the AIHW's website at <www.aihw.gov.au/labourforce/publications.cfm> (select link to *Medical labour force 2007*). Additional tables, containing more detailed data from the AIHW Medical Labour Force Survey, are also available on the website.

2 Registered medical practitioners

The number of registered medical practitioners in 2007 is estimated, from the AIHW Medical Labour Force Survey, to be 77,193 (Figure 1 and Table 1). This figure was derived using practitioner registrations provided by the state and territory medical boards (or councils) and responses from the survey. To remove apparent duplicates (practitioners registered in more than one jurisdiction), the estimated number of multi-state registrations (6,504) was subtracted from the total registrations (83,697).



(a) Included in Non-clinicians. There are 4,556 non-clinicians (or 6.8% of medical practitioners currently employed in medicine in Australia).

Source: AIHW Medical Labour Force Survey, 2007.

Figure 1: Estimated registered medical practitioners, by labour force status, 2007

Table 1: Registered medical practitioners, by labour force status, 2003 to 2007

Labour force status	2003	2004	2005	2006[a]	2007[b]
Medical labour force	**57,049**	**59,004**	**61,165**	**63,688**	**68,812**
Employed in medicine	56,207	58,211	60,252	62,425	67,208
Looking for work in medicine	*251*	*217*	*208*	*283*	*480*
Employed elsewhere	50	44	40	63	102
Not employed	201	173	168	220	378
On extended leave	590	576	705	980	1,124
Not in the medical labour force	**6,994**	**6,495**	**6,725**	**8,052**	**8,381**
Working in medicine overseas	2,781	2,946	2,947	3,063	3,030
Not looking for work in medicine	*4,213*	*3,549*	*3,778*	*4,989*	*5,351*
Employed elsewhere (not in medicine)	443	419	414	735	662
Not employed	592	611	695	2,529	2,058
Retired	3,178	2,519	2,669	1,725	2,631
Total registered medical practitioners	**64,042**	**65,499**	**67,890**	**71,740**	**77,193**
Apparent multi-state registrations	5,671	5,687	6,051	6,162	6,504
Total registrations	**69,713**	**71,186**	**73,941**	**77,902**	**83,697**
Per cent registered medical practitioners employed in medicine	**87.8**	**88.9**	**88.7**	**87.0**	**87.1**

(a) In 2006, the labour force status/looking for work questions were revised substantially in all jurisdictions except Victoria and Queensland. Additionally, the reference period for the labour force status questions was standardised to the week before the survey (or a typical week for those on leave of less than 3 months). As a result the patterns of responses for some labour force status/looking for work categories have changed in comparison to previous years.

(b) In 2007, the labour force status/looking for work questions were revised substantially in Western Australia (see *Appendix A*). All other jurisdictions used the same questions as that used in 2006.

Sources: AIHW Medical Labour Force Survey, 2003 to 2007.

The estimated number of registered medical practitioners rose steadily from 2003 to 2007, with an overall increase over the 5-year period of 20.5%. Between 2006 and 2007, the total number of registered medical practitioners increased by 7.6%. Differences between the questionnaires used by jurisdictions, as well as changes in the form from year to year have resulted in a subtle change in the pattern of responses to the labour force status/looking for work questions. As such, comparing data to previous years should be done with caution (see *Appendix A* for further information on significant changes to the labour force status questions).

Of the 77,193 registered medical practitioners in 2007, 67,208 (87.1%) were employed in medicine in Australia (Table 1). This ranged from 83.4% in Tasmania to 93.5% in Western Australia (Table 2). When comparing across jurisdictions, the scope and response rates to the survey should be considered (see *Appendix A*).

Table 2: Registered medical practitioners, by labour force status and state and territory, 2007

Labour force status	NSW[(a)]	Vic	Qld[(a)]	WA[(b)]	SA	Tas[(a)]	ACT	NT[(c)]	Australia
Employed in medicine in this state	21,024	17,016	12,204	7,713	5,371	1,540	1,442	898	67,208
On extended leave	401	347	198	23	59	39	38	20	1,124
Employed in medicine overseas	1,415	750	548	12	172	45	64	22	3,030
Employed elsewhere, not in medicine	360	187	71	22	52	32	18	20	764
Not employed	1,213	448	209	79	213	113	122	40	2,436
Retired	398	760	698	397	246	77	36	19	2,631
Total registered	**24,810**	**19,509**	**13,928**	**8,247**	**6,113**	**1,846**	**1,720**	**1,020**	**77,193**
Per cent registered practitioners employed in medicine	**84.7**	**87.2**	**87.6**	**93.5**	**87.9**	**83.4**	**83.8**	**88.0**	**87.1**

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

(b) In 2007, Western Australia administered a different form from that used in 2006, which may have contributed to differences between 2006 and 2007 estimates of labour force status (see *Appendix A*).

(c) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

Source: AIHW Medical Labour Force Survey, 2007.

Nearly one-half (46.7%) of all registered medical practitioners employed in medicine overseas were registered in New South Wales. Similarly, 49.8% of all registered medical practitioners who were not employed were New South Wales registrants (Table 2).

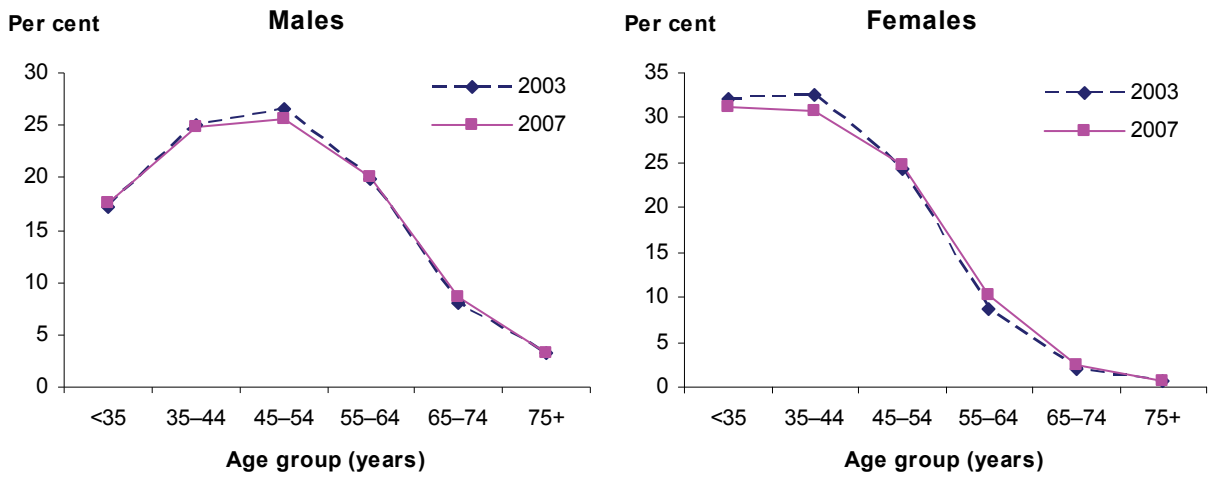
3 Medical practitioners employed in medicine

A medical practitioner who reported working mainly, or only, in their state of registration, in medicine, in the week before the survey is considered to have been employed in medicine, or an employed medical practitioner, at the time of the survey (see *Glossary*). In 2007, there were 67,208 medical practitioners employed in medicine in Australia (Figure 1; tables 1 and 2).

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

3.1 Age and sex

In 2007, the average age of employed medical practitioners was identical to that estimated in the 2003 AIHW Medical Labour Force Survey, at 45.9 years. The average age, however, was slightly lower in 2007 compared with 2006 (45.9 and 46.1 years, respectively) (AIHW 2008). The age profile of male practitioners changed little between 2003 and 2007, whereas for females the proportion aged less than 45 years decreased and the proportion aged 55–74 years increased (Figure 2). The female proportion of the medical labour force also continued to rise, with females forming 31.9% of the medical labour force in 2003 and 34.0% in 2007 (Table 5).



Sources: AIHW Medical Labour Force Survey, 2003 and 2007.

Figure 2: Employed medical practitioners, by age group and sex, 2003 and 2007

3.2 Aboriginal and Torres Strait Islander medical practitioners

In this analysis of employed Aboriginal and Torres Strait Islander medical practitioners, 2006 estimates of Indigenous status were reported in place of the 2007 figures for New South Wales (Table 3). This was due to quality concerns with the data that was reported by New South Wales Health in their 2007 report (NSW Health 2008:12).

In 2007, there were 171 medical practitioners employed in medicine who identified themselves as Aboriginal or Torres Strait Islander, representing about 0.3% of medical practitioners employed in medicine who provided their Indigenous status.

Over half (56.1%) of Indigenous medical practitioners were employed in New South Wales and Victoria, the two most populous states in Australia (Table 3).

The Northern Territory had the highest proportion of medical practitioners who identified as Aboriginal or Torres Strait Islander, at 2.4%. The Northern Territory estimate of 21 Indigenous employed medical practitioners was the fourth highest across all states and territories.

Table 3: Employed medical practitioners, by Indigenous status and state and territory, 2007

Indigenous status	NSW[(a)(b)]	Vic	Qld[(b)]	WA	SA	Tas[(b)]	ACT	NT[(c)]	Australia
Indigenous	50	46	33	10	3	5	3	21	171
Non-Indigenous	21,024	16,906	11,972	7,283	5,291	1,525	1,424	870	66,295
Not stated	108	64	198	421	77	10	15	7	900
Total	**21,182**	**17,016**	**12,204**	**7,713**	**5,371**	**1,540**	**1,442**	**898**	**67,366**
Per cent medical practitioners employed in medicine who were Indigenous[(d)]	**0.2**	**0.3**	**0.3**	**0.1**	**0.1**	**0.3**	**0.2**	**2.4**	**0.3**

(a) New South Wales data are based on responses to the 2006 Medical Labour Force Survey. Data from the 2007 survey were not used due to the estimate of employed Indigenous medical practitioners being much larger than that estimated in 2006, indicating a difference of reporting is likely to have occurred (NSW Health 2008:12).

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

(c) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

(d) Percentage of Indigenous medical practitioners employed in medicine excludes the Not stated response category.

Source: AIHW Medical Labour Force Survey, 2006 and 2007.

The following analysis of selected national characteristics of employed Indigenous medical practitioners presented in Table 4 excluded New South Wales due to data quality issues (NSW Health 2008:12). Indigenous medical practitioners were, on average, about 3.5 years younger than non-Indigenous practitioners (42.0 years compared with 45.6 years), which may in part be attributable to increased educational opportunities for Indigenous Australians in recent years (Table 4) (NATSIHC 2008). A lower proportion of Indigenous practitioners were female than for non-Indigenous practitioners (27.8% and 34.2%, respectively).

Table 4: Employed medical practitioners: selected features by Indigenous status, 2007[(a)]

Indigenous status	Average age (years)	Per cent female	Average hours worked	Per cent clinician
Indigenous	42.0	27.8	43.7	91.2
Non-Indigenous	45.6	34.2	42.9	93.3
Not stated	47.9	28.1	41.1	94.7
Total employed	**45.6**	**34.1**	**42.9**	**93.4**

(a) Data excludes New South Wales due to the estimate of employed Indigenous medical practitioners being much larger than that estimated in 2006, indicating a difference of reporting is likely to have occurred (NSW Health 2008:12).

Source: AIHW Medical Labour Force Survey, 2007.

Indigenous medical practitioners tended on average to work nearly 1 hour per week more than their non-Indigenous colleagues (43.7 hours compared with 42.9 hours).

Clinicians accounted for 91.2% (110) of Indigenous medical practitioners. This proportion is slightly lower than the proportions of non-Indigenous and all employed medical practitioners (93.3% and 93.4%, respectively).

3.3 Field of medicine

Field of medicine describes the types of medical work undertaken by employed practitioners. The 2007 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.

Clinicians, the largest group, are mainly involved in the diagnosis, care and treatment of individuals, including recommending preventive action. In this report, medical practitioners who reported that they spent most of their total weekly working hours involved in the area of clinical practice are classified as clinicians. Within the clinical group, further subfields are identified—primary care practitioner, hospital non-specialist, specialist, specialist-in-training and other clinicians. Medical practitioners working in the remaining fields are termed 'non-clinicians' (see *Box 1* in *Introduction*, and *Glossary*).

Most employed medical practitioners in Australia in 2007 were working as clinicians (93.2%). Of these, the largest proportion were primary care practitioners (38.5%), followed by specialists (34.6%), specialists-in-training (14.1%) and hospital non-specialists (11.8%) (Figure 1). Of the non-clinical workforce, administrators (29.4%) and researchers (25.2%) were the largest components. Non-clinicians also include teachers/educators, public health physicians and occupational health physicians (16.0%, 9.1% and 6.6%, respectively).

Clinicians

The number of clinicians grew by 20.9% from 51,819 in 2003 to 62,652 in 2007 (Table 5). This is equivalent to an increase of 37 clinicians per 100,000 population (from 260 in 2003 to 297 in 2007) (Table 6).

The average age of clinicians in 2007 was 45.6 years, decreasing slightly from 45.7 years in 2006 but equivalent to the average age in 2003 (AIHW 2008). The proportion of clinicians who were females rose by 2.1 percentage points over the same 5-year period, to 34.1% in 2007 (Table 5).

Table 5: Employed medical practitioners: selected features by main field of medicine, 2003 and 2007

Main field	2003 Number	2003 Per cent female	2003 Average age (years)	2007 Number	2007 Per cent female	2007 Average age (years)	Change in number between 2003 and 2007 (per cent)
Clinician	***51,819***	***32.0***	***45.6***	***62,652***	***34.1***	***45.6***	***20.9***
Primary care practitioner	*21,919*	*36.2*	*48.8*	*24,121*	*37.6*	*49.8*	*10.0*
Vocationally registered[(a)]	18,492	34.7	49.8	20,581	36.5	50.9	11.3
RACGP trainee[(b)(c)]	1,079	59.1	33.9	1,630	55.8	36.0	51.0
Other	2,348	37.6	48.1	1,910	34.4	50.6	-18.6
Hospital non-specialist	*5,915*	*45.1*	*33.5*	*7,412*	*47.2*	*33.7*	*25.3*
RMO/intern[(c)]	3,968	48.6	30.2	4,774	52.1	29.5	20.3
Career and other medical officers	1,947	38.0	40.3	2,638	38.5	41.5	35.4
Specialist[(d)]	*18,093*	*19.7*	*49.9*	*21,702*	*23.0*	*49.8*	*19.9*
Internal medicine	4,816	19.6	48.9	5,851	23.5	49.6	21.5
Pathology	896	29.1	50.9	1,021	32.0	51.4	14.0
Surgery	3,104	5.8	51.2	4,541	9.1	50.9	46.3
Other specialties	9,277	23.4	49.8	10,289	28.0	49.3	10.9
Specialist-in-training[(d)]	*5,892*	*40.8*	*32.6*	*8,853*	*40.0*	*33.3*	*50.2*
Internal medicine	1,725	42.7	32.1	2,562	45.9	32.5	48.6
Pathology	225	50.5	32.2	342	47.0	33.7	52.1
Surgery	914	16.9	31.9	1,629	22.7	32.7	78.1
Other specialties	3,029	46.2	33.2	4,320	42.4	34.1	42.6
Other clinician[(e)]	. .	. .	. .	*564*	*43.6*	*46.0*	. .
Non-clinician	***4,388***	***30.5***	***48.9***	***4,556***	***32.4***	***51.2***	***3.8***
Administrator	1,492	27.5	49.5	1,338	28.0	51.5	–10.3
Teacher/educator	569	33.6	51.1	730	43.9	52.3	28.2
Researcher	1,111	34.8	43.9	1,146	33.9	45.0	3.1
Public health physician	485	41.3	44.6	416	44.3	49.2	–14.2
Occupational health physician	347	19.2	51.8	302	23.2	50.8	–12.9
Other non-clinician[(f)]	383	22.0	60.3	623	21.9	62.3	62.8
Total	**56,207**	**31.9**	**45.9**	**67,208**	**34.0**	**45.9**	**19.6**

(a) In 2007, Victoria had the category Fellows of the Royal Australian College of General Practitioners (FRACGP); other states and territories did not have this category. Vocationally registered figures include medical practitioners in Victoria who are FRACGP.

(b) In 2007, Victoria replaced the category RACGP trainee with GP registrar; other states and territories have only RACGP trainee. RACGP trainee figures include medical practitioners in Victoria who are GP registrars.

(c) RMO—resident medical officer; RACGP—Royal Australian College of General Practitioners.

(d) In 2007, there were additional specialty categories, and so the Internal medicine, Surgery, and Other specialties groups are not directly comparable with previous years. Care should be taken when comparing these groups across years.

(e) In 2007, main area of clinical practice included the new category of Other clinician.

(f) Other non-clinician includes medico-legal physician.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007.

Growth in the number of primary care practitioners from 2003 to 2007 was relatively small (10.0%) compared with that for other clinicians. The number of Royal Australian College of General Practitioners (RACGP) trainees increased by 51.0% over the same period. Hospital non-specialists and specialists-in-training, in particular, had relatively high rates of growth

(25.3% and 50.2%, respectively). The number of specialists rose by 19.9% from 2003 to 2007 (Table 5).

The supply of primary care practitioners remained stable at about 110 per 100,000 population from 2003 to 2006, before increasing to 114 per 100,000 in 2007. However, specialists increased from 91 to 103 per 100,000 population and specialists-in-training increased from 30 to 42 per 100,000 population over the same period. There was a smaller rise in hospital non-specialists between 2003 and 2007, from 30 to 35 per 100,000 population (Table 6).

Table 6: Employed medical practitioners: clinicians per 100,000 population by main area of clinical practice, 2003 to 2007

	Main area of clinical practice					
Year	Primary care practitioner	Hospital non-specialist	Specialist	Specialist-in-training	Other clinician[a]	All clinicians
2003[b]	110	30	91	30	. .	260
2004[b]	109	31	95	33	. .	268
2005[b]	111	33	98	34	. .	275
2006[b]	111	32	98	37	4	281
2007	114	35	103	42	3	297

(a) In 2006 and 2007, main area of clinical practice included the new category of Other clinician.

(b) For 2003 to 2006, clinicians per 100,000 population data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

Sources: AIHW Medical Labour Force Survey, 2003 to 2007; unpublished ABS estimated resident population data (see *Appendix F*).

Primary care practitioners

The 10.0% growth in primary care practitioner numbers between 2003 and 2007 (from 21,919 to 24,121) was higher than the growth in the Australian estimated resident population for the same period (5.6%), resulting in an increase in the primary care practitioner rates from 110 to 114 per 100,000 population (tables 5 and 6, *Appendix F*).

The average age of primary care practitioners increased slightly between 2003 and 2007 (48.8 years and 49.8 years, respectively) (Table 5). The proportion of primary care practitioners who were female increased slightly over the 5-year period from 36.2% to 37.6% in 2007. On average, female primary care practitioners were younger than their male colleagues (45.9 years for females and 52.2 years for males in 2007) (Table 21).

Hospital non-specialists

The hospital non-specialist labour force grew by 25.3% from 5,915 in 2003 to 7,412 in 2007 (Table 5). This was equivalent to an increase from 30 hospital non-specialists per 100,000 population in 2003 to 35 per 100,000 population in 2007 (Table 6).

The average age for this group of clinicians in 2007 was 33.7 years, about the same as in 2003 (33.5 years) (Table 5). The proportion of females increased from 45.1% in 2003 to 47.2% in 2007. Hospital non-specialists were one of the youngest subfields, on average, among clinicians.

Specialists

The number of employed specialist clinicians increased between 2003 and 2007 (from 18,093 to 21,702) (Table 5). The number per 100,000 population rose from 91 to 103. From 2006 to 2007, there was a 7.1% increase in specialist numbers, contributing to an increase in supply from 98 to 103 specialist clinicians per 100,000 population (Table 6; AIHW 2008).

The average age for specialist clinicians was 49.8 years in 2007, making them the oldest of the clinician subfields (equal with primary care practitioners). In 2007, 23.0% of specialist clinicians were female, the lowest proportion among the clinician subfields (Table 5).

Table 7: Employed specialists: clinicians per 100,000 population by broad specialty group, 2003 to 2007

	Broad specialty group				
Year	Internal medicine	Pathology	Surgery	Other specialties	Total
2003[(a)]	24	5	16	47	91
2004[(a)]	26	4	16	48	95
2005[(a)]	27	5	17	50	98
2006[(a)(b)]	27	4	20	46	98
2007[(b)]	28	5	22	49	103

(a) For 2003 to 2006, clinicians per 100,000 population data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(b) In 2006 and 2007, there were additional new specialty categories, and so the Internal medicine, Surgery, and Other specialties groups are not directly comparable with 2005 and previous years. Changes to these three broad groups are minor and do not affect comparisons significantly. Data for 2006 and 2007 are comparable as the groups include the same specialties.

Sources: AIHW Medical Labour Force Survey, 2003 to 2007; unpublished ABS estimated resident population data (see *Appendix F*).

Growth in the broad specialty groups from 2003 to 2007 was not uniform. Growth in numbers was highest for surgery (up by 46.3%) and lowest for pathology specialist numbers (up by 14.0%) (Table 5). For surgery, this equated to a rate increase of 6 per 100,000 population, whereas the rate of pathology specialists remained steady at 5 per 100,000 population (Table 7). Moderate growth in numbers occurred for internal medicine specialists (up by 21.5%).

While the average age did not differ greatly among the broad specialist groups, there were major differences in the representation of females. In 2007, 9.1% of surgery specialists were females, compared with 32.0% of pathologists (Table 5).

Specialists-in-training

The number of specialists-in-training increased by 50.2% between 2003 and 2007, from 5,892 to 8,853 (Table 5). This equates to a rise over the period of 12 trainee specialists per 100,000 population, to 42 per 100,000 in 2007 (Table 6). Trainee numbers in surgery rose by 78.1%, while trainees in internal medicine increased by 48.6%.

In 2007, 40.0% of specialists-in-training were female; almost double the proportion of specialists (23.0%). The average age of specialists-in-training (33.3 years in 2007) was relatively young compared with specialists and primary care practitioners (49.8 years).

Overall, the proportion of specialists-in-training who were female remained relatively steady (40.8% in 2003 and 40.0% in 2007). However, between 2003 and 2007, the proportion of

specialists-in-training who were female and training in surgery increased from 16.9% to 22.7%.

Non-clinicians

As outlined above, medical practitioners who reported spending the majority of their total working hours mainly engaged in clinical practice are classified as clinicians.

Non-clinician practitioners are medical practitioners who reported in the AIHW Medical Labour Force Survey that they worked the majority of their total weekly hours as either:

- an administrator: employed in medical administration
- a teacher/educator: teaching or training people 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
- in another medical field: a medico-legal physician or other job function in medicine that 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 2007, there were 4,556 employed non-clinician medical practitioners, compared with 62,652 employed clinicians (Table 5). This equated to 6.8% of medical practitioners employed in medicine in Australia, of which over a half were either administrators (29.4%) or researchers (25.2%).

The number of employed non-clinician medical practitioners increased by 3.8% from 2003 to 2007. Among the non-clinical fields, other non-clinicians and teachers/educators had the highest increase in numbers (up 62.8% and 28.2%, respectively), and public and occupational health physicians reported the highest decreases (down 14.2% and 12.9%, respectively).

Non-clinicians were, on average and as a group, slightly older than clinicians (51.2 years and 45.6 years, respectively, in 2007). Around one-third (32.4%) were female, similar to the proportion for clinicians.

Table 8: Specialists: selected features by main specialty of practice, 2007[(a)]

	Clinicians				All specialists			
Specialty of practice	Number	Per cent female	Average age (years)	Average weekly hours	Number	Per cent female	Average age (years)	Average weekly hours
Internal medicine	*5,851*	*23.5*	*49.6*	*46.7*	*6,543*	*23.9*	*49.5*	*46.5*
Cardiology	756	8.4	49.8	51.8	804	8.3	49.8	51.6
Clinical genetics	75	52.3	51.2	39.2	85	48.3	50.7	39.1
Clinical haematology	215	22.8	48.8	48.8	240	22.7	49.0	48.8
Clinical immunology	96	22.8	54.0	41.7	119	22.1	53.9	43.0
Clinical pharmacology	15	7.6	46.8	55.3	21	5.4	49.4	51.8
Endocrinology	311	34.0	49.2	42.8	386	32.6	49.5	43.9
Gastroenterology	555	13.8	48.8	46.3	591	13.1	48.8	46.4
General medicine	548	16.3	56.4	44.0	595	16.8	56.7	43.3
Geriatrics	310	40.4	47.3	42.3	341	41.0	47.2	42.5
Infectious diseases	138	35.1	44.3	46.8	194	38.9	44.1	45.4
Intensive care	222	14.4	45.6	58.6	242	14.8	45.7	58.0
Medical oncology	281	34.2	45.5	49.1	312	33.6	45.5	49.1
Neurology	353	14.0	51.7	45.7	408	14.2	51.0	45.6
Nuclear medicine	162	20.2	49.0	42.5	166	19.7	49.0	43.0
Paediatric medicine	1,009	35.7	49.1	43.8	1,105	36.1	49.2	43.9
Renal medicine	233	23.2	49.1	50.3	285	24.6	47.8	48.7
Respiratory and sleep medicine	196	19.5	46.2	49.3	229	22.4	46.4	47.4
Rheumatology	221	27.1	51.9	44.6	252	29.1	51.5	44.4
Thoracic medicine	156	19.2	49.1	49.7	167	18.6	49.0	49.4
Pathology	*1,021*	*32.0*	*51.4*	*41.8*	*1,115*	*31.9*	*51.6*	*42.0*
Anatomical pathology	576	34.6	50.4	41.7	596	35.1	50.5	41.5
Clinical chemistry	67	23.0	53.7	40.7	76	21.4	54.2	42.7
Cytopathology	24	63.9	52.1	41.2	27	64.7	52.8	41.0
Forensic pathology	30	22.4	51.9	43.9	44	17.7	53.6	43.5
General pathology	84	16.0	57.5	40.2	96	14.0	57.2	41.5
Haematology	121	38.2	50.5	42.7	142	42.0	50.0	42.8
Immunology	35	29.1	51.4	42.2	43	23.7	52.7	42.1
Microbiology	85	24.2	51.3	43.5	91	23.9	51.6	43.6
Surgery	*4,541*	*9.1*	*50.9*	*47.6*	*4,795*	*9.0*	*51.6*	*46.9*
Cardiothoracic surgery	171	12.6	47.0	52.0	177	13.4	47.0	52.2
General surgery	1,102	8.5	52.2	49.1	1,168	8.3	52.9	48.3
Neurosurgery	157	7.8	48.9	52.4	165	8.2	49.6	51.6
Ophthalmology	828	15.4	51.9	40.3	843	15.6	51.9	40.1
Oral maxillo facial surgery	58	10.0	44.7	46.7	58	10.0	44.7	46.7
Orthopaedic surgery	859	3.2	49.6	50.6	953	3.0	51.3	48.5
Otolaryngology	373	9.0	52.4	44.6	393	9.4	52.9	43.9
Paediatric surgery	77	22.9	50.7	49.2	82	23.8	50.6	49.0
Plastic surgery	333	8.5	50.8	47.4	345	8.7	51.3	47.0
Urology	282	6.1	49.0	50.9	296	5.8	49.5	50.9
Vascular surgery	189	9.1	51.3	50.1	195	8.8	51.6	49.9
Other surgery	113	9.6	52.1	47.5	121	9.0	52.5	47.3

(continued)

Table 8 (continued): Specialists: selected features by main specialty of practice, 2007[(a)]

Specialty of practice	Clinicians				All specialists			
	Number	Per cent female	Average age (years)	Average weekly hours	Number	Per cent female	Average age (years)	Average weekly hours
Other specialties	*10,289*	*28.0*	*49.3*	*42.2*	*11,190*	*27.7*	*49.6*	*42.2*
Anaesthesia	2,874	24.7	47.5	42.8	2,924	24.5	47.6	42.7
Dermatology	398	33.3	50.3	40.1	401	33.4	50.4	40.1
Diagnostic radiology	1,437	20.7	50.1	40.9	1,462	21.0	50.2	40.8
Emergency medicine	803	27.6	42.0	42.6	895	27.3	42.5	43.1
Intensive care (anaesthesia)	135	7.0	47.0	54.0	143	6.6	47.3	54.0
Medical administration	35	30.4	51.3	45.3	147	34.3	52.3	48.0
Obstetrics and gynaecology	1,283	29.9	51.4	48.0	1,332	29.8	51.6	47.5
Occupational medicine	59	19.7	49.6	45.5	191	17.1	53.1	39.0
Pain medicine	70	17.3	55.6	44.8	75	16.2	55.8	45.4
Palliative care	163	48.7	49.6	42.3	178	51.3	49.5	42.1
Psychiatry	2,464	32.3	52.2	38.4	2,745	30.9	52.3	38.8
Public health medicine	54	36.9	50.9	43.3	140	40.1	52.1	42.3
Radiation oncology	225	38.7	48.2	47.3	234	37.8	48.4	47.3
Rehabilitation medicine	246	37.6	47.4	40.8	268	35.8	48.4	40.2
Other	42	29.3	53.8	35.8	54	30.2	56.6	36.9
Total	**21,702**	**23.0**	**49.8**	**44.5**	**23,642**	**23.1**	**50.1**	**44.3**

(a) In 2007, there were additional new specialty categories and therefore the Internal medicine, Surgery, and Other specialties groups are not directly comparable with 2005 and previous years. Changes to these three broad groups are minor and do not affect comparisons significantly. Data for 2006 and 2007 are comparable as the groups include the same specialties.

Source: AIHW Medical Labour Force Survey, 2007.

3.4 Country of first medical qualification

The country of first medical qualification was collected from employed medical practitioners in all jurisdictions for the first time in 2006, and repeated in 2007. 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 (35.8%), while Victoria had the lowest (19.3%) (Table 9).

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 hold general or conditional registration. 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 that usually refers to medical practitioners who did not obtain their primary medical qualification in Australia and entered Australia on a temporary resident visa (RACGP 2009).

As medical practitioners in 'area of need' positions, trainees/interns and those in retirement are not surveyed in New South Wales, conditionally registered medical practitioners are not included in the survey population in Queensland, and conditional registrants who are overseas-trained doctors (including those in 'area of need' positions) or interns are not included in Tasmania, care should be taken in interpreting the data on country of first qualification.

Table 9: Employed medical practitioners, by country of first qualification and state and territory, 2007

Country of first qualification	NSW[(a)]	Vic	Qld[(a)]	WA	SA	Tas[(a)]	ACT	NT[(b)]	Australia
Australia	15,964	13,699	9,702	4,819	3,905	1,146	1,019	641	50,895
New Zealand	659	432	457	337	104	39	59	18	2,106
UK/Ireland	869	650	865	902	264	146	72	102	3,869
Other countries	3,243	2,194	1,154	1,448	1,067	200	285	106	9,698
Not stated	290	41	25	208	31	8	6	32	640
Total	**21,024**	**17,016**	**12,204**	**7,713**	**5,371**	**1,540**	**1,442**	**898**	**67,208**
Per cent Australian trained[(c)]	**77.0**	**80.7**	**79.7**	**64.2**	**73.1**	**74.9**	**71.0**	**73.9**	**76.5**

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

(b) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

(c) Percentage of Australian trained medical practitioners employed in medicine excludes the Not stated response category.

Source: AIHW Medical Labour Force Survey, 2007.

3.5 Working hours

The total number of hours worked per week, in the week before the survey, is 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 2007, clinicians worked, on average, a total of 43.4 hours per week, and non-clinicians, 39.0 hours. Of clinicians, specialists-in-training reported the highest average hours per week (49.6 hours) and primary care practitioners the lowest (39.0 hours) (Table 10).

From 2003 to 2007, the average total hours worked per week by medical practitioners declined by 1.3 hours. Clinicians' average hours declined from 44.6 to 43.4, while for non-clinicians the decline was from 42.1 to 39.0 hours.

The total average clinical hours worked by medical practitioners, however, were similar for 2003 and 2007 (39.5 and 39.7 hours per week, respectively). Among clinicians, the average clinical hours worked per week were also similar over the same period (40.7 and 40.6 hours, respectively).

The proportion of medical practitioners working 50 or more hours decreased in all main fields, with the total per week decreasing from 43.7% in 2003 to 35.8% in 2007 (Table 10). Of clinicians, the largest decrease in the proportion working 50 or more hours per week was for specialists (from 51.1% to 40.7%), and the smallest was for specialists-in-training (from 52.9% to 46.1%). Among non-clinicians, the largest decrease working 50 or more hours per week was occupational health physicians (from 31.8% to 17.9%), and the smallest was for other non-clinicians (from 18.7% to 13.6%).

Table 10: Employed medical practitioners: average weekly hours worked and proportion working 50 hours or more, by field of medicine, 2003 and 2007

	2003			2007		
Main field	Average weekly total hours	Average weekly clinical hours	Per cent working 50 hours or more in total	Average weekly total hours	Average weekly clinical hours	Per cent working 50 hours or more in total
Clinician	*44.6*	*40.7*	*43.8*	*43.4*	*40.6*	*36.0*
Primary care	40.9	38.3	33.9	39.0	37.3	26.6
Hospital non-specialist	46.9	45.1	48.9	47.5	46.5	41.7
Specialist	46.8	40.1	51.1	44.5	39.6	40.7
Specialist-in-training	49.3	46.8	52.9	49.6	47.8	46.1
Other clinician[(a)]	. .	. .	. .	34.8	32.9	24.4
Non-clinician	*42.1*	*10.6*	*42.7*	*39.0*	*11.5*	*32.4*
Administrator	46.0	11.4	53.8	43.8	12.3	45.0
Teacher/educator	38.0	10.0	34.2	34.2	12.0	22.0
Researcher	44.2	10.3	45.3	43.0	11.1	39.6
Public health physician	42.6	9.4	38.6	39.4	10.9	27.4
Occupational health physician	38.6	10.7	31.8	36.1	9.9	17.9
Other non-clinician[(b)]	29.1	9.7	18.7	27.7	9.9	13.6
Total	**44.4**	**39.5**	**43.7**	**43.1**	**39.7**	**35.8**

(a) In 2007, main area of clinical practice included the new category of Other clinician.

(b) Other non-clinician includes medico-legal physician.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007.

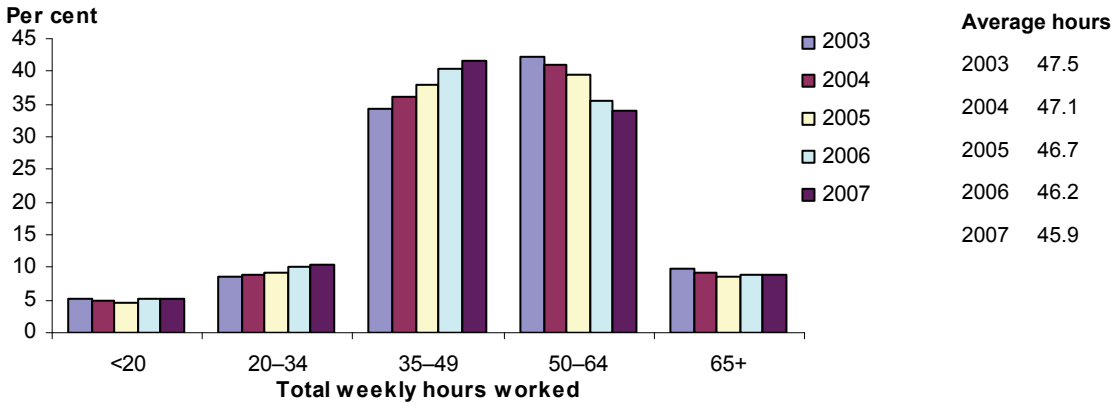
Sex

Male medical practitioners have historically worked more hours per week than female practitioners. This is primarily due to a larger proportion of female medical practitioners working part-time hours of less than 35 hours in total per week (38.6%), compared with males (15.6%). In 2007, male medical practitioners worked an average total of 45.9 hours per week, while female medical practitioners worked an average total of 37.6 hours per week (figures 3 and 4). In 2003 and 2007, males worked an average of 9.7 and 8.3 total hours per week more than females, respectively. Males were also more likely to work 35–64 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. About 42.8% of male medical practitioners worked 50 or more hours per week in 2007, although the proportion had decreased from 52.0% in 2003. The proportion of females working 50 or more hours per week also steadily decreased overall, from 26.2% in 2003 to 22.1% in 2007. Three-quarters (75.5%) of male medical practitioners in 2007 reported working on average between 35 and 64 hours per week. In 2007, female medical practitioners were more likely to have worked less than 35 total hours per week (38.6%) than males (15.6%) (figures 3 and 4).

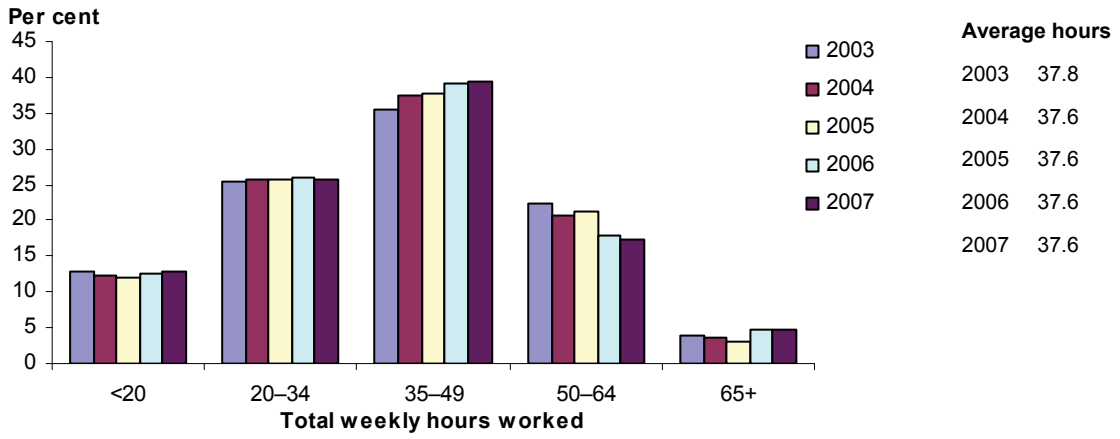
Total part-time average hours for females have remained relatively flat from 2003 to 2007, while females working 35–49 hours has increased steadily over this period. Alternatively,

females working 50–64 hours have fallen most years from 2003. The proportion of males working 20–34 hours and 35–49 hours per week has steadily increased each year from 2003 to 2007, while the proportion of males in the 50–64 hours group has fallen each year over the same period. The total average hours worked for males has also fallen each year from 2003 (47.5 hours) to 2007 (45.9 hours), while for females it has remained unchanged since 2004 (37.6 hours).



Sources: AIHW Medical Labour Force Survey, 2003 to 2007.

Figure 3: Employed male medical practitioners: total hours worked per week, 2003 to 2007



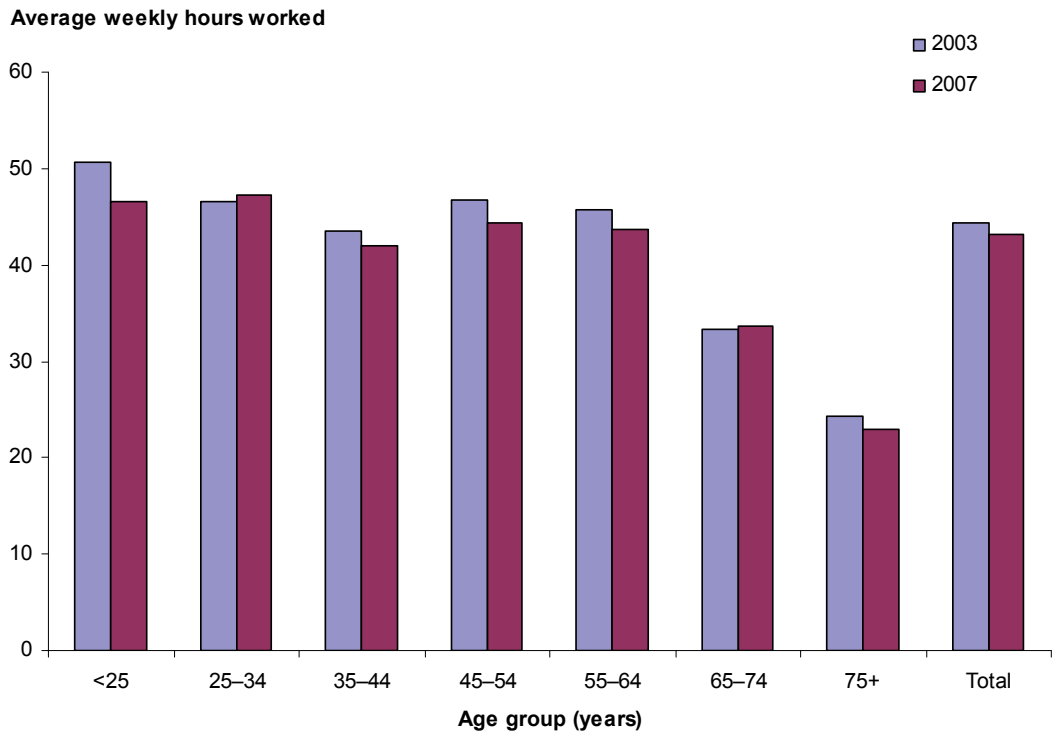
Sources: AIHW Medical Labour Force Survey, 2003 to 2007.

Figure 4: Employed female medical practitioners: total hours worked per week, 2003 to 2007

Age

Medical practitioners aged 25–34 years worked the highest average weekly hours in 2007 (47.2 hours), followed by those aged under 25 years (46.6 hours). This differed in 2003, where those aged less than 25 years accounted for the highest average weekly hours (50.7 hours), with those aged 45–54 years the next highest (46.8 hours) (Figure 5). Medical practitioners in all age groups, except the 25–34 and 65–74 years age groups, reduced their average weekly hours worked over the 5-year period, with the largest decrease being for those aged under 25 years (down by 4.1 hours).

Those aged 25–34 years and 65–74 years worked an average of 0.6 and 0.3 of an hour more in 2007 compared with 2003, respectively. Among those aged 25–34 years in 2007, the average weekly hours worked was 47.2 hours, and for those aged 65–74 years, 33.6 hours.



Sources: AIHW Medical Labour Force Survey, 2003 and 2007.

Figure 5: Employed medical practitioners: average total weekly hours by age group, 2003 and 2007

3.6 Work setting and sector

Work setting refers to the type of service or facility in which medical practitioners are employed. Work sector refers to whether the care is provided in a public or private organisation. This data is only available for medical practitioners who report their hours worked by sector, so the figures for work setting and sector will be an underestimate of the actual numbers.

In 2007, there were 32,338 medical practitioners who reported working some hours in one or more public sector work settings (a rise of 9.5% from 29,538 in 2003), and 40,288 in one or more private sector work settings (a rise of 12.9% from 35,698 in 2003) (Table 11).

On average, in 2007, medical practitioners worked similar weekly hours in both sectors, with 35.2 hours worked in the private sector and 36.1 hours in the public sector. In 2003, medical practitioners worked an average of 1.5 hours per week less in the public sector than the private sector.

Average hours worked by medical practitioners in the public sector increased from 34.3 in 2003 to 36.1, an average increase of 1.8 hours per week. In contrast, hours worked by those in the private sector remained similar (35.2 in 2007 compared with 35.8 in 2003).

Table 11: Employed medical practitioners: average weekly hours worked, by work setting and sector[(a)], 2007

	Public sector		Private sector	
Work setting	**Number**	**Average weekly total hours**	**Number**	**Average weekly total hours**
		2007		
Private medical practitioners' rooms or surgery	. .	. .	33,741	32.5
Hospital	27,214	36.4	9,520	21.3
Ambulatory centre, day procedure centre, outpatient clinic	2,988	15.4	1,632	11.7
Community health centre	610	16.1	172	11.4
24-hour or other medical centre not included above	. .	. .	1,201	25.6
Other residential care facility	552	9.2	1,733	5.5
Aboriginal health service	469	20.3	305	18.6
Educational institution	2,340	19.6	933	13.3
Aero retrieval service, mobile clinic	133	19.3	51	12.4
Commercial/industry/business	. .	. .	175	18.7
Government/Defence	1,782	23.8	. .	. .
Laboratory or radiology facility (not in a hospital)	140	17.3	357	24.4
Non-clinical office	546	11.7	790	11.2
Other	508	17.4	981	16.9
Total employed medical practitioners[(a)]	**32,338**	**36.1**	**40,288**	**35.2**
		2003		
Total employed medical practitioners[(a)]	**29,538**	**34.3**	**35,698**	**35.8**

(a) Data for work sector are based on self-reported hours worked in each sector and may be an underestimate of the actual numbers. A medical practitioner may be double counted if he or she works more than 1 hour in both sectors. Average weekly total hours for each work sector is based on the number of medical practitioners who did work in each sector; that is those who did not work in a sector are excluded from the average weekly hours calculation.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007.

4 Supply of practitioners

4.1 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 2*). This provides the full-time workloads being worked.

To take account of population differences across Australia, and across time, Australian Bureau of Statistics estimated resident population figures have been used to convert the FTE number to an FTE rate (FTE per 100,000 population) (see *Appendix F*).

Box 2: 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 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 have worked, on average, around 43.1 hours per week (Table 10). 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.

The overall supply of employed medical practitioners in FTE per 100,000 population has risen in each year, from 279 in 2003, to 305 in 2007 (Table 12).

Table 12: Employed medical practitioners: FTE per 100,000 population[(a)] by main field of medicine, 2003 to 2007

Main field	2003[(b)]	2004[(b)]	2005[(b)]	2006[(b)]	2007
Clinician	*258*	*263*	*268*	*272*	*287*
Primary care	100	98	98	97	99
Hospital non-specialist	31	32	33	33	37
Specialist	95	97	99	98	102
Specialist-in-training	32	36	37	41	46
Other clinician[(c)]	. .	. .	. .	3	2
Non-clinician	*21*	*19*	*19*	*18*	*19*
Total	**279**	**283**	**287**	**290**	**305**

(a) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(b) For 2003 to 2006, FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(c) In 2006 and 2007, main area of clinical practice included the new category of Other clinician.

Sources: AIHW Medical Labour Force Survey, 2003 to 2007; unpublished ABS estimated resident population data (see *Appendix F*).

4.2 Supply of clinicians

A clinician is a medical practitioner mainly involved in the diagnosis, care and treatment of individuals, including recommending preventive action. In this publication, medical practitioners who reported spending the majority of their total weekly working hours involved in the area of clinical practice are classed as clinicians.

The supply of clinicians has increased each year between 2003 and 2007, from 258 FTE per 100,000 population in 2003 to 287 in 2007 (Table 12). However, this pattern was not consistent across the practitioner fields.

The supply of primary care practitioners decreased steadily between 2003 and 2006 from a rate of 100 to 97 FTE per 100,000 population, then increased to 99 FTE per 100,000 in 2007 (Table 12). Over the same period, the supply of specialists-in-training increased from 32 to 46 FTE per 100,000 population.

Between 2004 and 2006, the supply of specialists was between 97 and 99 FTE per 100,000 population, increasing to 102 FTE per 100,000 in 2007.

Similarly, the supply of hospital non-specialists was stable at around 31 to 33 FTE per 100,000 population between 2003 and 2006, before increasing to 37 FTE per 100,000 in 2007.

The supply of specialist clinicians across the broad specialty groups is provided in Table 13. For each broad specialty group, except surgeons, there was little variation in supply between 2003 and 2007. The supply of surgeons has increased gradually from 18 FTE per 100,000 population in 2003 to 23 FTE per 100,000 in 2007.

Table 13: Employed specialist clinicians: FTE per 100,000 population[(a)] by broad specialty group, 2003 to 2007

Broad specialty group	2003[(b)]	2004[(b)]	2005[(b)]	2006[(b)(c)]	2007[(c)]
Internal medicine	26	28	28	28	29
Pathology	4	4	4	4	5
Surgery	18	19	19	22	23
Other specialties	46	47	48	44	46
Total	**95**	**97**	**99**	**98**	**102**

(a) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(b) For 2003 to 2006, FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(c) In 2006 new specialty categories were introduced, and therefore the Internal medicine, Surgery, and Other specialties groups are not directly comparable with previous years. Changes to these three broad groups are minor and do not affect comparisons significantly. Data for 2006 and 2007 are comparable as the groups include the same specialties.

Sources: AIHW Medical Labour Force Survey, 2003 to 2007; unpublished ABS estimated resident population data (see *Appendix F*).

5 Regional comparisons

5.1 Remoteness Areas

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 Medical Labour Force Survey, providing a means, in combination with other data on hours and population, of examining variability in the supply of practitioners across Australia. Using the postcode of practitioners' main work location, they are allocated to one of the following Australian Standard Geographical Classification Remoteness Areas (RA): *Major cities*, *Inner regional*, *Outer regional*, *Remote*, *Very remote* and *Migratory* (see *Glossary*). In this report, the *Remote*, *Very remot*e and *Migratory* categories have been collapsed due to small numbers.

Table 14: Employed medical practitioners in Australia: selected features by main field of medicine, 2003 and 2007

Main field	Number	Average age	Per cent female	Average hours	FTE rate[a]
			2003[b]		
Clinician	*51,819*	*45.6*	*32.0*	*44.6*	*258*
Primary care practitioner	21,919	48.8	36.2	40.9	100
Hospital non-specialist	5,915	33.5	45.1	46.9	31
Specialist	18,093	49.9	19.7	46.8	95
Specialist-in-training	5,892	32.6	40.8	49.3	32
Other clinician	. .	. .	. .	. .	. .
Non-clinician	*4,388*	*48.9*	*30.5*	*42.1*	*21*
Total	**56,207**	**45.9**	**31.9**	**44.4**	**279**
			2007		
Clinician	*62,652*	*45.6*	*34.1*	*43.4*	*287*
Primary care practitioner	24,121	49.8	37.6	39.0	99
Hospital non-specialist	7,412	33.7	47.2	47.5	37
Specialist	21,702	49.8	23.0	44.5	102
Specialist-in-training	8,853	33.3	40.0	49.6	46
Other clinician[c]	564	46.0	43.6	34.8	2
Non-clinician	*4,556*	*51.2*	*32.4*	*39.0*	*19*
Total	**67,208**	**45.9**	**34.0**	**43.1**	**305**

(a) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(b) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(c) In 2007, main area of clinical practice included the new category of Other clinician.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

The comparison of the medical workforce national data (Table 14) with the medical workforce data by RAs (tables 15–18) should be treated with caution, as not all medical

practitioners in 2007 reported their main work location. Therefore the numbers and rates for each individual RA will not sum to the national figures.

In 2007, some 62,454 (92.9%) of the 67,208 estimated employed medical practitioners in Australia reported the area of their main work location in the week before the survey. That is, 4,754 employed medical practitioners could not be allocated to a RA. Among the group allocated to a RA, 80.4% (50,232) worked in *Major cities*, 12.9% (8,027) in *Inner regional* areas, 5.1% (3,209) in *Outer regional* areas and 1.6% (986) in *Remote/Very remote* areas (tables 14–18).

Of the 22,548 primary care practitioner clinicians who reported their main work location in 2007, 72.3% (16,291) were working mainly in *Major cities*, 17.6% (3,968) in *Inner regional* areas, 7.8% (1,766) in *Outer regional* areas and 2.3% (523) in *Remote/Very remote* areas.

In 2007, the overall supply of medical practitioners in Australia was estimated to be 305 FTE per 100,000 population (Table 14). This varied considerably across RAs, estimated to be 332 FTE per 100,000 population in *Major cities*, 186 FTE in *Inner regional*, 157 in *Outer regional* and 204 in *Remote/Very remote* areas (tables 15–18). For primary care practice clinicians, however, supply was less varied. In 2007, there were an estimated 95 FTE primary care practitioners employed per 100,000 population in *Major cities*, 85 in *Inner regional* areas, 84 in *Outer regional* areas and 106 in *Remote/Very remote* areas.

Major cities

Of the medical practitioners employed in *Major cities* in 2007, 92.7% were clinicians. Of employed clinicians, 36.5% were specialists, 35.0% were primary care practitioners, 15.8% specialists-in-training and 11.8% hospital non-specialists (Table 15). The proportions of specialists and specialists-in-training were higher in this area than any other RA. The proportion of primary care practitioners was the lowest of the four RAs at 35.0%. This indicates that the medical practitioner population is more distributed across clinician types in *Major cities* than in the other RAs.

In 2007, around one-third (34.8%) of medical practitioners in *Major cities* were female, which is equal with *Remote/Very remote* areas as having the highest proportion of the four RAs. The average age of medical practitioners in *Major cities* was 45.7 years, which was slightly lower than the national average in 2007 of 45.9 years (tables 14 and 15). These differences reflect, in part, the different fields of practice in *Major cities* compared with other RAs, 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).

Between 2003 and 2007, the number of employed medical practitioners in *Major cities* increased by 16.8%. For clinicians overall, the increase was 18.3%. Among clinicians, the largest increase over the same period occurred for specialists-in-training (44.3%) followed by hospital non-specialists (20.7%).

There was also a rise in the supply of medical practitioners of 21 FTE per 100,000 population, and in the supply of clinicians of 25 FTE per 100,000 population, from 2003 to 2007. However, over the same period, the supply of primary care clinicians fell by 4 FTE per 100,000 population to 95 FTE per 100,000 in 2007. This decrease is largely a result of a decline in the average hours worked by primary care practitioners in this RA.

Table 15: Employed medical practitioners in *Major cities*[a]: selected features by main field of medicine, 2003 and 2007

Main field	Number	Average age	Per cent female	Average hours	FTE rate[b]
			2003[c]		
Clinician	*39,389*	*45.4*	*32.7*	*44.3*	*285*
Primary care practitioner	15,132	49.4	37.6	39.9	99
Hospital non-specialist	4,561	33.0	46.2	46.7	35
Specialist	14,580	49.7	20.8	46.6	111
Specialist-in-training	5,116	32.6	40.6	49.1	41
Other clinician	. .	. .	. .	. .	. .
Non-clinician	*3,621*	*48.6*	*30.6*	*42.5*	*25*
Total	**43,010**	**45.7**	**32.6**	**44.2**	**311**
			2007		
Clinician	*46,589*	*45.3*	*35.0*	*43.2*	*310*
Primary care practitioner	16,291	50.5	39.1	38.0	95
Hospital non-specialist	5,504	33.0	49.0	47.4	40
Specialist	17,024	49.6	24.0	44.3	116
Specialist-in-training	7,383	33.1	40.1	49.5	56
Other clinician[d]	388	45.2	47.7	35.4	2
Non-clinician	*3,643*	*50.9*	*32.5*	*39.3*	*22*
Total	**50,232**	**45.7**	**34.8**	**42.9**	**332**

(a) In 2007, a total of 4,754 employed medical practitioners did not report the Remoteness Area they worked in, as did 1,869 in 2003. Hence the number of employed medical practitioners stated by Remoteness Area is an underestimate.

(b) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(c) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(d) In 2007, main area of clinical practice included the new category of Other clinician.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

Inner regional areas

Of the medical practitioners employed in *Inner regional* areas, 95.6% were clinicians (Table 16). As with *Major cities* a relatively high proportion of these clinicians were specialists (36.5% in *Major cities* and 28.8% in *Inner regional*). However, *Inner regional* areas had a much higher proportion who were primary care practitioners (51.7%), and a lower proportion who were specialists-in-training (7.9%) and hospital non-specialists (10.4%) than *Major cities* (35.0%, 15.8% and 11.8%, respectively).

In 2007, medical practitioners employed in *Inner regional* areas worked, on average, very similar hours to the national average (43.3 hours compared with 43.1 hours). However, they were slightly older, with an average age of 46.7 years compared with 45.9 years nationally. They were also less likely to be female (31.3% compared with 34.0% nationally) (tables 14 and 16).

Between 2003 and 2007, the number of employed medical practitioners in *Inner regional* areas grew by 7.8%. This was below the national average growth in employed medical

practitioners (19.6%). The number of primary care practitioners in *Inner regional* areas grew by 1.7%. Despite a small increase in numbers, overall supply declined marginally, from 190 FTE per 100,000 population in 2003 to 186 FTE per 100,000 in 2007, as a result of a fall in average hours worked per week (from 44.8 hours to 43.3 hours).

Table 16: Employed medical practitioners in *Inner regional* areas[(a)]: selected features by main field of medicine, 2003 and 2007

Main field	Number	Average age	Per cent female	Average hours	FTE rate[(b)]
			2003[(c)]		
Clinician	*7,074*	*46.6*	*27.5*	*45.0*	*181*
Primary care practitioner	3,901	47.6	33.3	42.8	95
Hospital non-specialist	659	35.2	37.6	47.2	18
Specialist	2,164	50.3	12.1	47.6	59
Specialist-in-training	350	32.3	39.4	50.5	10
Other clinician	. .	. .	. .	. .	. .
Non-clinician	*372*	*50.1*	*24.4*	*40.4*	*9*
Total	**7,446**	**46.8**	**27.4**	**44.8**	**190**
			2007		
Clinician	*7,671*	*46.4*	*31.4*	*43.5*	*178*
Primary care practitioner	3,968	48.1	36.4	40.3	85
Hospital non-specialist	800	35.8	42.9	48.0	21
Specialist	2,212	50.7	16.0	45.9	54
Specialist-in-training	609	33.6	39.0	50.7	17
Other clinician[(d)]	82	46.0	31.6	36.1	2
Non-clinician	*356*	*53.3*	*29.2*	*37.8*	*7*
Total	**8,027**	**46.7**	**31.3**	**43.3**	**186**

(a) In 2007, a total of 4,754 employed medical practitioners did not report the Remoteness Area they worked in, as did 1,869 in 2003. Hence the number of employed medical practitioners stated by Remoteness Area is an underestimate.

(b) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(c) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(d) In 2007, main area of clinical practice included the new category of Other clinician.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

Outer regional areas

In 2007, 94.6% of employed medical practitioners in *Outer regional* areas were categorised as clinicians. Of these, 58.2% were primary care practitioners (the highest of the four RAs), 24.5% were specialists, 9.1% hospital non-specialists and 7.4% specialists-in-training (Table 17).

Of all employed medical practitioners, 31.7% were female, slightly lower than the national proportion of 34.0%. The average age of employed medical practitioners in *Outer regional* areas was similar to the national average (46.5 years compared with 45.9 years).

Medical practitioners in *Outer regional* areas in 2007 worked, on average, about 1 hour per week more than the national average (44.0 hours compared with 43.1 hours). Primary care

clinicians in *Outer regional* areas, in particular, worked longer weekly hours than the national average (42.9 hours compared with 39.0 hours) (tables 14 and 17).

Between 2003 and 2007, the number of employed medical practitioners in *Outer regional* areas grew by 1.7%. This was below the national average growth in employed medical practitioners (19.6%) and the lowest of the four RAs. The number of primary care practitioners in *Outer regional* areas grew by 1.5%, which was also the lowest growth among the four RAs. Despite a little growth in the overall numbers, overall supply decreased from 170 FTE per 100,000 population in 2003 to 157 FTE per 100,000 in 2007, as a result of a fall in average hours worked per week (from 46.2 hours to 44.0 hours).

Table 17: Employed medical practitioners in *Outer regional* areas[a]: selected features by main field of medicine, 2003 and 2007

Main field	Number	Average age	Per cent female	Average hours	FTE rate[b]
			2003[c]		
Clinician	*2,948*	*44.9*	*30.3*	*46.4*	*159*
Primary care practitioner	1,740	46.7	32.4	44.7	91
Hospital non-specialist	359	33.3	43.7	48.1	20
Specialist	665	50.1	15.1	49.3	38
Specialist-in-training	185	32.5	38.3	49.2	11
Other clinician	. .	. .	. .	. .	. .
Non-clinician	*205*	*48.0*	*30.2*	*42.7*	*10*
Total	**3,154**	**45.1**	**30.3**	**46.2**	**170**
			2007		
Clinician	*3,035*	*46.3*	*31.6*	*44.3*	*150*
Primary care practitioner	1,766	47.9	33.2	42.9	84
Hospital non-specialist	277	34.3	45.4	47.0	15
Specialist	744	50.0	20.7	46.1	38
Specialist-in-training	226	35.9	38.0	47.7	12
Other clinician[d]	23	43.1	33.4	28.1	1
Non-clinician	*173*	*50.5*	*33.9*	*38.5*	*7*
Total	**3,209**	**46.5**	**31.7**	**44.0**	**157**

(a) In 2007, a total of 4,754 employed medical practitioners did not report the Remoteness Area they worked in, as did 1,869 in 2003. Hence the number of employed medical practitioners stated by Remoteness Area is an underestimate.

(b) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(c) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(d) In 2007, main area of clinical practice included the new category of Other clinician.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

Remote and Very remote areas

In 2007, 93.6% of employed medical practitioners in *Remote/Very remote* areas were categorised as clinicians. Of these, 56.7% worked in primary care (the second highest of the four RAs), 21.8% were hospital non-specialists (the highest of the RAs), 15.5% were specialists (the lowest of the RAs), and 5.6% were specialists-in-training (the lowest of the RAs) (Table 18).

The average age of all employed medical practitioners in *Remote/Very remote* areas in 2007 was 44.2 years, which was lower than the national average of 45.9 years (and the lowest of the RAs).

Medical practitioners working in *Remote/Very remote* areas worked, on average, 2 hours per week more than the national average (45.2 compared with 43.1 hours). Primary care practitioners, in particular, worked longer average hours in *Remote/Very remote* areas than in other RAs. In 2007, this group of clinicians in *Remote/Very remote* areas worked, on average, 5.2 hours per week more than the national average (44.2 compared with 39.0 hours).

Table 18: Employed medical practitioners in *Remote/Very remote* areas[(a)]: selected features by main field of medicine, 2003 and 2007

Main field	Number	Average age	Per cent female	Average hours	FTE rate[(b)]
			2003[(c)]		
Clinician	*680*	*44.1*	*32.6*	*48.7*	*153*
Primary care practitioner	453	45.1	33.0	48.1	101
Hospital non-specialist	111	38.3	40.7	52.9	27
Specialist	94	48.8	20.5	47.0	20
Specialist-in-training	22	32.5	35.9	49.5	5
Other clinician	. .	. .	. .	. .	. .
Non-clinician	*48*	*47.0*	*32.8*	*44.8*	*10*
Total	**728**	**44.3**	**32.6**	**48.5**	**163**
			2007		
Clinician	*923*	*44.1*	*34.2*	*45.5*	*192*
Primary care practitioner	523	46.9	36.1	44.2	106
Hospital non-specialist	201	35.9	36.6	49.1	45
Specialist	143	47.3	23.1	43.9	29
Specialist-in-training	52	40.8	30.9	49.1	12
Other clinician[(d)]	5	32.0	—	40.0	1
Non-clinician	*63*	*45.4*	*42.8*	*41.6*	*12*
Total	**986**	**44.2**	**34.8**	**45.2**	**204**

(a) In 2007, a total of 4,754 employed medical practitioners did not report the Remoteness Area they worked in, as did 1,869 in 2003. Hence the number of employed medical practitioners stated by Remoteness Area is an underestimate.

(b) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(c) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(d) In 2007, main area of clinical practice included the new category of Other clinician.

Note: Care should be taken when interpreting 2007 figures for *Remote/Very remote* areas due to the relatively small number of employed medical practitioners who stated that their main job was located in this area together with having the highest average hours worked of all Remoteness Areas (see *Appendix A*).

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

Between 2003 and 2007, the number of employed medical practitioners in *Remote/Very remote* areas is estimated to have increased by 35.4% (the largest increase of the four RAs). The FTE rate rose from 163 to 204 per 100,000 population over this period.

The supply of primary care clinicians in *Remote/Very remote* areas was the largest of all RAs in 2007, at 106 per 100,000 population. In contrast to this finding, Medicare data show the

supply of general practitioners (who make up the bulk of primary care practitioners) to be lower in *Remote/Very remote* areas than in other RAs, as measured by the general practitioner full-time workload equivalent rate in proportion to the population (DoHA 2008). Care should be taken in interpreting the AIHW Medical Labour Force Survey data for *Remote/Very remote* areas due to the relatively small number of employed medical practitioners who stated that their main job was located in this RA (see *Data issues* in *Appendix A*).

5.2 States and territories

The following should be noted when comparing state and territory estimates derived from the 2007 AIHW Medical Labour Force Survey:

- Northern Territory estimates are based on responses to the survey weighted to the 2007 age by sex benchmark figures prorated to the 2008 number of registrations, resulting in a response rate equivalent to 27.1% (Table A.1).
- New South Wales, Queensland and Tasmania figures are underestimates of the total medical labour force due to the scope of the benchmark figures used to weight the survey responses in those jurisdictions (see *Weighting: estimation for population non-response* and *Data issues* in *Appendix A*).

Between 2003 and 2007, the estimated number of employed medical practitioners increased in all jurisdictions (Table 19). Western Australia, Queensland and the Australian Capital Territory had increases greater than the national increase of 19.6% (63.8%, 33.0% and 19.7%, respectively). The large increases may in part be due to changes in the scope of the benchmark figures (see *Weighting: estimation for population non-response* and *Data issues* in *Appendix A*). The estimated FTE rate increased in all jurisdictions except in the Northern Territory where it declined from 448 FTE per 100,000 population to 401 FTE per 100,000.

It should be noted that the sum of medical practitioner numbers working in the public and private sectors in each jurisdiction (Table 20) are greater than the total estimated number of practitioners in each jurisdiction (Table 19). This is because medical practitioners who work some hours in both sectors are counted in each, resulting in double counting. 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 FTE rate for each sector is also underestimated.

Table 19: Employed medical practitioners: selected features by state and territory, 2003 and 2007

Characteristic	NSW[a]	Vic	Qld[a]	WA	SA	Tas[a]	ACT	NT[b]	Australia
					2003[c]				
Number	19,188	14,782	9,173	4,709	4,928	1,338	1,204	886	56,207
Average hours	45.1	44.6	44.0	43.2	43.6	41.5	44.1	45.5	44.4
Per cent female	31.5	32.0	30.9	33.3	30.4	31.7	36.0	43.0	31.9
Average age (years)	*46.2*	*45.5*	*46.2*	*46.6*	*44.9*	*48.0*	*46.5*	*40.0*	*45.9*
Males	48.4	47.8	48.4	49.3	47.0	50.4	48.5	41.5	48.1
Females	41.5	40.7	41.3	41.2	40.2	42.9	43.0	38.0	41.1
FTE rate[d]	288	298	235	231	312	258	362	448	279

(continued)

Table 19 (continued): Employed medical practitioners: selected features by state and territory, 2003 and 2007

Characteristic	NSW[a]	Vic	Qld[a]	WA	SA	Tas[a]	ACT	NT[b]	Australia
					2007				
Number	21,024	17,016	12,204	7,713	5,371	1,540	1,442	898	67,208
Average hours	43.5	43.4	43.2	42.0	42.0	40.6	42.9	43.2	43.1
Per cent female	33.6	34.1	33.2	34.1	32.7	35.3	38.8	45.1	34.0
Average age (years)	*46.7*	*45.7*	*45.9*	*44.7*	*45.7*	*48.8*	*44.8*	*43.0*	*45.9*
Males	48.9	48.2	47.6	47.0	47.6	51.1	46.8	45.2	48.1
Females	42.3	41.0	42.4	40.2	41.9	44.6	41.5	40.4	41.7
FTE rate[d]	294	314	279	341	316	282	403	401	305

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

(b) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

(c) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(d) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

In 2007, the average weekly hours worked in the public and private sectors differed the most in the Australian Capital Territory (6.2 hours higher in public sector) and the Northern Territory (4.6 hours higher in public sector) (Table 20). South Australia and Tasmania were the only jurisdictions where average weekly hours were higher in the private sector than in the public sector (34.0 compared with 33.2 hours and 32.7 compared with 28.9 hours, respectively).

The supply of medical practitioners in the public sector, measured by the FTE number per 100,000 population, increased by 8.8% nationally between 2003 and 2007. The jurisdictions with the highest growth in the public sector FTE rate were Western Australia (39.3%) and Queensland (37.0%). The supply of medical practitioners in the private sector increased by only 4.8% nationally over the same period. The jurisdictions with the highest growth in the private sector FTE rate were Western Australia (18.4%), Tasmania (17.4%) and Queensland (8.9%). The private sector FTE rate of the Northern Territory increased by 47.6%; however, given the estimated response rate for the Northern Territory was 27.1%, this result should be interpreted with care.

Table 20: Employed medical practitioners, by sector[a] and state and territory, 2003 and 2007

Sector	NSW[b]	Vic	Qld[b]	WA	SA	Tas[b]	ACT	NT[c]	Australia
					2003[d]				
Public sector									
Number	10,124	7,899	3,997	2,597	2,931	584	738	669	29,538
Average weekly hours	34.9	32.9	37.4	32.3	32.5	27.9	34.8	42.6	34.3
FTE rate[e]	118	117	87	95	138	76	175	316	113
Private sector									
Number	12,094	9,858	5,809	3,023	3,099	845	688	282	35,698
Average weekly hours	35.9	34.7	39.4	34.1	34.5	35.0	33.5	31.4	35.8
FTE rate[e]	145	154	134	117	155	138	157	98	143
					2007				
Public sector									
Number	9,47	8,602	5,827	3,718	2,710	653	801	549	32,338
Average weekly hours	36.6	36.1	38.7	34.0	33.2	28.9	37.5	38.1	36.1
FTE rate[e]	112	132	119	133	126	85	196	216	123
Private sector									
Number	12,621	10,957	7,205	3,966	3,307	1,097	717	418	40,288
Average weekly hours	35.3	34.8	38.1	33.3	34.0	32.7	31.3	33.5	35.2
FTE rate[e]	143	162	145	139	158	162	146	145	150

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

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

(c) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

(d) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(e) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

Note: The sum of practitioner numbers is greater than the total number of practitioners because those who reported working at least 1 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.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

From 2003 to 2007, all jurisdictions, except New South Wales and the Australian Capital Territory, had an increase in the estimated number of primary care practitioners who reported working mainly as clinicians in the week before the survey (Table 21). However, the average weekly hours worked by primary care practitioners declined in all jurisdictions from 2003 to 2007. As a result of these factors, and population growth, all jurisdictions except Queensland, Western Australia and Tasmania had decreases in primary care practitioner supply between 2003 and 2007. These results should be interpreted with care due to the above-mentioned caveats for Queensland and Tasmania. At a national level, the estimated supply of primary care practitioners was 99 FTE per 100,000 population, a slight decrease from 100 FTE per 100,000 in 2003 (Table 21).

Table 21: Primary care clinicians: selected features by state and territory, 2003 and 2007

Characteristic	NSW[a]	Vic	Qld[a]	WA	SA	Tas[a]	ACT	NT[b]	Australia
					2003[c]				
Number	7,338	5,736	3,667	1,985	1,845	624	398	324	21,919
Average hours	42.2	40.6	40.3	39.6	41.1	38.5	39.6	39.9	40.9
Per cent female	35.0	36.6	36.4	36.9	33.5	40.2	44.5	49.3	36.2
Average age (years)	*49.8*	*48.3*	*48.6*	*49.4*	*47.5*	*49.0*	*49.8*	*44.1*	*48.8*
Males	52.2	50.8	51.1	52.6	49.7	51.9	52.5	46.9	51.4
Females	45.4	43.9	44.1	43.9	43.2	44.6	46.6	41.2	44.4
FTE rate[d]	103	105	86	89	110	112	108	144	100
					2007				
Number	7,294	6,186	4,421	2,874	1,968	675	371	333	24,121
Average hours	40.2	38.8	38.3	37.3	39.3	37.2	38.5	39.5	39.0
Per cent female	36.2	36.9	39.7	36.5	37.2	43.9	45.4	46.5	37.6
Average age (years)	*50.9*	*49.9*	*49.2*	*48.7*	*49.0*	*50.7*	*48.1*	*47.8*	*49.8*
Males	53.2	52.4	51.4	51.2	51.2	53.7	50.9	50.3	52.2
Females	46.9	45.8	45.9	44.4	45.2	46.7	44.7	45.1	45.9
FTE rate[d]	94	102	90	113	108	113	93	136	99

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

(b) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

(c) 2003 FTE rate data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

(d) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; unpublished ABS estimated resident population data (see *Appendix F*).

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

Background

The AIHW Medical Labour Force Survey collects information on the demographics, employment characteristics, work locations and work activity of medical practitioners who are renewing their medical registration with medical boards (or councils) 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. While 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 before 2007 are available from the internet tables on the AIHW website.

As the survey questionnaire is sent out with registration renewal papers by the medical boards, the timing of the survey varies, depending on the registration practices in each jurisdiction. The 2007 estimates provided in this report are based on data collected as part of the 2007 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 benchmark figures.

Method

The survey population is drawn from the medical registers maintained by each state and territory medical board (or council). The registers contain information on all medical practitioners licensed to practise in that state or territory, such as demographics, employment characteristics, work locations and work activity.

Each medical board conducts an annual renewal of registration of medical practitioners who are qualified and eligible to practise, and, in association with this process, questionnaires are sent to these practitioners on the register at that time. The results of the 2007 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* below).

The questionnaire is a paper-based form. 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. Information on the availability and comparability of the survey forms used by each state and territory is provided in *Appendix E*.

Scope and coverage

The survey is undertaken in association with the registration renewal process. As such, only practitioners who are on the register at the time of the survey, and who are required to renew their registration receive a questionnaire for completion, regardless of their type of registration (conditional or general). Medical practitioners registering for the first time or who are not required to renew their registration in the survey year are not surveyed. In addition, not all medical practitioners who receive a questionnaire respond.

The survey questionnaire is sent to all renewing registrants in Western Australia, South Australia, the Australian Capital Territory and the Northern Territory. However, there are some variations in the scope of the population surveyed in other jurisdictions.
New South Wales only sent questionnaires to financial registrants holding general, conditional specialist, limited prescribing or non-practising registration. Victoria sent questionnaires to general, specific and provisional registrants only. Only medical practitioners holding general, specialist or non-practising registration were surveyed in Queensland. In Tasmania, only general registrants, conditionally registered specialists and non-practising practitioners received a questionnaire.

In deriving estimates of the total population of registered practitioners, registrants who do not receive a questionnaire are treated in the same way as survey non-respondents in the weighting process (see *Weighting: estimation for population non-response* and *Data issues* below).

Estimation procedures

The AIHW uses 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:

- item non-response, which occurs as some respondents return partially completed questionnaires
- population non-response, which occurs because not all registered medical practitioners who receive a questionnaire respond, and not all practitioners receive a questionnaire (for example, first-time registrants).

A separate estimation procedure is used for each. Imputation is used to account for item non-response, and weighting for population non-response.

Both of these procedures are described below.

Imputation: estimation for item non-response

The imputation process involves an initial examination of all information 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. In 2007, for respondents who provided information on hours worked and the location of their main job but left the labour force status question blank, it was decided to impute labour force status as employed in these cases. This was implemented nationally.

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 2007, 0.6% (349) of records received an imputed age group and 0.5% (290) received an imputed sex value. Other variables deemed suitable for this process are then imputed. In 2007, these variables were: whether looking for work (looking, not looking), field of medicine (clinician, administrator, etc.), clinician type (general practitioner, specialist, etc.), specialty of practice (cardiology, general pathology, etc.), specialty of training (cardiology, general pathology, etc.), general practitioner type (vocationally registered general practitioner, RACGP Fellow, other) and hospital non-specialist type (intern, resident medical officer, etc.).

Weighting: estimation for population non-response

Each survey record (a record equates to a respondent) is assigned a weight that 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 (the benchmark) divided by the number in the responding sample. The resulting fraction becomes the expansion factor applied to the record, referred to as the 'weight', providing an estimate of the population when aggregate output is generated. Therefore, the weight for each record is based on particular characteristics that are known for the whole population.

Benchmark data are the number of registered practitioners in each state and territory, provided to the AIHW by the states and territories medical boards (or councils). Where possible, benchmarks are broken down by age group and sex. Where data are not available from the boards, benchmark figures are obtained from other sources, such as medical board annual reports.

The total number of registered medical practitioners is used to benchmark the survey in Victoria, South Australia, Western Australia, the Australian Capital Territory and the Northern Territory. New South Wales included only financial registrants holding general,

conditional specialist, limited prescribing or non-practising registration. Queensland does not include all conditionally registered medical practitioners in their benchmark data. In Tasmania, only the total number of general registrants, conditional specialists and non-practising practitioners is used as the benchmark for the survey (see *Data issues* below).

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 done. In the Medical Labour Force Survey, all registered practitioners within the scope of the survey are sent a questionnaire when registration renewal is due. Therefore, technically, it is a census of medical practitioners. 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. As the group of respondents in the data set is not random, standard errors are not a suitable means of gauging variability.

The benchmark data provided to the AIHW for most jurisdictions are state of registration, age (or age group) and sex. In 2007, benchmark figures by age and sex were not provided for Tasmania and the calculation of weights was based on the total benchmark 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 the estimates.

Response rate

The estimated overall response rate to the AIHW Medical Labour Force Survey in 2007 was 69.9%. That is, the number of responses to the survey represented 69.9% of the medical registration figures used for benchmarking purposes (Table A.1). At a national level, there was a decline of 1.5 percentage points in the response rate between 2003 and 2007 (71.4% and 69.9%, respectively).

For individual jurisdictions, change in response rates over the five surveys was variable, with large fluctuations in some jurisdictions. In New South Wales, an additional 2,315 respondents in 2007 compared with 2006 contributed to a higher response rate, 84.3% compared with 75.4%, respectively.

The large decrease in the Queensland response rate from 2006 to 2007 is mainly due to the change in the scope of the registration (or benchmark) data provided by the Medical Board of Queensland. The total number of registered medical practitioners increased by 3,486 (Table B.2) in this period, while the number of respondents increased only by 437. The impact of these changes has resulted in a decrease in the response rate.

Table A.1: Estimated survey response rate, by state and territory, 2003 to 2007

Response rate	NSW[(a)]	Vic[(b)]	Qld[(c)]	WA[(d)]	SA	Tas[(e)]	ACT	NT[(f)(g)(h)]	Australia
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
2006	75.4	72.0	79.7	47.6	67.9	64.1	58.7	28.6	70.2
2007	84.3	68.8	64.3	54.2	63.5	59.4	64.9	27.1	69.9

(a) New South Wales response rates are based on responses to the Medical Labour Force Survey weighted to financial registrants holding general, conditional specialist, limited prescribing or non-practising registration.

(b) In 2007, Victoria surveyed only general, specific and provisional registered medical practitioners in the Medical Labour Force Survey, but responses are weighted to all registered medical practitioners.

(c) In 2007, Queensland response rate is based on responses to the 2007 Medical Labour Force Survey weighted to all registrants excluding some conditional registration types. From 2003 to 2006, responses to annual Medical Labour Force Surveys were weighted to general registrants and conditionally registered specialists only.

(d) For Western Australia, in 2006 and 2007, the scope was consistent; that is, the survey population and the benchmark figures are based on general and conditional registrants. From 2003 to 2005, survey was administered to both general and conditional registrants but benchmark figures were for general registrants only.

(e) Tasmania response rates are based on responses to the annual Medical Labour Force Survey weighted to general registrants, conditionally registered specialists and non-practising practitioners only.

(f) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number). Care should be taken when interpreting these figures.

(g) Northern Territory response rate for 2006 is based on responses to the 2007 Medical Labour Force Survey weighted to 2006 number of registered practitioners by age and sex. Care should be taken when interpreting these figures.

(h) Northern Territory response rate for 2005 is based on responses to the 2004 Medical Labour Force Survey weighted to 2005 number of registered practitioners by age and sex. Care should be taken when interpreting these figures.

Sources: AIHW Medical Labour Force Survey, 2003 to 2007.

The response rate for Western Australia was 54.2% in 2007, an increase of 6.6 percentage points from 2006 attributable in part to the higher number of respondents. However, the response rate decreased from 66.6% in 2005 to 47.6% in 2006, which is mainly due to the inclusion of conditional registrants in the benchmark figure in 2006. Before 2006, Western Australia data were weighted to general registrants only (Table A.1).

Care should be taken in interpreting the estimates for jurisdictions with low response rates in certain years, such as the Northern Territory from 2005 to 2007.

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. Information on the treatment of apparent multi-state registered medical practitioners in this report is provided below.

Treatment of 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 or territory (referred to as 'multi-state registrations' in Figure 1) 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.

Changes to 2007 survey

Between 2000 and 2005 the survey questionnaires used to collect data on the medical labour force have been broadly consistent. However, the 2006 questionnaire had a complete restructure and was adopted by all jurisdictions, except Victoria and Queensland. The Queensland and Victoria questionnaires were developed in-house and therefore not similar to other jurisdictions.

In 2007, New South Wales, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory continued with the restructured questionnaire used in 2006. Victoria and Queensland also continued with the questionnaires they developed in-house. Western Australia changed their questionnaire in 2007, from the restructured questionnaire in 2006 to one closely resembling the Victoria questionnaire. Overall, there were three different questionnaires used by jurisdictions in 2007. Some of the differences and issues related to the 2007 survey are illustrated below.

Employment (labour force status; questions 9–14)

The questions on employment and its data quality are of a high importance to the estimates produced in these reports, as they establish whether the medical practitioner is in the labour force.

In 2007, Western Australia was the only jurisdiction to use different employment questions to that used in 2006, and as such, the structure and wording of the employment questions changed. The 2007 Western Australia questions were identical to those of the Victoria form (Figure A.1). The questions were more streamlined, and there were fewer than those in the restructured form used by most jurisdictions, so the level of detailed employment information collected was lower. This reduction in detailed information may have an impact on the ability to accurately code the labour force status of a medical practitioner.

Also, for Western Australia, the retired from regular work question in 2007 changed significantly from that in the 2006 questionnaire. This change may have affected respondent interpretation, and hence response to the question; therefore, estimates of retired medical practitioners may not be a true indication of those retired from the medical labour force.

Two different sets of employment questions were used by jurisdictions in 2007. All jurisdictions used the same four questions, except Victoria, Queensland and Western Australia (Figure A.2). Victoria and Western Australia used the identical set of two questions, and as such, less detail was collected (Figure A.1). Queensland followed the structure adopted by Victoria and Western Australia, with some differences to the order in which the response categories were listed on the questionnaire.

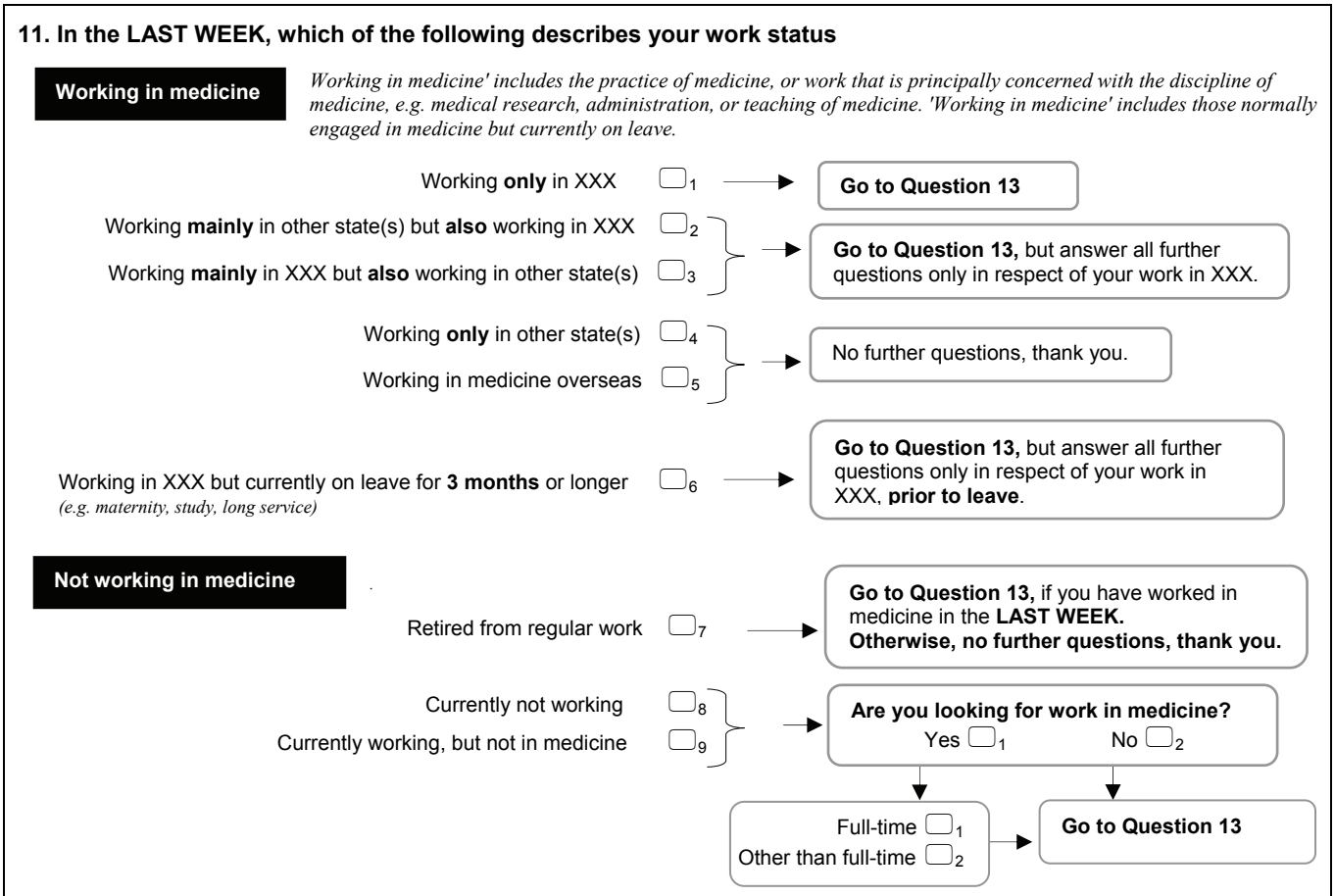


Figure A.1: Employment/labour force status question used by Victoria and Western Australia, 2007

Since 2003 the estimated number of employed medical practitioners increased steadily, whereas unemployed practitioners looking for work in medicine decreased until 2005 before increasing sharply in both 2006 and 2007 (Table 1). However, in 2006 there was a large increase in the numbers of practitioners not in the medical labour force or on extended leave of 3 months or more compared with previous years. This may be attributable to the change in the design of the employment/labour force survey question. A smaller increase occurred between 2006 and 2007 for both groups.

The reference period for the employment/labour force status questions for all states and territories in 2007 was the week before completing the questionnaire. However, two different definitions of 'working in medicine' were used by jurisdictions. For jurisdictions other than Victoria and Western Australia, medical practitioners were classified as working in medicine if they had spent 1 or more hour the previous week in the practice of medicine, or usually worked in medicine in Australia but were away on leave or rostered off at the time. For Victoria and Western Australia, the definition did not include a minimum number of hours to be worked.

Between 2006 and 2007, Western Australia was the only jurisdiction to change the definition of working in medicine. The change involved the removal of the 1 hour or more hours worked threshold.

NOTE for the following questions, 'working in medicine' includes:

The practice of medicine, or work that is principally concerned with the discipline of medicine, e.g. research, administration or teaching of medicine, in which you:

- *worked in Australia for a total of one hour or more LAST WEEK in a job or business (including own business) for pay, commission, payment in kind or profit;*
- *usually work, but were away from work on leave, or rostered off.*
-

9. LAST WEEK were you

Working in medicine in Australia?	☐1 →	**Go to Q13**
Working in medicine in Australia but on leave for **less than 3 months**?	☐2 →	**Go to Q12**
Working in medicine in Australia but on leave for **3 months or more**?	☐3 →	**Go to Q12**
Working in medicine overseas?	☐4 →	**Go to Q11**
Not working in medicine?	☐5 →	**Go to Q10**

10. LAST WEEK were you

Working, but not at all in medicine?	☐1
Not working at all?	☐2

11. LAST WEEK did you take active steps to look for work in medicine in Australia?

(Active steps include: applying for work in medicine, enquiring about a job, answering an advertisement, registering with an employment agency, advertising for work or contacting people in the profession about a job.)

No, not at all	☐1
No, because retired from regular work	☐2
No, because about to start working in medicine	☐3
Yes, looked for full-time work	☐4
Yes, looked for part-time work	☐5

No further questions

Thank you for your time.

*Please **return** this form in the* **'reply paid' envelope provided**

12. Please continue but answer all further questions only in respect of your usual job(s) in a typical week prior to your current leave, rather than 'LAST WEEK'.

→ **Go to Q14**

(continued)

13. When answering the following questions please refer to your working arrangements LAST WEEK.

→ **Go to Q14**

14. In your job LAST WEEK, did you work

Only in XXX?	☐1 →	**Go to Q16**
Mainly in XXX & also in another state(s)?	☐2 →	**Go to Q15**
Mainly in another state(s) & also in XXX?	☐3 →	**Go to Q15**
Only in another state(s)?	☐4	

There are no further questions

Figure A.2: Employment/labour force status questions used by New South Wales, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory, 2007

Hours worked by location (question 16)

The total number of hours worked by location was self-reported by practitioners and related to the number of hours worked in all medical fields by location (main, second, third). For Victoria, Queensland and Western Australia, the question in 2007 asked about work done in that state only. Whereas for Victoria, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory, hours worked by location were requested at the national level. This variation is discussed in the summary of data issues below.

Western Australia changed the structure and scope of the question in 2007. Hours worked by location data included hours worked only in the state. Whereas in 2006, the scope of the question was any hours of medical work in Australia.

Total hours worked (question 17)

The total hours worked as self-reported by practitioners was consistently asked between 2006 and 2007. That is, both questions asked for the total number of hours worked with respect to the state or territory asking the question.

In 2007, however, the total number of hours reported does not sum to the total number of hours worked by location for New South Wales, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory. The reason is that the question on hours worked by location was asked nationally, whereas the total hours worked was based on the state or territory asking the question.

Western Australia changed from asking total hours worked in all jurisdictions in 2006 to hours worked only in the state in 2007.

Hours worked by work setting (question 20)

The question on hours worked by work setting had been very stable between 2000 and 2005. In 2006, there were an extra nine categories for which respondents could specify the total number of hours worked. They were: public and private non-clinical office, public and private aero retrieval service mobile clinic, public and private community health centre, public and private laboratory/radiology facility, and private commercial industry business. However, not all jurisdictions collected information on every category.

In 2007, for each jurisdiction, there was no change from the 2006 categories, but not all categories were collected by jurisdictions. For example, Victoria, Queensland and Western Australia did not have the community health centre or commercial/industry/business categories.

The number of work setting categories for Western Australia decreased in 2007 due to the change in the questionnaire used. In 2007, the Western Australia questionnaire had five fewer categories than that in 2006 (see *Survey questionnaires* in *Appendix E*).

Clinician type (question 22)

Clinicians, the largest group of medical practitioners, are mainly involved in the diagnosis, care and treatment of individuals, including recommending preventive action. Before 2006, four major clinician types were reported: primary care practitioner, specialist, specialist-in-training and hospital non-specialist. In 2006 and 2007, respondents could tick an extra category: 'none of the above'. If they marked this, they were reporting that they had worked in a clinical capacity, but not as a primary care practitioner, specialist, specialist-in-training or hospital non-specialist. Comparisons can only be made between 2006 and 2007 for the new clinician type (Other clinician).

Specialty and subspecialty (question 34)

For those clinical practitioners who marked they were specialists or specialists-in-training, the survey requested further information on the specialty area in which they practised, the specialty in which they were qualified or the specialty in which they were training. Between 2006 and 2007, there was a change to the way this question was asked in Western Australia. In 2007, respondents looked up the code from a list provided, and wrote the code on the questionnaire. Whereas in 2006, the question appeared in a much more visually complex tick-a-box layout (see *Survey questionnaires* in *Appendix E*).

In 2007, Victoria, Queensland and Western Australia used the manual approach to record specialty codes; that is, looking up the code from a list and writing it on the questionnaire. The remaining jurisdictions used the tick-a-box layout to collect the information.

Data issues

The following data issues need to be considered in interpreting this report, some of which are discussed in detail earlier in this Appendix:

- The Northern Territory estimates are based on the 2007 survey data weighted to the 2007 total number of registered medical practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting the data for 2007 or making comparisons over time for the Northern Territory, and in making comparisons between the Northern Territory and other jurisdictions.
- Before 2007, the medical practitioner registration data provided by the Medical Board of Queensland included only general registrants (including specialists) and conditionally registered specialists. In 2007, the scope of the data changed to include general registrants (including specialists), conditionally registered specialists and some categories of conditionally registered practitioners. The effect of this change was a 29.7% (3,486) increase between 2006 and 2007. The national estimates were affected as a consequence of the change, with the number of employed in medicine increasing 7.7% (from 62,425 in 2006 to 67,208 in 2007). Annual increases across the period from 2003 to 2006 have been consistent at around 3.6%, which is about a half of the 2006 to 2007 increase.
- Between 2003 and 2007, there was a 63.8% increase in the number of employed medical practitioners in Western Australia (from 4,709 to 7,713). This rise can be attributed to the AIHW weighting to general registrants only in 2003 when the survey was administered to both general and conditional registrants (as provided by Western Australia). In 2007, this problem was rectified and the scope of the survey is now consistent with the benchmarks used.
- In 2007, a standardised set of labour force status questions were used in New South Wales, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory, involving a series of questions rather than the single question used by Victoria and Western Australia (figures A.1 and A.2). Queensland administered completely different questions from the two sets mentioned above.
- The definition of 'working in medicine' was not consistent across jurisdictions. New South Wales, Queensland, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory included medical practitioners who worked at least 1 hour in medicine the previous week in Australia or usually worked more than 1 hour per week in medicine in Australia but were away from work on leave or rostered off at the time. In Victoria and Western Australia, working in medicine included those normally engaged in the practice of medicine but were on leave at the time, or undertaking work that was principally concerned with the discipline of medicine, such as medical research, administration or teaching of medicine.
- The retired from regular work question was different across jurisdictions. For New South Wales, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory, medical practitioners retired from regular work included only those not working at all and not actively looking for work, with no further labour force information collected. Whereas, in Victoria and Western Australia, medical practitioners may have reported being retired from regular work, but if they had worked some hours in the survey week, then details of the job were collected. For Queensland, medical

practitioners simply had to review the response options then select the 'retired' box, with no further information collected.

- In 2007, Western Australia administered a different questionnaire from that used in 2006. The 2006 form used four separate questions to derive labour force status. Whereas, the 2007 form used a single question. The effect of this was, in 2007, that the derivation of labour force status was based on less detailed information and may have resulted in an underestimation of some response categories. In addition, there was a change in the retired from regular work question which may have affected responses. Hence estimates of the retired may not reflect the true number.
- The labour force status of respondents who provided information on hours worked and where they worked, but did not report their labour force status was imputed as 'employed'. This was implemented nationally.
- The total hours worked (and FTE rates) by Remoteness Area (*Major cities*, *Inner regional*, *Outer regional* and *Remote/Very remote*) figures are an overestimate. The process of deriving total hours worked by Remoteness Area involves using the total hours reported, rather than using the total hours worked in each Remoteness Area. Consequently, in theory, a practitioner may report working 25 hours in a *Remote* area (main location) and 22 hours in an *Outer regional* area (second location). The current practice involves using the total hours worked (47 hours) and distributing them all to the main working location, in this case being the *Remote* area. The reason for using total hours worked is that in 2007 the questions on hours worked by location and total hours worked were based on different scope, as discussed in *Changes to 2007 survey*.
- For *Remote/Very remote* areas, estimates of FTE numbers and rates should be interpreted with caution. Further to their overestimation caused by using total hours worked, as discussed above, respondents in this RA tend to represent a larger number of the total medical practitioners than in other RAs due to the overall low response, which is reflected in larger survey weights. Applying the weights to the survey data will artificially inflate the overestimated number of total hours worked, which, when used to calculate FTE numbers and hence rates, will result in estimates of questionable quality.
- The work sector estimates of employed and hours worked are an underestimate. The process of deriving work sector is based on responses to the hours worked in that work sector. If a respondent is determined to be employed (via the employment/labour force status questions), but has not responded to the hours worked in different work settings question, then the respondent will be counted as employed but not included in the number working in either the private or public sector. Consequently, the number employed will not be the sum of those working in the private and public sectors. However, respondents are counted in both sectors if they report working in private and public work settings, therefore double counted. The overall impact of these issues is not quantifiable, and so estimates of employed and hours worked by work setting and sector should be treated with caution.
- In 2007, the Australian Capital Territory changed the medical practitioner registration process, which has resulted in a larger number of medical practitioners identifying as specialists. The Australian Capital Territory Department of Health advised that the larger number also reflects an actual increase in specialists employed in the public sector in 2007.

Appendix B: Medical practitioner registration numbers

Medical boards (or councils in some jurisdictions) 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 medical practitioner figures provided by state and territory medical boards from their medical registers. Medical boards also publish data on the number of registered medical practitioners in their annual reports.

Medical practitioner boards registration numbers

The numbers of medical practitioner registrations reported by state and territory medical boards and councils in their 2006–07 annual reports are provided in Table B.1. There were 86,200 registrations reported for 2006–07. This is higher than the benchmark number for the AIHW 2007 Medical Labour Force Survey (83,697) (tables 1 and B.2). The main reasons for this difference are:

- The benchmark figures provided by New South Wales are for financial general registrants (including specialists), conditionally registered specialists, limited prescribing and non-practising medical practitioners only. The Queensland benchmark figures do not include all conditionally registered medical practitioners (see *Glossary*). In Tasmania, benchmarks are based on general registrations, conditionally registered specialists and non-practising practitioners only, and do not include conditional registrants who are overseas-trained doctors (including those in 'area of need' positions) or interns.
- 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 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 and councils to match the timing of the survey. A comparison of the reference times of the registration data extracted from the annual reports of state and territory medical boards and councils with data received from the boards and councils to benchmark the AIHW Medical Labour Force Survey is provided in Table B.3.

Of the medical registrations reported by the boards and councils in their 2006–07 annual reports, 82.4% were reported as general registrations and 17.6% as conditional (includes limited and non-general) registrations (Table B.1). The proportion of general registrations varied across jurisdictions, from 76.0% in Tasmania to 92.0% in the Australian Capital Territory.

Table B.1: General and conditional medical practitioner registrations reported by state and territory medical boards/councils, 2006–07

Registration type	NSW	Vic	Qld[(a)]	WA	SA	Tas	ACT	NT	Australia
					Number				
General registrations	23,253	16,596	13,530	6,659	5,623	1,991	2,011	1,405	71,068
Conditional registrations	5,675	3,407	2,322	1,442	1,191	628	174	293	15,132
Area of need registrations	245	178	1,334	692	n.a.	n.a.	n.a.	161	2,610
Total registrations	**28,928**	**20,003**	**15,852**	**8,101**	**6,814**	**2,619**	**2,185**	**1,698**	**86,200**
					Per cent total registrations				
General registrations	80.4	83.0	85.4	82.2	82.5	76.0	92.0	82.7	82.4
Conditional registrations	19.6	17.0	14.6	17.8	17.5	24.0	8.0	17.3	17.6
Area of need registrations	0.8	0.9	8.4	8.5	n.a.	n.a.	n.a.	9.5	3.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) In Queensland, 21 registrants held 2 categories of registration. Also, includes 602 conditionally registered specialists and 394 general registrants with a condition to practise only within an approved internship/supervised practice.

Sources: State and territory medical board (or council) annual reports (see *References*). The Northern Territory provided the information via correspondence.

Table B.2: Registration numbers used to benchmark the AIHW Medical Labour Force Survey, 2003 to 2007

AIHW benchmark	NSW[(a)]	Vic	Qld[(b)]	WA[(c)]	SA	Tas[(d)]	ACT	NT	Australia
2003	23,782	17,369	11,228	6,003	6,081	1,906	1,816	1,528	69,713
2004	26,024	17,818	10,280	6,107	6,089	1,978	1,945	945	71,186
2005	26,614	18,214	11,377	6,238	6,030	2,097	2,044	1,300	73,941
2006	27,144	19,578	11,733	7,643	6,165	1,976	2,056	1,607	77,902
2007	27,021	20,507	15,219	8,299	6,501	2,267	2,185	1,698	83,697

(a) New South Wales registration numbers are based on financial general registrants, conditionally registered specialists, limited prescribing and non-practising medical practitioners only.

(b) In 2007, Queensland registration number does not include all conditionally registered medical practitioners. From 2003 to 2006, registration numbers are based on general registrants (includes specialists) and conditionally registered specialists only.

(c) For Western Australia, in 2006 and 2007, the scope was consistent; that is, the survey population and the benchmark figures are based on general and conditional registrants. From 2003 to 2005, survey was administered to both general and conditional registrants but benchmark figures were for general registrants only

(d) Tasmania registration numbers are based on general registrants, conditionally registered specialists and non-practising practitioners only.

Sources: AIHW Medical Labour Force Survey, 2003 to 2007.

Table B.3: Reference times of registration numbers in the 2006–07 annual reports of state and territory medical boards/councils and used to benchmark the 2007 AIHW Medical Labour Force Survey

Source	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2006–07 Medical board/council annual report	30 June 2007	30 Sep 2007	30 June 2007	30 June 2007	30 June 2007	30 June 2007	30 June 2007	30 June 2007
Numbers used to benchmark the 2007 AIHW Medical Labour Force Survey	1 Jan 2008	30 June 2007	30 June 2007	6 Dec 2007	5 Dec 2007	30 June 2007	30 June 2007	30 June 2007

Sources: State and territory medical board (or council) annual reports (the Northern Territory provided the information via correspondence); AIHW Medical Labour Force Survey, 2007.

‘Area of need’ medical practitioners

The term ‘temporary resident doctor’ 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 board (or council) (DoHA 2007).

Temporary resident doctor include ‘area of need’ and occupational trainee temporary resident doctors, as well as ‘other’ temporary resident doctors. 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 to identified ‘area of need’ positions. The determination that there is a need to have a temporary resident doctor employed because of an identified shortfall in the local medical workforce is made by the relevant state or territory health authority (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 are of interest to workforce planners, as they are 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 are available from the medical board’s annual reports for 2006–07 in all jurisdictions, except South Australia, Tasmania and the Australian Capital Territory (Table B.1). In 2006–07, the proportion of registered medical practitioners in Australia who were reported as ‘area of need’ medical practitioners varied significantly among reporting jurisdictions, from 0.8% in New South Wales to 9.5% in the Northern Territory.

Appendix C: Medicare data

Medicare Australia collects data on the activity of all providers who make claims through the Medicare Benefits Schedule. Information collected includes the type of service provided (as indicated by the Medicare item number) and the type of practitioner who provided the service. This information is provided to the Australian Government 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 specialty at 30 June of the reference year was as a GP who provided at least one Medicare service during the year (DoHA 2009a).

DoHA does not release Medicare data on specialist numbers or FTEs. This is due to the lack of an appropriate Medicare billing item for time spent by specialists in delivering medical care and the inability to capture fully salaried medical practitioners providing services in public hospitals.

General practitioner numbers

Table C.1: General practitioner numbers (Medicare) compared with the estimated number of employed primary care practitioners whose main field of work is clinician (AIHW Medical Labour Force Survey), by state and territory, 2003 and 2007

Data source	NSW[(a)]	Vic	Qld[(a)]	WA	SA	Tas[(a)]	ACT	NT[(b)]	Australia	*Total excl. NSW, Qld and Tas*
Medicare										
2003–04	7,520	5,596	4,486	2,153	1,915	605	374	300	22,949	*10,338*
2007–08	7,948	6,057	5,051	2,359	2,100	660	383	345	24,903	*11,244*
Change (per cent)	5.7	8.2	12.6	9.6	9.7	9.1	2.4	15.0	8.5	*8.8*
AIHW Medical Labour Force Survey										
2003	7,338	5,736	3,667	1,985	1,845	624	398	324	21,919	*10,289*
2007	7,294	6,186	4,421	2,874	1,968	675	371	333	24,121	*11,731*
Change (per cent)	–0.6	7.8	20.5	44.8	6.6	8.2	–6.8	2.6	10.0	*14.0*
Difference Medicare and AIHW Medical Labour Force Survey estimates (per cent)										
2003	–2.4	2.5	–18.2	–7.8	–3.6	3.1	6.4	8.1	–4.5	*–0.5*
2007	–8.2	2.1	–12.5	21.7	–6.3	2.3	–3.1	–3.6	–3.1	*4.3*

(a) AIHW figures are underestimates, as benchmark figures in New South Wales, Queensland and Tasmania did not include all registered medical practitioners (see *Appendix A*).

(b) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; DoHA 2009a.

Based on Medicare data on GP headcounts, there were 24,903 GPs who provided at least one Medicare service during the 2007–08 reference year. This figure includes several thousand medical practitioners who provide only small numbers of services through Medicare each year (DoHA 2009a).

The number of GPs in 2007–08 is an increase of 8.5% on the number in 2003–04 (Table C.1). There were increases in all jurisdictions, with the greatest being in the Northern Territory (15.0%) and the smallest in the Australian Capital Territory (2.4%).

Comparison with AIHW Medical Labour Force Survey data

For both 2003 and 2007, the total estimated number of employed primary care practitioners derived from the AIHW Medical Labour Force Survey (AIHW MLFS) is lower than the number of GPs who provided services under Medicare in the relevant financial year (–4.5% and –3.1%, respectively) (Table C.1). The differences are not consistent across jurisdictions, with the AIHW MLFS estimates for Queensland being much lower than Medicare numbers in both years due to the coverage of the survey. AIHW MLFS estimates for Victoria and Tasmania are higher than Medicare estimates in both years. Both the Northern Territory and Australian Capital Territory had AIHW MLFS estimates higher than Medicare numbers in 2003, but lower in 2007. However, for Western Australia, Medicare numbers were higher in 2003 and lower in 2007.

Table C.2: General practitioner full-time workload equivalents (Medicare) compared with the full-time equivalent employed primary care practitioners whose main field of work is clinician (AIHW Medical Labour Force Survey), by state and territory, 2003 and 2007

Data source	NSW[(a)]	Vic	Qld[(a)]	WA	SA	Tas[(a)]	ACT	NT[(b)]	Australia
				Medicare					
2003–04	6,021	4,110	3,260	1,451	1,360	374	198	98	16,872
2007–08	6,600	4,584	3,683	1,542	1,455	401	232	116	18,613
Change (per cent)	9.6	11.5	13.0	6.3	7.0	7.2	17.2	18.4	10.3
				AIHW Medical Labour Force Survey					
2003[(c)]	6,882	5,176	3,284	1,747	1,685	534	350	287	19,922
2007	6,516	5,334	3,763	2,382	1,718	558	317	292	20,905
Change (per cent)	–5.6	3.0	12.7	26.7	1.9	4.3	–10.4	1.6	4.7
				Difference Medicare and AIHW Medical Labour Force Survey estimates (per cent)					
2003	14.3	25.9	0.7	20.4	23.9	42.8	76.8	192.9	18.1
2007	–1.3	16.4	2.2	54.5	18.1	39.2	36.6	151.7	12.3

(a) AIHW figures are underestimates, as benchmark figures in New South Wales, Queensland and Tasmania did not include all registered medical practitioners (see *Appendix A*).

(b) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number), resulting in a response rate equivalent to 27.1%. Care should be taken when interpreting these figures.

(c) AIHW 2003 FTE data may differ from previously published data due to revision in the ABS estimated resident population data (March 2009).

Sources: AIHW Medical Labour Force Survey, 2003 and 2007; DoHA 2009a.

The number of full-time workload equivalent (FWE) doctors based on Medicare billing has increased by 10.3% between 2003–04 and 2007–08. This is slightly larger than the increase in the Medicare GP headcount for the same period. The AIHW MLFS full-time equivalent (FTE) estimate increased slightly (4.7%) over the period.

Overall, the AIHW MLFS estimates were consistently higher than the Medicare numbers for the two periods, except for Queensland where the increase was less than 3% in both years and for New South Wales in 2007 where the Medicare number was higher than the AIHW MLFS estimate (Table C.2).

These differences may be explained by the following.

Method of data collection and estimation

Estimates of primary care practitioners from the AIHW MLFS are derived from data collected in an annual survey of medical practitioners who are renewing their registration with the state and territory medical boards (or councils). The timing of the survey varies depending on the registration renewal practices of each jurisdiction, which are not consistent across states and territories. Whereas the Medicare data are an administrative data collection relating to Medicare services provided over an entire financial year.

AIHW MLFS estimates 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 the Northern Territory and the 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 New South Wales, Queensland and Tasmania, derived from the AIHW MLFS, are known to be underestimates, due to the benchmarking data used. While in other jurisdictions survey responses are benchmarked to all registrations. In New South Wales the benchmark figures include only financial registrants holding general, conditional specialist, limited prescribing or non-practising registration. In Queensland the benchmark figures do not include all conditionally registered medical practitioners and in Tasmania they do not include conditional registrants who are overseas-trained doctors or interns (see *Appendix B*).

Caution should be taken when comparing Medicare FWE and AIHW FTE figures due to differences in calculation methods (Table C.2). Medicare FWE is calculated by dividing each doctor's Medicare billing by the average billing of full-time doctors for the year. There is no cap on a doctor's FWE. That is, a doctor with 50% of the average billing for full-time doctors is counted as 0.5, a doctor billing at the average is counted as 1 and a doctor billing at 150% of the average is counted as 1.5 (DoHA 2009a). AIHW MLFS estimate of FTE is calculated by multiplying the number of doctors by the average total weekly hours and dividing by 45 (45 hours representing a full-time work week).

Definitions

For the purposes of this report, on the AIHW MLFS, primary care practitioners are defined as medical practitioners who reported that they were employed at the time of the survey (based on hours worked per week), and their main area of clinical practice was primary care. This group is mainly comprised of general practitioners but also includes an unknown number of other medical practitioners who report working in primary care.

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 primary care. Medical practitioners who stated that most of their time was spent working as educators, administrators, researchers, public health physicians, occupational health physicians or other are not included. Some of these may, however, have undertaken some clinical work that was billed to Medicare. As a result, the number of primary care practitioners reported by the AIHW MLFS will underestimate those primary care practitioners who spent less time on clinical work than in other medical fields.

Medicare defines a GP as someone whose major specialty at 30 June of the reference year was as a GP, who provided at least one Medicare service during the financial year, and who had at least one Medicare service processed during the same 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 2009a).

Anomalies at the state and territory level may be due to different methods of allocating GPs to a jurisdiction, although both methods attempt to allocate GPs to the state or territory where they do most of their work. In the AIHW MLFS, to be allocated to a state or territory primary care practitioners 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, GPs are 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 authorities, 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 2009). Detailed descriptions of the data and definitions are available in that publication.

The reference period of the NPHED collection is the financial year compared with different time points in the AIHW Medical Labour Force Survey (MLFS). The timing of the AIHW MLFS varies depending on the registration renewal practices in each jurisdiction, which are not consistent across states and territories.

Table D.1: Salaried medical practitioners in public hospitals: FTE[(a)] number and FTE rate[(b)] by hospital peer group[(c)], 2003–04, 2005–06 and 2007–08

	Public hospital peer group							
	Principal referral and specialist women's and children's hospitals	Large hospitals	Medium hospitals	Small acute hospitals	Subacute and non-acute hospitals	Unpeered and other hospitals	Psychiatric hospitals	Total
	FTE[(a)] medical practitioner number							
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
2007–08	22,923	2,152	832	229	268	136	456	26,996
Change between 2003–04 and 2007–08 (per cent)	40.0	–1.8	19.3	33.1	–21.8	62.3	47.9	33.9
	FTE medical practitioner rate[(b)]							
2003–04	245	44	18	8	22	17	95	10,052
2005–06	282	40	15	9	17	33	120	10,968
2007–08	330	41	20	11	17	28	137	12,416

(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) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

(c) See AIHW 2009 for Public Hospital Peer Group Classification definitions.

Source: National Public Hospital Establishments Database.

Based on data in the NPHED, in 2007–08 there were 26,996 FTE salaried medical practitioners in public hospitals in Australia (tables D.1 and D.2). 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 2007, derived from the AIHW Medical Labour Force Survey (27,214) (Table 11). The AIHW MLFS figure refers to numbers (rather than FTE), and includes all medical practitioners who reported working any hours in a public hospital in the week before the survey. The average hours worked per week, reported by medical practitioners working in public hospitals in 2007, was 36.4 (Table 11). The NPHED data refer to the FTE number of salaried medical practitioners who worked in public hospitals (in scope in the NPHED collection) during the 2007–08 financial year.

Nationally, the number of FTE salaried medical practitioners increased by 33.9% from 2003–04 to 2007–08 (Table D.1). 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. The number of FTE salaried medical practitioners in large hospitals and subacute and non-acute hospitals declined over that period.

Table D.2: Salaried medical practitioners in public hospitals: FTE[(a)] number and FTE rate[(b)] by state and territory, 2003–04, 2005–06 and 2007–08

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
				FTE[(a)] medical practitioner number					
2003–04	6,700	5,389	3,602	1,883	1,662	367	317	246	20,164
2005–06	7,760	5,738	4,071	2,118	1,994	472	400	304	22,858
2007–08	8,353	6,783	5,622	2,667	2,190	512	526	342	26,996
Change between 2003–04 and 2007–08 (per cent)	24.7	25.9	56.1	41.6	31.8	39.5	65.9	39.0	33.9
				FTE medical practitioner rate[(b)]					
2003–04	100	109	93	90	105	76	97	123	101
2005–06	114	113	101	104	128	97	120	146	111
2007–08	120	129	133	125	137	103	158	157	127

(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) FTE rate (FTE per 100,000 population) is based on a standard full-time working week of 45 hours (see *Glossary*).

Source: National Public Hospital Establishments Database.

Queensland and the Australian Capital Territory had the largest percentage increase in the number of FTE salaried medical practitioners working in public hospitals, while New South Wales and Victoria had the lowest percentage increase in numbers between 2003–04 and 2007–08 (Table D.2).

The FTE practitioner rate (that is, the number of FTE salaried medical practitioners per 100,000 population) increased nationally from 101 in 2003–04 to 127 in 2007–08. In 2007–08, the jurisdiction with the highest medical practitioner rate was the Australian Capital Territory (158), while the jurisdiction with the lowest was Tasmania (103).

It should be noted that the FTE measure reported in the NPHED differs from that used for data from the AIHW MLFS (see *Box 2* in *Chapter 4*). The FTE measure, used in the AIHW MLFS, 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 information available from the AIHW website

Tables

In addition to the tables in this publication, more detailed tabulations from the 2007 Medical Labour Force Survey are published on the AIHW website <http://www.aihw.gov.au/labourforce/publications.cfm> (select link to *Medical labour force 2007*).

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 (FTE) 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 (vocationally registered general practitioners, RACGP trainees, other) by state and territory and geographic location of main practice.

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

Specialists and specialists-in-training: 9 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 and territory.

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

Survey questionnaires

The questionnaires used by jurisdictions in the 2007 AIHW Medical Labour Force Survey questionnaire are provided on the AIHW web site <http://www.aihw.gov.au/labourforce/publications.cfm> (select link to *Medical labour force 2007*).

In some jurisdictions, the questionnaire has been modified from the national template to suit local preferences. As a result the actual survey questionnaire used in each jurisdiction differs in format and in the wording for some questions. Where necessary and possible, the AIHW maps responses to provide nationally comparable estimates.

Appendix F: Population estimates

This report presents time series information about medical practitioners, using measures such as number per 100,000 population and full-time equivalent (FTE) rate. To derive these measures, the population estimates (often referred to as 'estimated resident population estimates') are obtained from the Australian Bureau of Statistics. The estimates are at 30 June and based on the 2006 Census of Population and Housing adjusted for population flows, including births, deaths, net migration, short-term travellers to Australia and absences from Australia, to obtain estimates for each individual year.

These figures are used to derive population and FTE rates in tables 6–7 and 12–21.

Table F.1: Population estimates at 30 June, by Remoteness Area and state and territory, 2003 to 2007

Population estimates	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					2003				
Major cities[(a)]	4,834,900	3,667,868	2,265,747	1,395,045	1,114,258	. .	325,078	. .	13,602,896
Inner regional[(a)]	1,351,380	1,003,919	826,390	231,076	178,857	308,968	583	. .	3,901,173
Outer regional[(a)]	445,715	246,688	581,677	188,272	178,921	158,566	. .	108,360	1,908,199
Remote/ Very remote[(a)(b)]	40,582	5,010	135,400	138,677	59,242	10,112	. .	91,686	480,709
Total[(c)]	**6,672,577**	**4,923,485**	**3,809,214**	**1,953,070**	**1,531,278**	**477,646**	**325,661**	**200,046**	**19,895,435**
					2004				
Major cities[(a)]	4,864,819	3,716,301	2,326,398	1,418,015	1,119,930	. .	326,904	. .	13,772,367
Inner regional[(a)]	1,359,427	1,013,182	848,493	238,644	182,292	312,387	571	. .	3,954,996
Outer regional[(a)]	443,399	247,047	591,551	187,783	179,084	160,276	. .	109,560	1,918,700
Remote/ Very remote[(a)(b)]	39,544	4,937	134,468	138,195	59,128	10,107	. .	92,503	478,882
Total[(c)]	**6,707,189**	**4,981,467**	**3,900,910**	**1,982,637**	**1,540,434**	**482,770**	**327,475**	**202,063**	**20,127,363**
					2005				
Major cities[(a)]	4,902,555	3,771,342	2,382,668	1,441,184	1,127,555	. .	329,623	. .	13,954,927
Inner regional[(a)]	1,371,511	1,023,934	872,638	248,116	185,924	314,628	541	. .	4,017,292
Outer regional[(a)]	443,620	248,463	605,161	189,597	180,031	161,503	. .	112,249	1,940,624
Remote/ Very remote[(a)(b)]	38,771	4,863	134,391	138,191	59,004	10,196	. .	94,124	479,540
Total[(c)]	**6,756,457**	**5,048,602**	**3,994,858**	**2,017,088**	**1,552,514**	**486,327**	**330,164**	**206,373**	**20,394,791**

(continued)

Table F.1 (continued): Population estimates at 30 June, by Remoteness Area by state/territory, 2003 to 2007

Population estimates	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					2006				
Major cities[(a)]	4,946,348	3,834,245	2,438,355	1,470,503	1,139,198	. .	333,609	. .	14,162,258
Inner regional[(a)]	1,386,564	1,037,150	897,047	258,570	188,761	316,805	510	. .	4,085,407
Outer regional[(a)]	445,099	250,368	621,118	191,557	180,797	162,980	. .	115,385	1,967,304
Remote/ Very remote[(a)(b)]	38,076	4,777	134,388	138,751	59,132	10,166	. .	95,242	480,532
Total[(c)]	**6,816,087**	**5,126,540**	**4,090,908**	**2,059,381**	**1,567,888**	**489,951**	**334,119**	**210,627**	**20,697,880**
					2007				
Major cities[(a)]	5,018,727	3,911,326	2,504,954	1,506,870	1,152,781	. .	340,561	. .	14,435,219
Inner regional[(a)]	1,403,698	1,052,316	919,738	269,602	191,752	319,248	493	. .	4,156,847
Outer regional[(a)]	444,916	252,942	636,431	194,865	181,885	163,695	. .	118,379	1,993,113
Remote/ Very remote[(a)(b)]	37,601	4,726	134,858	141,630	59,376	10,261	. .	96,425	484,877
Total[(c)]	**6,904,942**	**5,221,310**	**4,195,981**	**2,112,967**	**1,585,794**	**493,204**	**341,054**	**214,804**	**21,072,452**

(a) Final population estimates were unavailable from ABS when this report was prepared, therefore estimates are preliminary.

(b) Includes *Migratory* areas.

(c) Figures are final population estimates and may not equal the sum of the individual Remoteness Area estimates.

Source: Unpublished ABS estimated resident population data.

Glossary

Aboriginal

A person of Aboriginal descent who identifies as an Aboriginal.

Benchmark data

For the 2007 AIHW Medical Labour Force Survey, responses are weighted to the number of registered medical practitioners in each state and territory to take account for non-response. These numbers are referred to as 'benchmarks' throughout this report, and may not be equivalent to that reported in the medical board (or council) annual report due to scope and reporting time differences.

Career medical officer

Generally, a medical practitioner who mainly works in a hospital after completing all professional training is referred to as a 'career medical officer'. Career medical officer also includes some other salaried practitioners who have completed an internship and are registered to practise under supervision.

Clinician

A clinician is a person who spends the majority of his or her time working in the area of clinical practice; that is the diagnosis, care and treatment including recommended preventative action, of patients or clients. Clinical practice may involve direct client contact or may be practised indirectly through individual case material (as in radiology and laboratory medicine). Clinician includes primary care practitioner, hospital non-specialist, specialist and specialist-in-training.

Conditional registration

If a medical practitioner does not meet the requirements to become a generally registered medical practitioner, he or she 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 that he or she worked mainly, or only, in his or her state of registration, in medicine, in the week before the survey for pay, commission, payment in kind or profit. In this report, data on employed medical practitioners include those who are:

- practising medicine
- involved with work that is principally concerned with the discipline of medicine (including medical research, administration, or teaching of medicine)
- on leave for less than 3 months.

Field of medicine

Unless otherwise stated in this publication, field of medicine refers to the type of medical work undertaken by an employed medical practitioner. Medical fields are divided into two main groups, with categories in each group, as follows:

Clinician: 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 preventive action to patients) is classified as a clinician. It includes primary care practitioner, hospital non-specialist, specialist and specialist-in-training.

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)

FTE measures the number of standard-hour workloads worked by employed medical practitioners. This provides a useful measure of supply, as it takes into account both the number of medical practitioners who are working and the hours that they work.

FTE is calculated by: the number of employed medical practitioners in a particular category multiplied by the average hours worked by employed medical practitioners in the category divided by the standard working week hours. In this report, 45 hours is assumed to be a standard working week and equivalent to one FTE.

Full-time equivalent (FTE) rate

The FTE rate (the number of FTE medical practitioners per 100,000 population) is a measure of supply. By defining supply in terms of the FTE rate, meaningful comparisons of supply can be made across geographic areas and over time. FTE rate is calculated as: the number of FTE medical practitioners divided by the relevant population count multiplied 100,000.

Full-time workload equivalent (FWE)

FWE is a measure of medical workforce supply that takes into account the differing working patterns of medical practitioners. FWE is calculated by dividing each medical practitioner's Medicare billing by the average billing of full-time doctors for the year. There is no cap on a medical practitioner's FWE.

General practitioner

In this report, data on general practitioners are included in the primary care practitioner data (see *Primary care practitioner*).

General registration

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

GP registrar

A registered medical practitioner who is enrolled in a general practice training program approved by the Royal Australian College of General Practitioners (RACGP) to be recognised as a general practitioner (see *RACGP trainee*).

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. It includes interns, resident medical officers, career medical officers and other salaried hospital practitioners.

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 126 hours per week. Reported hours greater than 126 are considered unreliable and not included in the analysis.

Indigenous

A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander.

Intern

Medical practitioners in their first year of medical work after completing their undergraduate or postgraduate medical degree. Interns are a type of hospital non-specialist.

Medical boards

Medical boards (or councils in some jurisdictions) are statutory authorities established under specific legislation in each state and territory. The main 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.

Medical practitioner

A person whose primary employment role is to diagnose physical and mental illnesses, disorders and injuries and prescribe medications and treatments that promote or restore good health.

Multi-state registration

In estimating the numbers of medical practitioners in a state or territory, only those who report that they worked mainly or only in that particular state or territory are included in this report. Medical practitioners who report they worked mainly or only in another state or territory are assumed to be registered in another state or territory and to have completed the survey in more than one state or territory.

Non-clinician

A medical practitioner who reported spending most of his or her total weekly working hours not involved in the area of a clinical practice. This can include working as an administrator, teacher/educator, researcher, public health physician or occupational health physician.

Occupation

See *Field of medicine*.

Primary care practitioner

In the AIHW Medical Labour Force Survey, primary care practitioners are defined as medical practitioners who reported that they were employed at the time of the survey, they spent most of their time working as clinicians in the week before the survey, and their main area of clinical practice was primary or general care.

Primary care practitioners who identify as such are asked to further identify themselves as a vocationally registered general practitioner, 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 training position recognised as leading to the RACGP Fellowship.

Remoteness Area

The Remoteness Area Structure within the Australian Standard Geographical Classification, produced by the Australian Bureau of Statistics, has been used in this publication to present regional data for medical practitioners.

The Remoteness Area Structure of the Australian Standard Geographical Classification is based on the Accessibility/Remoteness Index of Australia, where the remoteness index value of a point is based on the physical road distance to the nearest town or service in each of six population size classes based on the 2006 Census of Population and Housing. These classes are:

- *Major cities*
- *Inner regional*
- *Outer regional*
- *Remote*
- *Very remote*
- *Migratory*.

Due to the small numbers in the *Remote*, *Very remote* and *Migratory* classes, they have been collapsed and reported as *Remote/Very remote* in this report.

Resident medical officer

A type of hospital non-specialist. A resident medical officer is a medical practitioner undergoing further training in a hospital after completing an internship, but who has not started a recognised general practice or specialist practice training program.

Specialist

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

Specialist-in-training

A medical practitioner who has been accepted by a specialist medical college into a training position supervised by a member of the college. They are 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 1973*.

Torres Strait Islander

A person of Torres Strait Islander descent who identifies as a Torres Strait Islander.

Vocationally registered general practitioner

A primary care practitioner who has been registered by Medicare Australia as a recognised general practitioner.

References

Australian Bureau of Statistics 2006. ANZSCO—Australian and New Zealand Standard Classification of Occupations, first edition, 2006. Cat. no. 1220.0. Canberra: ABS.

AIHW (Australian Institute of Health and Welfare) 2005. Medical labour force 2003. National health labour force series no. 32. Cat. no. HWL 32. Canberra: AIHW.

AIHW 2008. Medical labour force 2006. National health labour force series no. 41. Cat. no. HWL42. Canberra: AIHW.

AIHW 2009. Australian hospital statistics 2007–08. Health services series no. 33. Cat. no. HSE 71. Canberra: AIHW.

Australian Medical Association 2008. Becoming a doctor and bonded medical school places—a guide for prospective medical students. Viewed 8 September 2008, <http://www.ama.com.au/node/4130>.

Australian Medical Workforce Advisory Committee 1999. Temporary resident doctors in Australia: distribution, characteristics and role. Viewed 10 October 2007, <http://www.nhwt.gov.au/documents/Publications/1999/Temporary%20resident%20doctors%20in%20Australia.pdf>.

DoHA (Australian Government Department of Health and Ageing) 2007. Work as a doctor in Australia. Viewed 1 June 2008, <http://www.doctorconnect.gov.au/internet/otd/publishing.nsf/Content/work-Registering-and-qualifying>.

DoHA 2008. Report on the Audit of Health Workforce in Rural and Regional Australia, April 2008. Canberra: Commonwealth of Australia.

DoHA 2009a. General practice statistics. Viewed 6 July 2009, <http://www.health.gov.au/internet/main/publishing.nsf/Content/General+Practice+Statistics-1>.

DoHA 2009b. Work as a doctor in Australia, conditional registration. Viewed 31 July 2009, <http://www.doctorconnect.gov.au/internet/otd/Publishing.nsf/Content/work-condregistration>.

Medical Board of the Australian Capital Territory 2007. ACT Medical Board, annual report 2006–2007. Viewed 17 February 2009, <http://www.health.act.gov.au/c/health?a=sendfile&ft=p&fid=1190601183&sid>.

Medical Board of Queensland 2007. Medical Board of Queensland, annual report 2006–2007. Viewed 17 February 2009, <http://www.medicalboard.qld.gov.au/pdfs/medical-annual-report-2006-07.pdf>.

Medical Board of South Australia 2007. Medical Board of South Australia, 24th annual report 2006–07. Viewed 17 February 2009, <http://www.medicalboardsa.asn.au/media/files/26818.pdf>.

Medical Board of Western Australia 2007. Medical Board of Western Australia, 2007 annual report. Viewed 17 February 2009, <http://www.medicalboard.com.au/pdfs/2007%20Final%20Annual%20Report.pdf>.

Medical Council of Tasmania 2007. Medical Council of Tasmania, annual report 2007. Viewed 17 February 2009, <http://www.medicalcounciltas.com.au/pdfs/THEMED%20ann%20rpt%20pgs%2083143.pdf>.

Medical Practitioners Board of Victoria 2007. Medical Practitioners Board of Victoria, annual report 2007. Viewed 17 February 2009, <http://www.medicalboardvic.org.au/pdf/AR_2007.pdf >.

National Aboriginal and Torres Strait Islander Health Council (NATSIHC) 2008. Pathways into the health workforce for Aboriginal and Torres Strait Islander people. Viewed 8 September 2008, <http://www.aida.org.au/pdf/Pathways.pdf>.

New South Wales Health (NSW Health) 2007. Area of need program. Viewed 16 October 2007, < http://www.health.nsw.gov.au/aon/index.asp>.

NSW Health 2008. 2007 Profile of the Medical Practitioners Workforce in NSW. Viewed 25 May 2009, <http://www.health.nsw.gov.au/pubs/2008/pdf/medical_practitioners.pdf>.

New South Wales Medical Board 2007. New South Wales Medical Board, annual report 2007. Viewed 17 February 2009, <http://www.nswmb.org.au/system/files/f69/f53/o604//5777_Annual%20Report%202007%20NSWMB_AR07.pdf>.

Royal Australian College of General Practitioners 2009. International medical students, information for overseas trained doctors. Viewed 31 July 2009, <http://www.racgp.org.au/img>.

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