

Main features

This publication presents data for the medical labour force at the end of December 1998. It is the fifth in an annual series monitoring growth of and change in the characteristics of the medical workforce.

During that period, on the one hand, there has been underlying workforce re-structuring on two fronts – change in demographic composition from a rise in the proportion of female graduates and private practice industry re-structuring towards larger practices. On the other hand, there has been change initiated by government and by the profession aimed primarily at improving access to medical services in areas of shortage, whether geographically or within specific areas of medical practice.

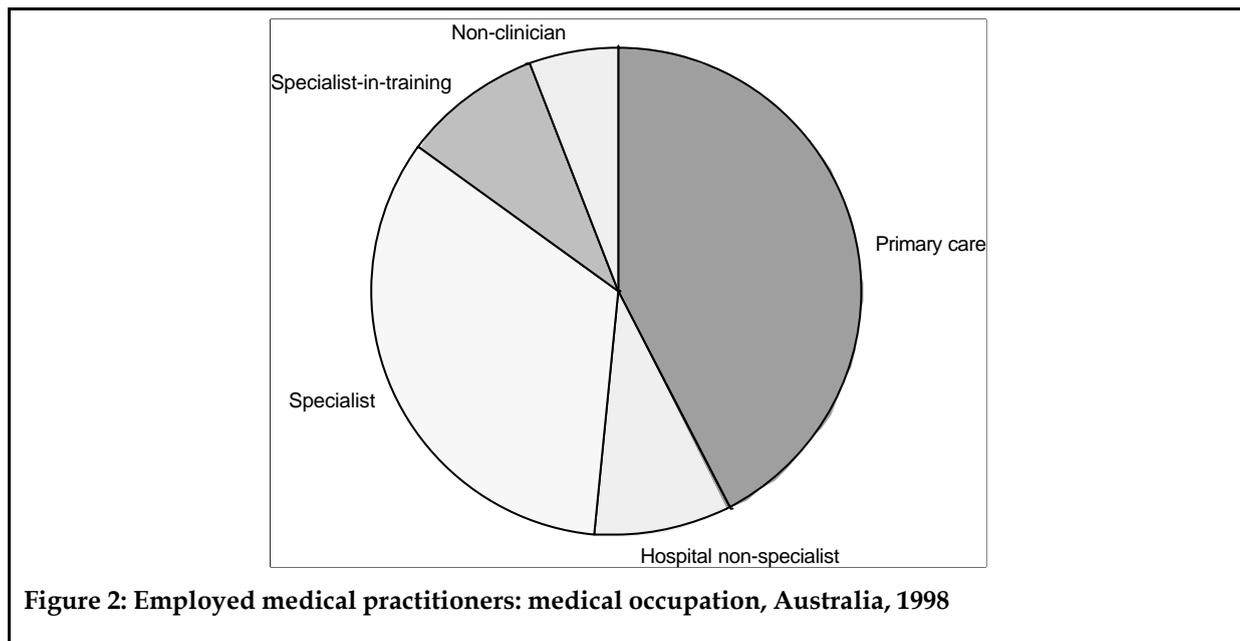
Ongoing initiatives include changes in recruitment and training of medical students, increases in specialist training numbers recommended by various reports of the Australian Medical Workforce Advisory Committee (AMWAC), increasing use of overseas-trained doctors to fill gaps, recruitment and retention incentive schemes for areas of shortage, more outreach services to rural areas, incentives for practice amalgamation, changes to registration requirements for overseas-trained doctors, and an Australian Medical Association campaign to reduce hours worked by junior hospital doctors.

The following analysis monitors progress in these areas, although the effects of some programs will not be seen in the statistics until later years.

More detail may be found in the data presented in this publication and in supplementary statistical tables published on the Institute's Internet site (http://www.aihw.gov.au/publications/health_publications).

Overall numbers

- The Australian medical labour force in December 1998 comprised 49,623 practitioners of whom 48,934 were employed and practising in medicine, 393 were on extended leave and 296 were unemployed, or employed elsewhere, and looking for work in medicine (Figure 1).
- Of the employed practitioners 46,078 were clinicians and 2,857 were in non-clinical roles as administrators and educators, and in public health and occupational health.
- Of the clinicians, 20,852 (45.3%) were primary care practitioners, 4,263 (9.3%) hospital non-specialists, 16,490 (35.8%) specialists and 4,473 (9.7%) specialists-in-training (Figure 5). This relative structure will commence to change significantly in the next few years. The cap of 400 new primary care trainees per year is about a third of the annual output of Australian students from the medical schools and there are around 1,000 places a year available for specialist training (Medical Training Review Panel reports). A continuation of this postgraduate training pattern will gradually reduce the proportion of primary care practitioners in the medical workforce and increase the proportion of specialists. The hospital non-specialist workforce is largely composed of doctors in training positions with currently 1,098 (25.8%) of them choosing hospital work as a career (Table 21).



- The number of clinicians per 100,000 population increased from 238.2 in 1993 to 245.9 in 1996 and declined to 244.5 clinicians per 100,000 population in Australia by 1998 (Table 2).
- The countries with demographics and a medical workforce structure most similar to Australia are Canada and New Zealand. The Australian level of medical workforce provision of 244.5 clinicians per 100,000 population in 1998 compares with the 209.5 in Canada and 218.7 in New Zealand in 1997.
- Most of the OECD countries for which data are available are showing a continuing growth in the number of practising doctors per 100,000 population with the exception of Canada which peaked in 1993 and has shown annual decreases since and Australia which has shown slight decreases since a peak in 1996.

Trends in numbers of medical practitioners from 1993 to 1998

Between 1993 and 1998, the following changes occurred:

- The population of Australia increased by 6.1%.
- The number of clinicians increased by 8.9%, with the number of clinicians per 100,000 population increasing by 2.6% (Table 3).
- The primary care workforce increased by 10.2% (3.8% per 100,000 population), the specialist workforce increased by 8.2% (1.9% per 100,000 population), specialists-in-training increased by 9.8% (3.5% per 100,000 population) and the hospital-non-specialist workforce increased by 4.8% (-1.3% per 100,000 population). However, the numbers of hospital non-specialists may be under-represented because temporary resident doctors (TRDs) on short-term contracts are not included in the labour force survey accompanying renewal of registration. Also, there has been a 145% growth in the number of emergency medicine specialists since 1994 with a change in classification of many doctors in accident and emergency departments of hospitals from non-specialist to specialist (AMWAC 1997).

The length of time taken to fully train general practitioners and specialists means that strategies to address underlying structural problems such as a relatively high recruitment in the past of medical students from non-rural backgrounds may take 20 years to significantly impact on the distribution of the workforce. Hence, changes which have occurred between 1993 and 1998 are most likely to be the result of short-term solutions such as increasing the numbers of temporary resident overseas-trained doctors, or the outcomes of longer term planning which has been in place for several years, such as the Government's Rural Incentive Program.

State and Territory distribution of medical practitioners

In December 1998 the distribution of the medical workforce had the following features:

- There was a 26.8% difference between the States and Territories with the lowest and highest supply. There were 220.3 *clinicians* per 100,000 population in Western Australia, 225.6 in Queensland, 233.5 in Tasmania, 239.1 in the Northern Territory, 243.4 in Victoria, 255.1 in New South Wales, 273.4 in South Australia and 279.4 in the Australian Capital Territory (Table 5). It should be noted that the ACT provides a significant amount of medical services to residents of New South Wales.
- There were 87.5 *medical specialists* per 100,000 population in Australia – up from 85.9 the previous year. Across the States and Territories the rates varied from 99.7 per 100,000 in South Australia and 96.9 in Victoria to 72.6 in Queensland, 72.0 in Tasmania and 59.9 in the Northern Territory (Table 5). A significant but unquantified amount of specialist services are provided to the Northern Territory by specialists, mainly based in South Australia, who fly-in for periods of up to a week at a time.

Rural and remote medical workforce

An equitable distribution of primary care workforce provision between rural and remote areas and capital city and other metropolitan areas has been a planning priority for Commonwealth, State and local governments and medical professional bodies for many years. A number of schemes have been introduced to attract and retain doctors in rural areas.

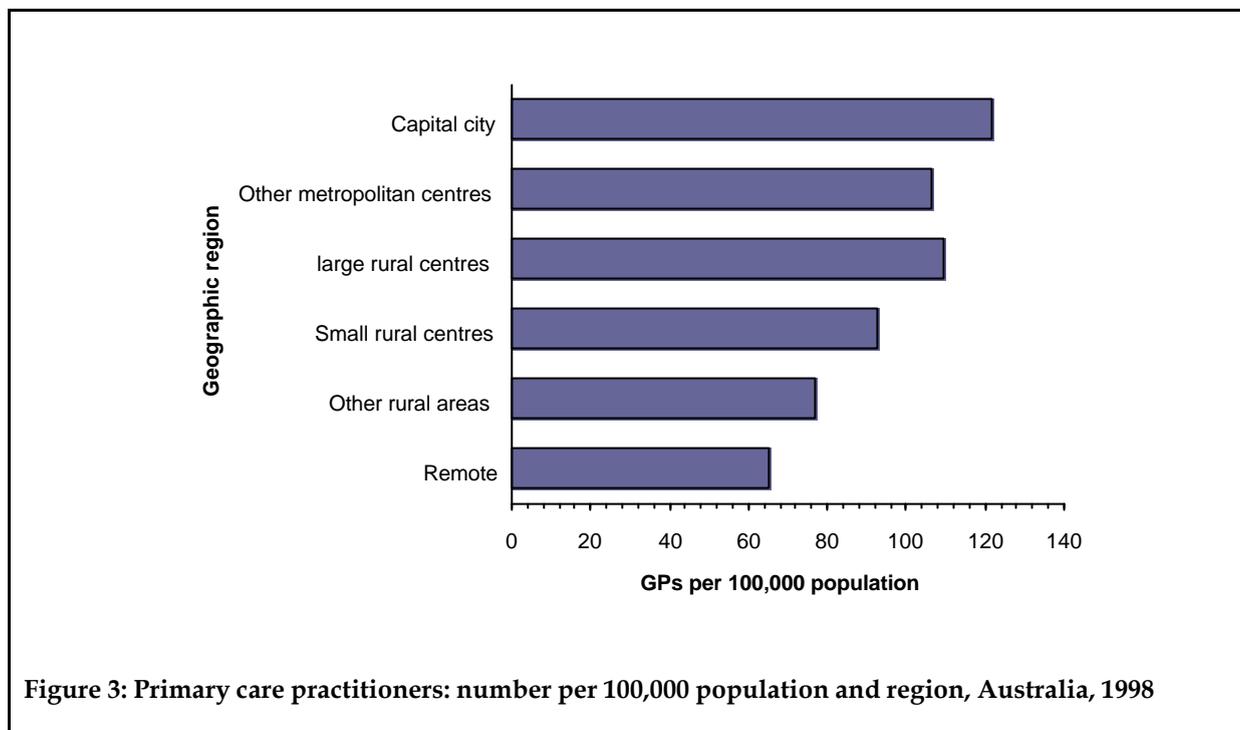
In 1998, there were 7,757 medical practitioners who worked in a rural or remote area in their main job – 15.6% of all medical practitioners (Table 27). This contrasts with the overall population distribution of 28.7% living in rural and remote areas in 1998.

There were 143.6 practising medical practitioners per 100,000 population employed in their main job in rural and remote areas compared with 142.8 in 1996 and 144.0 in 1997. This compares with 306.3 per 100,000 population in capital city and other metropolitan areas in 1998, 306.2 per 100,000 population in 1997 and 308.2 per 100,000 population in 1996.

Additional features of the medical workforce in rural and remote areas in 1998 included the following.

- 3,005 (38.7%) worked in their main job in a large rural centre; 1,890 (24.4%) worked in a small rural centre; 2,259 (29.1%) worked in other rural areas; and the remaining 604 (7.8%) worked in remote areas (Table 27).
- The 143.6 practising medical practitioners per 100,000 population in rural and remote areas varied across geographic region – 266.9 per 100,000 population in large rural centres; 154.3 in small rural centres; 91.1 in other rural areas; and 105.2 in remote areas. It also varied across States and Territories, from a high of 177.8 in the Northern Territory to a low of 113.6 in South Australia (Table 28).

- There were 109.7 primary care practitioners per 100,000 population in large rural centres (one practitioner per 912 population), 93.0 per 100,000 in small rural centres (one practitioner per 1,075 population), 77.2 per 100,000 in other rural areas (one per 1,295 population) and 65.8 per 100,000 population in remote areas (one per 1,520 population). In comparison, there were 122.0 primary care practitioners per 100,000 population in capital cities (one per 820 population) and 107.0 per 100,000 in other metropolitan areas (one per 935 population) (Table 5).



- In remote areas the lower provision of primary care practitioners is partially offset by a higher provision of non-specialist hospital doctors with 15.3 practitioners per 100,000 population (one practitioner per 6,536 population) in remote areas compared with 8.3 per 100,000 (one practitioner per 12,408 population) in small rural centres and 2.6 per 100,000 (one practitioner per 38,462 population) in other rural areas (Table 6).
- 60.2% of practitioners working mainly in rural and remote areas were employed in primary care; 25.7% were specialists; 7.4% were hospital non-specialists; 2.6% were specialists-in-training; and the remaining 4.1% were non-clinicians. In comparison, in metropolitan areas 39.3% of all medical practitioners were working in primary care; 35.2% were specialists; 9.0% were hospital non-specialists; 10.4% were specialists-in-training; and 6.2% were non-clinicians (Table 6).
- The work setting differed across geographic region and reflected the differing medical occupation mix of practitioners in the regions. The proportion of practitioners working in private rooms varied from 55.8% in capital cities to 84.5% in other rural areas and the proportion in acute care hospitals from 33.0% to 11.1%. Remote areas had the lowest proportion working from private rooms (45.9%), with 29.3% working in acute care hospitals and 12.3% working in an Aboriginal health service (Table 27).
- 70.1% of medical practitioners employed in rural and remote areas worked in their main job in private rooms; 22.9% worked in acute care hospitals; and the remaining

7.0% were employed in other work settings. In metropolitan areas, 56.2% of practitioners worked from private rooms in their main job, 32.9% worked in acute care hospitals and 10.9% worked in other work settings (Table 27).

- 1,829 (23.6%) medical practitioners in the rural medical workforce were female compared with 28.9% in metropolitan areas. This proportion ranged from 20.9% in small rural areas to 29.3% in remote areas (Table 27).
- The distribution of rural practitioners across occupation differed by gender. For males, 57.3% were employed in primary care and 30.2% were specialists, while 69.5% of females were employed in primary care and 10.8% were specialists (Table 81 supplementary tables).
- Medical practitioners employed in rural and remote areas worked an average of 51.1 hours per week compared with 48.0 hours per week in metropolitan areas. This average was higher in remote areas (52.2 hours) as 87.9% of doctors in remote areas were working full-time (35 hours or more per week) (Table 27).
- 24.5% of rural and remote medical practitioners in 1998 had gained their initial qualification overseas – and this was higher (30.8%) in remote areas. Some 21.5% of all Australian employed medical practitioners gained their initial medical qualification overseas.
- Of the 1,901 rural and remote medical practitioners who gained their initial qualification overseas, 56.0% qualified in the United Kingdom or Ireland, 15.6% in Asia, 9.6% in New Zealand, and the remaining 18.8% in other countries.

It is expected that in time an increase in the proportion of medical students with a rural background will result in an increase in the proportion of Australian medical graduates willing to practise in rural areas. In 1999, 11.9% of students commencing initial medical degrees were from rural and remote areas compared with 9.5% to 11.6% for the nine-year period 1989 to 1997, and 13.3% in 1998 (Table 104 supplementary tables).

Female medical practitioners

In *Female Participation In The Australian Medical Workforce* (AMWAC and AIHW 1996) it was estimated that an average female GP over a lifetime will work 66.0% of the hours of an average male GP, while for the average female specialist this proportion was 74.9%. The data also indicated that female doctors are relatively more likely to practise in metropolitan areas than male doctors, and that female medical students are much more likely than males to choose general practice as a career path and less likely to select specialty practice, especially surgery. A rising proportion of female doctors in the medical workforce may therefore over time be expected to affect both the supply and distribution of medical services unless these characteristics of the female medical workforce change over time, along trends in other professions.

Features of the female medical workforce in 1998 were:

- There were 13,736 females in the *employed medical workforce* of whom 12,809 were clinicians representing 28.1% and 27.8% of the medical and clinician workforce respectively – up from 25.2% and 25.0% respectively in 1993 (Table 3).
- The age distribution of female medical practitioners reflected the general pattern of increasing female participation in higher education and employment. In 1998, females were 49.4% of *employed medical practitioners* aged less than 25 years, 42.8% of those 25–34 years 34.1% of those 35–44 years, 22.3% of those 45–54 years, 14.3% of those

aged 55–64 years, and 9.7% of those aged 65–74 years and 8.6% of those aged 75 years or more (Table 8). Female participation will continue to increase as the female portion of students commencing initial medical degrees increased from 43.6% in 1989 to 52.7% in 1999 after exceeding 50% for the first time in 1998 (Table 39).

- Female practitioners were 33.2% of the primary care workforce overall but were 53.5% of the primary care workforce aged 25–34 years and 42.1% of those aged 35–44 years (Table 8). Females were 57.8% of the GP trainees and a continuation of this pattern will lead to a relatively rapid rise in the proportion of female GPs over the next decade (Table 54).

Hours worked

Hours worked are of particular workforce planning interest because:

- Apparently excessive hours worked per week on a regular basis, such as 65 hours per week or more, may indicate workforce shortage.
- Internationally, there have been campaigns to change a medical training culture of excessive hours being the norm for junior hospital doctors. Such hours are considered to be detrimental to doctor performance and therefore not in the interests of quality patient care, while there is also concern about the impact of high levels of stress on doctors from overwork. In 1998 the Australian Medical Association launched a campaign for safer working hours. The *British Medical Journal* (28 November 1998) reported that the European Commission has proposed making it illegal from 1999 for junior doctors in European Union countries to work more than 54 hours a week on average over four months, and that governments would be given seven years to reduce this to 48 hours. Such a reduction in working hours may require significant additional employment of hospital non-specialist doctors.
- Increasing part-time employment, particularly with a rising proportion of female doctors, suggests that training numbers may need to be boosted to meet future workforce requirements.

The medical workforce has shown the same pattern of hours worked as the workforce in general with the average hours worked remaining static over time but increases in the proportion working less than 35 hours per week and those working more than 40 hours per week. Trends in hours worked between 1994 and 1998 were:

- Average hours worked for all clinicians were almost unchanged from 48.1 hours in 1994 to 48.8 hours in 1998, while those working 65 or more hours per week increased from 10.8% in 1994 to 17.0% in 1998 (Table 84 supplementary tables).
- In general practice, the rise in the proportion of female doctors has left the average hours worked of all GPs virtually unchanged from 44.9 hours in 1994 to 45.3 hours in 1998 with an increase from 9.6% to 14.1% in those working 65 or more hours per week as the number working less than 35 hours per week has increased from 24.0% to 26.6% of total GPs.
- In the hospital non-specialist workforce, average hours worked were 52.6 in 1994 and 50.2 in 1998 while the proportion working 65 hours or more per week was 7.7% in 1994 and 11.1% in 1998.
- Among specialists-in-training, where the proportion of females increased from 29.4% to 33.8%, average hours worked were 55.4 in 1994 and 54.4 in 1998 while the proportion working 65 hours or more per week was 22.1% in 1994 and 20.6% in 1998.

Other features of hours worked in 1998 included the following.

- In the primary care practitioner workforce, male vocationally registered general practitioners (VRGPs) worked an average of 51.3 hours per week and female VRGPs worked an average of 33.9 hours per week, mainly because 52.6% of females and only 11.5% of males worked fewer than 35 hours per week.
- Some 4.0% of male and 1.2% of female primary care practitioners respectively worked 80 or more hours per week. These proportions almost doubled in small rural centres, other rural and remote areas (7.2% for males and 2.2% for females).
- The average hours per week worked by primary care practitioners varies with the age of the practitioner particularly for females. The average hours worked by female GPs declines from around 40 hours per week for the 25–29 age group to around 30 hours per week for the 35–39 age group and then rises steadily to just above 40 hours per week for the 55–59 age group before declining. The average hours for male GPs rises to around 55 hours per week for the 40–44 age group and remains relatively stable until age 50–54 years before declining steadily approaching retirement (Figure 3).

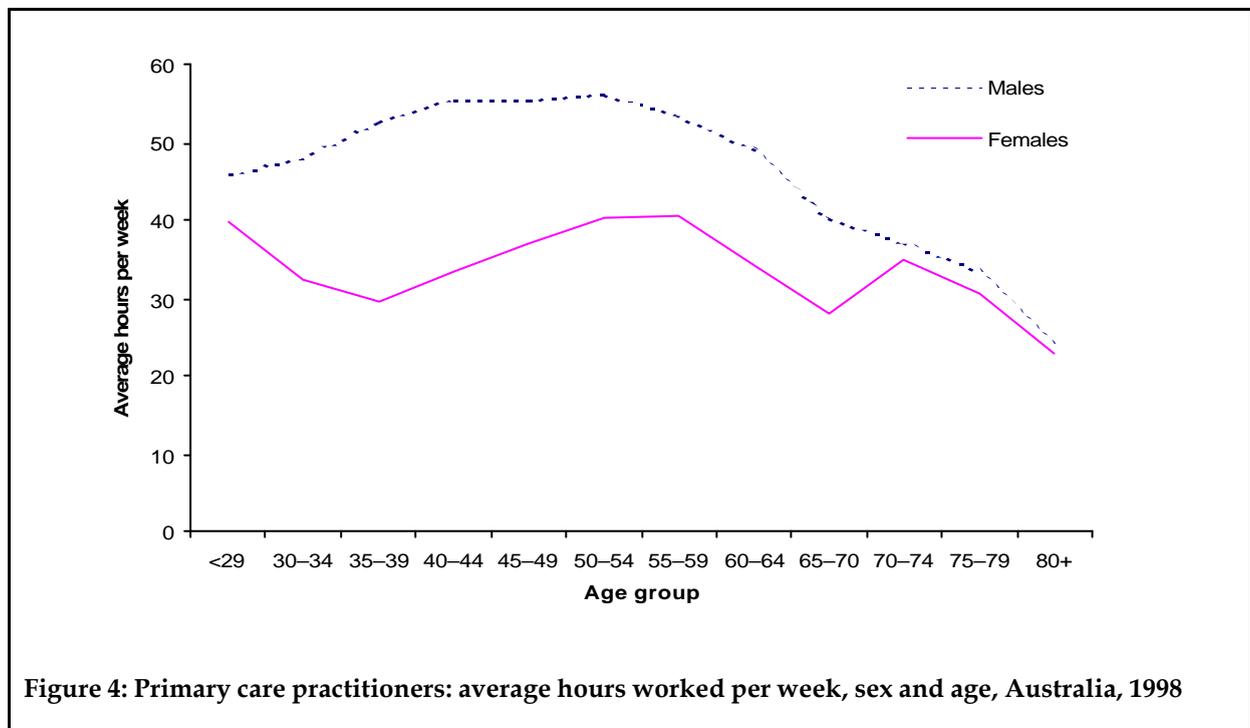
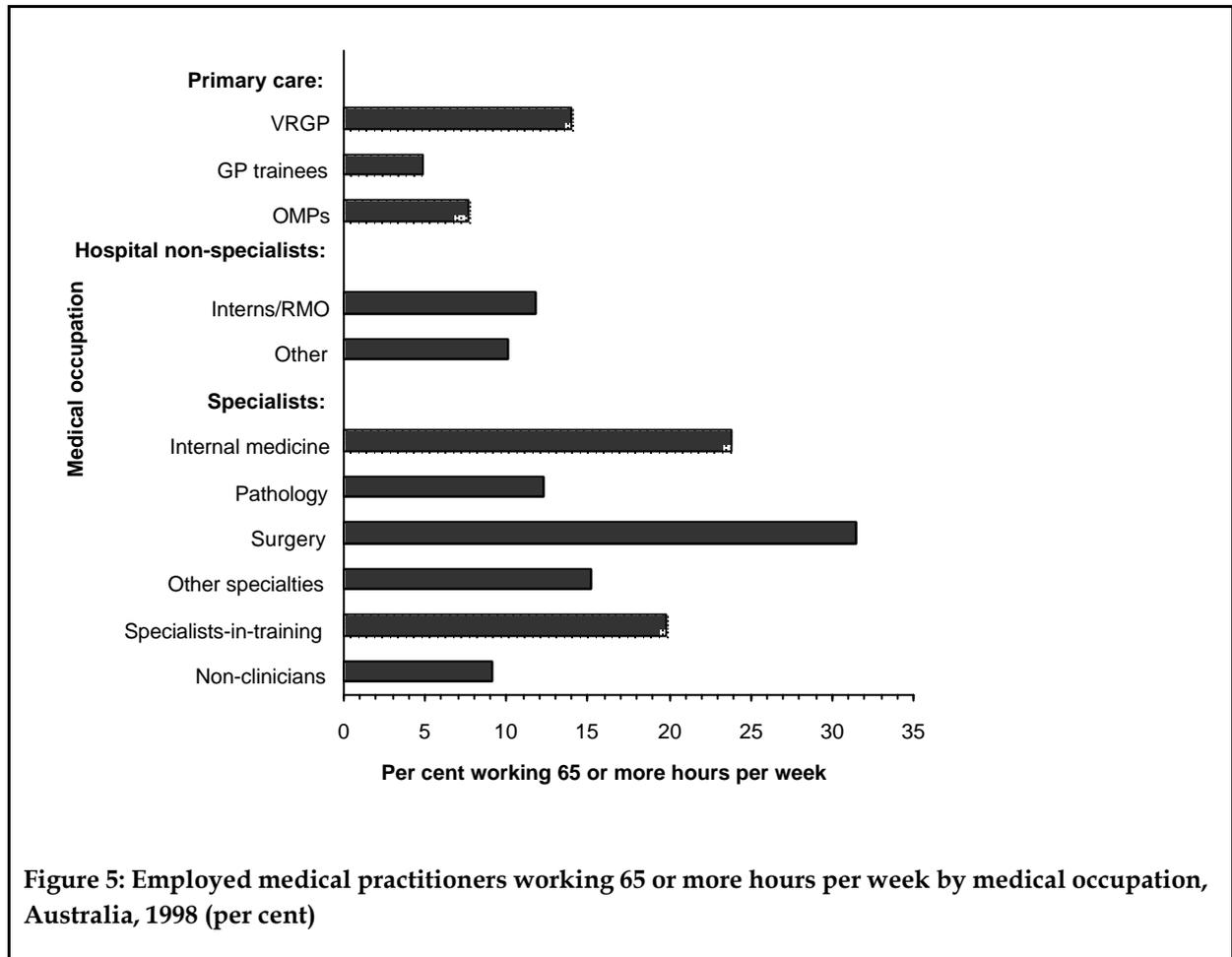


Figure 4: Primary care practitioners: average hours worked per week, sex and age, Australia, 1998

- 60.4% of male specialists worked 50 hours or more per week compared with 32.3% of females. Males worked an average of 51.4 hours per week and females an average of 41.4 hours.
- The highest proportions of doctors reporting working 80 or more hours per week were surgeons (14.9%), internal medicine specialists (10.2%), specialists-in-training (8.2%), and vocationally registered general practitioners (5.5%) (Table 9 and Figure 4). The specialties where more than 30% of the practitioners reported working more than 65 hours per week were cardiology, medical oncology, renal medicine, thoracic medicine, forensic pathology, pathological immunology, general surgery, cardiothoracic surgery, neurosurgery, orthopaedic surgery, paediatric surgery, urology and vascular surgery (Table 64 supplementary tables).

- Only 4.3% of male and 3.8% of female interns and RMOs worked less than 35 hours per week, while 18.4% of males and 15.8% of females worked more than 65 hours per week.



- The supply shortage of medical practitioners in rural and remote regions is reflected in the working hours of practitioners in those areas. Medical practitioners employed in rural and remote areas worked an average of 51.1 hours per week compared with 48.0 hours per week in metropolitan areas. The average was highest in other rural areas (52.5 hours) as 23.5% of doctors in other rural areas were working 65 or more hours per week. Some 20.4% of rural practitioners and 19.8% of remote practitioners worked 65 hours or more per week, compared with 14.8% in metropolitan centres (Table 27).
- Average hours per week worked by male VRGPs increased relatively uniformly across geographic regions from 51.7 hours in capital cities to 59.2 hours in small rural centres and then declined to 58.6 hours in other rural areas and 57.3 hours in remote areas. Female VRGPs worked an average of around 34 hours per week in metropolitan and large rural centres, 40.3 hours in small rural centres 37.8 hours in other rural areas and 46.8 hours in remote areas (Table 53 supplementary tables).

Aboriginal medical practitioners and health service employment

At the 1996 population census, there were 29 general medical practitioners, 12 medical practitioners in training, 20 specialists and also 21 medical administrators who identified as Aboriginal or Torres Strait Islander. The specialists included five pathologists and four surgeons (ABS, unpublished data).

In 1999, there were 21 Aboriginal and Torres Strait Islanders who commenced basic medical training and a total of 63 Aboriginal and Torres Strait Islanders in basic medical training at Australian universities (Table 110, supplementary tables).

In 1998, there were 9 Aboriginal and Torres Strait Islanders who completed medical training. Over the ten-year period 1989–98 there were 43 Aboriginal and Torres Strait Islanders who completed basic medical training with 41.9% of these graduating from the University of Newcastle. (Table 116, supplementary tables) These students were 0.4% of Australian students who graduated over the period compared to the 2.1% of the population who identify as Indigenous (1996 population census, ABS).

In December 1998 there were 698 medical practitioners who indicated that the employment setting of their main, second or third job was an Aboriginal health service (Table 29). For 309 of these, it was their main job (Table 91).

Of the 698 practitioners working in an Aboriginal Health Service:

- 36.4% were female compared to the 28.1% of the medical workforce who are female (Tables 3 and 28);
- 45.0% were primary care practitioners; 39.1% were specialists; 4.9% were hospital non-specialists; 5.4% were specialists-in-training; and the remaining 5.4% worked in a non-clinical field including administration and education. This distribution of occupation is close to that in the medical workforce (Tables 28 and 3);
- 62.7% were employed in a metropolitan area (Table 28);
- 61.1% worked part-time (less than 35 hours per week) compared with 18.8% of clinicians generally. The average was 20.7 hours per week compared with 48.8 hours per week for all clinicians.

Medical education and training

In 1999 there were 1,334 Australian citizen and permanent resident students who commenced undergraduate medicine courses. During 1994–96, there had been a hiatus in students commencing initial medicine courses while Flinders University, the University of Queensland and the University of Sydney introduced a four-year postgraduate degree medical course in place of the previous six-year undergraduate course. Each university had a two-year transition period. The first intake to the new course at Flinders University was in 1996 and intakes to the new courses at the University of Queensland and the University of Sydney began in 1997. The University of Sydney reached its planned annual intake of 186 new students (actual 189) in the 1999 academic year.

General practitioner trainees practise under the supervision of an RACGP Fellow. The Commonwealth Government's Medical Training Review Panel collects data from the medical colleges on the numbers of training positions and trainees. The RACGP reported that there were 1,478 general practice trainees in 1999 (Department of Health and Aged Care 1999).

The 1998 AIHW medical labour force survey identified the following characteristics of GP trainees:

- 57.8% were female (Table 51).
- 67.5% of male trainees were located in metropolitan centres, 27.9% in rural areas and 4.7% in remote areas. Females were less likely to work in rural areas – 76.5% were located in metropolitan centres, 21.6% in rural areas and 1.8% in remote areas.
- 71.2% self-reported as mainly working as primary care practitioners and 28.8% as mainly working as hospital non-specialist doctors (Table 51).
- Acute care hospitals provide the work setting for 48.2% of RACGP trainees with 43.9% reporting that their main job was in private rooms (Table 54).
- 57.8% of RACGP trainees were female and the female proportion was almost identical for those who reported as primary care practitioners and hospital non-specialists.
- 29.3% of female trainees worked fewer than 35 hours per week and averaged 39.7 hours per week, compared with 8.1% of males working fewer than 35 hours per week and a weekly average of 48.1 hours.
- There was a significant difference between the hours worked by those who reported as primary care practitioners and those who reported as hospital non-specialists. The males who reported as primary care practitioners worked an average of 45.8 hours per week and the females worked an average of 36.2 hours per week. Males who reported as hospital non-specialist doctors worked an average of 56.1 hours per week and females an average of 50.0 hours per week (Table 54).
- 39.5% of female trainees who reported as primary care practitioners worked fewer than 35 hours per week, compared with 1.5% of those who reported as hospital non-specialists. 11.5% of the male trainees who reported as primary care practitioners worked less than 35 hours per week and no male hospital non-specialist reported working less than 35 hours per week.
- The average age of RACGP trainees was 32.2 years for males and 31.8 years for females (Table 54).

The AIHW medical labour force survey enumerated 4,473 specialists-in-training in 1998. In the labour force survey specialists-in-training are self-identified (Table 3).

In 1999, the Medical Training Review Panel (MTRP) reported that there were 4,126 clinician specialists-in-training in Australia – 2,861 in advanced training positions and 1,265 in basic training positions (Department of Health and Aged Care 1999). The MTRP reported 4,062 trainees in 1997 and 4,120 in 1998. The MTRP data exclude the majority of adult medicine and paediatric medicine basic trainees who could be expected to report as specialists-in-training in the AIHW survey.

Temporary resident doctors

State health authorities during the 1990s have made increasing use of temporary resident overseas-trained doctors (TRDs) to fill positions in hospitals, general practice and locum services. The number of temporary resident doctors increased from 893 in 1993–94 to 2,224 in 1998–99 – an increase of 124%, with most of the increase occurring in the last three years (Table 34).

Of the 2,224 TRDs, 687 came for a stay of more than a year and 1,537 for a stay of one year or less. Of these, 57.2% had previously resided in the United Kingdom or Ireland, 12.2% in Asia, 11.3% in New Zealand and 6.9% in South Africa.

Occupational trainees represented 32.9% of the TRDs entering Australia in 1998–99 and these make a significant contribution to the hospital workforce in most States (Table 35).

Most TRDs entered for a stay of less than 12 months with the average expected stay being one year. Of the overseas-trained temporary resident medical practitioners included in the AIHW medical labour force survey:

- 23.7% were employed in primary care, 35.6% were hospital non-specialists, 9.7% were specialists, 25.9% were specialists-in-training and the remaining 5.0% were non-clinicians (Table 97).
- 39.4% had obtained their initial qualification in Asia, 21.7% in the United Kingdom or Ireland, 16.7% in New Zealand, 11.2% in Australia and 11.1% in other countries.

In addition to the TRDs, in 1998–99, there were 604 Australian doctors who returned to Australia after working overseas for a year or more (Table 36). The time series data show more doctors returning after a long-term overseas stay than depart, and this may be due to misclassification in the data or an extension of the stay overseas.

Offsetting the flow of TRDs to Australia was the departure of Australian-trained doctors for overseas to gain experience or for further training. During 1998–99, there were 421 Australian citizen or permanent resident medical practitioners who left Australia to take up temporary employment overseas for more than a year. Of these, 36.8% were intending to work in the United Kingdom or Ireland, 23.3% in Asia, 22.1% in the United States of America or Canada and 3.1% in New Zealand (Table 36). Data are not available on the number of Australians departing for employment overseas for periods of less than a year.

There were 687 TRDs who had been in Australia for a year or more who departed in 1998–99. Data are not available on the number of departing TRDs who had been in Australia for less than a year.

A more detailed analysis of the temporary resident doctor workforce may be found in the 1999 AMWAC report *Temporary Resident Doctors in Australia*.

Permanent migration and Australian Medical Council approvals

A significant source of permanent additions to the Australian medical workforce is overseas-trained medical practitioners who have permanent resident status and who have gained full or conditional eligibility to practise by meeting examination and other requirements of the Australian Medical Council (AMC). In 1998–99, there were 408 medical practitioners who were citizens of foreign countries who permanently migrated to Australia. Of these 39.5% had previously resided in Asia, 14.1% in New Zealand, and 16.3% in the United Kingdom or Ireland (Table 32). Historically, many of these permanent migrants have been unable to meet Australian registration requirements and have been unable to practise in Australia. It is not known how many of the 232 Australian citizen or permanent residents who identified as medical practitioners departing Australia permanently were in this category (Table 32).

In 1998–99, a total of 220 permanent resident overseas-trained medical practitioners passed the AMC's clinical examination and were eligible for registration (Table 33). A further 59 overseas-trained specialists qualified for registration after recognition of their qualifications by a specialty College and the AMC.