

2 Overview of the medical labour force in 1999

2.1 Introduction

In December 1999, the Australian medical labour force comprised 50,984 medical practitioners, of whom 50,329 (98.7%) were employed and practising in medicine (Figure 1). This compares with the much larger nurse labour force (233,982 in 1999 of whom 224,595, or 96.0%, were working in nursing) and the smaller pharmacy labour force (15,176 in 1999, of whom 14,747, or 97.2%, were working as pharmacists).

This overview outlines the main characteristics and the geographic distribution of the three groups of clinicians and the small group of non-clinicians in 1999.

2.2 Employed medical practitioners in 1999

Of the 50,329 employed practitioners in 1999, the vast majority (94%) were clinicians. Specialists also made up a large group (36%), and hospital non-specialists and specialists-in-training (each 10%) made up the remainder. Non-clinicians (administrators, educators, researchers, etc.) accounted for the remaining 6% of employed practitioners.

The majority of employed practitioners were male (70.6%), their average age was 46.0 years and as a group they worked an average of 45.6 hours per week (Table 2).

2.2.1 Clinicians

Clinicians are the broad body of practitioners responsible for diagnosing and/or treating patients. The 47,436 clinicians in 1999 supplied the Australian population at a rate of 249 per 100,000 people, and most (70.8%) were male. Clinicians comprise primary care practitioners (the largest group at 44.2%); hospital non-specialists (10.0%); specialists (36.0%) and specialists-in-training (9.8%).

Primary care practitioners

Primary care practitioners (mostly general practitioners) form the largest body of clinical practitioners because they are usually the first point of contact for patients, for primary care. Not only do they deal with common illnesses, provide advice and administer ongoing care, but they also have the skills and knowledge to recognise more serious conditions that require specialist services.

There were 20,966 employed primary care practitioners in Australia in 1999, and most were vocationally registered general practitioners (VRGPs) (18,180, or 86.7%). Another 894 (4.3%) were GP trainees, and those termed 'other medical practitioners' (OMPs), whose main practice is unreferred patient attendances, made up the remaining 1,892 (9.0%).

Table 2: Employed medical practitioners: selected characteristics by occupation, Australia, 1999

| Occupation | No. | Rate ^(a) | % female | Average age | Average weekly hours |
|-------------------------------|---------------|---------------------|-------------|-------------|----------------------|
| <i>Clinician:</i> | 47,436 | 249.0 | 29.2 | 45.7 | 45.9 |
| Primary care | 20,966 | 110.1 | 34.6 | 47.7 | 42.3 |
| Hospital non-specialist | 4,740 | 24.9 | 41.0 | 32.4 | 48.2 |
| Specialist | 17,091 | 89.7 | 17.2 | 49.9 | 48.1 |
| Specialist-in-training | 4,640 | 24.4 | 37.4 | 32.3 | 51.7 |
| <i>Non-clinician:</i> | 2,892 | 15.2 | 32.9 | 49.7 | 41.3 |
| Administrator | 548 | 2.9 | 32.9 | 49.6 | 44.8 |
| Teacher/ educator | 222 | 1.2 | 26.1 | 51.8 | 41.6 |
| Researcher | 306 | 1.6 | 38.2 | 47.0 | 44.5 |
| Public health physician | 631 | 3.3 | 40.4 | 42.5 | 44.7 |
| Occupational health physician | 251 | 1.3 | 14.5 | 51.9 | 37.5 |
| Other | 934 | 4.9 | 32.5 | 53.9 | 37.0 |
| Total | 50,329 | 264.2 | 29.4 | 46.0 | 45.6 |

(a) Per 100,000 population, based on ABS estimated resident population figures at 31 December 1999.

Source: Medical Labour Force Survey 1999.

Over a third (34.6%) of the 20,966 primary care practitioners in 1999 were females, compared with 29.2% for all clinicians. With an average age of 47.7 years, primary care practitioners are younger than specialists (49.9 years) and work shorter hours than other clinicians (42.3 hours per week on average, compared with 48.1 hours per week for specialists, 51.7 for specialists-in-training and 48.2 for hospital non-specialists) (Table 2).

Hospital non-specialists

Hospital non-specialists are medical practitioners mainly employed in a salaried position in a hospital who do not have a recognised specialist qualification and are not undertaking a training program to gain a recognised specialist qualification. They include resident medical officers (RMOs) (including some GP trainees), interns and other salaried hospital career practitioners, and exclude specialists-in-training. In 1999, there were 4,740 medical practitioners in this group, comprising 3,368 RMOs and interns and 1,372 other medical practitioners (Tables 2 and A.12).

The average age of hospital non-specialists was 32.4 years, and females made up a relatively large proportion (41.0%) of this group in 1999 (Table 2).

Hospital non-specialists tended to work longer hours (48.2 hours per week on average) than other clinicians, but this was mainly for RMOs and interns, who worked much longer hours than OMPs (50.0 and 44.0 hours per week, respectively) (Table A.12).

Specialists and specialists-in-training

Specialists are medical practitioners who have been awarded a qualification by a specialist professional college to treat certain conditions. Specialists-in-training are practitioners who have been accepted by a specialist professional college into a training position supervised by a member of the college and who are working towards a specialist qualification. There were 17,091 specialists in 1999, of whom 17.2% were female – a much lower proportion than other clinical areas. The proportion of females was much higher, however, among the 4,640

specialists-in-training (37.4%), suggesting that the proportion of females in the specialist workforce will rise in future years (Table 2).

The average age of specialists was 49.9 years – older than other clinicians. Reflecting the fact that most medical practitioners who undertake specialty training do so early in their careers, the average age of specialists-in-training was 32.3 years in 1999. While specialists tend to work longer hours (48.1 per week) than primary care practitioners (42.3), specialists-in-training work longer hours still (51.7 per week, on average) (Table 2).

In 1999, psychiatry (2,088, 12.2%), anaesthesia (2,052, 12.0%), diagnostic radiology (1,107, 6.5%), obstetrics and gynaecology (1,100, 6.4%) and general surgery (1,058, 6.2%), each with over 1,000 practitioners, were the largest areas of specialty. The specialties with the largest proportions of female practitioners were cytopathology (45.0%), haematology (44.0%) and clinical genetics (a new specialty) (41.6%). These specialties were all very small, with no more than 65 practitioners. Among larger specialties, females represented over a quarter of practitioners in geriatrics, infectious diseases, paediatric medicine, anatomical pathology, dermatology and psychiatry (Table A13).

2.2.2 Non-clinicians

There were 2,892 non-clinicians employed in 1999. This small group comprised 548 administrators, 222 teachers and educators, 306 researchers, 631 public health physicians, 251 occupational health physicians and another 934 whose particular occupation was not known (Table 2).

Non-clinicians tended to be slightly older than clinicians (49.7 years on average, compared with 45.7 years), and all of the above groups worked relatively short average hours, ranging from just under 45 hours per week for administrators, researchers and public health physicians to 41.6 hours per week for teachers and educators and 37.5 hours per week for occupational health physicians. Just under a third of non-clinicians (32.9%) were female (Table 2).

2.3 State/Territory and geographic distribution

2.3.1 State and Territory distribution

In 1999, over a third of all medical practitioners (36.4% or 18,330) were in New South Wales, and almost a quarter (24.1%, or 12,137) were in Victoria. These two States accounted for similar proportions of the Australian population (33.8% and 24.8%, respectively in 1999). The smallest number worked in the Northern Territory (1.0% or 511), although these are supplemented by practitioners who mainly work in another jurisdiction but who sometimes travel to work in the Northern Territory (Table 3).

The highest numbers of both clinicians and non-clinicians were in New South Wales and the second highest of each were in Victoria, although there were more hospital non-specialists employed in Queensland (1,164) than in Victoria (686).

Table 3: Employed medical practitioners: occupation, States and Territories, 1999

| Occupation | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Australia |
|-------------------------|----------------|---------------|--------------|--------------|--------------|--------------|--------------|------------|---------------|
| | Persons | | | | | | | | |
| <i>Clinician</i> | 17,372 | 11,374 | 7,960 | 4,202 | 3,996 | 1,142 | 933 | 458 | 47,436 |
| Primary care | 7,445 | 5,296 | 3,406 | 1,866 | 1,767 | 550 | 421 | 215 | 20,966 |
| Hospital non-specialist | 1,920 | 686 | 1,164 | 425 | 300 | 74 | 110 | 61 | 4,740 |
| Specialist | 6,094 | 4,450 | 2,622 | 1,526 | 1,509 | 433 | 312 | 145 | 17,091 |
| Specialist-in-training | 1,913 | 941 | 769 | 384 | 421 | 85 | 90 | 37 | 4,640 |
| <i>Non-clinician</i> | 958 | 763 | 279 | 303 | 371 | 66 | 100 | 53 | 2,892 |
| Total | 18,330 | 12,137 | 8,238 | 4,505 | 4,367 | 1,208 | 1,032 | 511 | 50,329 |
| Population (000) | 6,431.6 | 4,738.2 | 3,537.2 | 1,496.2 | 1,871.2 | 470.8 | 194,314 | 310.0 | 19,049.4 |

Source: Medical Labour Force Survey 1999; estimated resident population figures at 31 December 1999.

Raw numbers do not, however, allow for differences in population characteristics in each jurisdiction that affect service usage, such as age and sex profiles and geographic distribution. For example, the median age of their populations ranged from 28.6 years in the Northern Territory to 36.2 years in South Australia; and the number of females for every 100 males varied from 89 in the Northern Territory to 103 in Tasmania in 1999. At the same time, the Australian Capital Territory, Western Australia, South Australia and Victoria are highly urbanised, with 99.9%, 73.3%, 73.2% and 72.5% of their respective populations living in their capital cities in 1999. Tasmania, Queensland and the Northern Territory are the least urbanised, with over half of their populations living outside their capital cities (ABS 2000).

Further, raw numbers do not allow for differences between jurisdictions in the working patterns of practitioners. The variation in the average hours worked by medical practitioners between States and Territories can be taken into account by calculating and comparing differences in the number of full-time equivalent (FTE¹) practitioners per 100,000 population in each jurisdiction. The ABS defines a full-time job as being one where at least 35 hours are worked per week on average, and many full-time equivalent calculations are based on this.

The concept of a full-time equivalent also turns on what may reasonably be regarded as a full-time job, and this may vary depending on the time period under consideration. For example, early last century, the agreed working hours for full-time employees was about 49 hours per week. By 1948 all State industrial tribunals and the Commonwealth Court of Conciliation and Arbitration had adopted the 40-hour week. This remained the case until the early 1980s, when a 35- or 38-hour week was the standard in many industries (ABS 1995). Between 1988 and 1998, however, both the proportion of people working part-time hours and the proportion working at least 45 hours per week increased (ABS 1999a).

Moreover, the 'typical' working week varies between occupations. In 1998, the proportion of employed people working between 35 and 44 hours was highest for Tradespersons and related workers (45.1%) and lowest for Managers and administrators (22.2%). Managers and administrators were more likely to work 45 hours or more (58.6%) than under 45 hours, and more likely to do so than any other broad occupational group. Associate professionals and Professionals were the groups next most likely to work 45 hours or more each week in 1998 (44.6% and 33.5%, respectively) (ABS 1999a). This may be a reflection of the more 'open-ended' nature of some of those jobs, where workers are either expected to complete their

¹ The number of full-time equivalent practitioners was calculated by multiplying the number of practitioners by the average hours worked per week, then dividing by the number of hours in a 'standard' full-time working week. In this report, three alternative scenarios are provided for a 'standard' working week: 35 hours, 40 hours and 45 hours

work regardless of the time they take to do so, or they are responsible for their own hours (and possibly income); and where trade union influence is weaker. This is especially true of the medical profession, where patient care does not fit neatly into a specified time period and where many are responsible for their own practice and set their own hours. Accordingly, doctors tend to work longer hours than many other occupations. On the other hand, long or increasing hours worked per week may indicate a shortage of practitioners.

Therefore, to cater for various scenarios (longer hours generally worked by professionals versus shortages of professionals), this report uses three 'standard' weeks, a 35-hour week, a 40-hour week and a 45-hour week, for calculating supply in terms of FTE. There is of course the risk, when projecting the supply of medical practitioners into the future based on current working patterns, of assuming that doctors are willing to work long hours and will continue to do so. FTE figures based on all three 'standards' (35-, 40- and 45-hour weeks) are given in Table 4.

Table 4: Employed medical practitioners: States and Territories, 1999

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Australia |
|--|--------|--------|-------|-------|-------|-------|-------|-------|-----------|
| Number | 18,330 | 12,137 | 8,238 | 4,505 | 4,367 | 1,208 | 1,032 | 511 | 50,329 |
| Number per 100,000 population | 285.0 | 256.2 | 232.9 | 240.8 | 291.8 | 256.6 | 333.1 | 263.2 | 264.2 |
| All medical practitioners | | | | | | | | | |
| FTE per 100,000 population (based on 35-hour week) | 370.5 | 336.7 | 298.8 | 313.7 | 373.6 | 325.5 | 448.2 | 407.6 | 344.2 |
| FTE per 100,000 population (based on 40-hour week) | 324.2 | 294.6 | 261.4 | 274.5 | 326.9 | 284.8 | 392.2 | 356.7 | 300.5 |
| FTE per 100,000 population (based on 45-hour week) | 288.2 | 261.9 | 232.4 | 244.0 | 290.6 | 253.2 | 348.6 | 317.0 | 267.7 |
| Clinicians | | | | | | | | | |
| FTE per 100,000 population (based on 35-hour week) | 354.2 | 317.5 | 290.0 | 294.5 | 344.9 | 305.7 | 412.7 | 377.8 | 326.6 |
| FTE per 100,000 population (based on 40-hour week) | 309.9 | 277.9 | 253.7 | 257.7 | 301.8 | 267.5 | 361.1 | 330.6 | 285.7 |
| FTE per 100,000 population (based on 45-hour week) | 275.5 | 246.9 | 225.6 | 229.1 | 268.3 | 237.8 | 321.0 | 293.8 | 254.0 |

Source: Medical Labour Force Survey 1999; ABS estimated resident population figures at 31 December 1999.

Because doctors tend to work long hours, the actual supply of medical practitioners in FTE (whether based on a 35-, a 40- or a 45-hour week) is usually somewhat higher than the raw numbers suggest. (The reverse is the case in those professions, such as nursing, where a high proportion work part-time.) The difference between the supply and the raw numbers, however, diminishes substantially under the scenario of a 45-hour 'standard' working week.

Clinicians form the majority (94% in 1999) of practitioners, and they are the ones who are involved in direct patient care. It is hence more relevant to health care policy to compare the supply in terms of FTE clinicians per 100,000 population in each State and Territory. These are also shown in Table 4 using all three standards (35-, 40- and 45-hour weeks).

In 1999, the highest rates of FTE clinicians were in the Australian Capital Territory and the Northern Territory (361.1 and 330.6 FTE per 100,000, respectively, based on a standard week of 40 hours). Almost all of the population in the Australian Capital Territory (99.9% in 1999) lives in the capital city, and Canberra is a major regional centre that services surrounding areas of New South Wales. In the Northern Territory vast areas are very sparsely populated, and it is likely that much of the working hours of clinicians is spent in travelling. Apart from

those two jurisdictions, supply of clinicians was highest in New South Wales and South Australia (309.9 and 301.8 FTE per 100,000, respectively, based on a standard week of 40 hours) (Table 4).

Supply would be expected to differ between jurisdictions, however, given their distinctive population characteristics (such as their age and sex profiles), which act to influence usage (demand) in various ways. For example, States and Territories with the oldest age profiles such as Tasmania (median age 36.1 years) and South Australia (36.2 years) might be expected to have greater need for medical services than those with the youngest age profiles such as the Northern Territory (median age of 28.6 years) (Table 5).

Medicare services

State/Territory usage can be compared broadly by using Medicare statistics regarding the number of services per capita in 1998–99 delivered by registered Medicare providers (who are clinicians, and include primary care practitioners and specialists). These show that services provided were highest in New South Wales (11.7 per capita) and Victoria (11.0). The lowest were in the Northern Territory (5.8 services per capita) (Table 5). These rates have not been standardised for age or sex, and therefore might be expected to reflect differences in the age/sex profiles between the States and Territories.

Table 5: Medicare services 1998–99, and patient consultations 1995 and 2001, States and Territories

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT ^(a) | Australia |
|--|-------|-------|-------|-------|-------|-------|-------|-------------------|-----------|
| Medicare services (per capita) | 11.72 | 11.04 | 10.77 | 9.53 | 10.32 | 9.85 | 9.01 | 5.75 | 10.90 |
| Patient consultations (per 100,000 population, 1995) | 248.1 | 230.1 | 222.3 | 215.9 | 234.8 | 221.1 | 219.7 | 191.1 | 232.9 |
| Patient consultations (per 100,000 population, 2001) | 257.5 | 244.1 | 239.2 | 229.9 | 237.1 | 235.5 | 222.4 | n.a. | 244.7 |
| Median age of population (years) | 35.3 | 35.1 | 34.3 | 33.9 | 36.2 | 36.1 | 32.4 | 28.6 | 34.9 |

(a) Estimates of consultations relate to predominantly urban areas only.

Source: Medicare statistics, 1984–85 to March quarter 2002, Department of Health and Aged Care; ABS Cat. no. 4368.0, 1997; and ABS estimated resident population figures at 31 December 1995.

Medicare services account for only a portion (albeit a very large portion) of all services delivered to patients by clinicians. They do not include services provided for workers' compensation, services provided for hospital outpatients or services provided in hospitals for public patients.

Patient consultations

An alternative way of looking at service provision is through doctor consultation rates. It is known that people in some age groups consult doctors more frequently than those in other age groups, and in most age groups consultations are more frequent for females than for males.

The ABS National Health Survey provides an estimate of the number and rates per 1,000 population of people who consult a doctor (clinician) over a two-week period. These rates have been standardised by age and sex to the Australian population to take account of the different age and sex profiles of the populations in each State and Territory, and therefore should not reflect these differences. Nevertheless, there were differences in usage.

In 2001, the rate of doctor consultations was highest in New South Wales (257.5 per 100,000) and lowest in the Australian Capital Territory (222.4 per 100,000). The pattern of usage across the States and Territories for consultation rates was the same as the pattern for Medicare services, (although no data from the survey was available for the Northern Territory). There was an increase in consultation rates in every State and Territory between 1995 and 2001. This was possibly a consequence of increased community awareness of, or attitudes to, certain health conditions (ABS 2001).

2.3.2 Geographic distribution

While it is important to examine the supply of practitioners in each State and Territory because jurisdictional responsibilities occur within those boundaries, from an equity perspective, it is also important to examine the supply of practitioners in each geographic region. In 1999, over three-quarters (38,619 or 76.7%) of all medical practitioners were employed in capital cities (Table 6). This is more than their population share: in 1999, 63.8% of the population lived in capital cities (ABS 2000). It would be expected that medical practitioners would be concentrated in capital cities, however, because many of the large hospitals are located there, together with facilities for research, teaching and training and advanced 'high-tech' equipment for treatment.

Table 6: Employed medical practitioners: occupation, geographical region, Australia, 1999

| Occupation | Capital city | Other metro centre | Large rural centre | Small rural centre | Other rural area | Remote area | Total |
|-----------------------------------|---------------|--------------------|--------------------|--------------------|------------------|-------------|---------------|
| <i>Clinician:</i> | 36,169 | 3,480 | 3,006 | 1,925 | 2,256 | 602 | 47,436 |
| Primary care | 14,697 | 1,526 | 1,188 | 1,167 | 1,967 | 421 | 20,966 |
| Hospital non-specialist | 3,637 | 413 | 390 | 141 | 77 | 82 | 4,740 |
| Specialists | 13,708 | 1,207 | 1,300 | 589 | 201 | 86 | 17,091 |
| Specialists-in-training | 4,127 | 334 | 128 | 27 | 11 | 13 | 4,640 |
| <i>Non-clinician:</i> | 2,450 | 139 | 117 | 80 | 64 | 42 | 2,892 |
| All employed practitioners | 38,619 | 3,618 | 3,123 | 2,005 | 2,320 | 644 | 50,329 |
| Population (000) | 12,170.3 | 1,456.6 | 1,133.6 | 1,230.7 | 2,491.2 | 561.4 | 19,043.9 |

Source: Medical Labour Force Survey 1999; ABS estimated resident population figures at 31 December 1999.

When considering primary care practitioners only, who are less likely to be hospital-based, then the distribution is somewhat more even, with 70.1% being employed in capital cities in 1999. Generally, the number of practitioners decreased with increasing remoteness, except that in 'Other rural areas' there were more clinicians (including primary care practitioners and hospital non-specialists) than in small rural centres. This is because about twice as many people live in 'Other rural areas', collectively, as in small rural centres. In fact, the greatest imbalance is in 'Other rural areas', because although 13.1% of the population lived there in 1999, only 4.6% of all medical practitioners had their main practice in those areas.

The distribution of primary care practitioners is more equitable than for clinicians and medical practitioners generally. As noted before, this is not surprising since a sizeable proportion of other clinicians (particularly specialists and specialists-in-training) work in large hospitals, which are generally located in population centres. In terms of access to general health care, it is more reasonable to compare the supply of primary care practitioners than other types of practitioners, across regions.

Again, numbers alone do not give the complete picture, because for primary care practitioners, the progressive decrease in the numbers with increasing remoteness is partly compensated for by corresponding increases in hours they worked, which in 1999 ranged from 41.2 hours per week on average in capital cities to 51.0 hours per week in remote areas, (Table A.8). Hours worked can be taken into account through calculating FTE per 100,000 population in each area. Again, these are shown based on standard weeks of 35, 40 and 45 hours.

Even when translating the numbers of doctors into FTE, there is a gradual decrease in FTE primary care practitioners per 100,000 with increasing remoteness. There is, however, a similar rate of supply in 'Other metropolitan centres' as in 'Large rural centres' (111.6 and 112.4 per 100,000, respectively, based on a standard 40-hour week) and a similar rate of supply in 'Other rural areas' as in 'Remote areas' (93.5 and 95.63 per 100,000, respectively, based on a standard 40-hour week) (Table 7). This does indicate a degree of inequity in access to primary health care across the geographic regions.

Table 7: Employed primary care practitioners: geographic region, Australia, 1999

| | Capital city | Other metropolitan centre | Large rural centre | Small rural centre | Other rural area | Remote area | Total |
|--|--------------|---------------------------|--------------------|--------------------|------------------|-------------|-------|
| FTE per 100,000 population (based on 35-hour week) | 142.1 | 127.5 | 128.4 | 124.4 | 106.9 | 109.3 | 133.1 |
| FTE per 100,000 population (based on 40-hour week) | 124.3 | 111.6 | 112.4 | 108.9 | 93.5 | 95.6 | 116.5 |
| FTE per 100,000 population (based on 45-hour week) | 110.5 | 99.2 | 99.9 | 96.8 | 83.1 | 85.0 | 103.5 |

Source: Medical Labour Force Survey 1999; ABS estimated resident population figures at 31 December 1999.

Ideally, these comparisons of supply should be seen against usage patterns across the geographical regions, as it is very likely that the different age profiles and different health status would lead to differences in usage rates. However, at the time of printing it was not possible to obtain either Medicare services rates or doctor consultation rates by remoteness categories.